11TH
ANNUAL REPORT

2010-2011

SHER-E-KASHMIR
UNIVERSITY OF AGRICULTURAL
SCIENCES AND TECHNOLOGY OF JAMMU (J&K)

CREDIT LINE

Correct Citation	:	Annual Report 2010-11 Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, Main Campus Chatha, Jammu - 180 009, India
Contributors	:	Officers of the University HOD's/ Incharge Stations/ Substations/ Centres/ Programme Coordinators KVK
Guidance	:	**Dr. B. Mishra** Hon'ble Vice-Chancellor
Compiled, Edited and Executed by	:	**Dr. Deepak Kher** Associate Director Research
Cover Photographs	:	3rd University Convocation, Basmati - 564 New developed Rice variety, inbred lines of Maize
Published by	:	Hon'ble Vice Chancellor, SKUAST-Jammu Email: vc@skuast.org Fax: 0191-2262073
Printed by	:	Intech Printers & Publishers # 353, Ground Floor, Mughal Canal, Karnal - 132 001 Tel.: 0184-4043541, 3292951 Email: jobs.ipp@gmail.com

CONTENTS

PREFACE

Agriculture plays a dominant role in the economy, employment, food and nutritional security of our nation. Our country has moved from food deficiency to self-sufficiency, from import to export and has earned self-confidence, pride and name in the agriculture revolution. Today, India is producing 25 per cent of global pulses, 22 per cent of sugarcane, 21 per cent of rice, 12 per cent of wheat and 16 per cent of milk and ranks number one in milk, pulses, tea and jute; number two in rice, wheat, onion and sugarcane; number three in potatoes, cereals and higher ranking in many other commodities. Although, India is producing more than 750 million tons of food items of plant and animal origin and nearly 242 million tons of good grains, yet there is challenge to enhance our production by 70 per cent by 2050 and 80 per cent of increase has to come from increase in yield and enhanced cropping intensity. Jammu and Kashmir state though blessed with varying agro-climatic conditions is still 38 per cent deficient in cereals, 70 per cent each in pulses and oilseeds, 30 per cent in vegetables and nearly 38 per cent in animal and poultry products. This deficiency will increase further if not checked immediately.

The activities of Sher-e-Kashmir University of Agricultural Sciences & Technology, Jammu is spurred by commitment for rural prosperity through "Excellence" in education, research and extension services. The University is mandated to address the basic, strategic and applied research issues related to agricultural production and livestock in addition to the human resource development and collaborative linkages with government, national and international organizations and overall improvement in the socio-economic status of the farmers. The University has been able to provide a strong scientific based technologies to the farming community through its two faculties, eleven Research Stations/Sub-Stations/Centers and six Krishi Vigyan Kendras located in different parts of the Jammu region. The University made progress in education, research and extension during the year 2010-11.

The period under report has been very productive and evidenced by the development of many technologies. Proposals of wheat varieties RSP-561 and rice variety SJR-5 have been submitted for release to State Sub Committee on Variety Release. Besides, high yielding varieties of various field and vegetable crops are in pipeline and at advance stage of evaluation. Similarly, in Sericulture silkworm hybrids (Udhey-3X1, Udhey-4X6 and PO3 X ND5) developed by the University have been identified by Central Silk Board for release. The University made several new initiatives in the area of new challenges of changing climate, shrinking natural resources, emerging pests and increasing demand for high quality agriculture produce. To sustain livelihood, household and nutritional security, University established Integrated Farming System Research Model on 1.5 hectare land at Chatha targeting small and marginal farmers.

In order to make agriculture education and research more modern, relevant demand driven and futuristic, the School of Biotechnology was created and first batch of B.Sc. Biotechnology Programme was started during the year under report and M.Sc. and Ph.D. programmes are also being started from 2011-12. The online examination centre funded by Agricultural Scientists Recruitment Board (ASRB) has been established in the University at R.S. Pura. The pass outs from the University have been selected for the state and national professional services, IAS, IFS, KAS etc. 3rd Convocation of this University was held on March 4, 2011 with Hon'ble Prime Minister of India, Dr. Manmohan Singh as the chief guest.

Role of extension in dissemination of technologies in agriculture is relatively more important in J&K. New technologies developed by University are being taken to doorsteps of farmers and feed back is brought to scientists. Our University extension units imparted training to farmers, farm women, rural youth as well as to the extension personnel. The farmers' field problems were

diagnosed by the scientists in association with the allied state departments. In order to enrich the farmers with latest know how in farm technology the University scientists undertook different measures like method demonstrations, group discussions, field days and kisan melas, besides enlightening them through press notes, radio and TV programmes. To boost the activities of agri-enterprises, the University initiated the vocational training programmes in seed production of field crops, beekeeping, mushroom cultivation, nursery propagation and management, medicinal and aromatic plants, saffron cultivation, poultry and cattle production and management, to augment the farm income and generate self-employment.

The University submitted its first accreditation study report to the ICAR in 2010 and a team of experts from the ICAR after inspection has appreciated the recent initiatives and progress made in research and instructional farm, and overall growth and development of the University in the report.

The University has succeeded in its endeavor and attained new heights because of patronage and guidance received from the Chancellor of SKUAST-J, His Excellency, The Governor of Jammu and Kashmir, Padam Vibhushan Sh. N.N. Vohra, Pro-Chancellor Jenab Omar Abdullah, The Hon'ble Chief Minister of Jammu & Kashmir State and Dr. S. Ayyapan, Hon'ble Secretary, DARE & DG, ICAR during the year under report. The contribution of the University Council, Board of Management, Academic Council, Research and Extension Councils etc. in the smooth running of the entire business of the University has been highly important. My thanks are due to the Statutory Officers and staff members for their cooperation and sincere efforts made in the progress of SKUAST-J. I am confident that faculty, staff and students of this University will contribute their best to transform our dreams into a reality.

I am sure the information/materials present in this Annual Report will be useful to the scientists, extension workers and progressive farmers. We welcome any constructive suggestion for improvement of this important publication.

B Mishra.

(B. Mishra)
Vice-Chancellor

1 EXECUTIVE SUMMARY

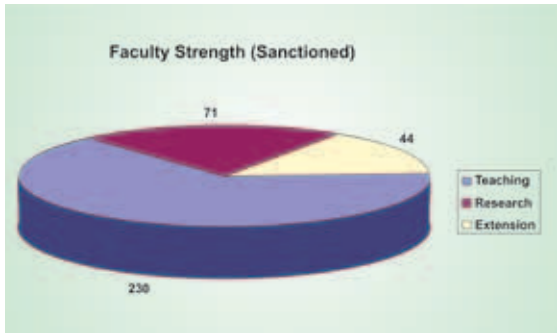
Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu (SKUAST-J) was established on 20th September, 1999 following the amendment in Sher-e-Kashmir University of Agricultural Sciences and Technology Act, 1982 through the State Legislature. The establishment of SKUAST-J has background of aspirations, commitment and missionary zeal to cater the needs of Jammu division for the region specific advances through agricultural education, research and extension. The University is mandated to address the basic, strategic and applied sectors, livestock health improvement and quality based products. SKUAST-Jammu is striving to achieve high standards of excellence in education, research and extension for the betterment of farming community of the region.

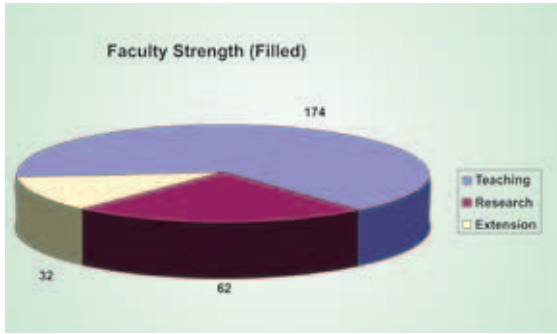
SKUAST-Jammu is a multi campus University with its headquarter at Chatha. Since its inception, the University has shown rapid pace in terms of infrastructure and human resource developed. The campus at Chatha comprises of main faculty building, administrative block, conference hall, student centre and a unique modular and highly functional three storied Library building. The part of residential complex, international guest house, examination hall, Seed and farm machinery stores and a few more faculty buildings are being constructed.

Faculty of Veterinary Sciences and Animal Husbandry located at R.S. Pura has full-fledged academic block, modern veterinary clinical complex, a classroom cum examination complex, a separate library, guest house and hostels for girls and boys to cater the needs of the faculty and students undergoing various degree programmes in Veterinary & Animal Science disciplines.

The University has thirty one divisions, eight regional stations/sub-stations, one seed multiplication farm at Chakroi, six Krishi Vigyan Kendras, ten All India Coordinated Research Projects. The university with its meager financial resources and existing faculty strengths has established the School of Biotechnology and has started the progreamme of BSc (Hons.) Biotechnology. The University has sanctioned staff strength of 1118 comprising of 345 teaching/ scientific staff and 773 technical, administrative and supporting personnel. Out of the total 345 faculty positions, the major component of over 70 per cent is in teaching. Efforts are being made to expand dimensions of the university by way of having more faculties and matching human resources and infrastructure.

With the generous and constant patronage of Chancellor and Pro-Chancellor; Central & State Governments, Indian Council of Agricultural Research, the University during 2010-11 under the stewardship of Dr. B. Mishra, Hon'ble Vice-Chancellor continued its strive to achieve the goals for the development of competent and professional human resource, addressing farmers' problems through innovative research and transfer of technology in the fields of Agriculture and Veterinary Sciences. In spite of the various constraints, the university successfully completed the academic programmes including B. Sc. (Ag), B.V.Sc. & A.H., M. Sc. (Ag), M.V.Sc., Ph.D (Ag.) and Ph.D (Vety), carried out assigned research agenda as approved by the Research Council and undertook numerous initiatives for the transfer of technology to the farmers. The brief summary is given as under:





Resident Instructions

- The University has total sanctioned faculty position strength of 345 with 230, 71 and 44 in Teaching, Research and Extension Education, respectively. The University has 33 Professors, 60 Associate Professors and 107 Assistant Professor level positions in teaching besides 2 Deans and 2 Associate Deans. Out of 230 faculty members, 120 are in faculty of Veterinary Sciences and Animal Husbandry and 110 are in Agriculture. The academic and the gender wise spectrum of the faculty reveals that more than two-third of the faculty holds Doctoral degrees and the female strength in the faculty is just about 15 per cent.
- The 3rd convocation of the University was held on 4th March, 2011 with Hon'ble Prime Minister of India, Dr. Manmohan Singh as the chef guest. His Excellency the Governor of Jammu and Kashmir and Chancellor, Sh. N.N. Vohra; Hon'ble Chief Minister, Jammu and Kashmir and Pro-Chancellor, Jenab Omar Abdullah; Hon'ble Union Minister for Health & Family Welfare, Jenab Ghulam Nabi Azad; Hon'ble Minister for Agriculture J&K, Jenab G.H. Mir; Hon'ble Ministers of J&K; Members of Parliament and Legislative Assembly; Secretary, Department of Agricultural Research and Education (DARE) and Director General, Indian Council of Agricultural Research (ICAR), Dr. S. Ayyappan and other important dignitaries were also present on this occassion. Forty seven degrees of B.Sc. (Ag.), 181 degrees of B.V.Sc. & A.H, 36 of M. Sc. (Ag), 45 of M.V.Sc, 17 of Ph.D. (Ag.) & 6 of Ph.D. (Veterinary Sciences) were also awarded. Three Gold Medals each in B.Sc. (Ag.) and B.V.Sc. &A.H and 66 certificates of merit were awarded. In addition Doctor of Science *(honoris causa)* was conferred on Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR in recognition to his immense contribution in the field of agriculture & fisheries

Hon'ble Vice-Chancellor Dr. B. Mishra welcoming Dr. Manmohan Singh Hon'ble Prime Minister of India

Dr. S. Ayyappan, Secretary, DARE and Director General receiving Doctor of Science. (Honoris causa) from Hon'ble Prime Minister of India

Student receiving Gold Medal and Certificate of Honour from Hon'ble Prime Minister of India

- The admissions to the bachelor's degree programmes were made through Board of Professional Entrance Examinations of Jammu and Kashmir Government whereas for master's and doctoral degree programme, the university itself selected the candidates on the basis of merit. As many as 96 and 97 students were admitted to UG and PG programmes, respectively. The number of students who completed their B.Sc (Ag), B.V.Sc & AH, M.Sc (Ag), M.V.Sc., Ph.D. (Ag) and Ph.D (Vety) degrees were 29, 41, 21, 28, 7 & 6 respectively. The total number of

students on roll remained 697, out of which 420 were in Veterinary Sciences and 277 in Agriculture.

- The pass outs from the University have been selected for the State and National Professional services i.e., Indian Administrative Services, Indian Forest Service and Kashmir Administrative Services. In the recently announced Kashmir Administrative Services, selection list reflected the success of more than 43 graduate students from this University. Our students are also being selected for the All India Agricultural Research Services (ARS).
- The students of the University continued to participate in local/State/National level events. The University extended all facilities to the students including medical health care through a university dispensary equipped with full time medical officers (male & female) and supporting staff with liberal contingency for medicines. 3120 OPDs were attended and 64.26 per cent were of the students.
- The University has modular libraries at Chatha and R.S. Pura facilitating reference services to our faculty and students. The library has adopted electronic cataloguing using SOUL software. It annually subscribes 98 Indian journals and 92 foreign journals. Recently, the University subscribed more than 2700 e-journals through CeRa consortium and CAB CD online. LAN and CD-ROM workstation on CABCD, VETCED and FST, Internet services are also provided to the scholars and faculty. Solar power plant has been installed with 30KwA and 20KwA for the libraries at Chatha and R.S.Pura, respectively.The online examination centre funded by Agricultural Services Recruitment Board (ASRB) has been established in the University.

RESEARCH

- A non basmati rice variety namely SJR 5 (IET 19972) with maturity duration of 130-135 days has been identified by Varietal Identification Committee of ICAR. The variety has yield potential of 55 to 60 q/ha and is resistant to leaf blast and has good grain quality features including high head Rice Recovery percentage. The proposal for notification and release of this rice variety has been submitted to Central Sub-committee on Crop Standard Notification and Release of varieties
- A new rust resistant wheat strain JAUW-584 have been developed for irrigated conditions of North Western Plain Zone with yield potential of 50-55 q/ ha besides, the variety matures about ten days earlier than standard check.
- Among maize hybrids, Paras, KH-612 and KH-517 were found superior to the rest of hybrids with yield advantage of 30.6, 29.4 and 28.2 per cent, respectively over high yielding check (GS-2) in intermediate zone of Jammu division.
- Six promising F_1 Maize Hybrids identified on the basis of their superiority over local check hybrids KH- 612 and KH-517 during Kharif-2010. All the promising F_1 hybrids expressed more than 28% yield superiority over the local checks and will be further evaluated for their consistent performance over the varying range of prevailing agro-climatic conditions.
- RSPN-25, a high yielding variety of gobhi sarson is under process of release for general cultivation in the J & K state.
- Gobhi Sarson Hybrid Hyola (PAC-401)-PAC-401 has been evaluated with yield potential of 1937 kg/ha and ranked 1st amongst all the seven varieties including check.
- The knolkhol variety G-40 has excelled in national trials of AICRP(VC) and has shown superiority of 15-20 per cent of yield in minikit trials conducted under different agroclimates of Jammu by the Department of Agriculture. This test variety is already in demand by farmers because of earliness, consumer preference and ability to produce seeds in both plains and mid hills.
- The Early Green variety of broccoli is in advance stage of testing and is being maintained for uniformity and stability in

seed production under plains of Jammu for the past 4 years. This variety has performed well in minikit trials conducted by the Department of Agriculture, Jammu.

- Among 4 hybrid combinations of tomato identified, namely RCMT 1 x CGNT 14, RCMT 1 x Pant T 8, DVRT 2 x 134 1 Sel. and RCMT 1 x HT 6, 13 individual plant selections made from the F2 population were advanced to raise F3 population.
- Of various hybrid combinations evaluated in bottle gourd, maximum yield was obtained in JBG-03 x JBG-08 (254.35q/ha) followed by JBG-13 x JBG-28 (237.98q/ha). Among eleven entries tested in AVT-I, the entries 08/BOGVAR-2, 08/BOGVAR-4 recorded yield of 180.1q/ha and 158.3q/ha which was statistically superior to rest of the entries including checks. In AVT-II, the entries PBOG-40, VR-2 and PBOG-90 were at par with 200.0q, 198.0q and 190.0 q per hectare yield respectively.
- The variety in pipeline of spinach beet (C-13) has performed well (91.00q/ha) over check All Green (65.00q/ha) under minikit test conducted in second year (2009-10) by the Department. of Agriculture,Jammu in different agroclimates of Jammu.
- Under collection, introduction and evaluation of different cultivars of subtropical fruit crops; three cultivars of aonla *viz*. Chakaiya, NA-6 and Lakshmi-52 , three cultivars of bael *viz*. NB-5, NB-9 and CISH-B-1, two cultivars of mango *viz*. Ambika and Arunika, two cultivars of guava *viz*. Lalit and Shweta have been introduced from CISH, Lucknow whereas three cultivars of pomegranate *viz*. Jalore seedless, Mridula and Bhagwa , two cultivars of ber *viz*. Thar Sevika and Thar bhubraj ,One cultivar of karonda *viz*. CIAH Sel-1, one cultivar of lasoda *viz*. CIAH Sel-1, One cultivar of lemon *viz*. Pant lemon-1, one cultivar of lime *viz*. Sai Sarbati and one cultivar of phalsa *viz*. CIAH Sel-1 have been itroduced from CIAH, Bikaner and are under evaluation.
- An alternative technique for crop regulation is developed in two commercial guava cultivars. In Sardar (L-49) and Allahabad Safeda, commercial cultivars of guava , an alternative technique can be used involving one pair pruning of leaves in the month of April thereby encouraging winter season guava crop as well as improving the qualitative and quantitative traits as compared to the techniques already recommended for this purpose.
- Evaluation of nutritional efficiency of indigenous silkworm hybrids has been taken and as per 2nd year data, out of six hybrid combinations, hybrid Udhey-3x1 and Udhey-6x3 were found efficient in nutritional and conversion ratio parameters.
- Strawberry preserve can be developed after pre-treating fruits with 2% $CaCl_2$ for 15 minutes followed by mixing with sugar (1:1), then steeping the fruits in sugar syrup with gradual increase in TSS till it reaches 70^0Brix. The preserve was highly acceptable upto 6 months storage.
- Shelf life of guava can be extended to 16 days as compared to control having 8 days by dipping the fruits in 20% neem leaf extract for 10 minutes followed by surface drying and wrapping in newspaper.
- Minimum disease incidence was observed in solarized plots (SS) treated with carbendazim+mancozeb, however, it was at par with SS+carbendazim, SS+FYM+Tv-4 and SS+Tv-4. Regarding the growth parameters like shoot and spike length, the above mentioned treatment was also significantly superior to all other treatments. Maximum corm weight was recorded in the solarized plot amended with FYM+Tv-4 followed by SS+Tv-4 treatment .
- Ten isolates of *Bipolaris sorokiniana* causing spot blotch of wheat were observed to be existing in different areas of Jammu division. They were categorized into 3 groups based on colony and morphological characters and pathogenic nature. Out of 13 cultivars screened against *B. sorokiniana*, DBW 16, DBW 17 and RSP 561 were found resistant, whereas, others showed susceptible response under field conditions. Propiconazole followed by

tebuconazole and triademifon proved most effective for controlling the disease and increasing in yield.

- Foliar spray of *Bacillus thuringiensis* formulations @ 500 g/ ha along with sticker (0.5 ml/lit of water) is found promising to control all lepidopteran insect pests in cole crops.
- Spraying the crops alternatively with profenophos 50 EC @ 2ml /litre of water at 15 days interval and cypermethrin (0.5 ml/ litre of water) starting from 20 days after transplantion to control the brinjal shoot and fruit borer.
- Application of isoproturon @ 0.75kg a.i/ ha+2,4-D Ethyl ester@0.5kg a.i/ha in 2% urea solution under FIRBS system proved superior in respect of wheat grain yield over conventional technique with recommended dose of herbicides
- Basmati/Coarse rice transplanted through SRI with 8-12 days old seedlings at recommended nursery sowing time proved superior to normal transplanted rice with respect to grain yield.
- Lopping of Basmati rice at 45 DAS and application of 15 kg K_2O/ha improved the rice yield besides reducing the plant height leading to lesser lodging in basmati plants.
- Application of glyphosate @ 1% on 30 cm regenerated growth of cut lantana bushes followed by planting either of hybrid napier or setaria have been found to be effective and economical technique over the traditional practice of grubbing of lantana plants.
- Optimum planting time for winter maize cultivars *Bulland* and *Sheetal* was found to be from 31st of October to 10th of Nov. in irrigated subtropical conditions
- Maize+Peas and Maize+Lentil grown with 120% of Recommended Fertilizer Dose (RDF) alongwith 100% RDF +12.5% N through FYM and 12.5%N through vermicompost produced higher maize equivalent to yield in maize based intercropping systems in irrigated plains of Jammu.
- Application of Trifluralin @ 1.0 kg/ha Pre-plant incorporation + 1HW at 20 DAT was found to be most appropriate weed management practice in marigold.
- Application of Pendimethaline @ 2 kg/ha as pre-emergence application+ 1HW (hand weeding)at 20 days of transplanting (DAT) proved to be the best weed management practice in gladiolus.
- Application of Fluchloralin @1.0kg a.i/ha as pre-plant incorporation (PPI), Alachlor @2.0kg a.i/ha pre emergence application (PRE), Trifluralin @ 1.0 kga.i/ha PPI and Oxyflorofen @0.35 kg a.i/ha as PRE along with one hand weeding at 20 DAS proved the effective and economical weed management practice to enhance green pod yield of okra.
- Micro-nutrient status of rice growing areas of Samba, Marh, Khour and Akhnoor blocks have been completed. Zinc deficiency was observed to the extent of 96% whereas copper, manganese and iron was deficient to the extent of 9.23%, 4.61% and 4.60%, respectively in these areas.
- Zinc and manganese deficiency was found to the extent of 100% and 6.25%, respectively in vegetable growing areas of Marh and Khour blocks in Akhnoor.
- Integrated Nutrient Management for rice-wheat cropping system in intermediate zone of Jammu and Kashmir has resulted in significantly higher grain yields (5.36 t/ha rice and 4.9 t/ha wheat) with the application of N:P:K in the ratio of 100:60:30 alongwith FYM @10 t/ha.
- Among herbicides, application of sulfosulfuron @ 25g ai per hectare as post emergence at 35 days sowing was found most effective for controlling broad spectrum weeds in late sown wheat.
- Biochemical parameter analysis of wheat lines developed by SKUAST-J revealed that wheat genotype RSP-564 recording highest relative water content(RWC), highest accumulation of proline, free amino acid, total phenol, maximum levels of catalase ,and peroxidase.

- The Dryland Research Sub-Center at Rakh Dhiansar has evaluated and recommended efficient weeding equipments such as wheel hand hoe, V-blade hoe and medium cultivator for *Kandi* areas of Jammu. Weeding is done at 30 to 35 days after sowing. The field capacity of wheel hand hoe is 0.4 ha/day (8 hours/day) and takes 2.5 days/ha as compared to 25 man days with manual weeding. The operational cost with dry land weeder is 50% of the manual weeding cost with khurpi besides this reduces in drudgery to the farmers.
- To conserve the resources and improve the crop productivity / soil health under the Rice-Wheat Cropping System. The technology generated on resource conservation in rice by paddy hand transplanter / 8 row drum seeder and in wheat by bed planting has been generated by the centre.
- Fifteen more biopsy samples were collected from various abdominal organs of dogs suffering from different infections, using either ultrasound or laparoscopic guidance and histopathological studies. The results of total 32 samples from apparently healthy experimental dogs and 23 clinical cases were analyzed and it was concluded that laparoscopic needle biopsy was better than ultrasound guided needle biopsy, as longer samples with less fragmentation and more accuracy were obtained with the former.
- A total of 60 samples comprising 30 of raw milk and 30 of kulfi were subjected to isolation of *Aeromonas* using enrichment procedure followed by selective plating. On analysis, 10.00 per cent samples of raw milk and 13.33 % of kulfi were found positive for *Aeromonas*. All 3 raw milk isolates were *A. hydrophila* while out of 4 kulfi isolates, 3 were *A. hydrophila* while 1 was *A. caviae*. The isolates were also tested for their pathogenicity by various tests viz. Rabbit Ilea Loop test, Hemolysin production, Cytotoxicity assay. The isolates were characterized for the presence of virulence genes viz. Aerolysin, Enterotoxin and Hemolysin genes. The aquatic environment is considered to be the principal reservoir of *Aeromonas* spp.
- Olive meal can be used as a replacer of up to 25 per cent of maize in the ration of goats and such ration can sustain the maintenance requirement of adult goats. The replacement of 25 per cent of maize with olive meal in the concentrate mixture formulated for goats reduced the cost by Rs. 1.13/- per kg as compared to the standard formulation.
- Tanniferous tree leaves like Jamun can be incorporated at 25 per cent (w/w) on fresh basis during ensiling of oat fodder for minimal protein degradation and better protein utilization without any adverse effect on intake, digestibility of nutrients and general health.
- Addition of black cumin @ 1 per cent in diet or in combination with fenugreek (0.5% each in diet) can improve the feed conversion efficiency and may help in reducing the marketable age. Black cumin supplementation also significantly reduced the serum cholesterol level of birds, which may have implications in producing low cholesterol broiler meat.

Breeder seed production of Paddy at Chatha Farm

- The scientists of the University produced Nucleus Seed (12.68 q), Breeder Seed (235.20 q), Foundation Seed (1228.89 q), Certified Seed/Truthfully labeled (490.55 q) and Participatory Seed Production (451.90 q) during 2010-2011.

Extension

- 5218 farmers/farm women and rural youth were imparted training through 225 different short courses. The trainings were organized in crop production, crop

protection, horticulture, home sciences, and soil and fertilizer management.

- The University organized as many as 62 professional trainings for the benefit of farmers and departmental functionaries 105 scientists participated in different seminars/ symposia/ workshops at state/national level.

Scientists interacting with farmers during "Village and Visit Programme"

- The transfer of technology has been carried out through Krishi Vigyan Kendras and the involvement of subject matter resource personal from the Faculty of Agriculture and Faculty of Veterinary Sciences and Animal Husbandry. A programme "Village Visit and Stay with Farmers" proved very effective. The scientists working at different research stations too participated in various extension activities

Publications

- Among publications, the university brought out Journal of Research (Vol-9) University Newsletter, Accreditation report, various technical bulletins, Brochures and folders for dissemination to farmers, stakeholders and resource personnel. As many as 1420 publications including book chapters/ bulletins/ manuals/ research papers *etc.* were published by the scientists in various journals of repute.

Other Important University Activities

- Three days Kissan Mela was organized at SKUAST-Jammu, Main Campus, Chatha from 23rd to 25th March, 2011. The event was able to bring farmers, livestock owners, agribusiness and industry entrepreneurs, researchers, technocrats, extension workers and students at one platform, wherein they were able to access the new ideas and technologies available in the filled of Agriculture, Horticulture, Animal Husbandry and other allied sectors.

His Excellency Sh.N.N. Vohra, Governor of J&K addressing the farmers and other participants during Kisan Mela

- Among the various infrastructures inaugurated prominent ones are Administrative building, Farmer's/Training Hostel & Residential Quarters of KVK, Poonch and Technology

Inauguration of Administrative Block at KVK, Poonch by His Excellency Sh. N.N. Vohra, Governer of Jammu & Kashmir

Inauguration of Technology Display Hall by Hon'ble DG, ICAR Dr. S. Ayyappan

- Display Hall of Administrative Block at Main Campus, Chatha.
- Among various Statutory Meetings, University Council, Board of Management, Research Council, Academic Council were held accordingly.

His Excellency Sh. N.N. Vohra, Governor of J&K Chairing 5th University Council Meeting

Dr. B. Mishra Hon'ble Vice Chancellor addressing the members of 11th Research Council Meeting

- The XXI meeting of the ICAR Regional Committee No. 1 was held at Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu from June 10-11, 2010.

Releasing of publications during the XXI meeting of the ICAR Regional Committee No. 1

- The university has developed strong linkages with national and international organizations with a view to harness the information, materials, expertise and exchange of scientists and student's visits. MoUs have been signed by the University with the National and International Organizations. The University signed MoU with Cornell University, USA to facilitate the exchange of new technology of mutual interest, students and the faculty.

Dr. Ronnie Coffman, Director IP/CALS of Cornell University, USA and Dr. B. Mishra, Hon'ble Vice-Chancellor signing MoU

- The University has submitted its first accreditation study report to the ICAR in 2010 and a high level team of experts from the ICAR after inspection has appreciated the recent initiatives and progress made in

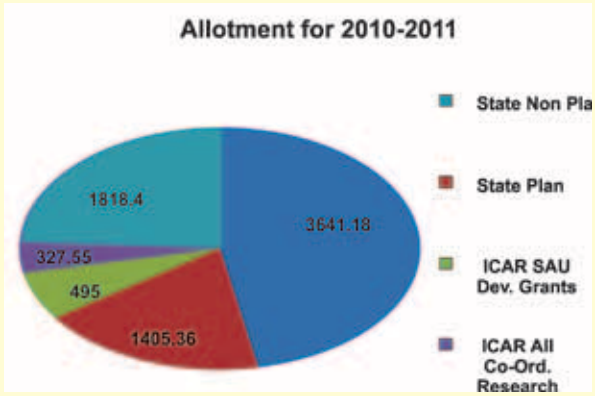
research and instructional farms, and overall growth and development of the University.

- With the timely intervention and sincere efforts of Dr. B. Mishra, Hon'ble Vice-Chancellor, the University was able to acquire about 64 hectares land falling within Shajahadpur Gujjran of the University research farm from the clutches of the people with the help of the Revenue Department, J&K Govt.

Some scenes of land acquisition at Shajahadpur Gujjran

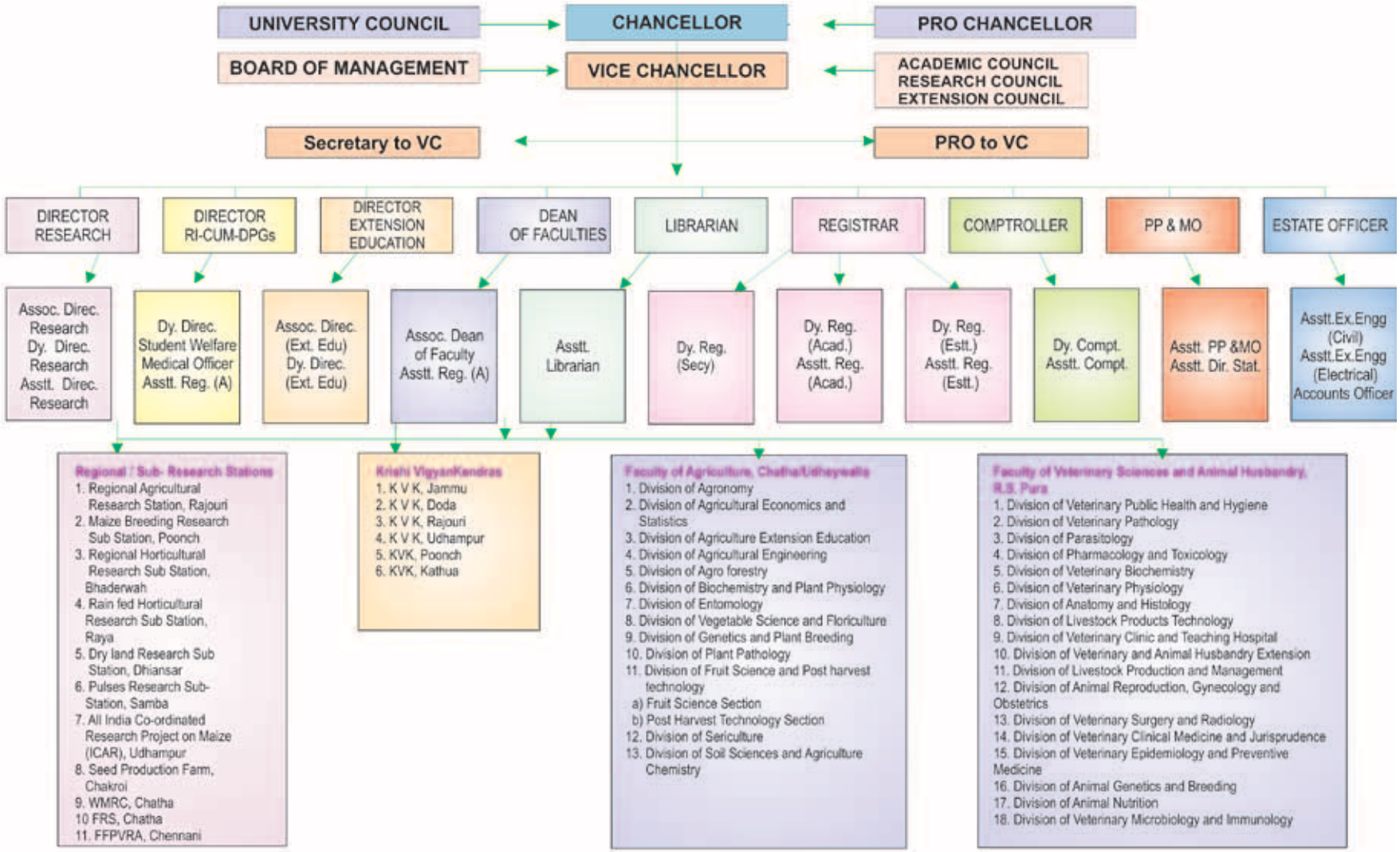
FINANCE

The University operated the total budget of Rs 6185.75 lakhs during the year 2010-11.



ORGANOGRAM

SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU



2 RESIDENT INSTRUCTIONS

Resident instruction programme in Agriculture and other allied branches of learning and scholarship is an important and basic objective of the University. University has made remarkable achievements during the period under report in the field of agricultural education and maintained the standard as per the national level by following up-dated curriculum at under-graduate and post-graduate level both in agriculture and veterinary sciences as per the recommendations of Education Division of Indian Council of Agricultural Research (ICAR) and Veterinary Council of India (VCI), respectively. Library has been updated through purchase of books, journals, CD ROMs and automated literature search facility. The school of Biotechnology has been created and first batch of B.Sc Biotechnology Programme was started during the year under report.

2.1 Academic programmes run by the university:

UG Programme : B.Sc. (Ag), B.V.Sc & AH and B.Sc (Biotechnology)

PG Programme : M.Sc. (Ag) and M.V.Sc.

Ph.D. (Ag) and Ph.D. (Vety)

2.2 Details of P.G. Programme:

S. No.	M.Sc.(Ag)	Ph.D.(Ag)	M.V.Sc.	Ph.D.(Vety)
1	Soil Science & Agricultural Chemistry	Soil Science & Agricultural Chemistry	Veterinary Animal Breeding & Genetics	Veterinary Animal Breeding & Genetics
2	Genetics & Plant Breeding	Genetics & Plant Breeding	Animal Nutrition	Animal Nutrition
3	Entomology	Entomology	Animal Reproduction, Gynecology & Obstetrics	Animal Reproduction, Gynecology & Obstetrics
4	Agricultural Extension Education	Agricultural Extension Education	Clinical Veterinary Medicine including Ethics & Jurisprudence	Clinical Veterinary Medicine including Ethics & Jurisprudence
5	Vegetable Science and Floriculture	Vegetable Science	Veterinary Microbiology & Immunology	Veterinary Microbiology & Immunology
6	Agriculture Economics	Agriculture Economics	Veterinary Parasitology	Veterinary Parasitology
7	Agronomy	Agronomy	Veterinary Pharmacology & Toxicology	Veterinary Pharmacology & Toxicology
8	Fruit Science	Fruit Science	Veterinary Public Health & Hygiene	Veterinary Public Health & Hygiene
9	Post Harvest Technology	Post Harvest Technology	Veterinary Surgery & Radiology	Veterinary Surgery & Radiology
10	Plant Pathology	Plant Pathology	Veterinary Livestock Product Technology	-
11	Statistics	-	Veterinary Biochemistry	-
12	Bio Chemistry	-	Veterinary Livestock Production & Management	-
13	Agro-Forestry	-	Veterinary Epidemiology & Preventive Medicine	-
14	Sericulture	-	Veterinary Anatomy & Histology	-
15	-	-	Veterinary Pathology	-
16	-	-	Veterinary Animal Husbandry Extension	-
17.	-	-	Veterinary Physiology	-

2.3 Faculty Spectrum

Cadre wise Faculty Strength

Posts	Sanctioned
Dean	2
Associate Dean	2
Professor	31
Associate Professor	71
Asstt. Professor	124
Total	230

There are 230 faculty positions as sanctioned strength for both the faculties viz Faculty of Agriculture and Faculty of Veterinary Sciences & Animal Husbandry

2.4 Student Strengths

The strength of the students admitted to B.Sc(Hons) Agriculture, B.Sc (Biotechnology) and BVSc & AH programme during the academic session 2010-11 were 35, 9 and 52, respectively. The number of students admitted to M.Sc (Ag.) and Ph.D (Ag.) programme were 27 and 7, respectively in different divisions of FOA. In FVSc and AH faculty, 55 MVSc and 8 Ph.D students were admitted during the academic session of 2010-11. The total strength of the students on roll in Post Graduate and Undergraduate Degree programme, were 266 and 431, respectively. The distribution of the students' strength, intake capacity admitted year-wise and programme wise along with the number of students on roll are given in the following table

2.5 Under Graduate Programme

S.No	Name of Faculty	Degree Programme	Students strength										Total	
			I Year 2010		II year 2009		III year 2008		IV year 2007		V year			
			M	F	M	F	M	F	M	F	M	F	M	F
1	Faculty of Agriculture	B.Sc. (Hons.) Agriculture	23	12	21	19	23	20	22	15	-	-	89	66
		B.Sc. (Bio-Tech)	01	08	-	-	-	-	-	-	-	-	01	08
2	Faculty of Veterinary Sciences & Animal Husbandry	B.V.Sc. & AH	32	20	32	22	32	11	45	19	40	14	181	86

2.6 Post Graduate Programme

S.No	Name of Faculty	Master's Programme				Sub Total		Ph.D Programme						Sub Total		Total	
		I year		II year				I year		II year		III year					
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	Faculty of Agriculture	20	07	36	10	56	17	05	02	05	03	16	09	26	14	82	31
2	Faculty of Veterinary Sciences & AH	46	09	63	17	109	26	06	02	04	01	04	01	14	04	123	30

2.7 Faculty wise Admission (2010-11)

Faculty of Agriculture

S.No	Division	Master's Degree	Doctoral Degree
1	Agronomy	02	-
2	Entomology	02	-
3	Agricultural Ext. Education	-	01
4	Agricultural Economics	03	02
5	Vegetable Science	03	-
6	Forestry	04	-
7	PHT/Food Science	-	02
8	Fruit Science	06	02
9	Soil Science & Agricultural Chemistry	02	-
10	Biochemistry & pl. Physiology	02	-
11	Genetics & Plant Breeding	01	-
12	Plant Pathology	02	-
13	Floriculture and Landscape Architecture	01	-
14	Sericulture	01	-

FACULTY OF VETERINARY SCIENCES & ANIMAL HUSBANDRY

S.No	Divisions	Master's Degree	Doctoral Degree
1	Animal Nutrition	04	01
2	Veterinary Public Health & Hygiene	03	-
3	Veterinary Pharmacology & Toxicology	06	01
4	Veterinary Clinical Medicine & Jurisprudence	05	02
5	Veterinary Pathology	03	01
6	Animal Genetics & Breeding	03	-
7	Animal Reproduction Gynaecology and Obstetrics	05	01
8	Livestock Products Technology	03	-
9	Veterinary Microbiology	01	02
10	Veterinary Epidemiology & Preventive Medicine	03	-
11	Veterinary Parasitology	01	-
12	Veterinary Surgery & Radiology	05	-
13	Animal Husbandry Extension	04	-
14	Veterinary Biochemistry	01	-
15	Veterinary Anatomy & Histology	02	-
16	Veterinary Physiology	02	-
17	Live stock Production and Management	04	-

2.8 Number of students who completed degree Programmes

S.No	Degree	No. of Students
	Post Graduate	
1	Ph.D (Agriculture)	06
2	Ph.D (Veterinary)	07
3	M.Sc. (Agriculture)	17
4	M.V.Sc.	29
	Under Graduate	
1	B.Sc. (Agriculture)	29
2	B.V.Sc. & AH	41

2.9. THESIS ACCEPTED (1.4.2010 TO 31.3.2011)

M.Sc.(Ag.) /M.V.Sc.

S.No.	Name of the student	Name of the Major Advisor	Title of the thesis	Degree
1	**Manzoor Ahmad Yatoo**	Dr. R. K. Sharma	Effect of Fenugreek(Trigonella foenum graaecum) and Black Cumin(Nigella sativa) as feed additives on performance of Broilers	Animal Nutrition
2	**Nazam Khan**	Dr. Ankur Rastogi	Effect of Tannins on Nutrient Utilization from Silage in Goats	Animal Nutrition
3	**Nazir Ahmad Changal**	Dr. N. K. Singh	Comparison of surgical stapling with routine sutures for enteroanastomosis in cattle	Vety.Surgery & Radiology
4	**Baby Summuna**	Dr. Sachin Gupta	Studies on Alternaria Blight of Mustard caused by Alternaria brassicae(Berk) Sacc.	Plant Pathology
5	**Shazia Andleeb Reyaz**	Dr. Raj Kumari Koul	Standardization and Evaluation of value added products from strawberry (Fragaria x ananassa Duch.)	Post Harvest Technology
6	**Rayees Ahmad Ahanger**	Dr.Vishal Gupta	Studies on Yellow Rust of wheat(Puccinia striiformis West.) in Jammu Subtropics	Plant Pathology
7	**Sarfaraz Bashir Ganai**	Dr.A.K.Taku	Typing of Dichelobacter nodosus Using PCR Amplification of Fimbrial Genes	Vety. Microbiology & Immunology
8	**Muzamil Maqbool Beigh**	Dr.Bablu Kumar	Detection and Virulence Characterization of Dichelobacter nodosus From Foot rot in sheep	Vety. Microbiology & Immunology
9	**Kaki Ranjit**	Dr.Sanjeev Kumar	Studies on Transplanting Dates and methods of seed production in Knol Khol (Brassica oleracea var.gongyloides L.)	Vegetable Science
10	**Randhir Singh**	Dr.S.K.Gupta	Studies on Equine trypanosomosis in Jammu	Veterinary Clinical Medicine & Jurisprudence
11	**Yashir Bashir**	Dr.R.K.Sharma	Effect of Dietary Incorporation of Olive Meal (Olea europaea) on the performance of Goats	Animal Nutrition
12	**Fehim Jeelani Wani**	Dr.S.E.H.Rizvi	Statistical Modelling for Fodder Yield Estimation of Grewia optiva in Jammu Shiwaliks	Statistics
13	**Virinder Kumar Abrol**	Dr.S.K.Gupta	Studies on Hematobiochemical changes and therapeutic Management of Canine Ancylostomiosis	Veterinary Clinical Medicine & Jurisprudence
14	**Gurmeet Singh**	Dr.Mudasir Sultana	Pharmacokinetics of Moxifloxacin in Healthy and Bifenthrin Intoxicated Goats	Veterinary Pharmacology & Toxicology
15	**Ovais Aarif**	Dr.P.S.Mahapatra	Influence of Cold induced stress on Haemato-Biochemical and Immune status in Turkeys.	Veterinary Physiology
16	**Mukesh Thappa**	Dr,Satesh Kumar	Influence of Plant growth Regulators on Morphological, Floral and Seed Parameters of Cucumber(Cucumis Sativus L.)	Vegetable Science

17	**Mokshe Sajgotra**	Dr.Kalu Ram	Heterosis Studies on Thermotolerent Hybrids of Bivoltine Silkworm (Bombyxmori L.)	Sericulture
18	**Raza Ali Abidi**	Dr.Sandeep Sehgal	Studies of Agroforestry Practices in the Kandi Areas of district Samba of J&K State	Foestry
19	**Rakesh Kumar**	Dr.Prashant Bakshi	Studies on Growth,Flowering, Yield and Quality of Mango(Mangifera indica L.) Germplasm under the Rainfed Conditions of Jammu	Fruit Science
20	**Anisa Anjum Malik**	Dr.Anju Bhat	Effect of Plant Extracts and Packaging on Shelf Life of Guava(Psidium guajava L) cv.Allahabad Safeda	Post Harvest Technology
21	**Hilal Ramzan Hakeem**	Dr.Arvind Kumar	Effect of different Fibre sources on the quality characteristics of Chicken Kabab	Livestock Products Technology
22	**Abhay Partap Singh Khokhar**	Dr.S.K.Kotwal	Studies on Listeria Spp.in sheep,Goat and Fish	Veterinary Public Health
23	**Akiq Ahmed Khan**	Dr.Dipanjali Konwar	Effect of Ascorbic Acid Supplementation on Amelioration of Heat stress in Goat.	Livestock Production & Management
24	**Rupali Bharti**	Dr.Asma Khan	Heat Stress Ameliorating effects of Housing systems on different age classes of crossbred Cattle	Livestock Production & Management
25	**Gagandeep Singh**	Dr.J.S.Soodan	Studies on Gastrointestinal disorders in Equines	Veterinary Epidemiology & Preventive Medicine
26	**Harish Kumar**	Dr.Ranbir Singh	Studies on Yellow Vein Mosaic of Okra {Abelmoschus esculentus (L. Monech)}	Plant Pathology
27	**Muzafar Ahmad Bhat**	Dr.M.Mutha Rao	Role of anti-oxidants on Physio-morphology and In-Vitro fertilizing potential of Bovine spermatozoa.	Animal Reproduction, Gyn-aecology & Obstetrics
28	**Mohd.Alyas**	Dr.Waquar A.A.Razzaque	Estrus Synchronization in Post-partum Anestrus Buffalo (Bubalus bubalis)	Animal Reproduction, Gynaecology & Obstetrics
29	**Adil Mehraj Khan**	Dr.Mudasir Sultana	Toxico-Biochemical and Oxidative Stress Induced by Sub-acute Toxicity of Bifenthrin in Goats	Veterinary Pharmacology & Toxicology
30	**Sumit Mahajan**	Dr.Rajesh Agrawal	Epidemiological studies on peste des petits ruminants (PPR) in Migratory and Non-Migratory sheep and Goats of Jammu	Vety Epidemiology & Preventive Medicine
31	**Shivani Gupta**	Dr.Arvind Kumar	Studies on Utilization of Fruit Pulp on Quality Characteristics of Chicken Patties	Livestock Products Technology
32	**Nitin Dubey**	Dr.Rajinder Raina	Toxic Interaction of Deltamethrin and Fluoride to induce Oxidative damage and Bichemical alternations in rats	Vety Pharmacology & Toxicology

33	**Rajeev Dutt**	Dr.V.Kaul	Laboratory Cultivation of Entomopathogenic Nematodes against subterranean termites	Entomology
34	**Baljor Singh**	Dr.A.K.Gupta	Effect of Seed Inoculation and fertility levels on growth, yield and quality of summer Moongbean(Vigna radiate(L.) Wilczek)	Agronomy
35	**Shafayat Ahmad Beigh**	Dr.J.S.Soodan	Diagnostic and therapeutic and Studies on Canine Dermatitis with particular reference to nutritional deficiencies .	Vety.Clinical Medicine and Jurisprudence
36	**Pardeep Sharma**	Dr. S.K. Kotwal	Seroprevalence of Brucellosis in Livestock and occupationally exposed groups in and around Jammu.	Veterinary Public Health
37	**Sabahat Gazal**	Dr.Anil Taku	G ands P Typing of Group A Rotavirus from Lambs.	Veterinary Microbiology & Immunology
38	**Parul Gupta**	Dr.Nishant Kumar	PCR-Relp of MHC-Dya Gene & its Association with resistance towards Haemonchus Contortus in Rambouillet Crossbred Sheep.	Animal Genetics & Breeding
39	**Peerzada Aijaz Ahmad**	Dr.Rajesh Katoch	Prevalence Gastrointestinal Helminths in Dogs of Jammu	Veterinary Parasitology
40	**Nasir Altaf Zarger**	Dr. H.R. Bhardwaj	Reconstruction of canine skin defects with acellular diaphragm xenograft.	Veterinary Surgery & Radiology
41	**Munaza Mushtaq**	Dr. Deepak Sharma	Molecular Characterization of Indian goat Breeds Using RAPD-PCR	Animal Genetics & Breeding
42	**Simran Singh**	Dr. A.K. Das	Genetic & Phenotypic Studies on Performance Traits of Crossbred Cattle	Animal Genetics & Breeding
43	**Tauseef Ahmad Bhat**	Dr. Meenakshi Gupta	Effect of phosphorus levels and bio-fertilizers on the growth and yield of field pea (Pisum sativum) under irrigated conditions of Jammu	Agronomy
44	**Towseef Ahmed Wani**	Dr. Monica Sood	Studies on utilization of cauliflower leaves in cereal based value added product	Post Harvest Technology
45	**Saima Zahoor**	Dr. Akash Sharma	Effect of plant bio-regulators on yield and quality of strawberry (Fragaria x ananassa Duch) cv. Chandler	Fruit Science
46	**Divya Sharma**	Dr. R.K. Bali	Evaluation of Indigenous Bivoltine Silkworm (Bombyx mori L.) Hybrids	Sericulture
Ph.D				
1	**Anil Bhat**	Dr.Jyoti Kachroo	Economics of Production and Marketing of Citrus in Jammu Region of Jammu & Kashmir State	Agricultural Economics
2	**Tarun Vir Singh**	Dr.Sudhakar Dwivedi	Economics of Dairy Farming among Gujjars in Jammu region: An Analytical study"	Agricultural Economics
3	**Anish Yadav**	Dr.Rajesh Katoch	Epidemiological pattern and Zoonotic Potential of Bovine Cryptosporidiosis in Jammu district	Veterinary Parasitology

4	**Ajay Kumar Gupta**	Dr.M.S.Bhadwal	Laparoscopic and Ultrasound guided Biopsy of Abdominal Organs in Dogs	Veterinary Surgery & Radiology
5	**J.K.Khajuria**	Dr.Rajesh Katoch	Studies on Epidemiology and Resistance against Benzimidazoles in Gastrointestinal Nematodes of small ruminants	Veterinary Parasitology
6	**Jai Kumar**	Dr.Anil Kumar	Influence of Weed Management and Establishment techniques on Productivity of Rice-wheat Cropping system	Agronomy
7	**Sudershan Kumar**	Dr. M.Mutha Rao	Computation of Judicious Treatment of endometritis in cows	Animal Reproduction, Gynaecology & Obstetrics
8	**Vikas Gupta**	Dr.V.K.Razdan	Studies on Soil Borne Diseases of Brinjal(solanum melongena L.)	Plant Pathology
9	**Bhavana Gupta**	Dr.S.K.Kher	Dynamics Entrepreneurship Development for income and employment generation of farm enterprises.	Agricultural Extension education
10	**Gulshan Kumari**	Dr.S.K.Kher	Adoption of IPM Practices by Rice growing farmers of Jammu region	Agricultural Extension Education
11	**Dilip Manikrao Mondhe**	Dr.Rajinder Raina	Studies on anticancer activity of some Medicinal Plants.	Veterinary Pharmacology & Toxicology
12	**Arti Sharma**	Dr.Jyoti Kachroo	Economic efficiency of Maize Production in Jammu region of J&K state	Agricultural Economics
13	**Parshotam Sharma**	Dr.A.S.Bali	Effect of fertility levels on winter Maize (Zea mays L.) based inter cropping systems and their effect on succeeding maize crop	Agronomy
14	**Satya Bhushan Bakshi**	Dr.S.K.Kotwal	Public Health Implications of Aeromonas Species Isolates from Foods of animal origin, water and clinical cases.	Veterinary Public Health
15	**Ruksar Ahmad Dar**	Dr.J.P.Sharma	Biometrical Analysis of Yield and Quality Traits in Tomato(Lycopersicon esculentum Mill)	Vegetable Science
16	**Mohd. Rashid**	Dr. S.K. Kotwal	Studies on Shiga Toxin Producing E.coli from foods of Animal origin and clinical cases	Veterinary Public Health

2.10 Student's Performance

The pass outs from the University have been selected for the State and National professional services of Indian Administrative Services, Indian Forest Service and Kashmir Administrative Services. In the recently announced Kashmir Administrative Services, selection list reflected the success of more than 43 graduate students from this University. Our students are being selected for the All India Agricultural Research Services (ARS). They compete and succeed in Junior and Senior research fellowship (JRF and SRF) and National Eligibility Test (NET). In 2010-11, 30 graduates qualified for JRF and out of which seven were listed in the top ten positions. They have been placed in the banks, multinational seed and pesticide companies of country.

2.11 Students Welfare

Facilities available for sports/cultural activities at both Campuses

Chatha:

- Student's Centre having facilities for indoor games like TT, Carrom, Ludo, Chess etc. , reading room and a cafeteria.

Activities of students in Students Centre

- Sports ground identified and under development.
- Mini Conference Hall available for cultural activities.

RS Pura:

- Sports play field for cricket, football, volleyball and athletics available and under use. Badminton Court and Table Tennis have been developed in the Girls Hostel and Boys Hostel.
- A small gymnasium for hostel boarders is being maintained in the boys hostel.
- A covered stage and open air space for seating of audience is available.
- A conference hall with capacity of 400 plus and mini hall with capacity of 60 persons is available at RS Pura campus for literary activities, cultural events/ conferences etc.

Interfaculty sports activities

2.12 Sports and cultural activities

S. No.	Events	Venue	Date
1.	Inter University Youth Festival: REVERIE-2010	NDRI, Karnal	2nd to 4th April, 2010
2.	Environment Week Celebrations: Painting and Quiz completion, Symposium and Cultural Program	RS Pura	5th to 12th June 2010
3.	Orientation lecture and lecture on anti ragging rules	RS Pura	3rd Aug, 2010
4.	Orientation lecture and lecture on anti ragging rules	Chatha	11th Aug, 2010
5.	VanMahotsava Day Celebration and Plantation Drive	RS Pura	11th Aug, 2010
6	Sadhbhavana Divas: Oath, Rally and Lecture	RS Pura	20th Aug., 2010
7.	NSS Volunteers and students of both faculties visited Red Ribbon Express	Railway Station, Jammu	15th Nov., 2010
8.	Rally and pinning of Red Ribbons – World AIDS Day	Chatha	1st Dec. 2010

9.	World AIDS Day – State level Rally and Cultural Program	Govt. College for Women, GandhiNagar, Jammu	1st Dec. 2010
10.	Inter-faculty elocution contest	RS Pura	3rd Dec., 2010
11.	Symposium and Cultural Program in collaboration with J&K State AIDS Control Society.	RS Pura	7th Dec. 2010
12.	North Zone Inter-University elocution contest	Chatha	10th Dec., 2010
13.	Virasat-e-Riyasat-Inter University Students' Festival of Music, Dance and Drama	Gen. Zoravar Singh Auditorium, University of Jammu, Jammu	24th to 26th Feb., 2011
14.	Intra faculty Volley ball Tournament	Sports Ground RS Pura	15th March to 17th March 2011
15	Inter-faculty sports Meet	Sports Ground RS Pura	28th to 30th March 2011

North Zone Inter University Elocution contest on 10th Dec., 2010 at Chatha Campus.

NSS volunteers participants to State Level World AIDS Day on 01-12-2010 at Govt. College for Women, Gandhi Nagar, Jammu.

Winner of Virasat-e-Riyasat-Inter University Students' Festival of Music, Dance and Drama at Chatha Campus

2.13 Scholarship

The under-graduate and postgraduate students are being awarded various scholarships. The value of merit scholarship awarded per month was Rs.500/-, Rs.800/- and Rs.1200/- to B.Sc. (Ag)/B.V.Sc., M.Sc.(Ag)/M.V.Sc. and Ph.D. students, respectively

where as the amount of national talent search (NTS)

scholarship awarded was Rs.1000/- per month.

2.14 Educational Tour

An All India Educational tour of 4th year's students of BVSc & AH batch 2007 alongwith four faculty members was conducted from 11-02-2011 to 28-02-2011. The tour was conducted to different Veterinary Colleges/organizations viz. Mumbai Bangalor, Chennai, Izatnagar, Pantnagar for broadening the horizon of the students in the profession.

All India education tour of B.Sc (Ag) 3rd year students (batch 2008) along with two faculty members was conducted w.e.f 15-01-2011 to 30-01-2011, they visited IARI, New Delhi,

All India Educational tour of the students

RAWE Programme

UAS Dharward, ICAR, Research complexes at ELA, Old Goa, CIFE, Colaba, Mumbai & PAU, Ludhiana.

Educational tour of final year BVSc & AH students of batch 2006 alongwith three faculty members was conducted w.e.f 08-11-2010 to 16-11-2010 and visited GADVASU, Ludhiana, Dr. Y.S. Parmar University of Horticulture Forestry Solan, CSWRI, Dharadun and CSKHPKVV, Palampur.

2.15 RAWE PROGRAMME

The Rural Agriculture Work Experience (RAWE) programme was offered in the first semester of 2010-11 to 32 students of B.Sc Agriculture, batch 2007. This programme provided the students the practical experience so that the graduates can respond to the real life situation in their profession. The activities undertaken under RAWE programme were: Techno-economic survey (2weeks), Soil and water sample collection and analysis (2 weeks), Plant clinic (3 weeks), attachment to agro-industry (2 weeks) and rural experience in terms of Attachment with farmers in a village (9 weeks). The students were paid a stipend of Rs. 500 each per month for 5 months amounting to Rs. 2500 per student. The total expenditure on account of stipend was Rs. 80,000.

2.16 Internship Programme

Students of B.V.Sc&AH were exposed to internship programme for a period of 6 months in the 10th semester. An amount of Rs.1800/- per student per month is paid as internship allowance except in-service nominee from J&K Government. During 2010-11 , 41 students have successfully completed their internship programme in B.V.Sc & AH. The expenditure involved for one student for six months is Rs.10,800/- and total expenditure for 64 students was Rs.4,42,800/-.

2.17 Students' Placement and Counseling Cell

Facilitates the University students by providing information to them about various scholarships and avenues of employment. The center is running in the Students Centre, Chatha campus . Dr. S. B. Bakshi, Deputy Director Students Welfare, is its In-charge. The students completing the course of B.Sc. (Agriculture), B.V. Sc. & A.H. are advised on seeking jobs in private, government, Army, paramilitary and non-governmental organizations. Information bulletins from prestigious universities of U.K., U.S.A. and Europe are procured, displayed and provided to the interested students. For Employment, the advertisements appearing in newspapers or received directly from the employers are displayed on notice boards of the Faculty concerned and/or communicated directly to the eligible candidates.

2.18 Hostels and hostel facilities

Separate hostel accommodation for boys and girls are available at the RS Pura campus and one hostel is under construction at the main campus, Chatha. The girl boarders are housed in newly constructed Girls Hostel with additional accommodation comprising of four flats to facilitate the girl boarders. Male boarders are housed in two hostels namely Boys Hostel and Students Hostel. The boys hostel has 44 rooms for housing 138 students at a time with adequate furniture and fixture facility. The students hostel has a capacity to accommodate 143 boarders; 29 rooms are single seater, 49 rooms are double seater and have 16 single room suites for foreign students with facility of kitchenette and attached rest rooms. Spacious and well furnished dining hall, common room, lawn, courtyard, CTV with cable/dish connection etc., have also been provided in the hostels. Facilities for indoor games like table tennis, chess, ludo and carrom boards have also been made available.

2.19 Health care facilities

Medical facilities are available to the students, faculty members and University staff at both the campuses of the university. Two full time medical officers (including one lady medical officer), staff nurse and other para-medical staff are available to ensure health care facility

A 100 MA portable X-ray machine has also been installed in the health centre at R.S.Pura. The testing facilities are open to students, faculty members and staff of the University free of cost. The facility of dental chair is also available. Two bed indoor medical facility is also provided at both the campuses.

Activities of the Health Centre

S. No.	Type of case	No.
1.	Total OPD	3120
2.	Students treated	2005
3.	Staff treated	1115
4.	Hostlers	1404
5.	Non Hostlers	601
6.	Male	2293
7.	Female	827
8.	Surgical cases	908
9.	Medical cases	2212
10.	Patients referred to Govt. Medical College, Jammu	18
11.	Indoor/ emergencies attended	127
12.	Lab investigations w.e.f.18-09-2010	98
13.	X-ray	15

2.20 LIBRARY

Usage

Campus	**Books Borrowed** (Issued / Returned)		**Literature referred in the Library**	
			Books, Journals, Back Volumes Current Issues	
	Per day	**Total**	**Per day**	**Total**
Central Library, Chatha	21	4984	87	20299
University Library, R.S.Pura	26	6144	31	7348
Total	37	8134	118	28647

New Additions

Campus	Books	Journals (Issues/Number)	Thesis	Reports	Pamphlets / Newsletter	Gift Books	ST
Central Library, Chatha	400	764	63	75	202	226	NA
University Library, R.S.Pura	153	550	Sections only available at Central Library Chatha			Nil	NA
Total	983	1314	63	75	202	226	NA

Journal Subscription

Campus	Paid		Exchange	Gratis	Total
	Indian	Foreign			
Central Library, Chatha	27*	19*	*Nil*	*Nil*	46
University Library, R.S.Pura	8*	13*	*Nil*	*Nil*	21
Commonly Subscribed Journals for both Libraries	Nil	02*	*Nil*	*Nil*	02
Total	**35***	**34***	***Nil***	***Nil***	**69**

*Subscription of the Journals for the Year 2011 is under process.

Book Bank Services

Campus	No of Books Available		No of Books Issued		Special Issue for JRF Aspirants
	General	SC/ST	General	SC/ST	
Central Library, Chatha	677		76		*NA*

Reprographic Services

Campus	No of exposures taken		
	Official purpose	On payment	Total
Central Library, Chatha	17745*	78646	96391
University Library, R.S. Pura	7825*	3744	11569
Total	25570	82390	107960

* includes official Print outs/Photostat, Wastage, Service-check etc.

Receipts

Campus	Overdue charges	Collection from lost tickets	Cost recovered from lost books	Text book bank	Reprographic Service	Internet	Total
Central Library, Chatha	5919.00	Nil	Nil	1140.00	56374.20	Nil	63433.20
University Library, R.S. Pura	18110.00	140.00	Nil	Nil	2808.00	Nil	21058.00
Total	24029	140		1140	59182.2		84491.20

Other Services provided

Campus	News Clippings	Internet	Journals online	CD ROM services	Miscellaneous (Documentation Service)
Central Library, Chatha	Yes	Yes	Yes (2700+ e-journals through CeRA, Access to over 6 million scientific records through CAB Abstracts Database Online etc.)	Yes	Yes (On-demand)
University Library, R.S. Pura	Yes	Yes	Yes (2700+ e-journals through CeRA, Access to over 6 million scientific records through CAB Abstracts Database Online etc.)	Yes	Yes (On-demand)

Documentation Service

Resource Management: New books are being entered in the SOUL database and old books are being classified and catalogued. Task of assigning subject headings to all new and old books is completed.

Reference: Day to day reference service given to readers.

Stock Maintenance: Open shelves arrangement according to DDC is maintained.

Reprography Services: Photostat service on concessional rate of Re. 0.70/impression is available. Print out service is also available within the Library at subsidized rates.

Library Participation in Post Graduate teaching program: LIB-601 "Library Science and Technical Writing" 1+0 credit hour course is being taught to the PG students.

Library Automation Activity: Job of crating database of library holdings on SOUL database is in progress.

Online Library

Central Library, Chatha	University Library, R.S.Pura
Established with Ten computers with access to more than 2700 e-journals through CeRA Consortium, CAB Abstracts Database Online (access to over 6 million scientific records) etc. and inaugurated by the Hon'ble Vice Chancellor on 19-10-2010	Established with Six computers with access to more than 2700 e-journals through CeRA Consortium, CAB Abstracts Database Online (access to over 6 million scientific records) etc.

Cyber Library

Central Library, Chatha
Established with five computers to access internet, Communication and data processing in the Central Library, Chatha and inaugurated by the Hon'ble Vice Chancellor, SKUAST-J, Main Campus, Chatha on 19-10-2010.

Solar Power Plant

Central Library, Chatha	University Library, R.S.Pura
Solar Power Plant was Installed during the financial year 2010-11 with capacity of **30 KwA** at Central Library, Chatha exclusively for the Library building of FOA, Chatha.	Solar Power Plant was Installed during the financial year 2010-11 with capacity of **20 KwA** at University Library, R.S.Pura exclusively for the Library building of FVSc&AH, R.S.Pura

Training provided to Library Users:

S.N0.	Organizer	Title	Participants	Timing	Date/Year	Place
1	Elsevier Publishers, New Delhi	On-Line access to Science Direct Database" for Library Members of University Library, R.S.Pura	88	12:00 PM – 02:00 PM	13-10-2010	Central Library, Chatha
2	Elsevier Publishers, New Delhi	On-Line access to Science Direct Database" for Library Members of Central Library, Chatha	72	10:00 AM – 12:00 PM	13-10-2010	Central Library, Chatha

Training of Library Professionals:

S.No.	Name of Professional	Title	Date	Place
1	Sh. Leela Dhar Mangi, Assistant Librarian, R S Pura	Three weeks refresher course titled " Impact of IT on Libraries"	25.11.2010 to 15-12-2010	Academic Staff College, University of Jammu, Jammu
2	Smt. Shashi Prabha, Assistant Librarian, Chatha	Three weeks refresher course titled "Impact of IT on Libraries"	25.11.2010 to 15-12-2010	Academic Staff College, University of Jammu, Jammu

Library Membership

Types of Members	Central Library, Chatha	University Library,R S Pura
Faculty	223	73
Ph.D students	74	5
M.Sc students	89	108
UG students	187	281
Total	**573**	**467**

Over and above the information, the Libraries of SKUAST-J also subscribed to Newspapers and Magazines, the detail of which is given as under:

Library	Newspapers	Magazines
Central Library, Chatha	12	15
University Library, R.S.Pura	4	13
Total	**16**	**28**

The research is being carried out by the scientists at Faculty of Agriculture, Faculty of Veterinary Sciences and Animal Husbandry and at different Research stations/sub-stations/centres, spread over the entire Jammu province of Jammu & Kashmir state in the areas of agriculture, horticulture, livestock, dairy, fisheries and home science. Post graduate research also forms an important component of research activity. The research is being funded through coordinated research projects and other schemes of Indian Council of Agriculture Research (ICAR), State plan and non- plan and various other sponsoring agencies *viz.* HTMM(1), DBT, DST, MES, NMPB *etc.*

The research outputs accrued from different faculties and different research units are reported as under

3.1 Faculty of Agriculture

3.1.1 Plant Breeding & Genetics

Rice:

A non basmati rice variety namely SJR 5 (IET 19972) with maturity duration of 130-135 days is suited for irrigated ecology. It has consistently registered an impressive yield advantage over the checks including Jaya. Based on which the variety has been identified by Varietal Identification Committee of ICAR as replacement of PC 19, RR 8585 and Jaya in Jammu & Kashmir (Jammu region) and as a replacement of Jaya in Haryana and Tamil Nadu.

The variety has yield potential of 55 to 60 q/ha.It resistant to leaf blast and has good grain quality features including high head Rice Recovery percentage. The proposal for notification and release of this rice variety has been submitted to Central Sub-committee on Crop Standard Notification and Release of varieties

SJR 5 (IET 19972)

Wheat: JAUW-584 (A new rust resistant wheat strain)

- Semi Dwarf, timely sown bread wheat (*Triticum aestivum* L.) suitable for irrigated conditions of North Western Plain Zone.
- High yielding with yield potential of 50-55 q/ ha.

JAUW 584
(A new rust resistant wheat strain)
(PDW 233/Ae.crassa/ PBW 343

- Resistant to yellow and brown rust and karnal bunt diseases.
- About ten days earlier in maturity than standard check.
- The entry is being tested in AVT-1 of AICW&BIP during Rabi 2010-11.
- Performance in minkits conducted by Department of Agriculture, J&K is encouraging as a promising rust resistant strain

Maize:

The University is promoting hybrid maize technology with main focus on development of

Vivek Maize Hybrid-25

Vivek Maize Hybrid-25

single cross hybrids (SCHs). A number of public and private bred maize hybrids were evaluated in order to recommend maize hybrids as short term measure till SKUAST-J recommends its own hybrids. The seed multiplication of parental lines and hybrid seed production has started from 2010 at Chatha farm.

Oilseed:

RSPN-25: A high yielding variety of gobhi sarson is under process of release for general cultivation in the J & K state.

Gobhi Sarson Hybrid Hyola (PAC-401)- PAC-401 has been evaluated with yield potential

Hybrid Hyola

1937 kg/ha and ranked 1st amongst all the seven varieties including check.

3.1.2 Vegetable Science & Floriculture

Crop Improvement

Knolkhol

The variety G-40 has excelled in national trials of AICRP(VC) and has shown superiority of 15-

Knolkhol cv. G-40

20 per cent of yield in minikit trials conducted under different agroclimates of Jammu by the Department of Agriculture. This test variety is already in demand by farmers because of earliness, consumer preference and ability to produce seeds in both plains and mid hills.

Broccoli

The Early Green variety is in advance stage of testing and is being maintained for uniformity and stability in seed production under plains of Jammu for the past 4 years. This variety has performed well in minikit trials conducted by the Deptt. of Agriculture, Jammu.

Tomato

Among 4 hybrid combinations identified, namely RCMT 1 x CGNT 14, RCMT 1 x Pant T 8, DVRT 2 x 134 1 Sel. and RCMT 1 x HT 6, 13 individual plant selections made from the F2 population were advanced to raise F3 population. Tomato hybrids Himlata and NS – 771 have been found successful for growing in containers under protected conditions.

Tomato (HIMLATA)

Tomato(NS 771)

In indeterminate AVT II, Arka Vikas and PAU 2372 outperformed NDT 9 (check). In hybrid determinate, 09/TODHYB 5 which was statistically at par with DVRT 2 and ARTH 3 (check) was found superior in yield to other entries. In tomato determinate (IET), maximum gross and marketable yield was obtained in 09/TODVAR 3 followed by 09/TODVAR 1.In tomato determinate AVT II, none of the varieties surpassed the check DVRT 2 for gross and marketable yield.

Chilli

In AVT-II, maximum yield was observed in PC 2062 (116.79 q/ha) followed by CCH – 05 – 01 (106.53 q/ha) which was statistically superior to checks.

Potato

During rabi 2010, Kufri Laukar and Kufri K.Pukhraj performed better over Kufri Badshah, Kufri Sindhuri, Kufri Chipsona-1 and Kufri Chipsona-2 and ranked at No. 1 and No. 2.

Okra

The work on uniformity and stability in okra cv.JBS-2 is continuing and the same is being tested under national trials.In hybrid IET, 09/OKHYB-6 was found significantly superior to all other entries and recorded maximum yield followed by HOK-152 and 09/OKHyb-9. In hybrid AVT-I and AVT-II, 08/OKhyb-4 and Hybrid Prerna were found significantly superior to all other entries. In resistant varietal trial, VRO-6 recorded the highest yield

Cucurbits

Of various hybrid combinations evaluated in bottle gourd, maximum yield was obtained in JBG-03 x JBG-08 (254.35q/ha) followed by JBG-13 x JBG-28 (237.98q/ha). Among eleven entries tested in AVT-I, the entries 08/BOGVAR-2, 08/BOGVAR-4 recorded yield of 180.1q/ha and 158.3q/ha which was statistically superior to rest of the entries including checks. In AVT-II, the entries PBOG-40, VR-2 and PBOG-90 were at par with 200.0q, 198.0q, and 190.0 q per hectare yield, respectively.

Leafy vegetables

The variety in pipeline of spinach beet (C-13) has performed well (91.00q/ha) over check All Green (65.00q/ha) under minikit test conducted in second year (2009-10) by the Deptt. of Agriculture,Jammu in different agroclimates of Jammu. In kale, entry Siberian kale gave maximum yield (7.5kg/4sqm plot) followed by 10/KLVAR-2 (7.00 kg/4sqm plot). This entry was not preferred by consumers as compared to 10/KLVAR-1 and Khanyari local.

Different entries of kale

Spinach Beet cv. C-13

Spice crops

The varieties in pipeline of coriander (Khushboo) and fenugreek (Kasuri Supreme) performed well in minikits test conducted by the Deptt. of Agriculture, Jammu and these are being maintained for uniformity and stability.

Fenugreek variety-Kasuri Supreme

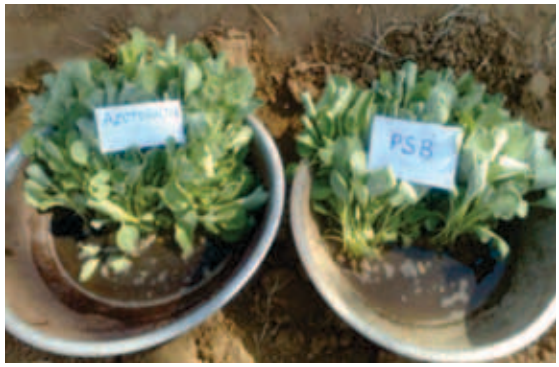
Coriander cv. Khushboo

B.Crop Production

Organic Management of Vegetables

Conventional approach of cabbage cultivation involving chemical fertilization in combination

Layout of Organic Cabbage



BIOFERTILIZER DIPPING OF SEEDLINGS

Neem Cake Alongwith Psb Dipped Treatments in Cabbage

with FYM is best for getting higher yield viz- a-viz net returns. But under organic nutritional management, neem cake@ 3.4t/ha along with seedling dip of phosphorus solublizing bacteria for half an hour proved best for increasing morphometrical, quality and soil parameters and also enhanced net returns in terms of cost benefit ratio.

Integrated Nutrient Management

Application of vermicompost @2.5 tons/ha+ Biofertilizer (*Azospirillium)* recorded the maximum yield (137.48 q/ha) in cucumber.

The cultivation of capsicum variety Bharath was made successful under open and container gardening.

Biofertilizer Dipping of Seedlings

Ornamentals

A.Crop Improvement

Chrysanthemum

Out of 24 spray type and 9 standard type cultivars, Maghi White (spray type) and cv. Gulmohar (standard type) performed relatively better for vegetative and flowering characters. For *ex vitro* rooting 500 ppm IBA (20 m dip) gave better response over 500 ppm IBA (quick dip) and control.

Gladiolus

Under HTMM project, 17780 corms and 29500 cormels of varieties Gunjan White Prosperity Jyotsana, Novalux, Shabanam and Eurovision were produced during 2010-11

Eurovision

Novalux

White Prosperity

Jyotsana

Gunjan

B. Crop Production

Marigold

To check weeds in winter and rainy season, Goal (Oxyflurofen @0.50 lt/ha) was found more effective in controlling the weeds in marigold than Stomp (Pendimethalin @1.5l/ha).

Fenugreek variety-Kasuri Supreme

3.1.3 Fruit Science

Crop improvement:

Under collection, introduction and evaluation of different cultivars of subtropical fruit crops; three cultivars of aonla *viz*. Chakaiya, NA-6 and Lakshmi-52 , three cultivars of bael *viz*. NB-5, NB-9 and CISH-B-1, two cultivars of mango *viz*. Ambika and Arunika, two cultivars of guava *viz*. Lalit and Shweta have been introduced from CISH, Lucknow whereas three cultivars of pomegranate *viz*. Jalore seedless, Mridula and Bhagwa , two cultivars of ber *viz*. Thar Sevika and Thar bhubraj ,One cultivar of karonda *viz*. CIAH Sel-1, one cultivar of lasoda *viz*. CIAH Sel-1, One cultivar of lemon *viz*. Pant lemon-1, one cultivar of lime *viz*. Sai Sarbati and one cultivar of phalsa *viz*. CIAH Sel-1 have been introduced from CIAH, Bikaner and are under evaluation.

BAEL CV. CISH-B-1

BAEL CV. NB-5

BAEL CV. NB-9

KARONDA CV. SEL-1

BER CV. THAR SEVIKA

BER CV. THAR BHUBRAJ

GUAVA CV. LALIT

GUAVA CV. SHWETA

PHALSA CV. SEL-1

PANT LEMON-1

SAI SARBATI LIME

LASODA CV. SEL-1

POMEGRANATE CVS. JALORE SEEDLESS, MRIDULA & BHAGWA

AONLA CV. CHAKAIYA

AONLA CV. LAKSHMI-52

Production of quality planting material for different fruit crops

a) Under Horticulture Technology Mission MM-1 Project and Mega seed project, Fruit Science Section has raised 80,050 rootstocks of different subtropical fruit crops at FOA, Udheywalla and Chatha fruit plant nursery. Besides raising the stock material, 11,039 budded/ grafted/layered plants were available for sale and 3929 were sold up to 31-03-2011.

b) In Guava, for the first time, wedge grafting under poly-tubes has been under taken successfully

Guava rootstock

Wedge grafting in poly-tubes

c) In Citrus, Collection block of different cultivars brought from RRSS, Abohar (Punjab) has been established at Research Orchard at Udheywalla.

Production technology:

Guava: In Sardar (L-49) and Allahabad Safeda, commercial cultivars of guava , an alternative technique can be used involving one pair pruning of leaves in the month of April thereby encouraging winter season guava crop as well as improving the qualitative and quantitative traits as compared to the techniques already recommended for this purpose.

One pair pruning in guava for crop regulation

Mango: Rejuvenation of two old/ unproductive orchards of mango at Dayala chak and Marh have been taken up wherein twenty trees in each orchard have been marked for rejuvenation. Intermingling, diseased and dead branches were removed. Thereafter marked , undesirable branches of unproductive trees were beheaded at 1.5 to 2.0 meter from distal end and the cut

Rejuvenation of old/ unproductive orchards of mango

portions were pasted with copper oxy-chloride solution .Carbaryl 5% dusting @ 250 gm per tree towards the ending December was applied to control nymphso. of mealy bug. Spray of endosulfan 30EC 100ml in 5000 L water was also given

3.1.4 Post Harvest Technology

Strawberry

- Strawberry preserve can be developed after pre-treating fruits with 2% $CaCl_2$ for 15 minutes followed by mixing with sugar (1:1), then steeping the fruits in sugar syrup with gradual increase in TSS till it reaches 70^0Brix.

Strawberry fruit

Washing of strawberry

Fruit Strawberry Sauce

The preserve was highly acceptable upto 6 months storage.

- Strawberry sauce was prepared as per standard recipe by using sugar, honey, brown sugar and corn starch separately. Organoleptically sauce prepared by using sugar was adjudged the best followed by sauce prepared by using honey.

Guava

- Shelf life of guava can be extended up to 16 days as compared to control (8 days) by dipping the fruits in 20% neem leaf extract for 10 minutes followed by surface drying and wrapping in newspaper.

- The neem leaf extract can be prepared by drying the neem leaves in shade, making it into powder and by adding equal quantity (w/ v) of distilled water and keeping the same overnight before using .

3.1.5 Plant Pathology

- Integrated management of soil borne pathogens (*Fusarium oxysporum* f.sp *gladioli*, *Septoria gladioli, Sclerotinia gladioli* and *Penicillium* sp.) of gladiolus was attempted by incorporation of biocontrol agent, *Trichoderma viride* isolate Tv-4 (local isolate) in solarized soil along with fungicides. Disease incidence was significantly lower, whereas, shoot length, spike length and corm weight was significantly higher in solarized soils in comparison to the unsolarized soils. Minimum disease incidence was observed in solarized plots (SS) treated with carbendazim+mancozeb, however, it was at par with SS+carbendazim, SS+FYM+Tv-4 and SS+Tv-4. Regarding the growth parameters like shoot length and spike length also, the above mentioned treatment were significantly superior to all other treatments. Maximum corm weight was recorded in the solarized plot amended with FYM+Tv-4 followed by SS+Tv-4.

Trichoderma viride isolate Tv-4 (local isolate) in solarized soil

- Ten isolates of *Bipolaris sorokiniana* causing spot blotch of wheat were observed to be existing in different areas of Jammu division. They were categorized into 3 groups based on colony and morphological characters and pathogenic nature. Out of 13 cultivars screened against *B. sorokiniana*, DBW 16, DBW 17 and RSP 561 were found resistant, whereas, others showed susceptible response under field conditions**.** Propiconazole followed by tebuconazole and triademifon proved most effective for controlling the disease and increasing yield.

- Bacterial wilt [*Ralstonia solanacearum* (*Pseudomonas solanacearum*)] is known to cause serious damages to solanaceous crops. Out of different antibiotics evaluated against the pathogen, maximum disease inhibition was observed with ciprofloxacin, which was statistically at par with streptocycline sulphate.

3.1.6 Entomology

Insect pests of Cole crops

- Release of *Trichogramma chilonis* @ 50,000 adults/ha per release (6 times) at weekly interval in mid January

- Promotion of *Cotesia glomeratus*, potential parasitoids against cabbage butterfly larva can be encouraged by planting border row of mustard and coriander as flowering plants.

- Safer biopesticide like neem oil (4 %) as a blanket spray was proved to be very good a ovicide products in cole crops caterpillars

- Foliar spray of *Bacillus thuringiensis* formulations @ 500 g/ ha along with sticker (0.5 ml/lit of water) is found promising to control all lepidopteran insect pests in cole crops.

- Alternating treatments with *S. carpocapsae* 0.25 million m^2 and *B. thuringiensis* 0.05g m^2 proved effective for management of *Pieris brassicae*

Insect pests of Tomato

- Installation of pheromone traps @ 5-7 per ha for early detection and 12-15 per ha for trapping and mass mating disruption.
- Spray Ha-NPV 300 to 500 LE/ha (freshly prepared) 2-3 times at 10 days interval at evening hours.
- Spraying of bacterial formulation *Bacillus thuringiensis* formulation @ 500 g /ha along with sticker (0.5 ml/lit of water) for regulating the *Helicoverpa* larvae in the field condition.

Insect pests of Brinjal

The moths can be mass trapped by installation of pheromone traps @ 100 per ha at 10 m spacing. Spraying the crops alternatively with profenophos 50 EC @ 2ml /litre of water at 15 days interval and cypermethrin (0.5 ml/litre of water) starting from 20 days after transplantion to control the shoot and fruit borer of brinjal.

Acaricides like dicofol (0.05%) and wettable sulphur (0.3%) gives effective control of red mites in brinjal.

3.1.7 Agroforestry

Gloriosa superba

An experiment on *Gloriosa superb*a, an important medicinal plant, revealed higher seed yield (4.25g/plant) with larger (>61g) tuber weight. A minimum of 20g weight tuber resulted in flowering and fruiting whereas tubers weighing <10g failed to produce flowers and fruits in the same season.

Rauvolfia serpentina

An experiment conducted to evaluate the germplasm from 06 sources of *Rauvolfia serpentina*, revealed higher root yield(25.26 q/ha) in Joginder Nagar(HP) source followed by germplasm collected from Jammu(23.28q/ha) region.

Commiphora weightii

An experiment on Guggal (*Commiphora weightii*) using different diameter size cuttings was conducted in the nursery to standardize the propagation of the species. Results revealed higher sprouting percentage(74.25%) and shoot length in >1.5cm dia. size cuttings. However, number of primary branches were not affected by the cutting size used in the propagation studies.

Standardization of propagation techniques in Guggal (Commiphora weightii) through cuttings

3.1.8 Agronomy

- Application of Isoproturon @ 0.75Kg a.i/ha+2,4-D Ethyl Ester@0.5Kg a.i/ha in 2% urea solution under FIRBS System proved superior in respect of wheat grain yield over conventional technique with recommended doze of herbicides
- Basmati/Coarse rice transplanted through SRI with 8-12 days old seedlings with recommended nursery sowing time proved superior to normal transplanted rice with respect to grain yield of rice.
- Lopping of Basmati rice at 45 DAS and application of 15 Kg K_2O/ha improved the rice yield besides reducing the plant height leading to lesser lodging in basmati plants.
- Application of Glyphosate @ 1% on 30 cm regenerated growth of cut lantana bushes followed by planting either hybrid napier or setaria have been found to be effective and economical technique over the traditional practice of grubbing of lantana plants.
- Optimum planting time for winter maize cultivars *Bulland* and *Sheetal* was found to

be from 31st of October to 10th of Nov. in irrigated subtropical conditions

- Maize+Peas & Maize+Lentil grown with 120% of Recommended Fertilizer Dose (RDF) alongwith 100% RDF +12.5% N through FYM & 12.5%N through vermicompost produced higher maize equivalent yield in maize based intercropping systems in irrigated plains of Jammu.
- Application of Trifluralin @ 1.0 kg/ha pre-plant incorporation + 1HW at 20 DAT was found to be most appropriate weed management practice in marigold.
- Application of Pendimethaline @ 2 kg/ha Pre-emergence application+ 1HW at 20 days of transplanting (DAT) proved to be the best weed management practice in gladiolus.
- Application of Fluchlorian @1.0kg a.i/ha pre-plant incorporating (PPI), Alachlor @2.0kg a.i/ha pre emergence application (PRE), Trifluralin @ 1.0 kga.i/ha PPI and Oxyflorafen @0.35 kg a.i/ha PRE along with one hand weeding at 20 DAS proved to be the effective and economical weed management practices to enhance green pod yield of okra

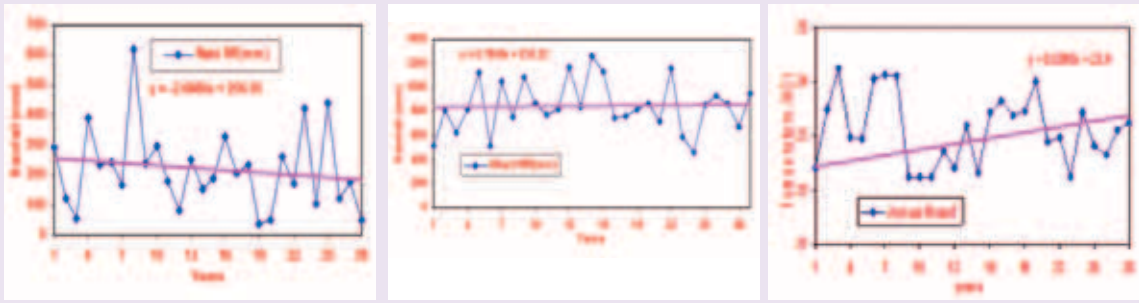
3.1.9 Agrometeorology

1. Climate change across the Jammu region of J&K state.

Time series analysis was carried out using the data on daily maximum and minimum temperatures, rainfall for the five selected locations. The statistical significance of trends in season-wise rainfall series was examined using Mann-Kendall Test Statistics (Libiseller and Grimall 2002).

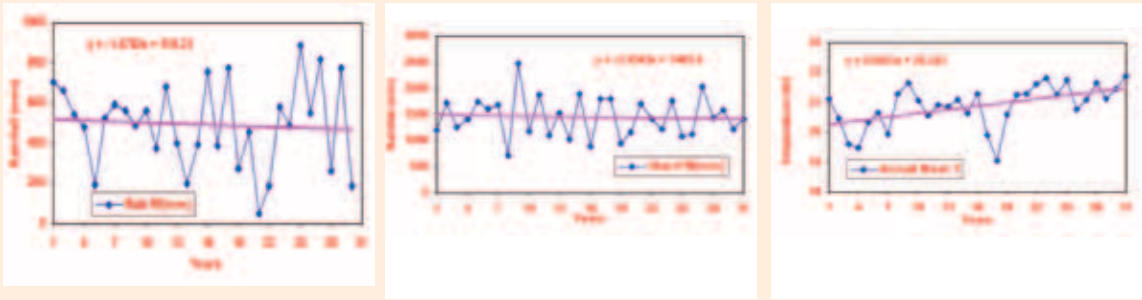
Low altitude Sub Tropical Zone

Jammu: The geographical location of station is $32^0 40^/$ North latitude and $74^0 50^/$ East longitude at an elevation of 360 meters above mean sea level. The climate of the area is influenced by southwest monsoon in *kharif* and western disturbances in *rabi*. The analysis of annual mean temperature data for a period of 1983 to 2010 years indicated that the annual mean temperature increase by 0.03 per year. The rainfall during *rabi* showed decreasing trend by 2.7mm/year and *kharif* rains showed increasing trend at the rate of about 0.76 mm/year.



Trend analysis of temprature and rainfall of Jammu

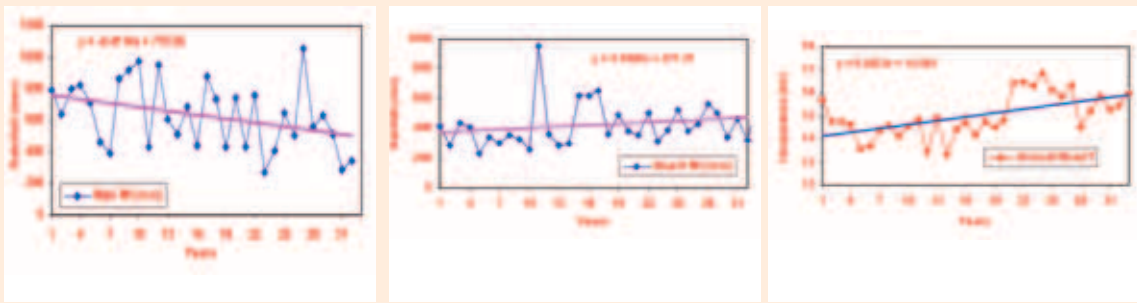
Katra: The geographical location of station is $32^0 00^/$ North latitude and $74^0 54^/$ East longitude at an elevation of 500 meters above mean sea level. The station receives precipitation through south west monsoon and western disturbances by virtue of its location. The temperature data for a period of 1980 to 2010 years revealed increasing trend in the mean temperature by 0.04 per year. The *rabi* and *kharif* rainfall showed decreasing trend by 1.6 mm/year and 2.6 mm/year, respectively.



Trend analysis of temprature and rainfall of Katra

Sub tropical temperate transitional zone (Zone II)

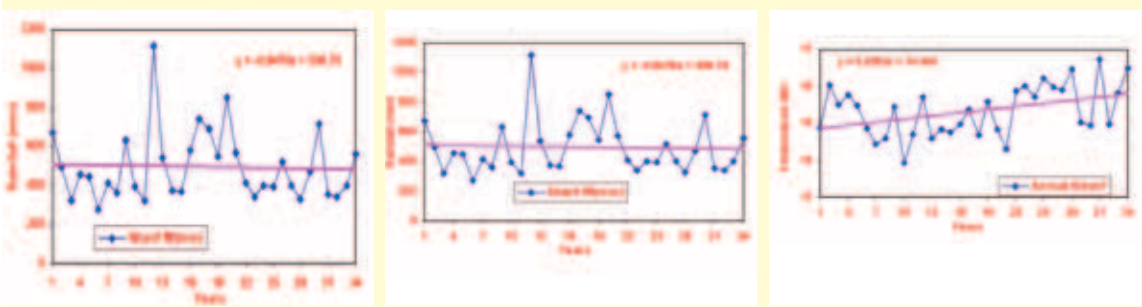
Batote: The geographical location of station is 33^0 07/ North latitude and $75^0$19/ East longitude at an elevation of 1585 meters above mean sea level The areas is mostly hilly terrain. The temperature trend, during the period from 1977 to 2010, revealed increasing trend by 0.03 per year. While in case of *rabi* and *kharif* rainfall which showed decreasing trend by 8.3mm/ year and 0.8 mm/year, respectively.



Trend analysis of temprature and rainfall of Bhadrwah

Mid to high altitude temperate zone (Zone III)

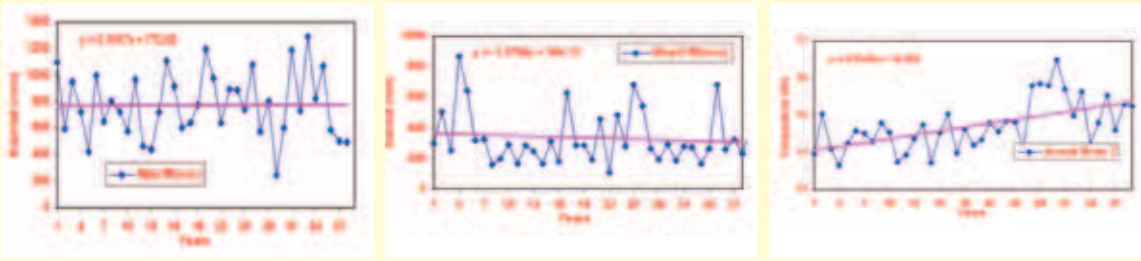
Bhaderwah: The geographical location of station is 32^0 58/ North latitude and a longitude of $75^0$43/ East at an elevation of 1689 meters above mean sea level The areas is mostly hilly terrain and falls temperate zone of Jammu region. The temperature data for a period 1978 to 2010 revealed that the annual mean temperature is increasing at the rate of 0.01 per year. Rainfall trend analysis showed decreasing trend during *rabi* by 8.4mm/year and while increasing trend by 3.2 mm/year was found in *kharif* rains.



Trend analysis of temprature and rainfall of Batote

Banihal: The station is located 33^0 35/ North latitude and $75^0$10/ East longitude at an elevation of 1624 meters above mean sea level. The areas are mostly hilly terrain. Being a part of mid to

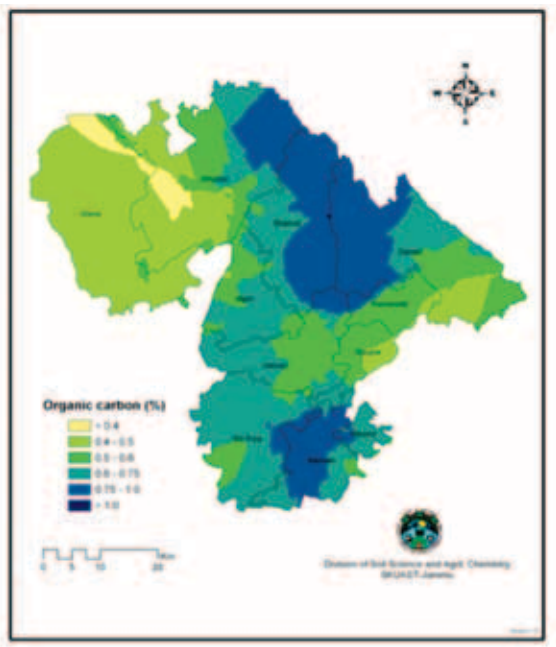
high altitude temperate zone, it receives most of its precipitation through western disturbances. Dry farming practices are prevalent due to lack of assured irrigation facilities. The data for a period 1972 to 2010 revealed that the annual mean temperature trend was found increasing by 0.03 per year. While in case of rainfall, increasing trend was observed at the rate of 0.19mm/year in *rabi* rains and decreasing trend by 1.57 mm/year in *kharif* rains.



Trend analysis of temprature and rainfall of Banihal

3.1.10 Soil Science & Agricultural Chemistry

- Generation of GIS based soil fertility maps of Jammu district.
- Micro-nutrient status of rice growing area of Samba, Marh, Khour and Akhnoor blocks have been completed. Zinc deficiency was observed to the extent of 96% whereas copper, manganese and iron was observed deficient to the extent of 9.23%, 4.61% and 4.60% respectively.
- Zinc and manganese deficiency was found to the extent of 100% and 6.25%, respectively in vegetable growing areas of Marh and Khour blocks in Akhnoor.
- Fifty percent nitrogen could be supplemented through vermicompost to achieve the grain yield of 33.10 qtls./ha in rice (Basmati 370).
- For establishing critical limits of available phosphorus in the soils of Jammu, it was observed that application of phosphorus at higher rates than 75 mg/kg of soil caused decrease in yield. Hence new critical limits shall be advocated after the conclusion of this project.
- Use of a branked (Adhatoda vesica) in kandi areas of Jammu is able to conserve soil moisture besides increasing the fertility status of soil growing eureka lemon (Citrus lemon Burm).
- Long term effect of fertilization and manuring on the physico-chemical properties of the soil in the maize-wheat cropping system at Rajouri has shown yield advantage upto 266% in terms of total above ground biological yield and increases yield of maize grain upto the 67.4% due to fertilization and manuring in comparison to unfertilized crops.
- Integrated Nutrient Management for rice-wheat cropping system in intermediate zone of Jammu and Kashmir has displayed



Soil organic carbon map of Jammu district

significantly higher grain yields (5.36 t/ha rice and 4.9 t/ha wheat) with the application of N:P:K in the ratio of 100:60:30 alongwith FYM @10 t/ha.

- Use of forest soils @20kg per pit in the tree basins of Mollies delicious apple has shown significant effects in increasing the different fruit parameters besides conserving soil moisture for preventing the fruit drop.

3.1.11 Biochemistry and Plant Physiology

Physiological response of *Brassica* genotypes under optimum and drought stress conditions: Under moisture stress conditions (at 50% flowering till harvesting) the relative water content (RWC) was found highest in RSPR-69, leaf water content(LWC) maximum in PC-5 followed by DGS-1 and RSPR-69 and both parameters showed lowest values in RH-30. Biochemical parameters viz. foliar proline accumulation, levels of superoxide dismutase and catalase in all the 3 *Brassica* species increased significantly under moisture stress as compared to normal irrigation. Seed yield was found

Scientists interacting with each other in the Biochemistry Lab

lowest in RH-30 under stress condition. Relative reduction of seed yield recorded lowest in RSPR-69 followed by PC-5 and DGS-1 and hence found stable in seed yield under drought condition.

Biochemical and molecular characterization of some wheat elite lines developed by SKUAST-J : Analysis revealed that wheat genotype RSP-564 recorded highest accumulation of foliar proline, free amino acid, total phenol, maximum levels of catalase and peroxidase, second highest in reducing sugar, antioxidant and SOD activity along with highest relative water content(RWC) under water stress condition and hence has been considered to be most tolerant genotype to water stress. Genotype RSP-561in which grain composition showed highest levels of protein, gluten, sedimentation volume, iron, zinc, and calcium along with second highest in starch, carotene, antioxidant, and lowest in phenol and PPO activity with moderate lysine content is recommended to have best chapatti making character with good nutritional quality. However, RSP-529 constituting highest total sugar, lysine, iron, carotenoids, total polyphenol, PPO and antioxidant showed best nutritional quality though less efficient in chapatti making character as its gluten level and sedimentation volume were low.

Isolation and cloning of ascorbate peroxidase gene from wheat cultivar recommended for rain-fed condition in Jammu region : Wheat genotype PBW-175 was found superior as it maintained highest RWC, ascorbate content and maximum ascorbate peroxidase activity in comparison of RSP-81 and PBW-396 under water stress condition in different doses (7,12, & 17 days of water stress after antheses). However, proline accumulation is found highest in RSP-81 followed by PBW-396 and PBW-175 under same moisture stress condition.

Studies on the effect of indole acetic acid (IAA) treatment in wheat (*Triticum aestivum*) under drought condition: Spray of different concentrations of indole acetic acid (IAA) on wheat varieties under water stress (withdrawing of irrigation water)at tillering stage (stage I), milking stage (stage II) and tillering and milking(I+II) showed significantly increased relative water content (RWC), total sugar and proline accumulation in both PBW-343 and RSP-81 genotypes and found maximum at 20ppm IAA spray in all the three stages. Grain yield also recorded maximum at 20ppm IAA spray

Physiological responses of basmati rice under various environmental conditions in Jammu :Transplantation on 15th June has shown most favourable for all variety of basmati under experiment (Ranbir Basmati , Saanwal Basmati, Basmati-370 and Basmati -564) in context to plant health and grain yield as compared to transplantations on 1st July and 15th July. Grain yield

was maximum in Ranbir Basmati (48.72 quintal/ha) followed by Saanwal Basmati, Basmati-370 and Basmati -564 in trans-plantation on 15th of June.

Bioactive molecules from medicinal plants

Antioxidant activity of Acacia catechu extracts : Three organs (leaf, bark and heartwood) of *A. catechu* differed significantly in their antioxidant potential. In addition, our results demonstrate that phenolic and flavonoid compounds contribute significantly to antioxidant activity of the extracts derived from all organs. Crude methanol extract and ethyl acetate fraction of heartwood of *A. catechu* have good potential due to its antioxidant and DNA protective activities.

Antifungal molecule from Vitex negundo **essential oil :** Twenty two compounds were identified from essential oil obtained from fresh leaves of *Vitex negundo* by GC and GC-MS analysis and sabinene (34.06%), caryophyllene (15.81%), gamma-gurjunene (10.97%), 4-terpinenol (10.53%), β-isomethylionone (8.85%), β-terpinene (5.53%), tetra-butylbenzene (2.80%) were the main components. Then antifungal activity of the essential oil was assayed against *Alternaria alternata* using bioautography technique. The main bioactive component was isolated by preparative TLC and determined as gamma-gurjunene using GC-MS analysis. The minimum inhibitory amount (MIA) against *A. alternata* was determined as 60 µg using bioautography assay.

Antifungal molecules from *Aegle marmelos* and *Eucalyptus teretecornis* essential oils : Essential oil extracted from *Aegle marmelos* and *Eucalyptus tereticornis* leaves showed antifungal activity against *Alternaria brassicae* in poison food assay. For isolation of the pure bioactive constituents of the essential oil, thin layer chromatography (TLC) based bioautography was performed. GC-MS analysis was performed to identify the antifungal molecules. The identification of components of the essential oil was based on comparison of their mass spectra with those of NIST05 (version 2.0) library of the equipment and comparison with those reported in literature. Antifungal molecule identified in *Aegle marmelos* was limonene whereas in *E. teretecornis* were α-eudesmol and β-fenchol .

Factors affecting the oil quality and characterization of olive oil using standard protocols for technology transfer for effective marketing of the oil. :Percent fruit set (15%), Fruit length (29.35mm) and fruit weight found highest in Zaituna. Data recorded on maturity index of olive fruit revealed that harvesting of olive fruit should not be carried out before last weak of September. This is correlated to oil content data. Olive oil extraction carried out at time intervals showed that 4h extraction with petroleum ether (40 ^{o} – 60 ^{o}C) gives correct estimate of the oil content of the Olive. Maximum oil was content recorded in Zaituna (39.93%). For the quality characterization of Olive oil, methods were standardized for estimation of acid value, peroxide value, saponification and iodine values. Increasing tendency of acid value, peroxide value and saponification value was shown in oil samples from 1st Sept to 30th Sept whereas iodine values showed decreasing tendency for the same period.

Enzymatic studies on bacteria of Chenab, Tawi and Ravi for monitoring riverine ecosystems in Jammu : Analysis of water samples collected from different sites of river Chenab and Tawi revealed that Hari Mandir site of Chenab and Tawi bridge site of Tawi river recording highest values of biological oxygen , highest bacterial population and enzyme amylase, catalase and peroxidase activities were considered most polluted sites of Chenab and Tawi respectively. Ambaran site of Chenab and Nagrota site of Tawi showed lowest values in these parameters and hence considered to be least polluted sites of Chenab and Tawi, respectively.

3.1.12 Sericulture

- Mulberry germplasm of 52 varieties is under maintenance. These varieties are being used by the staff and students for conducting the xperiments on different aspects of mulberry breeding and cultivation.
- Evaluation of nutritional efficiency of indigenous silkworm hybrids has been taken and as per 2nd year data, out of six hybrid combinations, hybrid Udhey-3x1 and Udhey-6x3 were found efficient in nutritional and conversion ratio parameters.
- A silkworm germplasm of 14 races is under maintenance. These races are being used for

conducting different experiments related to silkworm.

- Presently two autumn specific temperature tolerant bivoltine silkworm hybrids Udhey-3x1 and Udhey-4x6 have been shortlisted for authorization. The multilocational trials of these hybrids will be conducted by National Race Authorization Committee, Central Silk Board, Bangalore at the nationwide testing centres under Phase-X.

Silkworm Hybrid PO3 X ND5

- Evolved high yielding spring specific hybrids. In the first instance, bivoltine silkworm hybrid PO_3 x ND_5 has been shortlisted by the National Race Authorization Committee of Central Silk Board, Bangalore. The multilocational trials of this hybrid are under progress at nationwide testing centres.

3.1.13 Agriculture Extension Education

Adoption Pattern of Production Recommendations of Major Cereal Crops (Rice, Wheat And Maize in Jammu Region : In the year 2010-11, the data regarding adoption pattern of production recommendations in wheat crop was collected from rainfed areas of Kathua district. Twelve villages from the blocks of Billawar and Hiranagar were surveyed and from each village, 10 farmers were randomly selected for collection of data. A total number of 120 farmers were sampled for the data collection. Data thus collected revealed that majority of the farmers were using recommended varieties, seed rate and nitrogenous fertilizers. However, a small number of farmers were using seed treatment and MOP and Zinc sulphate. Non-availability of quality seed and fertilizer in time were the main constraints faced by the farmers in technology adoption. **Training Need Assessment Of The Farmers of Jammu Division:** In order to find out the training needs of the farmers in Jammu division, survey has been collected from sub-tropical rainfed belt of the region. Data has been collected from 100 farmers to assess their training needs in major crops and other Agri-based ventures. The revealed that majority of the farmers expressed their training need in cereals followed by pulses.

Popularization of Biofertilizers In Rainfed Areas of Jammu Division For Sustainable Agriculture Development : At first stage, the project work started from Jan 2010 and as per the project methodology, an extensive survey was conducted in Kathua district for selecting the villages under rainfed areas as per predetermined objectives. The villages selected were Galak, Makwal, Kothi Thyal, Gurha Kalal, Thada Kalal of district Kathua sub-division Billawar. Farmers' awareness programmes on bio-fertilizers organized in the selected villages. Five core groups (comprising of 10 farmers in each group) were delineated making a sample size of 50 farmers. Training interventions were conducted on various aspects of bio-fertilizer applications like slurry preparation, seed coating etc. Pre and post evaluation of the farmers were also conducted. In the second stage Hiranagar block of Kathua District has been selected. Five villages namely Barmal, Pathwal, Gura Mehta, Satura and Banaid have been selected. Awareness programmes on bio fertilizers use has been organized in the selected villages. Five core groups have been framed and training interventions as well as skill upgradation is in progress.

3.1.14 AGRICULTURAL ECONOMICS & STATISTICS

Optimum Size and Shape of Plots & Blocks for Field Experiments with Cabbage (*Brassica Oleracea var. capitata* :

- Rectangular plot having 6 ridges with 4 plants per ridge (24 plants) with net area of 6.48 m^2 is recommended for cabbage crop.

- In order to maintain homogeneity within the block, a block size of 12 plots is recommended.

Resource Use Efficiency and Economic Analysis of Major Fruit Crops of Jammu District of J& K State

Mango:

Average Annual Maintenance Costs (concept-wise) and Returns on different sized orchards in Mango fruit crop (Overall)

(Rs. / acre)

Farm group	Concept-Wise Costs				Returns	B:C Ratio
	Cost A	Cost B	Cost C	Total Cost		
Marginal	605.79	1704.79	5204.79	7515.37	7735.71	1.49
Small	589.79	2199.21	4899.21	7688.21	8037.98	1.64
Medium	759.25	2799.00	4754.05	8312.30	8757.86	1.84
Overall	609.58	1782.48	5164.32	7556.38	7794.97	1.51

Ber:

Average Annual Maintenance Costs (concept-wise) and Returns on different sized orchards in Ber fruit crops (Overall)

(Rs. / acre)

Farm group	Concept-Wise Costs				Returns	B:C Ratio
	Cost A	Cost B	Cost C	Total Cost		
Marginal	247.89	1425.70	3925.70	5599.29	5854.31	1.49
Small	452.33	1475.59	3775.59	5703.51	4962.05	1.31
Medium	527.46	1563.19	3413.19	5503.84	5039.57	1.48
Overall	266.91	1434.62	3917.12	5618.65	5796.11	1.48

3.1.15 Agricultural Engineering

- Human (57%) and animal (43%) formed the chief sources of energy for **Maize** production and operation wise primary, secondary tillage and sowing utilized 54% of total energy followed by weeding/intercultural (36%). However, weeding/interculture consumes 63% of total human energy which is critical operation for Maize operation hence, needs technological interventions.
- Human (945 h/ ha) and tractor power (25.6 h/ ha) together 7603.9 MJ/ha formed the chief sources of energy for **Paddy** production and operation wise transplanting (22%), harvesting (17%), threshing (17%) and application of irrigation to crops(17%) using humans were found to be most energy intensive operations. The total cost of paddy production recorded was Rs. 25283/ha with land preparation Rs.4410/ha(17%), transplanting Rs.4300(17%), harvesting Rs.3333.3/ha(13%) and threshing Rs.3320/ha(13%) being major contributors. It was found that operations like transplanting, harvesting and threshing are critical for paddy production which needs technological intervention.
- Human energy budgeting was done for **Potato** cultivation and it was found that land preparation (36%) and transportation (30%) consumed main energy followed by digging and uprooting (17%).
- Human energy budgeting was done for **Cauliflower** cultivation and it was found that land preparation (22%), transplanting(23%) and weeding/ interculture (28%) consumed main human energy followed by harvesting and cleaning (13%).

3.2 RESEARCH STATIONS / SUB-STATIONS / CENTRES

3.2.1 Regional Agricultural Research Station, Rajouri

Crop Improvement

- Among maize hybrids, Paras, KH-612 and KH-517 were found superior to the rest of hybrids with yield advantage of 30.6, 29.4 and 28.2 per cent, respectively over high yielding check (GS-2).
- Rice varieties HPR-2309, HPR-2598, VL-30916 and SKUA-292 have been identified as most promising for hill areas.
- Basmati rice varieties Pusa Sugandh-2, Pusa Sugandh-5 and Pusa Sugandh-3 have been identified for hill areas.
- Among 15 wheat varieties evaluated, HP-249, UP-2645 and VL-849 performed better over others with yield advantage of 18.4, 16.7 and 13.2 per cent over high yielding check (HS-240).
- Barley varieties HBL-704 and VLB-115 have been identified for rainfed hill area of J&K.
- Forage maize var. JHM-07-02 out-yielded the best national check variety J-1006 whereas varieties, JHM-07-02, J-1006 and R-2006-10 were found superior over local check African Tall.
- Forage cowpea varieties UPC-5286 and UPC-628 out yielded the zonal check UPC-4200 for green fodder yield.
- Oat varieties UPO-06-02 and UPO-06-01 out-yielded the best check Sabzar with mean green fodder yield of 244q per hectare and 220q per hectare, respectively and found 29.8 and 17.0 per cent superior to best check (Sabzar, OS-6 and Palampur-1)
- Berseem variety BL-22 and Tall Fescue variety EC-178182 were screened and identified for cultivation in this region.
- Tomato variety Swarn Lalima (499q/ha) and Swarn Naveen (449q/ha) have been found to be significantly superior to check variety Pusa Ruby (376.5q/ha).
- Garden Pea variety P-89 (289q/ha) was found significantly superior to CPS-05-03, Palam Priya and AP-1 under intermediate zone of J&K.
- Evaluation of chilli germplasm revealed significantly higher yields in CCH-06-05 (132.5 q/ha) and CCH-06-06 (121.3 q/ha) which were found to be 42.5 and 30.4 per cent higher than Pusa Jwala and 38.4 and 26.6 per cent higher than KA-2, respectively.
- Performance of Capsicum hybrids revealed maximum fruit yield in Nishat-1 (196.4 q/ha) which was statistically at par with California Wonder (187.6 qt/ha).

Crop Management

- Among herbicides, application of sulfosulfuron @ 25g a.i./ha as post emergence at 35 days after sowing was found most effective for controlling broad spectrum weeds in late sown wheat.
- Single ploughing with power tiller operated rotavator followed by planking was found comparatively better than other tillage operations with different tillage implements in paddy soils under rice-berseem cropping system.
- Two ploughings followed by line sowing of recommended seed rate and planking resulted in significantly higher maize equivalent yield as compared to other crop establishment techniques in maize-wheat cropping system.
- Application of recommended dose of fertilizers in conjunction with FYM @ 10 t/ha resulted in significantly higher rice equivalent yield and nutrient uptake in rice-wheat cropping system. It was also found that combined use of recommended NPK + FYM @ 10 t/ha significantly improved the organic carbon and available NPK content of post harvest soil over the chemical fertilizer alone.
- Study on INM in knol khol var. White Vienna revealed maximum yield of 167.5 q/ha in treatment combination of FYM @ 20 t/ha + 100 per cent N + seedling dip with *Azotobacter* for 20 minutes.
- Integrated nutrient management in broccoli var. Early Green revealed significantly

highest curd yield in treatment comprising of 50% N through inorganic source + 20 t/ha FYM + seedling dip with *Azospirillum* (158.8 q/ha) followed by treatment comprising of 75% N through inorganic source + 20t/ ha FYM + seedling dip with *Azospirillum* (156.3q/ha) which were found to be 40.4 and 38.2 per cent superior as compared to control (113.1 q/ha).

Crop Protection

- Integrated management of insect pests infesting maize crop revealed that seed treatment with chlorpyriphos 20 EC @ 5 ml per hectare of seed + furrow application of carbofuran 3G @ 20 kg/ha + whorl application of carbofuran granules @ 1 g per plant (7.5 kg/ha) gave minimum per cent infestation (3.40) and highest grain yield (41.5 q/ha).
- Sixteen varieties of maize were screened out against stalk rot disease in which GS-2 was found as resistant while Paras, KH-612 and KH-517 were recorded as moderately resistant, whereas rest of the varieties were found susceptible.
- Study on integrated management of chilli wilt revealed that seed treatment with Bavistin (2 g/kg) followed by seedling dip in 1% Bavistin solution prior to transplanting at 30 cm high ridges and drenching with mancozeb at symptoms appearance resulted in lowest disease resistance and consequently highest yield.
- Nineteen cultivars of wheat were screened out against leaf blotch, powdery mildew, loose smut and rust diseases in which VL-738, HP-1633 and VL-895 were found completely resistant but UP-2330, PBW-317 and HP-266 were moderately resistant against all diseases while other cultivars were found susceptible to all diseases.

Transfer of Technology

- A study conducted in Saranoo, Dangri and Thudi villages of Rajouri district revealed that Kanchan series (KH-517 and KH-612) was still highly acceptable among the maize growers. Only 22.2 per cent of the respondents were using recommended seed rate. Majority of the farmers were applying fertilizers below recommendations. Farmers were not applying K_2O and $ZnSO_4$ in their maize fields. Ninety three per cent farmers were using cultural methods of weed control. Non- availability of quality seed in time, non-availability of fertilizers at peak season, high rental charges of tractor, non-availability of tractor at a proper time, inadequate and untimely rainfall were the major constraints expressed by the farmers.

3.2.2 Dryland Research Sub-Station, Dhiansar

Technology Developed

- The dryland Center at Rakh Dhiansar has evaluated and recommended efficient weeding equipments such as wheel hand hoe, V-blade hoe and medium cultivator for *Kandi* areas of Jammu. Weeding is done at 30 to 35 days after sowing. The field capacity of wheel hand hoe is 0.4 ha/day (8 hours/day) and takes 2.5 days/ha as compared to 25 man days with manual weeding. The operational cost with dry land weeder is 50% of the manual weeding cost with khurpi besides this reduces in drudgery to the farmers.

Weeding at farmer's field with wheel hand hoe

- Line seeding of wheat by seed-cum-fertilizer drill with a spacing of 22.5 cm and a seed rate of 100 Kg/ha. This helps in placement of seed and fertilizers in the moist soil zone at optimum depth for better germination, good crop stand and higher yields. The machine covers 1 ha/day. The cost of machine is Rs.30, 000.The cost of seeding is Rs.900/ha.
- Agri-horti system (Aonla (NA-7)/guava (Lucknow-4) + gobi-sarson in Rabi and fodder maize in Kharif) and Silvi-agriculture systems (*Leucaena leucocephala*) (K -63) + gobi-sarson in Rabi and fodder maize in

Guava + Gobi-Sarson

Aonla + Gobi-Sarson

Leucaena leucocephala + Gobi-Sarson

kharif) are recommended for stable income under rainfed conditions in Kandi areas of Jammu region. The trees are grown at 5 x 5 m spacing. Gobi-sarson (GSL -1) is line sown as an intercrop between Aonla/guava. During kharif, maize cv. Mansar local is grown as an intercrop only for fodder.

3.2.3 Maize Breeding Sub-Station, Poonch

Maize:

- Six promising F_1 Hybrids were identified on the basis of their superiority over local check hybrids KH- 612 and KH-517 during Kharif-2010. All the promising F_1 hybrids expressed more than 28% yield superiority over the local checks and will be further evaluated for their consistent performance over the varying range of prevailing agro-climatic conditions.

Hybrid KH-612

- During Kharif-2010, six single cross hybrids have been submitted for their multilocation evaluation under the multilocation testing programme of Division of PBG, FOA, Chatha
- One single cross hybrid viz., PB-9205 was identified as promising under multilocation testing programme of the university and 5 minikit trials of this single cross hybrid have been supplied to state Department officials during *kharif* 2010 for testing its performance at farmers field in Poonch.

Dr. B. Mishra Hon'ble VC Monitoring the Maize Breeding Programme at Poonch

- Besides, 4 composite/ synthetic varieties developed at this station, one composite (PMSW-4) which was identified as promising under multilocation testing programme of the university, supplied for testing in minikit trials, 10 nos in each districts of Rajouri and Poonch in collaboration with the Deptt. of Agriculture.

3.2.4 Maize Research Centre, Udhampur

Germplasm collection, evaluation, maintenance and its enhancement

Total of 38 released maize varieties are being maintained for use in breeding programme.

Twenty eight local maize germplasm collections (yellow, white, blue etc.) representing Udhampur, district,some parts of Reasi,Kathua and Doda District are being maintained and advanced through selfing.

A total of 92 Maize inbred lines (20 seeds each) were received from winter nursery centre Rajendernagar Hyderabad are being maintained through selfing for seed increase for utilization in breeding programme.

A total of 225 number of advanced established inbred lines from Almora, Pusa Bihar, Karnal, Banglore and DMR are being maintained through selfing for seed increase for development of single cross hybrids .

Sixty inbred lines were advanced through selfing at winter nursery centre Rajendra nagar Hyderabad for generation advancement during Rabi 2010-11

Development of maize varieties/hybrids with emphasis on single cross hybrids for improved nutritional adequacy and health

Fifty inter-varietal crosses were attempted during kharif 2010 and their performance will be evaluated during kharif 2011 for their phenotypic uniformity ,grain yield including various morphological traits**.**

Station Trial

(Maize Varietal Evaluation Trial)

Hybrid maize evaluation trial under multilocational testing programme (20 entries +one local check) were conducted at Udhampur showing following results.

Best performing hybrids	Grain yield (q/ha)	% increase over local check 41.87 q/ha
PB-105	64.17	53.26
HQPM-1	58.22	39.04
Vivek Hybrid- 25	57.34	36.94

Integrated Weed management in maize - wheat cropping system at Udhampur.

Data obtained from the trial showed that highest grain yield of 37.67 q/ha was realized from treatment having Atrazine @0.5kga.i/ha + pendimethalin @ 0.5kga.i/ha as Pre-emergence followed by Hand weeding. However, of all applied treatments T10 (hand weeding) ; T7 (Pendimethalin @0.5kg/ha fb 2,4 D @0.4 kg a.i/ha); T6 (Atrazine @0.5 kg a.i/ha fb 2,4 D @0.4 kg a.i/ha) were at par with treatment T11 with grain yield coming out 36.19q/ha; 35.31 q/ha; 35.55 q/ha, respectively. Further, all applied treatments showed significant increase in grain yield over control where 15.43 q/ha of grain was obtained.

Realizing potential yield in maize through nutrient management.

Conducted Zonal Co-ordinated trial entitled " Realizing potential yield in Maize through nutrient management" during kharif 2010.

Analysis of the data of the above trial showed that highest grain yield 31.19 q/ha was realized from treatment combination S1F2 (Spacing- 60cm X 20cm and N : P : K-200:75:75 Kg/ha) which is higher than all applied treatments. The next best combination of spacing and nutrient was S3F2 (Spacing- 60cmX22.5cm & N : P : K- 200 : 75 : 75 Kg/ha) in which grain yield of 27.70 q/ha was produced.

3.2.5 Regional Horticultural Research Sub-Station, Bhaderwah

Survey of Ambri apple variants in Doda districts : After doing the survey of Kishtwar and Doda districts , 34 samples of Ambri apple were collected in the last week of September 2010, and subjected to physico-chemical analysis (colour, shape, size,weight,stalk nature ,eye basin , locule aperture, no of seeds, flesh firmness, TSS, acidity and ascorbic acid) and organoleptic evaluation. Out of the total collected samples, 19samples were found promising:

S. No.	Area of collection	Promising Ambri variants
1	Sartingal (Bhaderwah)	BS0110 , BS0310 and BS0410,
2	Bhadaraut (Bhaderwah)	BS0510 and BS0710,
3	Monda (Bhaderwah)	BS0610 and BS1810
4	Bhaderwah city	BC0910 , BC1010 , BC1410 , BC2510 and BC2810
5	Bhalessa	BL3410
6	Shararma (Doda)	DD2710
7	Jagrot (Doda)	DD2610
8	Rainda (Bhaderwah)	BR2310
9	Chakka (Bhaderwah)	BC3210 and BC3310
10	Mathola (Bhaderwah)	BM2910
11	Galar (Kishtwar)	GL3010

Exploitation of natural variability of walnut for exported related traits :

selection of elite walnut genotypes

In last four years (2006-2010) a study was carried out on "Exploitation of genetic variability of walnut for export related traits "covering various parts of erstwhile Doda District (Bhaderwah, Banihal, Premnagar and Kishtwar areas). During the study, 75 walnut samples were collected and analysed for their suitability for multiplication on the basis of export related traits. Out of 75 samples, only 20 samples were found promising. One selection GL0109 from Galhar (Kishtwar) area was found excellent and can be developed as a variety for table purpose on the basis of various nut and kernel characteristics as under:

Nut Characteristics: Size- 47.87 mm (length) x 43.02mm (breadth), Shape –Round, and Weight- 22.20g

Kernel Characteristics: Recovery -60.3%, Proportion of light coloured kernel-96.8%, Oil-76%, Protein-12.2%, Fat analysis: Palmitic acid-5.53%, Stearic acid -3.81%, Oleic acid -22.14%, Linoleic acid -53.75% and Linolenic acid -14.75%

Over all Numerical Rating: 9.5 out of 10(As per the Standard of Walnut Exporters Association, Jammu)

Introduction, evaluation and selection of stone fruits for commercial cultivation in Doda Distt

Nectarines

S. No.	Cultivar	Size(LXD in mm)	TSS(^{0}B)	Acidity (%)	Red-Sugars (%)	Total Sugars (%)	Wt(g)
1	Silver King	42.44-51.70x34.96-45.90	10-13	0.88-1.34	4.0-4.1	5.2-5.4	34.91-52.77
2	Snow Queen	45.31-61.32x41.46-54.70	12.3-13.8	1.34-2.01	2.7-2.9	7.0-7.1	53.07-99.17

Nectarines wre first introduced in J&K from Himachal Pradesh at Regional Horticulture Research Sub Station, Bhaderwah, SKUAST- Jammu in the year 2006-07

Nectarines

Peach

S. No.	Cultivar	Size(LXD in mm)	TSS(°B)	Acidity (%)	Red-Sugars (%)	Total Sugars (%)	Wt(g)
1	Red Heaven	45.77-61.66x43.69-63.95	10.0-12.3	1.34	5.95-6.52	7.40-8.41	46.28-195.27
2	Elberta	50.43-61.63 x55.13-63.27	13.2-15.0	3.35	4.5	8.4	123.03-221.55
3	July Elberta	51.66-62.61 x58.13-65.17	13.0-14.5	2.0-2.6	4.2	7.1	72.65-131.55
4	Paradelux	55.63-67.46x38.82-47.34	12.0-12.3	2.6	4.7-4.9	8.8-9.0	45.62-73.76

Plum

S. No.	Cultivar	Size(LXD in mm)	TSS(°B)	Acidity (%)	Red-Sugars (%)	Total Sugars (%)	Wt(g)
1	Frontier	37.06-45.09x39.38-44.72	11.5-16.2	4.69	5.5-6.1	8.4-9.3	55.09-65.11
2	Santa Rosa	39.35-46.35x39.76-46.44	13.1-15.2	2.01	9.6-10	14.2-14.7	40.03-55.77
3	Mariposa	40.35-46.17x42.72-49.86	11.1-12.2	3.35	4.3-4.4	7.4-7.5	41.71-50.8

Introduction, evaluation and selection of nut crops (Walnut, Almond and Pecan nut) for commercial cultivation in Doda district : Five cultivars of walnut (SKU002 , SKU 008, SKU0022 , SKU 023 and Opex Dachaubaria), three of pecan nut (Mahan, Paunee and Choktou) and five of almond (Waris , Makhdoom , Non Pareil , Parbat and Shalimar) are under evaluation. The bud burst in walnut, pecan nut and almond took place during 30th of March - 4th April, 23rd-25thof March and 20th Feb-10th March, respectively.

Introduction and evaluation of apple and pear cultivars for commercial cultivation in Doda: Of the 24 Apple cultivars (Golden Delicious, Lal Ambri, Starkrimson , Akbar, H60, H29, Firdous, Shireene, Vance Delicious, Royal Delicious, Red Chief, Golden Spur, Oregon Spur, Top Red ,Silver Spur, Red Gold, Well Spur, Tydeman's Early Worcester, Mollies Delicious, Spartan, Scarlet Gala , Fuji ,Gala Mast and Skyline Supreme), cultivars Red Chief, Topred, Oregen Spur, Mollies Delicious. Fridous ,Lal Ambri ,Red Delicious, H29, Strakrimson ,Shireen and Silver spur have shown flowering and fruit setting. There was wide variation in number of days required for fruit maturity (85-135) which may help to categorize them as early and late varieties .The maximum plant height (4.1m), earliest flowering , maximum fruit weight (215g), fruit length (7.75cm), fruit width (7.1cm) and highest T.S.S.(13.9 °B), were measured with Lal Ambri , while minimum fruit weight (61.06g) and T.S.S. (13.3 °B)) were recorded with cultivar Silver Spur.The average leaf area ranged between 45 – 49 cm^2 being highest with H29 and lowest with Top Red. The over all survival rate of apple plantation is 85%. In Pears (Bartlett , Flemish Beauty, Kashmiri Nakh, Starkrimson, Manning Elizabeth, Max Red Bartlett and Red Bartlett) , the highest (3.2m) and lowest (1.2m) plant height were registered with Kashmiri Nakh and Max Red Barlett , respectively. The average leaf area ranged between 22 cm^2- 26cm^2 being highest with Kashmir Nakh and lowest with Starkrimson. The over all survival rate has been recorded to be 80%. Four new cultivars (Punjab Soft, Punjab Gold, Punjab Nectar and Punjab Beauty) have been introduced from PAU , Ludhiana in last week of January 2011 at Gawari.

Introduction, evaluation and selection of minor fruits for cultivation in Doda district.

S. No.	Fruit	Varieties/ Species	Total no. of plants
1	Pomegranate	Ruby, Mridula, Kabul, Kandhari, Amblidana, Muscat ,Jyoti, Bedana, Dholka , G-137 and Jalore Seedless	117
2	Rubus & Ribes	*R. fruiticosus, R. idaeus* , *Ribes* spp. and local	25
3	Persimmon	Hachia and Fuyu	15

Comparative performance of persimmon varieties

Variety	TSS	Total sugars	Vitamin C	Carotenoid
Hachia	22.2°B	17.75%	46.0mg/100g	7.9mg/100g
Fuyu	16.3 °B	13.8%	38.8mg/100g	6.4mg/100g

Outreach of technologies for temperate fruits

Productivity enhancement of elite apple cultivars through high density planting, water and pollination management

Year	Name of varieties	Rootstocks	Planting distance	Venue	Total number of trees
2010	Cooper IV, Red Delicious, Starkrimson,, Oregon Spur, Red Fuji, Red Chief, Golden Delicious and Silver Spur	MM106/ Seedlings	2.5m x2.5m	Gwari	56
2011	Red Fuji , Vance Delicious and Lal Ambri	do	do	do	Gap filling

Survival percentage during 2010 -11: 81%

Medium density orcharding for higher almond productivity

Year	Name of varieties	Rootstocks	Planting distance	Venue	Total number of trees
2010	Waris, Primorskij, Pranyaz, IxL, Merced, Califormia Paper Shell, Shalimar, Makhdoom and Non Pareil	Seedlings	4mx4m	Gwari	52
2011	Pranyaz and Califormia Paper Shell	do	do	do	Gap filling

Survival percentage during 2010-11: 30%

Planting architectural engineering for high energy harvest *vis-a-vis* productivity in apple

The apple plants have been planted in January , 2011 at Gwari farm and shall be trained in spindle bush (1.5 m x 2.5 m), trellis system (1.5 m x 3.0 m), head and spread (1.5 mx 2.5 m) vertical axis (0.75m x 1.5m) and cordon system (1.5m x 3.0 m) for architectural studies.

Multilocational testing of elite walnut genotypes under medium density

Year	Name of varieties	Rootstocks	Planting distance	Venue	Total number of trees
2010	HBS-1, HBS-2, DKMW-1, Shalimar-6, Shalimar-1, KHS-2, Nengri-1, ILP-03, ILS-04	Seedlings	6mx6m	Gwari	16(Fresh planting of new varieties shall be done in February 2011). Besides 06 plants of Premnagar Selections have also been multiplied and planted during February 2011.

Survival percentage during 2010 -11 : 62%

Multi locational testing of elite apricot genotypes under medium density

Year	Name of varieties	Rootstocks	Planting distance	Venue	Total number of trees
2010	CITH-1,2&3	Seedling	5mx5m	Gwari	30

Survival percentage during 2010 -11 : 80%

Survey and mapping of major pest and diseases of temperate fruits

Occurrence of pests and diseases recorded at RHRSS, Bhaderwah during 2010

Name of the Crop	Disease/Insect	Period of appearance	Management	Remarks
Apple	Apple scab	Mid March	Spray schedule using dodine, mancozeb, dithianon, and captan	
	Powdery mildew	Bud burst (Feb) till leaf fall stage	Fungicides like EBI (Score, Topas, Contaf) and benzimidazoles (Benlate, Carbendazim) are effective.	Severe on young foliage typically on nursery stages
	Leaf spots	May till leaf fall	2 to 4 sprays of carbendazim (25-30 g) + mancozeb (250g) in 100 liters of water given at 15 days interval.	
Walnut	Leaf spots	June till leaf fall	Spray of Dodine and Ziram manage most of the leaf spots	Severity relates to high humidity (>98%), free moisture on leaves (rain, dew, fog, or from irrigation), low light intensity, and temperatures around 21^0c
Peach/ Nectarines	Leaf curls	March till May	Bordeaux mixture (10:10:100 or any fixed copper fungicide checks leaf curls	
	Gumosis/Canker		Captan or thiram sprays @ 2.5g/l (Two Sprays)	Pruning was the most effective measure
Grapes	Powdery mildew	May till Leaf fall	Sulfex spray @ 0.5% checked the disease	Field sanitation is very necessary
Pomegranate	Leaf spots	May till Aug	Mancozeb sprays @ 2.5g/l checked the disease (Two sprays)	Field sanitation and low moisture regime are to be followed

Insect pests

Name of the Crop	Disease/Insect	Period of appearance	Management	Remarks
Apple	Wooly aphid	April till Aug	Imidachlorpid was sprayed @ 0.40ml/l	Field sanitation required
Peach	Aphids	March-April	Malathion was sprayed @ 2ml/l	
Walnut	Walnut weevil	April till Aug	Endosulfan was sprayed @ 2ml/l, two sprays	
	Stem borer	Remains throughout the year	Holes were cleaned with wires and chloropyriphos swabs inserted and the hole were plugged	
	Defoliators	April till foliage remains	Malathion was sprayed twice @ 2ml/l	

3.2.6 Rainfed Research Sub-Station for sub-tropical Fruits, Raya

Aonla:

Status of the foliar diseases: During survey of Raya and some villages of rainfed (Kandi) areas in 2010-11 crop season, anthracnose (*Glomerella cingulata*), fruit rot (*Phoma* sp. and *Aspergillus* sp.) and blue mould rot (*Penicillium islandicum*) were identified as major foliar diseases of aonla. The foliar diseases ranged in the tune of 5.0-40.0% (anthracnose), 3.0- 26.0% (fruit rot) and 2.0-20.0% (blue mould rot). Anthracnose appeared in earlier stage (September-October). However, blue mould rot and fruit rot appeared in latter stage (November- December).

Host Resistance: Different cultivars of aonla i.e. NA-6, NA-7, NA-10, Francis, Chakiya, Banarasi and local (Desi) were screened against foliar diseases (anthracnose, fruit rot and blue mould rot) under field condition during 2010-11 crop season. The cultivar NA-7 was found to be best.

Management of foliar Diseases: The experiment was carried out during 2010-11 crop season, wherein, six fungicides viz. copper oxychloride (0.25%), carbendazim (0.2%), tridemefan (0.2%), mancozeb (0.25%), captan (0.2%) and thiovit (0.2%) were tested for their efficacy to manage the foliar diseases of aonla cv. NA-7 such as anthracnose, fruit rot and blue mould rot. The fungicides were sprayed thrice at 20 days intervals commencing from 20th September. Among them, Carbendazim was found to be most efficacious in reducing the incidence of the foliar diseases in aonla.

Ber

Physico-chemical characteristics of some cultivars of ber under rainfed areas: Five cultivars i.e. Ranjari Selection-1, Ranjari Selection-2, Raya Selection-1, Sanour-4 and ZG-2of ber were analyzed during 2010-11. Among them, Sanour-4 was found best on the basis of fruit size, weight, pulp stone ratio yield and ascorbic acid.

Status of the black leaf spot disease: The disease ranged in the tune of 0.5-41.4%. Maximum incidence (34.0%) was recorded in village Sarore. During survey, it was also observed the dense canopy favours the disease development.

Host resistance: Ten cultivars of ber i.e. Ranjari Selection 1, Ranjari Selection-2, Raya Selection-1, Umran, Gola, Small apple, Seb, ZG-4, Sonur-4 and Vilayati were screened against sooty mould/ black leaf spot under field condition. Among them cultivars Umran, Small apple and Seb showed moderately resistant type of disease reaction.

Management: The experiment was conducted during 2010-11 crop season, wherein five fungicides i.e. copper oxychloride (0.25%), mancozeb (0.25%), carbendazim (0.2%), tridemefan (0.2%) and captan (0.2%) were sprayed twice at twenty days intervals commencing from 10th January after appearance of disease. Among them, Carbendazim was found to be most efficacious in reducing the severity of back leaf spot.

Mango

Physico-chemical characteristics of some cultivars of ber under rainfed areas: Fifteen cultivars of mango i.e. Dashehari, Amarpali, Chausa, Langra, Selection-5, Alphanso, Baramasi, Bombay Green, Varun, Fazali, Totapari, Rajiv, Arun and Kala Amb were analyzed. Maximum fruit weight (248.0g) was recorded in cv. Chausa. It was followed by Selection-5(242.2g) and Mallika (233.8g). However, maximum T.S.S. (29.2^0 Brix) was found in cv. Varun and lowest T.S.S. (12.0^0 Brix) was found in cv. Fazli.

Eureka lemon: An experiment was conducted to study the effect of different types of mulching materials on soil properties and its effect growth and yield of Eureka lemon. Among mulching materials Brankar (*Adhatoda vassica*) easily available in the (kandi) rainfed areas was found to be best mulching material. It improves soil moisture storage and physico-chemical properties of soil.

3.2.7 Farming System Research

To conserve the resources and improve the crop productivity / soil health under the Rice-Wheat Cropping System. The technology has been generated by the centre on resource conservation in rice by paddy hand transplanter / 8 row drum seeder and in wheat by bed planting .

Rice (Paddy hand transplanter or Drum seeding)-Wheat (Bed planting) in rice-wheat cropping system

Sprouted wet seeded rice sown by the 8 row drum seeder or establishment of rice by the paddy hand trasplanter has given a better yield comparable to rice establishment through hand transplanting. The average yield of 6 years recorded 47.96 q/ha for hand transplanting, 44.06 q/ha for paddy hand transplanter and.42.15 q/ha for drum seeding, which were at

Crop establishment through Drum Seeder

par with each other. The WUE recorded under these treatments were 3.32, 2.81 and 2.76 kg/ha mm, respectively. The labour saving with the paddy hand transplanter were up to the tune of 19 percent whereas, under drum seeding treatments labour saving was up to tune of 24 per cent

Nutrient uptake under the Paddy hand transplanter was recorded to be 64.88 N Kg/ha ,17.21 P kg/ha and 99.2 K kg/ha and that of drum wet seeded rice was recorded to be 63.68 N Kg/ha, 16.33 P kg/ha and 88.58 K kg/ha. The soil pH, organic carbon content and K values increased under the above recommended treatment over the initial status. Whereas there was a slight decline in available N and P values under the both

The average cost of production for rice establishment through paddy hand transplanter and drum seeding was Rs 14141 and Rs. 13668.5, whereas average B:C ratio was 1.59 and 1.53 respectively. The energy use efficiency for rice established through paddy hand transplanter and 8 row durm seeding were 10.27 and 9.99, respectively. The B:C ratio in paddy hand transplanter and drum seeder have been worked out to be 1.59 and 1.53 ,respectively.

Similarly in case of Wheat establishment methods the average data of 6 years revealed that wheat sown through bed planter produced the higher yield(37.25 q/ha) as compared to strip till drilling (35.88 q/ha) and Zero tillage (33.44q/ha) . The per cent yield increase in bed over conventional, strip and zero drill were 2.70,3.82 and 11.39 % respectively The average cost of production and benefit cost ratio for bed planting in wheat worked to Rs 12762 and 2.30,respectively .Also, Energy use efficiency and labour saving values in bed planting method of wheat sowing worked out to be 10.89 and 17 per cent ,respectively.

However in a crop cycle of Rice-wheat system, the over all labour saving values recorded in paddy hand transplanter in rice and bed planter in wheat was 18.45 per cent and that of drum seeding in rice and bed planter in wheat was 21.47 per cent over the conventional sown methods.

3.2.8 Water Management Research Centre

Comparative performance of rice establishment methods under varying moisture regimes following zero and conventionally raised wheat.

Experiment was conducted during *Rabi* 2009-10 to study the effect of irrigation regimes and weedicide application on conventional and zero-tilled wheat. The data revealed that zero-tilled wheat recorded higher yield of 33.73 q/ha which was significantly superior over the conventional wheat. With regard to irrigation regimes, irrigation regime IW/CPE of 1.5 yielded significantly higher grain yield (32.98 q/ha) than IW/CPE of 0.8 (25.23 q/ha) or no irrigation (24.14 q/ha). Weedicide application also had significant effect on yield with metrabuzin @ 200 g/ha yielding 29.67 q/ha and isoproturon 0.75 a.i. + 2,4-D (EE) @ 500 ml/ha (29.51 q/ha) recording similar yield were superior over weedy check (23.11 q/ha).

Assessment of productivity of SRI under different irrigation regimes and depths on productivity of rice.

The experiment was conducted in *Kharif* 2008, 2009 and 2010. The data revealed that method

of establishment (conventional and SRI) and depth of irrigation had no significant effect on rice yield. However, during Kharif 2010, conventional method registered significantly higher yield (44.46 q/ha) than SRI method (39.95 q/ha). On three years average basis (2008-2010) it was noted that the irrigation imposed after every 7 days after disappearance of water (DADW) gave higher yield of 47.66 q/ha than treatments of irrigation after 5 DADW and 3 DADW with the higher water use efficiency of 3.30 kg/ha-mm. As regards the depth of irrigation, application of 4 cm of water and application of 7 cm of water did not differ significantly. However, the water use efficiency (WUE) remained higher with lower depth of water application.

Effect of irrigation and nutrient management practices in basmati rice

An experiment was conducted during *Kharif* 2010 to observe the integrated nutrient management effect on irrigation regimes for basmati rice (cv. Basmati-370). Result showed that irrespective of irrigation regimes, substitution of nitrogen through organic and inorganic sources did not effect the grain yield of basmati rice. However, irrigation effect was discernible and regardless the nutrient management practices, irrigation at 7 DADW registered highest average yield of 24.56 q/ha, followed by 3 DADW (21.27 q/ha) and 9 DADW (17.84 q/ha).

On-farm research

Assessment of irrigation water availability at different sections of command of Minor "C" at distributary no. 8 of Tawi Lift Canal Scheme and the possible interventions to increase the water use efficiency at field level.

The objective was to study the seasonal variations in discharge rates at different sections of water course and to study the gap in demand and supply of irrigation water across the culturable command area (CCA) under this distributary. This distributary covers as many as five villages namely *Rara*, *Gho-Brahmana*, *Gho-Rakwalan*, *Swankha*, and *Kalaha*.

Name of distributary: 8 (C)

Particulars	Potential	Present status
Discharge	12 cusecs	5 cusecs
Length of distributary	7,500 m	2,500 m is lined, rest are unlined
No. of outlets	26	18 outlets are functional
Days of opening	Daily	Every Thursday, Friday, and Saturday

The designed discharge capacity is highly variable due to poor maintenance of the canal system and illegal withdrawls through cuts on water course. As a result of this, wide variation exist in discharge rates at different sections of water course i.e. at head -reach, middle section and tail-ends of water course of minor.

Under the FPARP programme, during *Rabi* 2009-10, **15** number of demonstrations were conducted on '*Border strip irrigation on wheat*' at Bishna and R. S. Pura area. Results indicate that there was 20% water saving besides 15% more yield of wheat (PBW-343) by adopting the aforesaid technology. During *Kharif* 2010, **15** number of demonstrations were conducted on '*Deficit irrigation in rice*' in the same areas and results indicate that through this technology, there was water saving of 397 mm, besides yield advantage of 34.5%.

3.2.9 FFVRA, Karlah

- Collection, evaluation and maintenance of local germplasm of vegetables.
- Screening of F_1 hybrids of Tomato, Capsicum and Brinjal suitable for temperate conditions.
- Identification of elite breeding lines in Broccoli, Radish, Beans, Tomato, Spinach

Research Activities being monitered at FFVRA, Karlah

beet and Garlic for their utilization in further breeding programme.

- Seed Production Of Temperate Vegetables:
- 11kgTFL seed of Knol Khol produced for further distribution to the farmers.
- 200kg Seed Potato variety Kufri Jyoti produced and distributed to the farmers against cost under the seed replacement mandate of the FPVRA, Station.
- 40 kg. Garlic seed (KGS) and 5.0kg seed of spinach beet (KSS) of elite selections distributed to the farmers against cost for its wide adaptability.
- 1 kg. Breeder seed of Brussels sprout and Broccoli produced for its maintenance and distribution to the farmers.

3.2.10 Pulses Research Sub-Station, Samba

Crop Improvement

Collection, evaluation, utilization of germplasm of major pulses : 65 chickpea diverse germplasm were selected on 09-03-2009, at Pulses germplasm Day at IIPR, Kanpur and presently are sown in Rabi 2010-11 and progressing finely at Samba Station.

45 old germplasm lines received from different sources at different time, at the station were grown during rabi 2009-10, but the performance was affected greatly by continuous drought |& high temp. w.e.f. Feb.2010-April 2010.

64 chickpea germplasm lines & entries received from PAU in 2009-10 & sown in 2009-10 but drought & high temp. affected, these lines.

40 chickpea germplasm lines received from ARS, Durgapura but drought badly affected the performance .

Three Chickpea nurseries, one from ICARDA & two from ICRISAT (Desi & kabuli) were received & sown but drought badly affected the performance.

Breeding pulse crops for subtropical region of Jammu : Ten chickpea crosses for Ascochyta blight resistancer were received in 2009-10 from ICRISAT & Sown.

Four chickpea populations for drought tolerance received in 2010 from ICRISAT have been sown currently in the season at the station & progressing finely.

28 crosses received in previous years from different sources were sown last year but drought badly affected the performance and have been sown again in this year 2010-11 and are progressing finely. Five crosses made at this station are progressing finely in this season after they were affected badly last year.

Urdbean SVT (Kharif 2010): Best entries:WBU-108 (764 kg/ha), PU-31 (631kg/ha),SUS-4 (548 kg/ha),KUG-150 (532 kg/ha),SU-05-10 (430 kg/ha)

Moongbean SVT (Kharif 2010):Best entries IPM-02-3 (500 kg/ha),SML-50 (401 kg/ha),ML-818(ch)(321 kg/ha),SML-668 (ch)(315 kg/ha),SML-51 (310 kg/ha)**AICRP on chickpea**

S.No	Name of the trial	No. entries	Best entries	Checks
1.	IVT Desi	38	C-112 (292 kg/ha, C-117 (281 kg/ha), C-101 (279 kg/ha),C-133 (250 kg/ha)	PBG-1 (057 kg/ha)
2.	IVT (Kabuli)	18	C-624 (072 kg/ha), C-616 (042 kg/ha) C-618 (031 kg/ha), C-601 (031 kg/ha)	BG-1053 (017 kg/ha) L-550 (0 kg/ha)

Crop Protection

Evaluation of IVT, AVT1 and AVT-2 (Desi, kabuli, bold seeded, HFT and late sown) chickpea entries against wilt (*Fusarium oxysporum* f.sp. *ciceri*) disease : One hundred and eight entries consisting of IVT, AVT-1 and AVT-2 were evaluated in wilt sick plot having propagules 10^6-10^7 cfu/g of soil, with mortality ranging from 7.02 to 90.64 per cent during Rabi 2009-10. Only three entries RSG-888 and GJG0724 of IVT (rainfed) and IPCK02 of AVT1 (ELSK) have shown wilt resistant reaction with mortality of 8.44, 7.02 and 7.41 per cent, respectively. These resistant entries are being sown during current Rabi season in wilt sick plots for confirmation of resistance and further seed multiplication.

Isolation and purification of fungal isolates of *Fusarium oxysporum* f.sp. *ciceri. :* Out of 12 isolates, isolate G1 from Gujjar Chak (Kathua) and L1 from Manwal (Udhampur) showed highest and lowest growth at 24 and 48 hr, respectively, under in vitro conditions.

Estimation of per cent wilt incidence of chickpea genotypes inoculated with different isolates of *Fusarium oxysporum* f.sp. *ciceri* under laboratory conditions. : Genotypes C-235, RSG-888, BG-1053 and L-550 showed resistant, moderately susceptible, susceptible and highly susceptible reactions, respectively.

Screening Nursery for field pea AVT & IVT entries against powdery mildew disease: Disease could not be observed due to acute drought conditions prevailing in the field.

Evaluation of National Nursery of urdbean AVT entries against Yellow Mosaic Virus during Kharif 2010 : Under artificial conditions, out of thirty eight entries, P-173, P-166 and P-188 were found resistant against YM Virus. Rest of the entries showed moderately resistant to highly susceptible disease reaction.

Screening of MULLaRP Plant Breeding Coordinated Trials were made by Plant Pathologist posted at this Station against major diseases of local importance during Kharif, 2010

Urdbean IVT - Out of 26 entries, including local check (Uttara), only two entries KU10-1104 and KU10-1111 were found resistant against MYMV (mungbean yellow mosaic virus) disease.

Urdbean AVT (2+1) -Two entries, KU10-1181 and KU10-1186 were found resistant against MYMV disease.

Mungbean AVT-1 - KM10-1021 and SML-668 (local check) were found resistant against MYMV disease.

Station Varietal Trial (SVT), 2010

SVT on urdbean: Genotypes Pant U-19, KUG-50 and Uttara were found resistant against mungbean yellow mosaic virus disease.

SVT on mungbean: Genotypes ML-5 (check), ML-818, SML-668, Pusa-105 (check), Asha, SML-51 and SML-52 were found resistant against MYMV disease.

3.2.11 Seed Production

Quality Seed Production during 2010- 11

(in quintals)

Particular	*Kharif 2010*				*Rabi 2010-11*			
	In Institute/University farm		In farmer's field		In Institute/University farm		In farmer's field	
Field Crops	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
Nucleus seed	0.00	0.98	Nil	Nil	0.00	11.70	Nil	Nil
Breeder seed	10.94	41.80	Nil	Nil	109.95	193.48	Nil	Nil

Foundation seed	400.00	582.80	Nil	Nil	1904.07	646.01	Nil	Nil
Certified seed/ TLS	0.00	1.65	Nil	313.90	0.00	488.90	Nil	138.00
Total	**410.94**	**627.23**	**0.00**	**313.90**	**2014.02**	**1340.09**	**0.00**	**138.00**

Kharif 2010: Seed Production undertaken in Institute/university farm

(in quintals)

Crop	Variety	Nucleus seed		Breeder seed		Foundation seed		Certified seed	
		Target	Production	Target	Production	Target	Production	Target	Production
Cereals									
	Basmati- 370						197.70		
	Pusa 1121						136.30		
	Jaya						195.00		
	SJR5						43.80		
	Ranbir Basmati						0.00		
	Basmati 564						0.00		
	Pusa Basmati 1						0.00		
1. Paddy	Saanwal Basmati	0.0	0.55	4.57	36.90	183.0	0.00	0.00	0.00
	Pusa sugand						10.00		
	IARI 1460						0.00		
	CSR 30						0.00		
	K448						0.00		
	K343						0.00		
	K39						0.00		
	K343						0.00		
	Giza 14						0.00		
	Total		0.55	4.57	36.90	183.0	582.80		
2. Maize	C-8	0.00	0.15	2.09	0.45	172.0	0.00		
	VMH-25	0.00	0.15		0.15		0.00	0.00	0.65
	Total	0.00	0.30	2.09	0.60	172.0	0.00		0.65
Pulses									
1.Urdbean	Uttara, Mash338, UG218, PU19	0.0	0.09	4.28	3.71	45.0		0.00	1.00
2.Mungbean	SML668, ML1165, PDM 54, ML 131	0.0	0.04		0.59				
	Total	0.00	0.13	4.28	4.30	45.0	0.00		1.00

Rabi 2010-11: Seed Production undertaken in Institute/ university farm

(In quintals)

Crop	Variety	Nucleus seed		Breeder seed		Foundation seed		Certified seed	
		Target	Production	Target	Production	Target	Production	Target	Production
Cereals									
	PBW550		1.50		40.0		231.0		16.0
	DBW17		0.30		25.0		173.0		0.0
	PBW502		1.20		15.0		20.0		0.0
	PBW175		1.20		25.0		125.0		12.0
	PBW369		0.50		00.5		25.0		0.0
	RSP81		0.25		00.0		00.0		0.0
1.Wheat	RAJ3077	nil	0.85	100.00	26.0	1800.0	20.0	0.00	210.0
	RAJ3765		0.90		15.5		20.0		208.0
	PBW373		1.05		07.0		10.0		0.0
	DBW16		0.20		13.0		08.0		0.0
	RSP 561		2.50		14.0		00.0		0.0
	HS240		0.00		04.0		00.0		24.0
	HS490		0.00		00.0		00.0		06.0
	Total	0.00	10.45	100.0	185.0	1800.0	632.0		476.0
Pulses									
1.Chickpea	SCS3, GNG 469, C235, PBG1	0.0	0.70	9.90	4.75	99.0	1.00	0.00	1.20
2. Lentil	DPL 15, L4147	0.0	0.20		0.65		0.50		
3. Fieldpea	Rachna	0.0	0.28		1.00				
	Total	0.0	1.18	9.90	6.40	99.0	1.50	0.00	1.20
Oilseeds									
1.Mustard	RSPR01	0.00	0.02	0.05	0.55	5.07	0.71	0.00	0.50
	RSPR03		0.01		0.10				
2.Brown Sarsoon	KOS101		0.00		0.55		0.0		
3.Gobi Sarsoon	DGS1		0.02		0.30		0.40	0.00	2.60
4.Toria	RSPT1/ RSPT2		0.02		0.58		1.40	0.00	0.20
5.Til	Pb Til 1		-	-	-	-	-	0.00	0.40
	Total		0.07	0.05	2.08	5.07	2.51	0.00	3.70
Forage crops									
1.Oats	Kent	-	-	-	-	0.00	10.00	0.0	5.00
2.Berseem	JHB146	-	-	-	-	-	-	0.00	3.00
	Total	-	-	-	-	0.00	10.00	0.00	8.00

Kharif /Rabi 2010-11: Participatory Seed Production in farmer's field

(in quintals)

Crop	Variety	Truthfully labelled seed	
		Target	Production
Kharif 2010			
Paddy	Jehlum, K-332, SR-1	-	230.00
Maize	C-15	-	80.00
Moong	SM-2	-	3.90
	Total		313.90
Rabi-2010-11			
Wheat	HS 240	-	55.00
Oats	Sabzar	-	78.00
Oilseeds	KOS101	-	5.00
	Total		138.00
	Grand Total	**0.00**	**451.90**

Particulars	Targets	Achievements
Horticultural Crops Planting Material (Numbers)		
Mango	3000	2256
Citrus	2500	1723
Litchi	3000	1162
Pomegranate	2000	450
Guava	3000	3193
Peach	3000	3223
Pear	4500	861
Aonla	2000	2059
Ber	500	1170
Phalsa	2000	141
Grapes	2500	223
Apple	3000	1680
Plum	1000	580
Walnut	2500	05
Apricot	700	-
Cherry	700	-
Persimmon	100	20
Pecanut	200	-
Kiwi	1000	-
Olive	2000	-
Strawberry	30000	50000
Karonda*	-	180
Papaya*	-	-
Jackfruit (Kathal)*	-	-
Bael	-	121
Total	69200	69047
Vegetable Seed Production (in quintals)		
Okra	6.00	1.73
Cucurbits	1.00	0.18
Chillies	0.10	0.02
Brinjal	0.05	-
Palak	0.50	0.58
Methi	0.25	0.43
Carrot	0.50	-
Radish	0.50	0.08
Coriander	0.30	0.37
Peas	1.50	0.17
Tomato	0.20	0.03
Turmeric	4.00	-
Cole crops	0.10	0.59
Broad bean	-	0.012
Total	15.00	4.19
Floriculture Seed		
Gladiolus (corms)	8000	17780
Marigold (kg)	10.0	1.5
Tuberose (bulbs)	8000	-
Amarylils (bulbs)	1800	-
Chrysanthemum (cuttings)	10000	5000
Roses (budded)	2000	-
Total (cuttings/bulbs)	29810	22781.5
Medicinal Plants		
Acorus calamus (rhizomes)	100 kg	150 kg
Aloe vera (seedlings)	2500	1200
Cymbopogon flexuosus (rooted slips)	8000	9000
Gloriosa superba (tubers)	30 kg	20 kg tubers 01 kg Seed
Moringa oliefera (Plants)	2500	500
Sapindus mukorossi (Plants)	1500	250
Syzygium cuminii (Plants)	3000	2000
Terminalia chebula (Plants)	2500	2500
Bacopa monnieri (suckers)	100 kg	50 kg
Mentha spp.(suckers)	100 kg	150 kg
Withania somnifera (seed)	2.0 kg	3.0 kg
Rauvolfia serpentina (seedlings)	2000	500 seedlings 2 kg Seed
Ocimum spp. (seed)	250 g	150g
Aegle marmelos (seedlings)	500	500
Tinospora cordifolia	500	250
Toona ciliata (seedlings)	1000	400
Populus deltoids (ETP's)	1000	2000
Grewia optiva	1000	500
Total(Seedling/Planting material + Tubers)	26000 + 332.25 kg	19600 + 376.15 kg

University Paddy seed at Chatha

Seed being transported in processing plant using Fork Lift (Battery Operated) at Chatha

Visit of Excellency Governor of J&K State, Shri N.N. Vohra, Seed Processing Plant at Chatha

Visit of Hon'ble Chief Minister J&K State, Jenab Omar Abdhullah to Seed Processing Plant at Chatha

Visit of Hon'ble Agriculture Minister G.H. Mir to Hi-Tec Poly Green-House at Chatha

Visit of Hon'ble Chief Minister Jenab Omar Abdullah to Hi-Tec Poly Green-House at Chatha

3.3 Veterinary Sciences & Animal Husbandry

3.3.1 Surgery and Radiology

Endoscopic and ultrasound guided biopsy techniques of different organs in farm and pet animals. : 32 samples from apparently healthy experimental dogs and 23 clinical cases were analyzed and it was concluded that laparoscopic needle biopsy was better than ultrasound guided needle biopsy, as longer samples with less fragmentation and more accuracy were obtained with the former. Using the technique suited in the individual clinical cases, histopathologic diagnoses of hepatic, splenic, renal, and prostatic diseases were confirmed and treatment was done accordingly.

Evaluation of GIA, using surgical stapling and routine suturing in cattle. : To compare enteroanastomosis using routine hand sewn and linear gastrointestinal anastomosis (GIA) stapling technique, right flank laparotomy and enteroanastomosis was done by either technique, in twelve calves, divided into two groups (6 animals each). Invitro anastomosis of resected intestine was done for analysis of lumen diameter, bursting pressure, leakage and seepage. Relaparotomy and resection of anastomosed intestine was done on two animals for histochemical/histomorphological/bursting strength analysis on day 7, 14 & 21 in each group. Animals of test group showed significant decrease ($p<0.05$) in anastomotic construction and total surgical time as compared to control group. Lumen diameter, anastomotic index and bursting pressure increased significantly ($p<0.05$) and no major adhesions, leakage and seepage was observed in the animals of test group. Significant increase ($p<0.05$) in hydroxyproline, hexosamines and collagen was observed in the hand sewn animals. In conclusion, stapled anastomosis of intestine was found technically better than hand sewn as with stapling technique healing of intestines was uneventful.

Reconstruction of canine and equine skin defects with various acellular diaphragm xenograft. : Ovine diaphragms procured from the abattoir were washed with phosphate buffered saline (PSB), made acellular using saturated NaCl solution and confirmed for their acellularity histologically. Acellular graft was used in two experimental dogs was biologically accepted by the animals. After application of the graft, tissue samples were collected for histochemical and histomorphological examination.

3.3.2 Veterinary Biochemistry

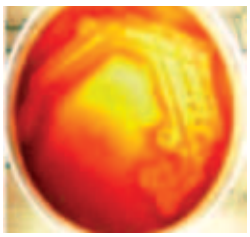
Studies on Biochemical and Enzymatic Profile of Animals in Disease Conditions : Serum profiling of 100 samples from Jamrnu region was undertaken. The samples collected belonged to different species (poultry, ETT lambs. Goats, buffaloes) maintained in Government farms as well as clinical cases from the field. They were presented with a clinical history of heavy mortality, severe drop in egg production, salphingitis in poultry; ETT rams exhibiting lameness, drop in body weight gain, circling, staggering gait and Urolithiasis; goats exhibiting transportation stress or suspected plant poisoning and buffaloes presented with classical symptoms of Hemorrhagic Septicemia. The samples were put to various screening tests such as serum Glucose, Total Protein, Albumin. A: G Ratio, Creatinine, Urea. Total Cholesterol, SGOT. SGPT, Calcium, Magnesium and phosphorous. The results for these parameters were compared with normal reference values. All the results were in correlation with the clinical symptoms and were important in deciding the future course of medicine.

3.3.3 Public Health and Hygiene

150 samples of raw milk from cattle and buffalo were tested for the presence of tuberculosis by acid-fast staining (Ziehl-Neelsen method) although none of the samples revealed the presence of any acid-fast organisms suggestive of tuberculosis. Milk is highly vulnerable to contamination by microbes due to unhygienic conditions prevalent during milking, processing and also from the water being used and serve as a vehicle for number of pathogens to human beings like *Aeromonas, Shiga Toxin producing E.coli (STEC)* etc. Among these pathogens, *Aeromonas* and STEC have been associated with morbidity and mortality cases in different outbreaks due to consumption of contaminated milk and milk products. A total of 60 samples comprising 30 of raw milk and 30 of kulfi were subjected to isolation of *Aeromonas* using enrichment procedure followed by selective plating. On analysis, 10.00 % samples of raw milk and 13.33 % of kulfi were found positive for *Aeromonas*. All 3 raw milk isolates were *A. hydrophila* while out of 4 kulfi isolates, 3 were *A. hydrophila* while 1 was *A. caviae*. The isolates were also tested for their pathogenicity by various tests viz. Rabbit Ileal Loop test, Hemolysin production, Cytotoxicity assay. The isolates were characterized for the presence of virulence genes viz. Aerolysin, Enterotoxin and Hemolysin genes. The aquatic environment is considered to be the principal reservoir of *Aeromonas* spp. 60 samples of water that were screened for *Aeromonas* spp. revealed Aeromonas in 4 samples of hand pump water. In another study on the prevalence of STEC using one hundred samples of milk and milk products

were tested. The isolates were processed for phenotypic and Genotypic characterization of Shiga toxin producing *Escherichia coli* (STEC). 25 *E.coli* isolates were obtained from the milk and milk products (20 & 5 each) with overall, prevalence of 20 and 8 percent (in milk & milk products).

a.



b.

a. Rabbit Ligated Ileal loops 8 hpi with cell free supernatant of Aeromonas isolates

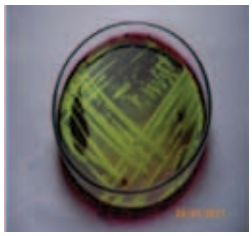
A: Un-inoculated spacer loop

B: Inoculated with cell free supernatant

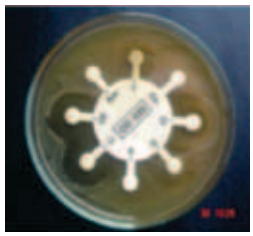
C: Un-inoculated spacer loop

D: Inoculated with cell free supernatant

b. Tryptic Soy Agar Plate supplemented with Sheep RBC showing haemolysis



a.



b.

a. *Golden metallic sheen of E. coli on Eosin Methylene Blue Agar*

b. *Antibiotic Resistance/Susceptibility pattern of E. coli isolates*

3.3.4 VETERINARY PARASITOLOGY

Empowerment of rural women through backyard poultry farming in Jammu region:

During the year 160 families were assessed in the Jammu region. It was observed that backyard poultry farming is practiced more

Farm women engaged in Backyard poultry

in Kandi (30%) area, as compared to plain irrigated areas (5%). Majority of the birds reared were of Aseel breed and of nondescript breed, which have poor egg laying. Training of 2 days was imparted (at FVSc&AH, SKUAST-J, R.S. Pura, Jammu) to 160 women farmers. The training (Theory and Practical) was delivered on scientific lines by experts of the faculty from various disciplines i.e. health. nutrition. management and production. The women farmers were also provided with 10 birds each (40 day old) to establish backyard poultry unit. Health facilities to these 160 units and other units established in previous year were regularly provided by the division. Assessment of the birds were recorded i.e. body weight gain, egg laying, income generation, etc. Necropsy of gastrointestinal (GI) tracts of 125 backyard chickens revealed an overall prevalence of 72.0%. The helminthic infections recorded were *A. galli*, *H. gallinarum*, *Capillaria* spp, *R. cesticillus*, *R. echinobothrida*, *R. tetragona* and *A. cuneata.* The impact of helminthic infections on body weight gain in growing chickens (aged 40 days, mean body weight 212.6±1.79 g) was investigated in 100 growing chickens. At the end of 90 days period of the field trial, the mean body weight gain of the untreated controls was 1444.8±7.28 g compared with 1827.9±5.43 g in the treated group, and was associated with a significantly ($p<0.05$) higher mean worm burdens in untreated group than the treated group.

Prevalence of helminth parasites affecting livestock in Jammu region: Examination of 1595 faecal samples of cattle and buffaloes revealed 51.11% and 49.3 % positivity, respectively. The predominant GI parasite eggs observed were

amphistomes (26.03%), *T. vitulorum* (10.82%), strongyles (7.08%), coccidian oocysts (3.8%), *Fasciola* spp. (2.56%) and anoplocephalids (1.26%). Prevalence of GI helminths in 480 dogs (stray=240, owned 240) of Jammu was recorded by faecal examination as well as necropsy examination of 25 stray dogs died in accidents. The study revealed an overall positivity of 48.3% for GI helminthic ova and was significantly ($P<0.01$) higher in stray dogs than owned dogs. GI helminthic ova observed were strongyles (21.1%), ascarids (8.3%), taeniids (7.7%), *D. caninum* (4.2%), trichurids (3.7%), *C. sinensis* (1.6%), *Spirometra* spp. (1.4%) and *Strongyloides* spp. (1.2%). Necropsy examination of 600 sheep and goats revealed that 34.6% animals were harboured metacestode infections (*C. tenuicollis* 31.83%, hydatid cysts 2.83%). A questionnaire based study revealed the majority of owned dogs defaecate on roadside, most of the dogs were allowed to roam indoors and the knowledge of transmission of zoonotic diseases of parasitic origin is quite low. Drug resistance studies (in vivo and in vitro) were carried out against nematodes of sheep and goats of Jammu region using (i) Egg hatch Assay, (2) Faecal Egg Count Reduction Test and, (3) Allele Specific Multiplex PCR. Although anthelmintic resistance against strongyles in sheep and goats was detected in whole Jammu region, but it is more prevalent in the animals of low altitude, including organized Government farms.

Prevalence of larval stages of tapeworms in food animals at Jammu: Out of 151 animals (sheep=54, goats=49, pigs=48) examined, 35 (23.17%) animals were found positive for larval stages of cestodes. Among these, 35.18% and 1.8% sheep, and 26.53% and 2.04% goats were harboured *C. tenuicollis* and hydatid cyst, respectively. No pig was found positive for the larval stages of cestodes.

Recommendations:

- Deworming for ruminants
  - Late March or early April and late August or early September for strongyles
  - Late October or early November for amphistomes in plains and fasciolosis in hills
- Keeping in view, high prevalence of zoonotic parasites (hookworms, ascarids, etc.) in dogs of Jammu region, deworming/population control of stray dogs is recommended.
- To check the spread of anthelmintic resistance, there is urgent need to adopt corrective measures like- strategic deworming ,change of anthelmintic group ,correct dose perfect drenching device, effective management practices and alternate method of worm control

3.3.5 Animal Nutrition

- Olive meal can be used as a replacer of up to 25 percent of maize in the ration of goats and such ration can sustain the maintenance requirement of adult goats. The replacement of 25% of maize with olive meal in the concentrate mixture formulated for goats reduced the cost by Rs. 1.13/- per kg as compared to the standard formulation.
- Tanniferous tree leaves like Jamun can be incorporated at 25 percent (w/w) on fresh basis during ensiling of oat fodder for minimal protein degradation and better protein utilization without any adverse effect on intake, digestibility of nutrients and general health.
- Addition of black cumin @ 1 percent in diet or in combination with fenugreek (0.5% each in diet) can improve the feed conversion efficiency and may help in reducing the marketable age. Black cumin supplementation also significantly reduced the serum cholesterol level of birds, which may have implications in producing low cholesterol broiler meat.

Molecular basis of capacitation like changes in the assessment and prevention of cryo-damage during cryopreservation of bovine spermatozoa (Buffalo and Crossbred Bulls). :

- 50-60 percent post thaw motility was observed after cryopreservation of buffalo semen using trials based egg yolk extender.
- The fertility trails are in progress using buffalo and KF spermatozoa cryopreserved in egg yolk and soya extenders with additives like Taurine & Trehalose in comparison to control.

Breeding and Management Strategies In Dairy Animals For Socio Economic Up-Liftment Of Rural Women

- Improved animal health and productivity in the selected areas.
- Improved fertility of animals through deworming and mineral mix supplementation.
- Better genital growth in heifers.
- Awareness about animal infertility and improved animal husbandry practices.
- Estrus synchronization in selected animals.

strous synchronization employing progestational hormone intra-vaginal

Augmentation of fertility and control of calving interval in rural cattle

- A base line survey was conducted in the village Badyal Brahmana – Anestrus and repeat breeding were observed to be the major reproductive disorders.
- The base line survey of 125 animals indicated that 96 were in peri-partum stage & their status is as follows
- Anestrus – 65.63 percent (3-6 months: 6.25 percent, 7-9 months: 26.04 percent, 10-12 months: 15.63 percent and > 12 months: 17.71 percent and Repeat breeding: 29.16 percent Animals between 7 & 9 months of lactation were administered 2 doses of deworming at 21 day interval and advised regular feeding of mineral mixture.
- 8 percent of animals which were administered 2 doses of deworming at 21 day interval and regular feeding of mineral mixture, exhibited estrus with in 15-25 days which were inseminated.
- Indegenously prepared and cost effective progesterone sponges have been used for Estrus synchronisation and its results are as follows:
  - Estrus response : 100 percent
  - Onset of estrus: 53.66 h after PGF.
  - Standing estrus : 60 h after PGF.
  - Duration of estrus: 22.33 h (18-26 h)
  - Estrus behaviour: Copious vaginal discharge, Congested mucosa of external genetalia, Tail lifting and intense homosexual behaviour.
  - One animal conceived and three awaited pregnancy diagnosis.

3.3.6 Anatomy and Histology

Anatomical studies on the Female Genital System of Bakerwali Goat (*capra hircus*) of Jammu region in different age groups : The 30 samples of female genital organs of adult Bakerwali goat (2 & 3 years) pubertal group were collected from the local slaughter houses of Gandhi Nagar and Nagrota after their age estimation. Biometrical observations of the genital organs of pubertal group were recorded and the statistical analysis was also done. Female genital organs comprised of paired ovaries, oviducts, free parts of cornua and fixed part of cornua, body of uterus(corpus) and neck of uterus (cervix). Ovaries are paired oval shaped having varying number of follicles on their surfaces. The number of follicles (large, mudium, and small) were recorded more in right ovary. The follicular fluid from the large follicles were collected and preserved in Deep freezer for further investigations. The biometrical observations were given in tabular form.

	Right Ovary	Left Ovary
Length	1.65 ± 0.05cm	1.63 ± 0.05 cm
Breadth	1.16 ± 0.04 cm	1.08 ± 0.03 cm
Thickness	1.66 ± 0.03 cm	1.64 ± 0.03 cm

Oviducts were long highly tortuous tubes comprised of infundibular part (adhered to outer

border of respective ovaries) ,ampulla (dilated potion) and isthmus(uterotubal junction) . The isthmus was in continuation with the free parts of cornua of uterus.

Length of right Oviduct	Length of Left Oviduct
13.86 ± 0.66cm	14.69 ± 0.72cm

Free part of cornua has gradual termination into oviduct and it forms two and half coilings before its termination into respective oviducts

Length of right free part	Length of left free part
11.76 ± 0.63cm	12.61 ± 0.58cm

Fixed part of cornua has mean length 2.4 ± 0.09. Corpus (Body of uterus) is formed by fusion of cornua and the neck of the uterus is called the cervix

	Corpus	Cervix
Length	1.51 ± 0.08 cm	3.63 ± 0.15 cm
Breadth	1.59 ± 0.08 cm	1.25 ± 0.06 cm
Thickness	0.78 ± 0.05 cm	1.79 ± 0.03 cm

These samples were preserved in 10% neutral buffered formalin for histomorphological and histochemical Studies.

Anatomical studies on the digestive system of adult Bakerwali goat (*Capra hircus*) of Jammu region : Gross studies on the cavum oris (mouth cavity) have been studied. The papilla incisiva was half moon shaped and located caudal to the central incisors and its width was recorded to be 0.62 cm at its base. The hard palate was elongated and had 14 pairs of transverse ridges separated by a distinct median raphe which extended up to the tip except in the region occupied by the papilla incisiva. The length of the hard palate was recorded as 11.80 cm. Similarly its width at the anterior, middle and caudal parts were found to be 2.29 cm, 2.93 cm and 3.82 cm, respectively. The dental pad was well developed with a length of 1.51 cm from its base to the tip. The papilla salivalis could be detected locating on the mucous membrane opposite to the 5th upper cheek tooth. The caruncula sublingualis was roughly quadrilateral in shape and located caudal to the corner incisor on both the sides of the median plan. Posterior to the caruncula sublingualis, a single row of 3 nos. of papillae were seen. The vestibular part of the mouth cavity was roomy. Numerous thorny papillae were noticed in the vestibule opposite to the lips and cheeks, their size being more at the angles. The tongue occupied maximum part of the cavum oris. It had the population of filiform, fungiform, vallate and lenticular papillae on the dorsum linguae, the filiform papillae being the most numerous. The freenum linguae was well developed. Various biometrical parameters of the tongue have been recorded.

Anatomical studies on the Skeletal system of adult Bakerwali goat (*Capra hircus*) of Jammu region : The collected specimens were then processed for preparation of skull. Craniometrical studies were conducted on the skull of these goats. It was found that the mean skull length and width was 27.43± 2.17 cm and 20.95± 1.75 cm respectively and the cephalic index was 76.39± 3.57. The cranial index was found to be 61.89± 2.05 while the cranial length, width and height were 17.13± 1.97cm, 10.6± 0.98cm and 14.13± 1.55 cm respectively. The skull base length was 21.4 ± 2.11 cm but the length of the cranial cavity was measured as 11.7± 2.31cm while the cranial capacity was found to be 10.8± 3.52 cm^3. Again, height and width of foramen magnum were 1.98± 0.32 and 2.28± 0.55 respectively. The orbital length was 4.05± 1.00 and orbital width was 3.4 ± 0.87 cm. Facial length and facial width were 13.45± 2.15 cm and 13.1± 2.67 cm respectively while the facial index was found to be 97.40± 2.05. The length of the horizontal ramus was 16.28± 2.93 and height of vertical ramus upto coronoid process was 10.88 ± 0.11 cm. The diastemal length 3.4 ± 1.00 cm and the intermandibular space length was 4.82 ± 0.63 cm respectively.

3.3.7 Pharmacology & Toxiocology

Toxicological studies of pesticides: The study was aimed to investigate the **effect of deltamethrin and fluoride alone and their combination on different antioxidant parameters in wistar rats.** Twenty four healthy rats of either sex weighing 150-200 G were divided in 4 groups with 6 rats in each group. Group I were untreated and served as control. Group II received deltamethrin orally @1.28 mg/kg, BW (1/100 of LD_{50}) daily for 4 weeks. Group III was administered fluoride as sodium fluoride

Collection of Blood from orbital fossa from wistar rats

in drinking water @ 44.5 mg/ L providing 20ppm fluoride/ L of drinking water daily for 28 days. Group IV received both deltamethrin and fluoride at the same doses and manner as in groups II and III. A significant increase in lipid peroxidation activity and a significant decrease in activities of Glutathione, Glutathione Peroxidase, Superoxide dismutase and catalase was observed. However, deltamethrin alone increased lipid peroxidation and Glutathione-S-Transferase but decreased the Glutathione, Glutathione Peroxidase, Superoxide dismutase and catalase in blood. The results of the study indicate that both deltamethrin and fluoride alone or their combination induce marked alterations in antioxidant indices in rats.

The oral subacute study of bifenthrin toxicity was conducted in goats. Seven healthy goats of either sex were divided into two groups viz. A and B containing 3 and 4 animals, respectively. Animals of group A received only tap water, whereas group B animals received bifenthrin @ 5mg/Kg/b.w/day (suspended in tap water) orally for 28 days. Various hemato-biochemical parameters were studied on 0,3,7,14,21 and 28th day of intoxication. To study the reversal of alterations in these parameters a post exposure study on 7th and 14th day was conducted when no bifenthrin was administered to these animals. Daily administration of bifenthrin produced toxic symptoms viz. incoordination, nervousness, twitching of muscles, micturation and slightly loose faeces. Bifenthrin decreased the levels of Hb, PCV and TEC against control values; however, it produced leucocytosis marked by lymphocytosis. Activities of erythrocyte and plasma cholinesterases were inhibited significantly whereas activity of plasma aminotransferases and phosphatases increased significanty. Non-significant alteration in plasma urea nitrogen, creatinine and plasma proteins was observed. However, alterations in all the parameters studied returned to the non-significant levels during the post treatment period.

Studies of toxic plants of Jammu province: A random area related survey was carried out in collaboration with the officers of Department of Sheep Husbandry about the toxic potential of the plant *Ageratum conyzoides*. The survey was carried out in the upper reaches of Jammu, in and around Jakti, Nagrota and Pangali, Semlaid located in migration route (Kainthgali – Sanasar – Pahalgam) of sheep and goats. Some plant samples have been collected and identified by taxonomist at Department of Botany, University of Jammu.

3.3.8 VETERINARY MICROBIOLOGY AND IMMUNOLOGY

VTCC Network project The Division has so far deposited more than a hundred isolates of bacterial pathogens isolated from GIT infection in lambs of sheep farms in Jammu, Enteric infection in poultry from different poultry farms, Respiratory infection of horses, Isolation of Clostridia from clinical samples received from sheep farms and clinical affection in dogs. E coli isolates obtained showed presence of pathogenic serogroups viz O26, O55, O86, O111, O114, O119, O125, O126, O127, O128, O142 and O158. Presence of EPEC strains viz., O26, O55, O86, O126 and O158 in diarrhoeic calves in the present study suggest that these strains are wide spread and demand appropriate prophylactic measures to minimize the possibility of the disease becoming a major threat in calves and production constraint in adults. Diarrhoeal disease due to EPEC has been observed throughout the world. These *E. coli* carry a special public health importance in developing countries like ours because of the proximity of the man and domestic animals.

Epidemiological studies on important emerging bacterial zoonotic diseases of equines used for tourism and pilgrimage in Jammu and Kashmir : our main focus was to collect samples for isolation of bacterial and fungal pathogens of equines from various sources during the

period (September 2010- March 2011). The samples were collected from different location of Jammu and Kashmir mainly R.S.pura, Katra, Pahalgaon, Tangamarg and Patnitop. Isolates were also examined from diseased horses and cases presented in the veterinary and teaching hospital as well as Govt. Veterinary Hospital. Bacterial organisms isolated from nasal swabs of equines mainly included Staphylococcus and Streptoccoccus. Streptococcus obtained were further differentiated between Streptococcus squi subsp equi and Streptococcus squi subsp zooepidemicus on the basis of presence of Sod A Superoxide dismutase gene. The desired amplicon of 235 bp confirmed the presence of Streptococcus squi subsp zooepidemicus. Whereas an amplicon of 679bp confirmed the presence of SeM gene specific for Streptococcus squi subsp equii. Streptococci were further characterized for Lancefield groups by latex agglutination After standardization of this tests we are now actively sampling horses of Katra and trying to isolate and characterize bacterial pathogens of respiratory tract.

3.3.9 Veterinary Pathology

A survey was conducted amongst commercial broiler chickens around R.S. Pura to investigate the prevalence of colibacillosis, and various entero-bacteria were isolated, including *E. coli*, *Pseudomonas* sp., *Proteus* sp. and *Klebsiella* sp. A total of seventy bacterial isolates were send to Central Research Institute, Kasauli for sero-typing and determination of antigenic structure. Coccidiosis has been increasingly diagnosed in poultry birds presented for necropsy examination. There has been a severe outbreak amongst pigeons in the locality with heavy mortality. Primary investigation suggested the role of the haemoprotozoan-Haemoproteus sp. spread by the pigeon fly.

3.3.10 Livestock Products Technology

Quality assessment of Milk and Milk Products in Jammu. Under this project in this year a total of 122 samples of milk products comprising of 26 paneer samples, 17 milk cake samples, 11 khoa samples, 7 dahi samples, 4 ghee samples, 8 gulab jamun samples, 3 milk powder samples, 7 mohan bhog samples and 39 samples of burfi were analysed for their physicochemical qualities and microbiological profile. It was seen that mean pH values ranged between 5.68-7.92. The mean moisture content varied from 1.37% (Ghee) to 87.36% (dahi). The mean fat content of milk products were ranged between 7.19% (dahi) to 95.96% (ghee). The mean protein content was in range of 3.09% (dahi) to 28.54% (khoa), while it was not detected in ghee. The mean ash content of milk products were found to be in between 0.31% (ghee) to 17.13% (khoa). Total plate counts were found to be higher for all milk products except ghee, khoa and milk cake as per BIS norms. Coliform counts were also higher in all milk products. Yeast and mold counts were not detected in milk cake, ghee and ras mallai but it was found in paneer, khoa, gulab jamun, dahi, rasgolla and burfi.

Biochemical composition of follicular fluid of large and small sized ovarian follicles in buffaloes: A study was undertaken to determine the biochemical, mineral and electrolyte concentration of follicular fluid of small and large sized preovulatory follicles of Murrah buffaloes to find out the reasons for their low reproductive performance. The significant difference ($P<0.05$) were observed in cholesterol (201.31 vs 194.37 mg), calcium (9.69 vs 8.50 mg), magnesium (2.93 vs 2.39 mg) concentration of follicular fluid of large and small sized follicles. Sodium concentration(261.58 vs 237.0 mEq/L) differing significantly($P<0.01$) between large and small sized follicles, whereas glucose and total protein concentration did not differ significantly

3.3.11 Veterinary Clinic & Teaching Hospital

Hormonal Induction Of Estrus In Post Partum Anestrus Buffaloes : A total of 6 post partum anestrous buffaloes were selected for this study based on history and rectal examination. Two rectal examination at an interval of 10 days were performed. The buffaloes under investigation

Hormonal induction of estrus in post partum anestrus buffaloes

had calved at least 90 days earlier and had not exhibited any sign of estrus.In Group-l(CIDR) 3 buffaloes, in Groupll(Ovsynch) 1 buffalo and in Grouplll (GnRH) 2 buffalo were subjected to treatment.

Diagnostic Ultrasonography For Affections Of Bovine Gastrointestinal : From March 2010 to Jan 2011, the study was conducted in 23 cattle with various G.I. tract disorders. Using ultrasonography, 9 cases of traumatic pericarditis were confirmed based on the presence of large amount of hypo echoic fluid in the thorax, sometimes containing the

Ultrasonography and X-ray being done in a dog at R S Pura Clinic

fibrin strands. Affected animals usually had large amount of an echoic to hypo echoic pericardial fluid and hyper echoic fibrin strands on the pericardium. Foreign body was not elected in majority of the cases. Changes in the reticulum were recorded in almost all the cases of traumatic pericarditis. Reticular motility was either absent or reduced and there were hyper echoic fibrin deposits between the abdominal wall and the reticulum. Three cases of diaphragmatic hernia were diagnosed with ultrasound based on the findings of reticulum cranial to the 6th I/C in the thoracic cavity with absent or reduced motility. The other condition that was consistently diagnosed was ileus in 11 cases. However, the cause of ileus was identified only in 25-30% of the cases. Ileus in most of the cases was due to intussusceptions that was more accurately diagnosed on per-rectal examination or the exploratory right flank laparatomy. The ultrasonographic finding in ileus were dilated intestinal loops that were usually more than 4 cm in diameter. There was great variation in the diameter of intestinal lumen. The intestinal motility was either absent or reduced. In the intussusceptions as the cause of ileus could be confirmed sonographically only in those cases in which either the obstructed intestinal mass was adjacent to the abdominal wall or when it was palpated per rectally and brought close to the abdominal wall. The characteristic findings in intussusceptions were bull's eye pattern/target lesion in cross section or multiple overlapping intestinal layers when scanned in longitudinal plane. The diseases involving the omasum, abomasums and large intestine could not be diagnosed with ultrasonography.

Etiological Categorization, Diagnostic And Therapeutic Studies On Equine Colic : During this period, a total of 39 cases of equines were reported for treatment and out of which 11 cases of colic were reported with an overall prevalence of 28.20 per cent. Out of 11 cases, five were male and eight were female animals. All the animals were in the age group of two to ten years. Out of eleven, five animals were having parasitic infestation and were infected with strongylus and strongloides. Six animals were having impactive colic, one with spasmodic colic and four had obstructive colic. Out of these, six cases responded to treatment with analgesic, fluids and supportive therapy. Four cases died before undergoing surgery and one animal was operated for colic which responded to treatment. Clinical parameters revealed increased temperature, heart rate, respiration, capillary refill time and pale to congested mucous membranes. Haematological examination revealed increased haemoglobin, packed cell volume, total erythrocytic count with leukocytosis and decreased calcium and chloride level in two cases. Ultrasonographic examination for the diagnosis of colic was performed in two cases but did not reveal any significant observation. Lack of access to water, poor deworming schedule and feeding feed in polythene bags were found to be the main reason for the colic in equines.

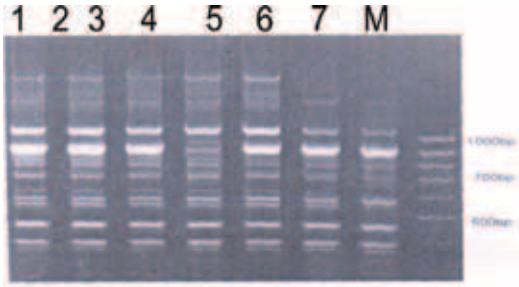
3.3.12 Animal Genetics & Breeding

Molecular characterization of Pashmina and Bhakarwali goat using

RAPD-PCR : The objective of the study was to evaluate genetic variation and establish genetic relationship / genetic distances among three breeds of Indian goat; Pashmina, Bakarwali and Beetal using RAPD PCR. Out of five primers only the three primers (primer-1, 2 and 3) generated

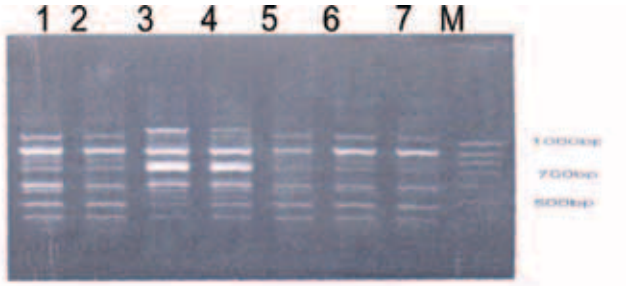
discernible bands, the rest of the primers (primer-4 and 5) resulted in either smeary signals or few bands under heavy smear. A total of 43 amplicons from three primer's (primer-1, 2 and 3) were scored,the size which ranges from 280 to 2270bp. A total number of polymorphic band with respect to all three primers were 30 (70%) with size ranges 330 to 2270bp. The proportions of polymorphic bands from three primers were 20% (Pashmina), 32.50% (Bakarwali) and 55.88% (Beetal). The genetic similarity estimates from primer-1 was observed to be maximum among the individuals between Pashmina and Bakarwali (0.692). The lowest value was obtained between individuals of Pashmina and Beetal (0.317). The results indicated that Pashmina breed have a close relationship to Bakarwali breed (0.541) and a far greater genetic distance (0.711) with Beetal populations. The genetic similarity estimates from primer-3 was observed to be maximum between individuals of Pashmina and Bakarwali goat breeds (0.718). Similarly the highest genetic distance was observed between Pashmina and Beetal (0.783). The estimates of genetic similarity from pooled over three primer ranged from 0.274 to 0.650 and corresponding values of genetic distances were 0.352 to 0.726. The Pashmina genome shared maximum genetic similarity with Bakarwali (0.650) in comparison to Beetal (0.274). Similarly the maximum genetic distances were observed between Pashmina and Beetal breed of goat (0.726).

RAPD patterns of three goat breeds using primer-1



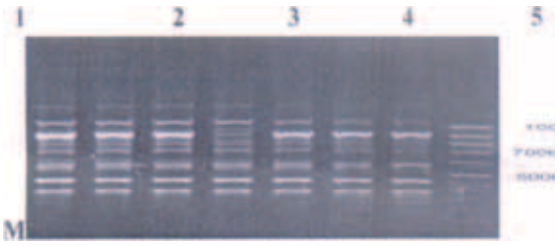
Lane M: - lOObp DNA ladder Lane 1-3:- Pashmina Lane 4-5:- Bhakarwali Lane 6-7:- Beetal

RAPD patterns of three goat breeds using primer-2



Lane M: - lOObp DNA ladder Lane 1-2:- Bhakarwali Lane 3-4:-Pashmina Lane 5-7:- Beetal

RAPD patterns of three goat breeds using Primer 3



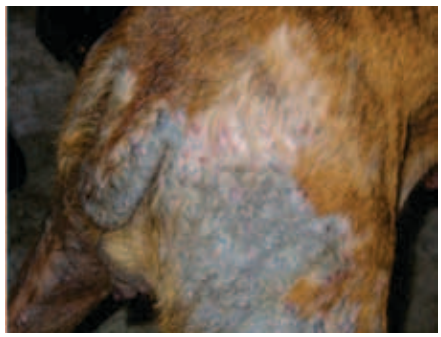
Lane M: - lOObp DNA ladder, Lane 1-2:- Pashmina, Lane 3-4:- Bhakarwali and Lane 5-7:- Beetal

Characteisation of TLR-4 gene and its association with mastitis in Jersey crossbred cattle : 19 blood as well as milk samples were collected from Belichrana farm. Its somatic cell count has been performed. All the animals have SCC lower than llakh and hence grouped as resistant DNA has also been isolated using standard phenol chloroform method of isolation (Sambrook *et al,* 1987) A total of 200-500ng of DNA was obtained from 5ml of blood. Concentration was calculated spectrophotometrically by taking optical density (OD) value at 260nm. The purity of DNA was checked using spectrophotometer by taking the ratio of optical densities value at 260 and 280. The optical density ratio (OD) of these samples ranged from 1.5 to 2.0. Only good quality DNA that was having OD values ranging from 1.7 to 1.9 were used for further analysis. Agarose

gel electrophoresis was performed to check the quality of DNA. The genomic DNA samples having good quality (intact band without smearing) were used for further analysis.

3.3.13 Veterinary Clinical Medicine and Jurisprudence

Role of Nutraceuticals and Clinical management of canine dermatitis : Nutraceuticals aid as complementary effect when treated along with routine chemotherapy. Keeping this in mind the study has been initiated with the use of fish oil as a nutraceutical in the treatment of canine dermatitis. A scoring system based on the skin lesions typically associated with a topic dermatitis was used. The system was based on severity (0 – none, 1 – mild, 2 – moderate, and 3 – severe) for each of three specific lesions (erythema, lichenification, and excoriation). Dogs were evaluated for the clinical manifestations of chronic pruritic dermatitis, skin and coat quality, and overall quality of life. Clinical assessment at the 0day (pretreatment) and 21day (post treatment) noted marked improvement in erythema, lichenification and excoriation when treated with fish oil.



Pretreatment **Post treatment**

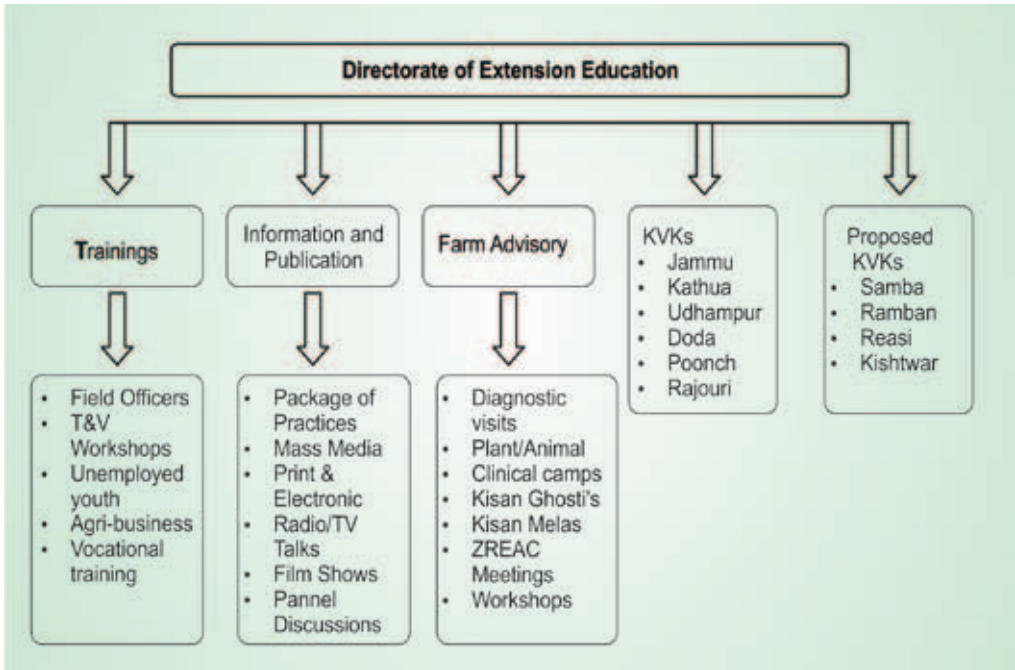
4 EXTENSION EDUCATION

At the national level Extension Education has recently been realized to be one of the most important components for bringing desired improvements in agricultural production and productivity at the farmers level .Extension education is one of the most important mandates of the Sher-e- Kashmir University of Agricultural Sciences and technology of Jammu. The Directorate of Extension Education popularly known as the "Field Extension Wing", is taking care of the farm advisory services in the villages surrounding the headquarter campus of the university and at different districts through Krishi Vigyan Kendra. The responsibility for planning, organizing, conducting and coordinating the extension education activities of the university in the Jammu region of Jammu & Kashmir State lies with the Directorate of Extension Education. Its main aim is to transfer the well proven/tested technologies to the farmers, livestock owners, rural youth, field staff of State Govt. and other personnel engaged in developmental and professional activities in the fields of agriculture, animal husbandry, horticulture, home science and other allied areas through its well planned, skill-oriented and need based programmes. The Directorate acts as bridge between the research scientists and the farmers and other stakeholders to provide feed back. Therefore, the role of the Directorate is two fold, i.e., transfer of technologies from scientists to the ultimate users i.e. farmers through field functionaries and to find out the problems of the field to be passed on to various research divisions of Faculty of Agriculture, Faculty of Veterinary Sciences & A.H.

Farm Science Services (FSS) is the major wing and field arm of the Directorate of Extension Education covering the entire Jammu Division through Krishi Vigyan Kendras (KVKs) located in various districts of Jammu Division. The scientists working in these KVKs have a direct contact with farmers and render the necessary advice about the crops and livestock production and protection, soil and water management, child care, family and farm resource management etc at their door steps. The functional setup of the Directorate has been oriented to face the traditional and new challenges emerging on day to day basis so that the farmers and the field functionaries are benefited.

The main responsibilities/functions of the Directorate of Extension Education are:

- To Plan and execute Extension Education activities of the University.
- To coordinate extension education activities among Divisions of two Faculties, Research



Stations, Sub-Stations, KVKs etc of the University.

- To act as a strong liaison between university scientists and allied developmental department, national & international institutes and farming community for developing demand driven technologies.
- To timely transfer the innovative /proven technologies through KVKs.
- To supplement and complement the efforts of state development departments through elite / frontline/limited extension work.
    - Organizing training programmes for officers, farmers and un-employed/ rural youth.
    - Organizing skilled demonstrations, on farm trials, exhibitions, fairs etc.
    - Communicating / updated farm information through package of practices, books, booklets, leaflets, folders, posters, bulletins, pamphlets and through print and electronic media.
    - Farm Advisory services.

4.1 Accomplishments of Directorate of Extension Education:

a) Kissan Mela :

Three days Kissan Mela was organized at, Main Campus, Chatha from 23rd to 25th March, 2011. The Mela was inaugurated by Sh. M.I. Khanday, Principal Secretary, Agriculture Production Department, J&K Govt. in the presence of Dr. Tej Pratap, Hon'ble Vice Chancellor, SKUAST-Kashmir and Dr. B. Mishra, Hon'ble Vice Chancellor SKUAST-Jammu. Several ICAR Institutes, SAUs, developmental agencies from the public and private sectors, leading agricultural firms, NGOs, Self help Groups and Farmer Organizations displayed their technologies/innovations/ products during the Kissan Mela. Large number of farmers / farmwomen from various districts of Jammu Division as well as from Kashmir division visited the Mela.

His Excellency the Governor of J&K Sh. N.N. Vohra (Chancellor, SKUAST-J) was the Chief Guest in the valedictory function of the Kissan Mela who interacted with the scientists, farmers, stall owners and presented mementoes and awards to the Best Stalls.

His Excellency the Governor Shri N.N. Vohra and Principal Secretary APD inspecting the stall of at Kissan Mela

His Excellency the Governor Shri N.N. Vohra addressing the gathering of Scientists, Farmers and Students during Kissan Mela

Glimpses of Kissan Mela :

(b) Participation in Agriculture Fairs / Mela organized by various agencies:

(i) Participated and exhibited University stall in Vision Jammu & Kashmir 2010 organized by Friends Exhibition & Promotion Pvt. Ltd. From December 9-12, 2010 in collaboration with Ministry of Agriculture at K.K. Resorts, Talab Tillo, Jammu.

(ii) Participated and exhibited University stall in One Day Divisional Level Kissan Mela-cum-Agricultural Fair organized by the Department of Agriculture, Jammu at MA Stadium on 21 January, 2011.

(iii) University participated in North Zone Regional Agriculture Fair Organized at National Technology Institution, Hamirpur by YS Parmar University of Horticulture and Forestry, Nauni Solan from Feb 23-26 ,2011 and conferred was with Highly Commendable Award.

(iv) Exhibited University Stall in Pusa Krishi Vigyan Mela organized at IARI, New Delhi from March 3-5, 2011 and won 2nd Best Stall Award.

(v) Participated and exhibited stall in the 89th All India Farmer's Fair and Agriculture Trade Exhibition organized from March 9-12, 2011 by the G B Pant University of Agril. Sc. & Technology, Pantnagar (Udhamnagar) Uttrakhand . The University Stall was conferred with Special Prize.

c) Meetings and Workshops:

(i) Zonal Research & Extension Advisory Committee Meeting (ZREAC), *Kharif*-2010:

The ZREAC meeting for *Kharif* crops 2010 of three zones of Jammu division was organized on **May 18, 2010** in the Conference Hall at Chatha under the chairmanship of Prof. B. Mishra, Hon'ble Vice Chancellor, SKUAST-Jammu. The meeting was attended by 156 officers/ scientists of the University and Directors, Officers of the Departments of Agriculture, Command Area Development, Floriculture. The field problems faced by the officers were discussed and finalized the technologies developed by researchers for dissemination to the farmers during *kharif* season.

(ii) Zonal Research & Extension Advisory Committee Meeting (ZREAC), Rabi-2010-11:

The ZREAC meeting for Rabi crops 2010 of all the three zones of Jammu Province comprising Jammu, Kathua , Samba, Rajouri, Poonch, Udhampur, Kishtwar, Doda & Ramban with respect to Agriculture, and Command Area Development was held on November 24, 2010 in the Conference Hall of the University at Main Campus, Chatha. The Meeting was chaired by Dr. B. Mishra, Hon'ble Vice Chancellor, Dr. K. S. Risam, Director Extension Education, Dr. R. M. Bhagat, Director of Research, Prof. Ajay Koul, Dean, Faculty of Agriculture, Smt. Nirmal Sharma, Director Command Area Development and Shri V.K. Bakhri, Joint Director (Inputs), Deptt. of Agriculture, HODs and other officers from the University and line departments also participated in the meeting.

Hon'ble Vice Chancellor delivering the keynote address during the inaugural sessionof the ZREAC (Rabi), 2010

(iii) Scientists-- NABARD Officers Interaction Meet :

The 6th Bi-monthly meet of DDMs/DDOs and Senior Officers of NABARD alongwith Senior Scientists of Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu was organized by the Directorate of Extension Education at Main Campus, Chatha on 28th February, 2011. The meet was inaugurated by Dr. B. Mishra, Vice Chancellor, SKUAST-

Jammu. The programme was also attended by Sh. M.L.Sukhdeve, J&K Regional Office, Jammu and Dr. K.S.Risam, Director Extension Education, SKUAST-J. While welcoming the Vice Chancellor, Chief General Manager NABARD, Director Extension Education SKUAST-Jammu and the participants, Sh. V.V.V. Satyanarayana, General Manager NABARD, J&K Regional office, Jammu highlighted the significance direct interaction between the Agriculture Scientists engaged in latest developments in agriculture and allied activities with the officers of NABARD who are engaged in transformation of these developments to the farmers at grass root level in rural areas.

Scientists-- NABARD Officers Interaction Meet

iv) Agri Conclave Jammu 2011:

Directorate of Extension Education organized 2nd edition Agri Conclave Jammu 2011 in collaboration with Confederation of Indian Industry, Jammu on 18th February, 2011 at Conference Hall, Chatha in which Jenab Ghulam Hassan Mir, Hon'ble Agriculture Minister, J&K was the Chief Guest. The objective of organizing this conclave was to bring new techniques and ideas to the farmers. Large number of farmers from the Jammu Division participated in the conclave. The focus of the seminar was to:

- Enhance productivity and export potential of agricultural produce.
- Modern agriculture marketing methods
- Agriculture finance
- Post harvest techniques
- Packaging & branding

Jenab Ghulam Hassan Mir, Hon'ble Agriculture Minister, J&K addressing the gathering Agri Conclave 2011

d) Annual KVK Workshop for Jammu Division:

The University level workshop of KVKs of Jammu region under the control of Directorate of Extension Education was organized at Chatha on March 31, 2011. The workshop is organized annually in which activities of KVKs vis-à-vis their approved action plans for the year 2010-11 are reviewed. Besides reporting, planning of OFTs and constraints encountered by each

KVK in implementation of Action Plans are discussed and resolved. The proposed Action Plans for 2011-12 were also discussed with modifications as advised by participants. The programme was attended by forty scientists and Programming Assistants of KVKs. The programme was sponsored by the Zonal Project Directorate, Zone-I, ICAR, PAU, Ludhiana under strengthening of Directorate of Extension Education.

e) Scientific Advisory Committee (SAC) Meetings of KVKs:

The Scientific Advisory Committee (SAC) Meetings of KVKs functioning under the administrative control of the Directorate of Extension Education was organized. During the meetings the Action Plan for the year 2011-12 was finalized and the progress made in the previous year Action Plan was reviewed.

Glimpses of the SAC Meetings:

Dr. B.Mishra, Chairman SAC, KVK Jammu addressing participants of IX SAC Meeting (08-10-2010)

Director Extension Education addressing the 3rd SAC Meetings of KVK, Rajouri (23-08-2010) and KVK, Reasi (06-12-2010)

Director Extension Education addressing the 3rd SAC Meetings of KVK Kathua (07-12-2010) and KVK, Poonch (11-10-2010)

f) Seminar on Maize Development and Interaction with Scientific Community

A seminar-cum-interaction on Maize Development was organized in collaboration with M/S Monsanto Andheri (East) Mumbai on 23-08-2010 at Conference Hall, R.S. Pura in which scientists and officers of the Development Departments interacted with the collaborators for promotion of productivity of maize crop in Jammu Division.

Trainings:

(i) Training p rogrammes for resource persons of KVKs :

Three training programme were conducted for the scientific staff (up to the Programming Assistant level) of the KVKs from 28-03-2011 to 30-03-2011 at main campus Chatha under the chairmanship of Dr. K.S.Risam, Director Extension Education. SKUAST-Jammu. Forty

Glimpses of the Training Programmes:

Director Extension Education addressing the participants of the training on Innovation Extension Approaches for Agriculture Development

Resource persons delivering lectures during the training on Climate Change and its impact on Agriculture and Drought mitigation strategies for sustainable crop production

five scientists of KVKs attended each training programme. The resource persons from the Faculty of Agriculture and Faculty of Veterinary Sciences & Animal Husbandry delivered lectures to the trainees during training programme. The trainings focused on Innovative extension approach for Sustainable Development, Climate change and its impact on agriculture and Drought mitigation strategies for sustainable crop production

(ii) Collaborative Trainings with various Division of SKUAST-J:

- Fruit Science
  - Three days training programme on "Production of Quality Planting Material in sub-tropical area with special reference to polybag raised plants" was organized w.e.f July 19- 21st , 2010 in collaboration with Division of Fruit Science, FOA for the officers of

department of Horticulture. Twenty (20) officers attended this training programme.

- Three days training programme on Development of Horticulture in Rainfed & Kandi Area i.e Rainfed fruit culture" was organized w.e.f September 21-23, 2010 in collaboration with Division of Fruit Science, FOA for the officers of department of Horticulture . Twenty one (21) officers attended this training programme.

Resource persons interacting with the participants of the line department

- **Soil Science and Agricultural Chemistry**
  - Two days training programme on **"Diagnostic tools in soils and field crop analysis"** was organized w.e.f August 25-26th, 2010 in collaboration with Division of Soil Science and Agricultural Chemistry, FOA for the District Level Officers of the Department of Agriculture. 18 officers attended this training programme during which 12 lectures were delivered by the scientists of the Division

Director Extension Education interacting with the participants of the Training programme

Director Extension Education distributing the Certificates to the participants of the training programme

- Two days training programme on **"Diagnostic tools in Orchard soils and fruit plant analysis"** was organized w.e.f October 05-06, 2010 in collaboration with Division of Soil Science & Agricultural Chemistry, FOA for the District Level Officers of the Department of Horticulture. 17 Officers attended this training programme during which 12 lectures were delivered.

- **Division of Plant Pathology**

  - Three days training programme on **"Training on Spawn Production & Mushroom Cultivation"** was organized w.e.f September 28-30th, 2010 in collaboration with Division of Plant Pathology, FOA for the officers of department of Agriculture. Twenty five (25) officers attended this training programme.

Participating having practical on hand training

- **Division of Agronomy**

Three training programmes were conducted in collaboration with the Division of Agronomy, FOA, Chatha. The details are as under :-

S. No.	Title of training programme	Date	No. of participants
a)	Weed management strategies for major cereals of irrigated and un-irrigated situations	09-07-2010	26 Farmers
b)	Green manuring for sustainable production	23-07-2010	33 farmers
c)	Diversification of cropping systems for increased and sustainable production	05-08-2010	25 Field functionaries

Farmers training being imparted at Farmers field

- **Division of Agriculture Engineering**

The following 03 No. training programmes were conducted in collaboration with the Division of Agricultural Engineering, FOA, Chatha for the farmers of Jammu Division

S. No.	Title of training programme	Date	No. of participants
a)	Demonstration of laser leveler	28-09-2010	25. farmers
b)	Calibration of seed-cum-fertilizer drill	29-09-2010	-do-
c)	Demonstration of Power tiller with attachments	30-09-2010	-do-

- **Division of Sericulture**

The following (05) training programmes were conducted in collaboration with the Division of Sericulture for the officials of the Sericulture Dev. Deptt., Jammu Province :

S. No.	Title of training programme	Date	No. of participants
a)	Trainings and pruning of mulberry	17-08-2010	04
b)	Diseases of silkworm and their management	20-09-2010 & 21-09-2010	05
c)	Late age rearing, ripening of silkworm, seriposition, harvesting and storage of cocoons	27-09-2010 to 29-09-2010	05
d)	Basic silkworm seed production technology	04-10-2010 & 05-10-2010	05
e)	Management of diseases and insect pest of mulberry	12-10-2010	05

(iii) Training Programmes Organized by the Directorate under State Agricultural Management and Extension Training Institute, Jammu (SAMETI-J):

- **Three days** workshop on "**Operationalization of ATMA & SREP**" under the extension reforms in India and J&K sponsored by MANAGE Hyderabad was organized w.e.f **July 07-09, 2010** at R.S. pura for the officers of district and sub division level from Department of Agriculture Jammu Province. **Thirty (30)** officers attended this training programme.
- Two Days Workshop-cum-training programme **"Operationalization of ATMA & SREP"** for the Block Technology Teams of district Jammu under the extension reforms was organized on 24th & 25th September, 2010 in which nearly 100 BTT members of eight blocks of district Jammu participated.

- Two Days Workshop-cum-training programme **"Operationalization of ATMA & SREP"** for the Block Technology Teams of district Samba & Kathua under the extension reforms was organized on 27th & 28th September, 2010 in which 111 BTT members of district Samba & Kathua participated.

- Two Days Workshop-cum-training programme "**Operationalization of ATMA & SREP**" for the Block Technology Teams of district **Reasi & Udhampur** under the extension reforms was organized on **30th September- 1st October, 2010** in which nearly **108** BTT members of district Udhampur and Reasi participated.

- Three days training programme on **"Credit Management"** in collaboration with Division of Agricultural Economics and Statistics was organized from October 05-07, 2010 in which sixty three (63) officers from various development departments participated.

- Four days training programme on **"Establishment of Orchards in Jammu Sub-Tropics"** in collaboration with Division of Fruit Science was organized from October 18-21, 2010 in which sixty three (26) No. Farmers, NGO and district level SMS participated.
- Five days training programme on **"Extension Strategies for Sustainable entrepreneurship Development"** in collaboration with Division of Extension Education was organized from October 18-22, 2010 in which 30 officers from various development departments participated.

- Five days training programme on **"Scope and potential of multiple cocoon cropping in sub-tropical areas of Jammu region"** in collaboration with Division of Sericulture was organized from **November 08-12, 2010** in which 27 officers from the Department of Sericulture of Jammu Division participated.
- Three days training programme on "Cultivation and production of planting material of medicinal plants" in collaboration with Division of Agroforestry was organized from November 15-16 & 19, 2010 in which 25 officers from various development departments participated.
- Five days training programme on **"Techniques for improving nutritive value and utilization of locally available roughages"** in collaboration with Division of Animal Nutrition, FVSc. & A.H, R.S. Pura was organized w.e.f November 29 – December 03, 2010 at Conference Hall R. S. Pura in which 11 Vety. Surgeons from Department of Animal Husbandry and Directorate of Sheep Husbandry participated.

- Five days training programme on **"Updates in meat and milk hygiene vis-à-vis WTO"** in collaboration with Division of Veterinary Public Health & Hygiene, FVSc. & A.H R.S. Pura was organized w.e.f 27-12-2010 to 31-12-2010 in which 10 Vety. Surgeons from Department of Animal Husbandry and Directorate of Sheep Husbandry participated.

- Four days training programme on **"Utilization of Rainfed areas for sub-tropical fruits"** in collaboration with Division of Fruit Science, SKUAST-J Pura was organized w.e.f 28th -31st December, 2010 in which 23 Officers/ Officials from Deptt. of Horticulture participated.

- Five days training programme on **"Emerging and Re-emerging Zoonoses"** in collaboration with Division of Veterinary Public Health & Hygiene, FVSc. & A.H R.S. Pura was organized w,e,f 3rd- 7th January 2011 in which 07 Vety. Surgeons from Department of Animal Husbandry and Directorate of Sheep Husbandry participated.

- Five days training programme on **"Latest updates on the Diagnosis of Animal Diseases"** in collaboration with Division of Veterinary Clinic & Teaching Hospital, FVSc. & A.H R.S. Pura was organized w.e.f 17th -21st January, 2011 in which 12 Vety. Surgeons from Department of Animal Husbandry and Directorate of Sheep Husbandry participated
- Three days training programme on **"Processing and Value Addition of Agriculture Produce"** in collaboration with Division of Post Harvest Technology, FOA, Udheywala was organized on **24th-25th & 27th January, 2011** in which 30 officers/officials from various development departments participated.
- Three days training programme on **"Improved Machinery and Technology for Agriculture Mechanization"** in collaboration with Division of Agricultural Engineering was organized w.e.f 1-3 February, 2011 in which 16 Officers/Officials from Line Department participated.
- Three days training programme on **"Diagnostics and management of Plant Diseases"** in collaboration with Division of Plant Pathology was organized w.e.f 8-10 February 2011 in which 18 Officers/ Officials from the Line Department participated.

h) Front Line Demonstrations :

Frontline demonstrations sponsored by the Directorate of Maize Research (ICAR) New Delhi under Integrated Scheme on Oilseed, Pulses, Oil palm and Maize (ISOPOM) were laid in 150 Acres during ***Kharif*** **2010** by different KVKs working under the jurisdiction of Directorate of Extension Education with following details:

S. No.	Name of KVK	Districts covered	Area covered (acres)
1.	Jammu	Jammu	20.0
2.	Kathua	Kathua	40.0
3.	Kathua	Samba	20.0
4.	Udhampur	Udhampur	25.0
5.		Reasi	25.0
6.	Rajouri	Rajouri	10.0
7.	Poonch	Poonch	10.0
Total			150.0

i) T & V Monthly Workshops:

The Directorate has conducted sixty four Officers Monthly Workshops (T&V Monthly Workshops) during 2009-10 at various district headquarters of the province during the period. The workshops were attended by the district and sub-divisional level officers from Department of Agriculture, Command Area Development and Department of Horticulture.

4.2 ACCOMPLISHMENTS OF KRISHI VIGYAN KENDRAS (FARM SCIENCE CENTERS)

These innovative science based institutions have been established mainly to impart vocational

skill training to farmers and field level extension workers not only in agriculture and allied sectors but also in other income generating activities that may supplement the income of farm families. The training programmes are designed to impart the latest knowledge to the farmers through work experience by applying the principles of "**Teaching by Doing**" and **"Learning by Doing"**. The effectiveness of KVK has further been enhanced by adding the activities related to on-farm testing and front line demonstrations on major agricultural technologies in order to make the training programmes of farmers location specific, need based and resource oriented. Presently, six Krishi Vigyan Kendras are working under the administrative control of Directorate of Extension Education. With the objectives of having a KVK in each district, the Govt. of India / Indian Council of Agricultural Research, New Delhi has already approved the establishment of KVKs in four newly created districts of Samba, Kishtwar, Ramban and Reasi subject to provision of the land by the host state. The land for KVK Samba stands already demarcated and transfer of land from the Govt. is awaited.

a) Workshops and trainings:

(i) Three day Capacity Building Training Programme (CBTP)

Three day Capacity Building Training Programme (CBTP), was organized at Krishi Vigyan Kendra Jammu (R.S. Pura) w.e.f 22 February to 24 February, 2011. The programme was chaired by Dr. K.S. Risam, Director Extension Education. 55 youths participated in the training programme during which elementary knowledge to grow mushroom round the year was imparted. Besides, the participants were also provided the guidance for poultry farming, Vermi compost technology, Fisheries and Floriculture etc.

Director Extension Education addressing the participants of the Capacity Building Training Programme at R.S. Pura

ii) Training Programmes organized by the KVKs:

S.No	Type of training	No. of trainings	No. of Participants
Krishi Vigyan Kendra, Jammu			
1	Farmers	43	1054
2	Rural youth	06	91
3	Extension Functionaries	07	61
Krishi Vigyan Kendra, Kathua			
1	Farmer training	28	810
2	Rural youth	4	62
3	Extension functionaries	6	104
4	Sponsored training programmes	4	309

Krishi Vigyan Kendra, Rajouri			
1.	Farmer training	29	639
2.	Vocational training	07	156
3.	In- service Training	07	118
Krishi Vigyan Kendra, Poonch			
1.	Farmers'	43	608
2.	Vocational for rural youth	10	123
3.	In-service	04	66
Krishi Vigyan Kendra, Doda			
1	Farmers training	50	877
2	Inservice training	11	69
3	Vocational training	06	157
Krishi Vigyan Kendra, Reasi			
1.	Farmers/Farm Women trainings	39	783
2.	Vocational/Rural youth trainings	04	78
3.	In-service trainings	06	90

b) Technologies Assessed and Transferred :

S.No	Name of the technology	Technical Intervention Benefit of difficulty	Economic benefit (return per rupee spent)	Feed back
Krishi Vigyan Kendra, Jammu ; NIL				
Krishi Vigyan Kendra, Kathua				
1	Zero tillage technology	Front Line Demonstration Training Programmes Demonstrations Field day	1:2.7	Satisfied with the performance of Zero tillage technology but non- availability of Zero-till-Seed drill
2	Popularization of PUSA 1121	Front Line Demonstration Training Programmes	1:2.9	Highly satisfied and more area covered during Kharif 2011
3	Mushroom production technology	Training Programmes Demonstrations Field day	1:2.5	Satisfied and ready to adopt this technology as an profitable enterprise
Krishi Vigyan Kendra, Rajouri				
1	Wheat HS-240	Introduction of improved and high yielding varieties of cereals and promotion of oilseed and pulses cultivation in the district. Technical guidance to farmers about Integrated Nutrient, Disease and Weed Management	Yield increased by 36.31%	The farmers accepted the new varieties and adopted them with a resultant increase in area under respective crops
2	Maize KH-612	Yield increased by 32.65% Yield increased by 18-20%		
3	Mustard Pusa bold			
4	Gobhi Sarson DGS-1			

Krishi Vigyan Kendra, Poonch				
1.	Line Sowing and Nutritional Management in Maize		B:C ratio: 2.24	--
2.	Variety in wheat HS-490		B:C ratio: 1:4.12	-
Krishi Vigyan Kendra, Doda				
1	Varietal evaluation of knol kholl	Use of P-40 var. Of knol kholl	1:4.51	Impressed over early maturity and yield
2	Varietal evaluation of Rajmash	Use of Shalimar-1 variety of Rajmash	1:1.93	Impressed with performance of improved variety.
3	Weed management in Maize	Atrazine 1.0kg/ha + Handweedinng	1:1.87	Increased growth & yield
4	Control of Pod borer in Pea	Spray of endosulphan 2ml/l		Increased the quality & yield
5	Aphid Management in cole crops	Imidaclosprid @ 0.4ml/litre at aphid emergence	1:3.03	Highly impressed with the yield.
6	Dehydration of Apple slices	Use of salt, sugar and KMS as pretreatment	-	Quality of dehydrated apple slice was highly improved.
7	Standarization and preparation of turnip pickle	Use of vinegar	-	Increased shelf life of pickle.
8	FLD of black gram	|Uttara var + recommended dose of fertilizers.	1:2.20	Varieties performed good under Doda condition.
9	FLD of Green gram	SML-668+RDF	1:1.75	Farmer liked var. Performance alongwith agronomical practices
10	FLD of Sunflower	PSH-569+RDF	1:1.75	-do-
11	FLD of Maize	VSM-35+RDF	1:1.66	-do-
12	FLD of Mustard	RDF+Endosulphan for Aphid control	1:1.94	Agronomical practices improved yield.
13	FLD of Gobhi Sarson	RDF	1:1.56	Agronomical practices improved yield.
14	FLD of Oat	RDF	1:2.05	-do-
15	FLD of Berseem	RDF	1:3.12	-do-
Krishi Vigyan Kendra, Reasi				
1.	Promotion of maize hybrids in the district.	Introduction of hybrids have resulted in increasing the yields upto 35.71 percent of local varities.	1:1.78	Farmers are ready to adopt the scientific cultivation but non-availability of maize planter is a limiting factor in view of labour shortages at peak season.

2.	Introduction of improved varieties of pulses (Black gram-mash and chickpea)	Uttra var. of black gram (mash) and GNG-469 var. of chickpea performed well in Reasi conditions.	Black gram 1:2.91 Chick pea 1:1.17	Farmers of the area had stopped cultivation of moong but are now interested in pulses especially the rainy season and rabi pulses.
3.	Promotion of new varieties, and seed treatment.	PBW-527 & 373 performed very well in rainfed condition of Reasi.	PBW 527	Farmers showed keen interest in these demonstrations which yielded higher than the PBW-175 plots.
4	Promotion of Fodder crops in the district	Introduction of Kent variety in Reasi resulted in increasing the yields by up to 35 percent.	Oats	Farmers are adopting the variety in the district.
5	Promotion of vegetable cultivation in the district.	Vegetables like bottle guord, cucumber and chili were promoted in the district. Kitchen gardening has been promoted to supplement their diet.	-	Farmers have started to grow these vegetables especially for their home needs.
6	Promotion of improved varieties of oilseed crops in the district	Pb-Til-01 variety of Til, RSPR-01 variety of Mustard & RSPT-01 variety of Toria performed goog in the district	Til 1:2.64 Mustard Toria 1:1.38	Farmers are satisfied with the performance of Pb Til-1 variety of Til
7	Rural Poultry Strain	Chandigarh Brown egger perform well in kandi belt of district Reasi	-	-
8	Introduction of improved variety of Soyabean	PK-72 perform good in the district	Soyabean	-

(c) Front Line Demonstrations :

Sl.No.	Technology Demonstrated	Area (ha.)	No. of Farmers	Crop	Impact [Increase in yield (%)]
Krishi Vigyan Kendra, Jammu					
1.	Improved cultivation practices recommended by SKUAST-J	04	26	Toria	32.0
2.	Application of recommended practices	06	21	G. Sarson	126.0
3	Application of recommended practices	02	19	Til	66.0
4	Introduction of crop management practices in **Gram** in New Area of District Jammu	4.1	16	Gram	81.00
5	Improved cultivation practices of **Mash**	02	19	Mash	66.0
6	Basmati paddy with low plant height and higher yield w.r.t. B370	4.2	15	Paddy	57.00
7	Recommended cultivation practices of **Wheat**	8.2	28	Wheat	45.00
8	Improved cultivation practices recommended by SKUAST-J	4	20	Maize	42.0
9	Recommended cultivation practice by SKUAST-J	0.75	16	Marigold	24

Krishi Vigyan Kendra, Kathua					
1	Production technology	4.0	15	Maize(HQPM-1)	Farmers were satisfied
2	New introduction	1.0	8	Baby corn HM4	Framers were satisfied with production but low market potential
3	Varietal demonstration	1.0	1	Paddy PAU201	Low market rate
4	Varietal demonstration	8.0	15	Paddy PUSA1121	Highly satisfied and more area covered during Kharif 2011
5	Production technology	6.0	15	Wheat DBW17	Satisfied
6	Production technology	5.0	12	Wheat PBW550	Satisfied
7	Varietal demonstration	5.0	14	Black gram	Satisfied
8	Production technology	4.0	13	Sesamum	Satisfied
9	Varietal demonstration	5.0	20	Toria (RSPT-2)	Highly satisfied
10	Varietal demonstration	2.0	8	Toria (T-9)	Highly satisfied
11	Production technology	5.0	23	Gobhi sarson	Highly satisfied
12	Varietal demonstration and IPM	5.0	18	Gram	Performance is Good
13	Production technology	2.0	10	Lentil	Good Performance
14	Breed evaluation /Performance	11units	11	Back yard poultry (Vanraja)	Farmers interested to adopt this new improved desi breed
15	Year round cultivation	5 units	5	Mushroom	Farmers interested to cultivate different types of mushroom round the year

Krishi Vigyan Kendra, Rajouri					
1.	High yielding Varieties and Nutrient management	6.0	32	Maize	29.96%
2.	High yielding Varieties and Nutrient management	4.0	37	Urd bean	35.06
3	High yielding Varieties and Nutrient management	4.0	36	Moong	37.70
4	High yielding Varieties and Nutrient management	3.2	20	Rajmash	17.16
5	High yielding Varieties and Nutrient management	6.0	30	Wheat	31.12and 20.52
6	High yielding Varieties and Nutrient management	10.0	45	Mustard	68.11
7.	High yielding Varieties and Nutrient management	10.0	47	Gobi Sarson	50.00

Krishi Vigyan Kendra, Poonch					
1	Variety Nutrient Mgmt.	04	17	Maize Vivek Hyb.- 9	1
2	Variety Nutrient Mgmt.	01	03	Maize Vivek Hyb. - 25	2
3	Line sowing technology Nutrient Mgmt.	04	15	Maize (ISOPOM) HQPM-1	3
4	Nutrient Mgmt.	05	13	Paddy K-343	4
5	Nutrient Mgmt. Weed Mgmt.	02	06	Wheat HS-490	5
6	Nutrient Mgmt.	01	03	Wheat HS-240	6
7	Nutrient Mgmt.	01	11	Sesamum Pb Til-1	7
8	Nutrient Mgmt.	07	52	Gobhi Sarson Neelam	8
9	Nutrient Mgmt.	07	28	Mustard Pusa Bold	9
10	Nutrient Mgmt.	02	09	Toria RSPT-1	10
11	Integrated Pest Mgmt	01	06	Rajmash Local	11
12	Nutrient Mgmt.	1.5	25	Moong SML-668	12
13	Nutrient Mgmt.	02	26	Mash Uttara	13
14	Nutrient Mgmt.	03	29	Chickpea BG-1106	14
15	Nutrient Mgmt.	04	41	Lentil -4076	15
16	Breed	180 (No.)	18	Chicks Vanaraja	16

Krishi Vigyan Kendra, Doda

1	Recommended practices of Mustard	05	20	Mustard	42.14% yield increases
2	Recommended practices of Gobhi Sarson	02	12	Gobhi Sarson	32.9
3	Recommended practices of Field pea	01	07	Field pea	32.7
4	Recommended practices of Oats	05	21	Oats	38.0
5	Recommended practices of Berseem	02	10	Berseem	31.7
6	Recommended practices of Linseed	01	05	Linseed	New introduction
7	Recommended practices of Mash	03	16	Mash	31.0
8	Recommended practices of Moong	01	07	Moong	38.37
9	Recommended practices of Sunflower	0.2	01	Sunflower	19.14
10	Recommended practices of Maize	01	04	Maize	32.4

11	Recommended practices of Poultry	15 birds/ units	22	Poultry	-
12	Recommended practices of Mustard	08	21	Mustard	42.82
13	Recommended practices of Gobhi Sarson	02	10	Gobhi Sarson	47.88
14	Recommended practices of Oats	05	19	Oats	35.2
15	Recommended practices of Berseem	02	10	Berseem	15.89
Krishi Vigyan Kendra, Reasi					
1.	Promotion of Improved Varieties	2	25	Oats Kent	59.52
2.	Improved varieties & Balanced doses of fertilizers	5	16	Maize HQPM-1	35.71
3.	Improved varieties & Balanced doses of fertilizers	2	9	Til Punjab Til 1	33.00
4.	Improved varieties & Balanced doses of fertilizers	5	39	Mash Uttra	50.00
5.	Improved varieties & Balanced doses of fertilizers	2	5	Paddy PRH-10	66.66
6.	Improved varieties & Balanced doses of fertilizers	1	23	Okra Varsha Upahar	25.00
7.	Improved varieties & Balanced doses of fertilizers	6.5	52	Wheat PBW-527, PBW-373	55.55 38.80
8.	Improved varieties & Balanced doses of fertilizers	2	20	Mustard RSPR-01	30.65
9.	Improved varieties & Balanced doses of fertilizers	6	31	Toria RSPT-1	26.38
10.	Improved varieties & Balanced doses of fertilizers	3	17	Chickpea GNG-469	25.00
11.	Improved varieties & Balanced doses of fertilizers	1	10	Soyabean PK-72	-
12.	Introduction of improved variety of poultry	200 chicks	20	Chandigarh brown egger	-
13.	Cob Sheller	24	24	-	-
14.	Bottle Gourd	0.5	21	CBG-50	33.00
15.	Cucumber	18	0.5		40.00

(d) On farm testing:

Sl. No.	Crop	Technology tested	No. of trials	Result (B:C ratio)	Feedback
Krishi Vigyan Kendra, Jammu					
1.	**Mash**	Weed management in mash. (Mash 1008)	2	3.5	The highest yield was obtained in the treatment Pre-mergence application of pendimethalin @ 1 kg a.i. / ha followed by one hoeing one month after sowing. Trial will be repeated next year also.

2.	**G. Sarson**	Effect of Sulphur on Gobhi Sarson. (var. DGS-1)	3	3.2	Some farmers are ready to apply the same practice.
3	**Maize**	Effect of Zn on Maize (*Zea mays* L.) (var. K- 517)	5	2.4	Farmers appreciated the result very much.
4	**Gram**	Effect of *Rhizobium* on Gram (var. HC-1)	5	3.22	Some farmers are ready to apply the same practice.
5	**Marigold**	Integrated Nutrient Management in Marigold	5	3.9	Farmers very much appreciated the intervention and some farmers of the area are ready to use this technology.
6	**Maize**	Performance of improved maize varieties against local cultivars	3	3.1	Farmers of the area are now interested to cultivate the kanchan-517.
Krishi Vigyan Kendra, Kathua					
1	Paddy (Basmati Pusa 1121)	Nutrient management (N,P,Kand Zn)	04	Recommended N,P,K and Zn application resulted in 12.87 % increase in grain yield of rice over farmers practice with **B:C ratio 2.79**	Farmers were satisfied and ready to adopt this technology
2	Paddy (Jaya)	Evaluation of weedicides	02	Application of Pretilachlor @600ml/ acre applied 4DATfollowed by Metasulfron methyl @30g./acre resulted in 22.10% increase in yield of paddy over farmers practice with **B:C ratio 2.02**	Farmers were satisfied and ready to use this chemical combination for control of broad leaved weeds
3	Paddy (Pusa 1121)	Evaluation of weedicides	02	Application of Pretilachlor @600ml/ acre applied 4DATfollowed by Metasulfron methyl @30g./acre resulted in 23.59% increase in yield of paddy over farmers practice with **B:C ratio 2.88**	Farmers were satisfied and ready to use this chemical combination for control of broad leaved weeds
4	Paddy	Nitrogen management	04	Use of Leaf Colour Chart for urea application results in 7.30%increase in grain yield of rice with **B:C ratio 1.97**	Farmers were satisfied and ready to adopt leaf color chart for nutrient (urea) application in rice for balanced fertilizer application

5	Black gram	Varietal evaluation	04	Use of Mash- 114 resulted in increase in grain yield of Mash to an extent of 112.5 % over farmer practice of growing desi/local mash **B:C ratio 7.51**	Satisfied and ready to use Mash- 114 as replacement to the desi mash
6	Potato	Disease management for late blight of potato	02	Alternate spray of Manozeb @ 0.2% followed by application of Metalaxyl+Mancozeb @ 0.25 resulted in 15.7% increase in yield and disease reduction **B:C ratio 2.43**	Satisfied with the efficacy of tested fungicides
7	Wheat	Varietal evaluation		Use of PBW 550 resulted in increase in grain yield of wheat to an extent of 30.82 % over farmer practice (PBW 343) under timely sown irrigated conditions of Kathua **B:C ratio 3.75**	Farmers ready to adopt the variety PBW 550 of wheat in future as replacement to PBW 343 in timely sown conditions
8	Wheat	Varietal evaluation		Use of PBW 373 resulted in increase in grain yield of wheat to an extent of 17.31 % over farmer practice (Raj 3077) under late sown irrigated conditions of Kathua **B:C ratio 3.32**	Farmers ready to adopt the variety PBW 373 of wheat in future as replacement to Raj 3077 under late sown conditions of Kathua
9	Wheat	Efficacy of insecticides on termite in wheat		Spray of Fipronil @ 4ml / kg seed resulted in 28.44 % increase in yield of wheat **B:C ratio 2.30**	Satisfied with the efficacy of tested insecticide
Krishi Vigyan Kendra, Rajouri					
1	Mustard	Management of White Rust disease of Mustard	01	1.52	Fully satisfied with the technology assessed
2	Wheat	Management of Loose Smut of wheat	01	1.78	Fully satisfied with the technology assessed
3	Wheat	Economic analysis of different method of sowing seed and fertilizer application in wheat crop	01	1.72	Fully satisfied with the technology assessed

4	Wheat	Effect of weed control practices on the yield of wheat crop	01	1.60	Fully satisfied with the technology assessed
5	Maize	Studies on integrated nutrient management and planting geometry in maize in the intermediate zone of Jammu	01	1.70	Fully satisfied with the technology assessed
Krishi Vigyan Kendra, Poonch					
1.	Wheat	i. Farmer Practice (local/mixed seed) ii. PBW – 527 iii. PBW - 343	02	1.02 2.30 2.11	Provision of quality seed
2.	Maize	i. F.P. (Maize KH-612) ii. Vivek Hybrid-25 iii. Maize KH-517	02	2.20 2.55 2.42	Provision of good quality hybrid seed
3.	Maize (Weed mngmt.)	i. Farmer Practice (No weedicide application) ii. Atrazine	02	2.14 2.46	Lack of knowledge regarding application of weedicides and problem of their availability in local market
4.	Tomato	i. Farmer Practice (Improper spacing) ii. Planting on ridges iii. Ridomil MZ (0.25%)	03	2.89 4.02 4.50	Provision of quality fungicides
5.	Chili	i. Farmer Practice (Flat bed + No chemical) ii. Raised bed + Bavistin iii. Raised bed + Dithane M-45	03	2.30 4.21 4.24	Availability of Quality plant protection chemicals in local market
6.	Wild pomegranate	i. Farmer Practice ii. Bagging of Fruits iii. Spraying with Endosulphan (0.07%)	02	- 5.20 4.66	Farmer are ready to adopt the practice of bagging the fruits
7.	Cauliflower	i. Farmer Practice (Snow Ball) ii. Snow Crown iii. Swati	02	2.10 2.62 2.90	Provision of quality seedlings
8.	Knol-khol	i. Farmer Practice ii FYM @ 20 t/ha iii. FYM @ 10 t/ha + ½ NPK iv. Vermicompost @ 10t/ha v. Vermicompost @ 5 t/ha + ½ NPK	02	3.15 4.29 4.36 4.38 4.39	Provision of quality seedlings and Vermicompost

9.	Cabbage	i. Farmer Practice ii.120:60:60 iii. 140:80:60	02	2.30 2.92 2.65	Provision of quality seeds.
10.	Tomato	i. Farmer Practice ii. 60 cm x 45 cm iii. 60 cm x 60 cm	02	2.89 4.11 4.48	Provision of quality seedlings
11.	Plum	Farmer Practice Zinc sulphate (0.5%) Boric acid (0.1%) Multiplex (0.25%)	02	--- 3.61 3.84	Provision of quality plant protection chemicals and availability in market.
12.	Plum in an Agroforestry system	i. Farmer Practice ii. 500g N + 250g P + 1000g K iii. 600g N + 300g P + 1100g K	02	--- 3.65 3.90	Provision of technical knowledge
Krishi Vigyan Kendra, Doda					
1	Animal science	Efficacy of teat dips on quality of milk and water	06	-	Farmers were happy to observe that a slight improvement of management could extend and improve quality of raw milk
2	Pomegranate	Enhancing yield production of Pomegranate in Doda distt.	06	1:2.83	The treatment (micronutrient spray tracel 5g/litre + pruning practice)performed better with av. Yield /plant (24.22kg) and av. Fruit wt. (226g) over the farmers practice.
3	Knol khol	Enhancing yield production of knoll khol In Doda distt.	05	1:4.51	Farmers were highly impressed over the yield (240 q/ha)obtained with improved variety (P-40) over their practices. They desired for the availability of seed of P-40 variety for enhancement of their production.
4	Rajmash	Evaluating productivity of Desi 9Bhaderwahi) and improved varieties of Rajmash under Bhaderwah conditions.	06	1:1.93	Farmers were satisfied with performance of Shalimar-1 (3.1 q/ha yield) with RDF over their traditional variety (206 q/ha) yield) and practices.
5	Maize	Integrated weed management in Maize	06	1:1.87	Farmers were satisfied with chemical + Hand weeding practice (26.5 q/ha) yield) compared to other ones (18.7 q/ha yield)in respect of growth and yield
6	Pea	Control of pod borer in pea	06	1:1.85	The borer population was minimum (0.2 pods borers per plant with treatment of endosulphan @ 2ml/l
7	Cauliflower	Aphid management in cole crops	06	1:3.03	Farmers expressed satisfaction over the technology imparted (255 q/ha) and were enthusiastic over the returns (162 q/ha).

8	Apple	Dehydration of Apple slices	10	-	Farmers highly appreciated use of salt, sugar and KMS as pre treatment as quality of dehydrated apple slices was best when judged on basis of quality parameters.
9	Turnip	Stundardisation and preparation of Turnip pickle	09	-	Use of Gur + vinegar was preferred by most of farmers.
Krishi Vigyan Kendra, Reasi					
1	INM in Marigold var. Pusa Narangi.	T0- (Farmers practice) T1- (FYM + HALF NPK@1:0.8:1q/ha) T2- (FYM + Full NPK @ 2:1.6:2q/ha)	03	T2 treatment is effective in increasing yield of marigold as compared to other treatments	Farmers were satisfied with the performance of T2 (FYM + Full NPK @ 2:1.6:2q/ha) in increasing yield
2	Performance of Punjab Ketki variety of Cauliflower	T0 -(Local Cultivar) T1 - (Punjab Ketki)	02	Results showed that Punjab Ketki recorded maximum Yield (65q/ha)	Farmers were satisfied with the performance of : Punjab Ketki variety of Cauliflower
3	Performance of different Bamboo species.	T1- *Dendrocalamus strictus* T2- *Bambusa vulgaris* T3- *Bambusa balcooa*	01	Survival of D. strictus & B. vulgaris was 100% in comparsion to B. balcooa 80%	Dendrocalamus strictus can be used on farm bunds for soil conservation purpose, as it has good survival rate and wide uses.
4	Management of fruit drops in Manadarin.	T0-Control T1-full dose of NPK T2-full NPK & 2,4-D	02	Full dose of NPK & 3 sprays of 2,4-D in mid April, mid August and mid September resulted in reducing the fruit drop in manadarin	Farmers were satisfied with the control of drop in mandarin.
5	Diarrohea management in children in the age group 6months to 2 years	-	30 rural children selected from 3 different villages	Consumption of normal healthy/ hygienic food alongwith mothers feed helps the infants to recover attack both in anti-infective and dehydration and prevents infection	Women participated and convinced
6	Management of pod borer in chick pea	i.Control ii. Endosulfan (0.2%) iii. Cypermethrin (0.1%)	02	Cypermetharin was found more effective than Endosulphan	Interested to use chemicals to control Pod borer
7	Efficacy of chemicals in termite control	T0-Farmer practice T1-Endosulfan@ 2.5l/ha T2-Chlorpyriphos@ 4.5l/ha	03	Chlorpyriphos is more effective in controlling terimites followed by Endosulpan	Farmers were satisfied with the result of chlorpyriphos
8	Management of yellow rust in wheat	T0-Farmer practice T1-2 spray of Mancozeb (0.2%) T2-2 spray of Propiconazole (0.1%)	3	Application of Propiconazole 0.1% at fortnightly interval o disease appearance was effective in controlling yellow rust in wheat	Farmers were satisfied with the result of propiconazole

9	Effect of chemical fertilizers and manure on growth of Oats	T0-Farmer practice T1-NPK T2-Organic manure	2	The use of recommended dose of NPK showed maximum growth in comparison to organic manure.	Farmers were satisfied & ready to adopt the scientific recommendations.
10	Introduction of age specific supplementary feeding in children from 4-12 months	-	2	Timely introduction of need based supplementary and age specific feeding of child leads to avoiding undernourishment, infection, illness and malnutrition	Children showed improvement with the diet supplements.

e) Farm Advisory Services :

i) Krishi Vigyan Kendra, Jammu

Seed Production at KVK farm(Qtl.)

Crop	Variety	Target	Achievement
Wheat	PBW-550	100 Qtls	Nearly 120 Qts
Berseem	Vardan	1.0 Qtls	Still to harvest

Diagnostic visit to farmers field- 13

Scientific visit to farmers field - 43

ii) Krishi Vigyan Kendra, Kathua

1. Rust management in wheat
2. Year round cultivation of mushroom
3. Resource Conservation technology
4. Disease management in Animals
5. Seed treatment
6. Soil testing
7. New varieties of vegetables
8. Value addition of locally available fruits and vegetables

iii) Krishi Vigyan Kendra, Poonch

- T&V: 10
- Combined Workshops: 02
- Diagnostic Visits: 23

iv) Krishi Vigyan Kendra, Reasi

KVK Reasi is regularly visiting farmers fields and is helping the farmers in solving their problems. Local farmers also visit KVK for their queries. The subject matter specialists remain in contact with the farmers over the telephone and very often they are advised through this medium.

f) Awareness-cum-clinical camps:

S. No.	No. of camps organized	Total no. of case attended
Krishi Vigyan Kendra, Jammu = Nil		
Krishi Vigyan Kendra, Kathua		
1.	2 (Veterinary)	145
Krishi Vigyan Kendra, Rajouri		
	Veterniary Clinical Camp - two	159
Krishi Vigyan Kendra, Poonch		
1.	Agriculture: 04	30
2.	Veterinary: 01	04
Krishi Vigyan Kendra, Doda		
1	Animal health camp (02)	543
Krishi Vigyan Kendra, Reasi		
1.	Awareness camp = 02	46

(iv) Consultancy services provided:

S. No.	Type of Consultancy	Place/organization
Krishi Vigyan Kendra, Jammu = Nil		
Krishi Vigyan Kendra, Kathua		
1.	Diagnostic visit	Hiranagar, Dayalwand, Ohrecamp, Nanwachack, Marheen, Sherpur,Chanjyal,Sahar Logate, Dadwara (Deptt. of Agriculture and Department of Horticulture)
2.	Field visit	Saida, Badholi, Nagri Chainpura, Sultanpur,Maichack, Rajbagh, Mearth,Pathwal, Sunjwan, Haripur saini, Veeru chack, Sultanpur
3.	Formation of Farmer's Club	Dolian Jattan, Rajbagh Mearth,(NABARD and Deptt. of Co-operatives)
Krishi Vigyan Kendra, Rajouri		
1.	Guidance to Nehru Yuva Kendra trainees	KVK, Rajouri (NYK Jamola)
2.	Guidance of Army Sadbhavan trainees	Field veterinary Hospital , Rajouri
3.	Preparation of SREP for district	ATMA. Deptt. Of Agri. Rajouri
Krishi Vigyan Kendra, Poonch		
	ATMA	Chief Agriculture Office, Poonch
Krishi Vigyan Kendra, Doda		
1.	Technical guidance	Deptt. Of floriculture
2.	Assistance in training programmes	-do-
Krishi Vigyan Kendra, Reasi		
1.	Preparation of Strategic Research and Extension Plan (SREP) of Reasi district under ATMA scheme	Chief Agriculture Officer, Reasi
2.	Attended programmes with NABARD	Jammu
3.	Provided resource persons for training rural youth under RSETI.	RSETI, Udhampur
4.	Acted as resource persons for programmes under HTMM-1.	CHO, Udhampur.

Farmers educative events:

Krishi Vigyan Kendra, Jammu

Type of extension Approaches	No. organized	No. of Farmers Participated
Field Day	02	117
Kisan Ghostis	02	117
Film Show	13	195
Group Meetings	06	125
Ex trainees Sammelan	02	65
Exposure Visit	02	40
Self Help Group Conveners meetings	06	125
Radio Talk	2	-
T.V. Talk	1	-

Krishi Vigyan Kendra, Kathua

Type of Extension Approaches	No. organized	No. of Farmers Participated
Field Days	2	114
Mushroom Days	1	58
Kisan Ghosthi	2	77
Film show	3	45
Group meetings	1	48
Technology week	1	210
Exhibition	6	700

Krishi Vigyan Kendra, Rajouri

Type of Extension Approaches	**No. organized**	**No. of Farmers Participated**
Farmer training	29	639
Vocational training	07	156
Field days	04	81
Kissan Gosthi	02	76
Farmer seminar	02	143
Exposure visit	01	176
Farmer Scientist interaction	01	20
Farmer days	01	228

Krishi Vigyan Kendra, Poonch

Type of Extension Approaches	**No. Organized**	**No. of farmers participated**
Field Days	06	76
Kissan Mela	05	-
Radio Talks	28	-

Krishi Vigyan Kendra, Doda

S.No.	**No. Of camps organized**	**Total no. Of case attended**
1	Campaigns	03
2	Important Days (Apple Day, WWD, Vanmahotsava, WED)	04
3	Field days	11
4	Kisan Gosthi	01

Krishi Vigyan Kendra, Reasi

Type of extension approaches	No organized	No of farmers participated
Technology week celebrated at KVK campus.	1	250
Field Days	07	215

5 INFRASTRUCTURE DEVELOPMENT

5.1 Inaugural Ceremonies

Administrative Building, Farmer's/Training Hostel & Residential Quarters at KVK Poonch

Administrative Building, Farmer's/Training Hostel & Residential Quarters of Krishi Vigyan Kendra, Poonch was inaugurated by His Excellency Shri N.N.Vohra, The Governor, Jammu & Kashmir and Chancellor of this University on 15-03-2011 in the presence of Dr. B. Mishra, Hon'ble Vice-Chancellor and other dignitaries.

Inauguration of Farmer's/Training Hostel & Residential Quarters of KVK, Poonch by His Excellency Shri N.N. Vohra, Governor of J&K

Administrative Building, Farmer's/Training Hostel & Residential Quarters at KVK Rajouri.

Administrative Building, Farmer's/Training Hostel, Residential Quarters & Demonstration Unit of KVK Rajouri was inaugurated by Dr. B. Mishra, Hon'ble Vice-Chancellor, SKUAST-J on 16-03-2011 in the presence of Scientists of the University and other dignitaries.

Inauguration of Administrative Building at KVK Rajouri by Dr. B. Mishra Hon'ble Vice-Chancellor

Inauguration of Residential Quarters at KVK Rajouri by Dr. B. Mishra Hon'ble Vice-Chancellor

Administrative Building, KVK Reasi

Administrative Building, KVK Reasi was inaugurated by Dr. S. Ayyappan, Hon'ble Secretary DARE & Director General ICAR, New Delhi on 18-04-2010 in the presence of Dr. B. Mishra, Hon'ble Vice-Chancellor and other dignitaries

Inauguration of Girls Hostel by Dr. S. Ayyappan, Hon'ble DG, ICAR

Technology Display Hall

Technology Display Hall at Administrative Building Main Campus Chatha was inaugurated by Dr. S. Ayyappan, Hon'ble Secretary DARE & Director General ICAR, New Delhi on 17-04-2010 in the presence of Hon'ble Vice-Chancellor and other dignitaries.

Technology Display Hall inaugurated by Dr. S. Ayyappan, Hon'ble DG, ICAR

Computer Laboratory

Computer Laboratory at Faculty of Agriculture, Chatha was inaugurated by Dr. S. Ayyappan, Hon'ble Secretary DARE & Director General ICAR, New Delhi on 17-04-2010 in presence of Hon'ble Vice-Chancellor and other dignitaries.

Inauguration of computer Laboratory by Dr. S. Ayyappan Hon'ble DG, ICAR

Girls Hostel at Main Campus, Chatha

Foundation stone of Girls' Hostel at Main Campus Chatha was laid by Dr. S. Ayyappan, Hon'ble Secretary DARE & Director General ICAR, New Delhi on 17-04-2010 in presence of Hon'ble Vice-Chancellor and other dignitaries.

Foundation stone of Girls' Hostel at Chatha inaugurated by Dr. S. Ayyappan, Hon'ble DG, ICAR

Hon'ble DG being apprised about the site layout of Girls' Hostel at Chatha

Integrated Farming System Research Model

The 1.5 hectare IFS Resarch Model at Chatha was inaugurated by His Excellency Sh. N.N. Vohra, The Governor of J&K on 25-03-2011 in presence of Dr. B. Mishra Hon'ble Vice-Chancellor SKUAST-Jammu. The model is aimed to target the small and marginal farmers for improving the productivity and increasing the livelihood of the farmers

Inauguration of IFS Model at Chatha by His Excellency Sh. N.N. Vohra, the Governor of J&K

5.2 Works completed during 2010-11

S.No	Name of the Project
1	Krishi Vigyan Kendra, Poonch
2	Administrative Building, KVK Rajouri
3	Implements /parking shed of size 258'x25'x15' at Main Campus, Chatha,Jammu Jammu.

5.3 Works in progress during 2010-11

S.No	Name of Project	Amount (in lacs)
1	Construction of Implements /parking shed at Main Campus Chatha, Jammu. (Size 258' x 25' x 150') (Group II)	24.22
2	Construction of Seed Storage Godowns with partition in Agriculture Farm at Main Campus Chatha. (90'x30'x16') (02 Units)	55.86
3	Construction of Stores for Agricultural Produce in Agriculture Farm at Main Campus Chatha (35'x25'x16') (02 Units)	18.52
4	Construction of Workshop / Implements Shed at Main Campus Chatha (126'x41'x14') (01 Unit)	66.70
5	i. Construction of Drying Cum Storage shed of (90'x 30'x16') along with open thrashing platform (150'x50') (01 unit)	
	ii. Construction of Open Threshing Plate Farms (70'x 40') at Agricultural Farm, Main Campus Chatha. (02 units)	55.20
6	Construction of Girls Hostel Building (single storey) including associated sanitary and electrification works at Main Campus Chatha, Distt. Jammu	120.40
7	Installation of Shallow Tube wells (10 No) at Main Campus Chatha	04.03
8	Providing and fixing of Chain Link Fencing to Agriculture Research Farm at Main Campus chahta	38.27
9	Construction of Tubewell room and sump tank at Seed Production Farm, Chakroi, R.S.Pura	02.48
10	Providing Chain Link (Fabrics) Fencing around LPM division at FVSc & AH, Campus R.S.Pura	06.37
11	Construction of Tubewell Room, Chowkidar room and balance work of Mali hut at Agriculture Research Farm, Main Campus chatha	07.08
12	Construction of Pucca Irrigation Channel at Sartangal, Bhaderwah	02.31

5.4 Works proposed during 2011-12

Projects to be taken up during 2011-12 under Prime Minister Reconstruction Programme-II.

S. No.	Name of the Works/Services	Storeyed	Appox. Covered Area (in Sqm)
1	Directorate of Extension Education	(G+1)	436
2	Estates Division	(G+1)	509
3	Lecture Theatre 04 Nos.	(G+1)	859
4	Vice-Chancellor's residence (Duplex) 01 set	(G+1)	463
5	Residence for		
	Directors or Equivalent (Duplex) 01 set	(G+1)	250
	Professors/Assoc. Professors 10 sets	(G+2)	1823
	Assistant professors 10 sets	(G+2)	1460
	Non-Teaching staff (A.R/A.C or Equivalent) 08 sets	(G+2)	960
	Non-Teaching Staff (IV class) 06 sets	(G+2)	318
6	International Guest House	(G+1)	950
7	Examination Hall Complex	(G+1)	1310
8	Health Centre	(GF)	555
9	Drainage, Cross Drainage, Road Networking, Drinking Water Facilities, Over Head Tank alongwith water supply Distribution		
10	NRI Hostel	(G+1)	
11	Teachers Home	(G+1)	
12	Girls Hostel	1st & 2nd	922
13	Post Office & Shopping Complex	(G+1)	
14	Sewerage System		
15	Footpath, Central Verge and Storm Water Disposal System		
16	Extension of Spine/linking corridor and Refreshment Centre	(GF)	
17	Chain Link Fencing/Compound Wall including Gates for the remaining periphery of Research Farm		
18	Premixing and WBM in Roads of Residential Complex		

Projects to be taken up during 2011-12 under Normal State Plan

S No	Name of work	Cost (in lacs)
	Main Campus Chatha	
1	**Chain Link Fencing**	
a	Chain link fencing with Angle Iron vertical post and horizontal members, as per design length = 3150 RM @ 5312 / Rm	167.32
b	Providing internal Steel Gates with pillars 8 No. @ Rs 1.10 lacs / Each	8.80
c	Construction of Guard rooms at different locations of Research Farm for Watch and Ward Purpose 08 No. @ Rs 2.60 lacs each	20.80
d	Brick Masonry wall Length = 425 Rm @ Rs 4350 / RM	18.48
2	**Irrigation Facility**	
a	Irrigation Facilities at Research Farm, Main Campus Chatha (tubewells and channelization of water) Providing Deep drilling, Development and stabilizing of Percussion (Irrigation) tubewells at different locations alongwith commissioning of VT Pump set, installation of 63 KVA voltage stabilizer and allied external electrification works by way of providing / fixing 100 KVA transformer & L.T line distribution system alongwith pumproom / chowkidar quarter Deep Tube well 03 No. @ Rs 48.30 lacs each	144.90
b	Irrigation Channels	79.30
c	Irrigation Facilities by way of installation of shallow tubewells and sump tank including motor room with locking arrangement at different locations of SKUAST-Jammu. 10 No. @ Rs 1.16 lac each	11.60
3	**Construction of Internal Service Roads by way of river bed material (RBM) filling in embankments with suitable height depending upon the site condition and topography of the area. alongwith periphery including approaches to Box type culvert** **6.8 Km @ Rs 19.24 lacs/ Km**	**130.83**
	Total	**582.03**

6 AWARDS AND RECOGNITIONS

Name of the Teacher/ Scientist	Name of Award/ Distinction/Recognition	Awarding Institution/organization
Dr. Vikas Sharma (Biochemistry)	Fellow Award-2010	Society for Applied Biotechnology (FSAB), Tamil Naidu India
Dr. Keshab Barman, Dr. R K Sharma and Dr. R Kumar (Animal Nutrition)	Best oral presentation award	Animal Nutrition Association, India
Dr. Arvind Kumar	Young Scientist Award	9th All India Conference of APHV held at Patna Veterinary College
Dr. R. K. Gupta (Vegetables)	Elevated as President of SPR	Society for Plant Research, Merrut.
Dr. DeepJi Bhat (Vegetables)	Outstanding Professional Award	Indian Society for Hill Agriculture, GBPUAT-Ranichauri,UK
Dr S. K. Kotwal & Dr. M.Rashid (Veterinary Public Health)	Best Poster Presentation Award	9th All India Conference of Association of Public Health Veterinarians & National Symposium on challenges and Strategies for Veterinary Public Health in India, organized by Department of Veterinary Public Health Bihar Veterinary College, Patna, (BAU),.
Dr. Nafees Ahmad (Agri. Ext. Edu.)	Best Paper Award	Society of Extension Education, Tamil Nadu Agricultural University, Coimbatore
Dr. S. B. Singh (Plant Breeding & Genetics)	HTHS Gold Medal 2010"	High Tech Horticultural Society, Modipuram, (Meerut)
Dr. D. P. Abrol (Entomology)	International award	10th Asian Apicultural Association conference & Api Expo held at Busan South Korea
Dr. H.R. Bhardwaj (Veterinary Surgery & Radiology)	A K Bhargawa Memorial Award and Appreciation Certificate for best paper publication	Indian society for veterinary surgery) (ISVS)

7. ORGANIZATION OF NATIONAL/INTERNATIONAL SEMINARS/SYMPOSIA/ CONFERENCE/ SHORT COURSES/TRAININGS/WORKSHOPS/ SUMMER AND WINTER SCHOOLS

S.No	Organizer	Nature of Programme/ Sponsoring Institute	Title of the Programme / event	Date and Venue	No. of participants
1	Division of Biochemistry & Plant Physiology	HTMM-1 (ICAR)	Factors attecting quality and Characterization of Olive oil for the Officers of the Department of Horticulture	Oct. 27-28, 2010 FOA, Chatha	9
2	Division of Plant Pathology	Certificate course, SKUAST-J	Spawn Production and Mushroom cultivation	Sep. 20 – 19, Dec. 2010 FOA, Chatha	4
3	Division of Plant Pathology	HTMM-1 (ICAR)	Mass production & application of biocontrol agents for sustainable agriculture	Oct. 26-28, 2010 FOA, Chatha	10
4	Division of Plant Pathology	NAIP Project (ICAR)	Application of microbes in agriculture	Mar. 11-16, 2011 FOA, Chatha	20
5	AICRP-WC (Volunteer Centre) Division of Agronomy, .	National Level Yearly Awareness Programme (ICAR)	Parthenium Awareness Week	Aug. 07–13, 2010 FOA, Chatha	1000
6	Division of Animal Nutrition	SMETI	Techniques for improving nutritive value and utilization of locally available roughages	Nov. 29-03 Dec. 2010 FVSc & AH, R S Pura	11
7	Division of Animal Reproduction, Gynaecology and Obstetrics,	VIII Annual Congress of ISACP and National Symposium	"Prevention and Management of Companion Animal Diseases vis-à-vis Human Health"	Feb. 2-4, 2011 Hotel Asia Jammu	250
8	Division of Animal Reproduction, Gynaecology and Obstetrics,	SKUAST-J	Reproductive management and animal husbandry practices in dairy animals	Feb. 15-17, 2011 F.V.Sc. & A.H., R.S. Pura	30
9	Division of Veterinary Parasitology,	DBT- New Delhi	Empowerment of Rural Women Through Backyard Poultry Farming in Jammu Region	1. Sept. 29, 2010, & Oct. 6, 2010,2 Sept. 29, 2010, & Oct. 6, 2010, 3. Nov. 25, 2010, & Nov. 29, 2010 4. Nov. 25, 2010, & Nov. 29, 2010 5. Jan. 20, 2011, & Jan. 21, 2011 6. Mar. 9, 2011, & Mar. 10, 2011, 7.Mar. 28, 2011, & Mar. 29,2011, 8. Mar. 28, 2011, & Mar. 29,2011, F.V.Sc. &A.H., R.S. Pura	20 in each training

10	Division of Livestock Products Technology	DST New Delhi	Quality evaluation of milk and development of value added milk products	May. 12, 2011 F.V.Sc. &A.H., R.S. Pura	18
11	Division of Post Harvest Technology	HTMM-1 (ICAR)	Processing of Wild Apricot	May. 26, 2010 Sudhmahadev.	34
12	Division of Post Harvest Technology	HTMM-1 (ICAR)	Processing of Desi Mango	June 24, 2010 Kathua	19
13	Division of Post Harvest Technology	HTMM-1 (ICAR)	Value addition of Apple	Oct. 06, 2010 Chenani	92
14	Division of Post Harvest Technology	HTMM-1 (ICAR)	Value addition of Tomatoes & Kinnow	Dec. 23, 2010 Ramnagar	85
15	Division of Post Harvest Technology	HTMM-1 (ICAR)	Value addition of Aonla	Dec 28, 2010 Kathua	33
16	Division of Post Harvest Technology	HTMM-1 (ICAR)	Value addition of Barley	Feb. 17, 2011 Udheywalla	10
17	Division of Post Harvest Technology	HTMM-1 (ICAR)	Processing of Kinnow	Mar. 14, 2011 Udheywalla	26
18	Division of Post Harvest Technology	HTMM-1 (ICAR)	Processing and preservation of Lime	Mar. 28, 2011 Jinder melu	79
19	Division of Post Harvest Technology	HTMM-1 (ICAR)	Preparation of Mixed Vegetable Pickle	Mar. 29, 2011 Jinder melu	65
20	Fruit Science Section	SKUAST-J	Certificate course on "Propagation and Nursery management of Fruit Crops"	Sep. 22, 2010 Dec. 21, 2010 FOA, Chatha	16
21	Fruit Science Section	SKUAST-J	Development of Horticulture in Rainfed/kandi areas i.e Rainfed Fruit Culture	July 19-21, 2010 FOA, Chatha	21
22	Fruit Science Section	SKUAST-J	Production of quality planting material in sub-tropical areas with special reference to poly-bag raised plants	Sept. 21-23, 2010 FOA, Chatha	20
23	Fruit Science Section	HTMM-1 (ICAR)	Rejuvenation of old mango orchards	Jan. 18, 2011 Dhayala Chak	58
24	Fruit Science Section	HTMM-1 (ICAR)	Protective measures for rejuvenating old mango orchards	Feb. 24, 2011 Dhayala Chak	47

25	Fruit Science Section	HTMM-1 (ICAR)	Fertilization of rejuvenating old mango orchards	Jan. 9, 2011 Flora, Marh	31
26	Fruit Science Section	HTMM-1 (ICAR)	Cultural practices for rejuvenating old mango orchards	Feb. 25, 2011 Flora, Marh	42
27	Fruit Science Section	HTMM-1 (ICAR)	Nursery management	Mar. 18, 2011 FOA, Chatha	30
28	Fruit Science Section	HTMM-1 (ICAR)	Production of quality planting material of sub-tropical fruits	Mar. 28, 2011 Reasi	50
29	Fruit Science Section	HTMM-1 (ICAR)	Propagation and nursery management of fruit crops	Mar. 30, 2011 Udhampur	30
30	Division of Agricultural Engineering	SKUAST-J	Demonstration of Laser Leveler	Sept. 28, 2010 FOA, Chatha	25
31	Division of Agricultural Engineering	SKUAST-J	Calibration of seed-cum-fertilizer drill	Sept. 29, 2010 FOA, Chatha	33
32	Division of Agricultural Engineering	SKUAST-J	Power tiller with attachments and demonstration of tractor drawn rotavator (rotary tiller)	Sept. 30, 2010 FOA, Chatha	35
33	Division of Agroforestry	NMP Board	Farmer's Training Programme on Medicinal Plants	Mar. 18, 2011 Reasi	70
34	Division of Agroforestry	HTMM-1 (ICAR)	Cultivation of Kalazeera	Mar. 17-19, 2011 FOA, Chatha	85
35	Division of Sericulture	State Sericulture Development Department	Training & Pruning of Mulberry	Aug. 17, 2010 Udheywalla	4
36	Division of Sericulture	State Sericulture Development Department	Diseases of silkworm and their management	Sep. 20, 2010, & Sep. 21, 2010, Udheywalla	5
37	Division of Sericulture	State Sericulture Development Department	Late age rearing, ripening of silkworm, seriposition, harvesting and storage of cocoons.	Oct. 27, 2010, to Sep. 09, 2010 Udheywalla	5
38	Division of Sericulture	State Sericulture Development Department	Role of silkworm seed production technology in sericulture.	Oct. 04, 2010, &Oct. 05, 2010 Udheywalla	5
39	Division of Sericulture	State Sericulture Development Department	Management of diseases and insect pest of mulberry	Oct. 12, 2010 Udheywalla	4

40	Division of Entomology	DBT, New Delhi	'Morphometry and phylogeography of stingless and honeybees of India'	Sept. 2- 4, 2010 FOA, Chatha	30
41	Division of Livestock Production and Management	SKUAST-J	Fish Production and Management	Jan. 1- Mar. 31, 2011 FVSc & AH, R S Pura	08
42	AICRP Maize, Udhampur	SKUAST-J	Integrated Weed Management	Jan. 20, 2011 Udhampur	20

Training of Rural Women

Participants of various trainings interacting with scientists of the Division.

Farmer's Training Programme on Medicinal Plants at Village Pabbar, Reasi

8. PARTICIPATION OF SCIENTISTS IN NATIONAL/ INTERNATIONAL SEMINARS/ SYMPOSIA/ CONFERENCES/ SHORT COURSES/ TRAINING/ WORKSHOPS /SUMMER AND WINTER SCHOOLS HELD AT ORGANIZATIONS OTHER THAN SKUAST-J

S.No.	Name & Designation of participants	Organizing/ Sponsoring Institute	Name of event	Date and Venue
1	Dr. Sanjay Guleria, Associate Professor (Biochemistry)	M. L. Sukhadia University, Udaipur	International Conference on Folk and Herbal Medicine	Nov. 25-27, 2010 Udaipur
		Bharti Women's College, Chennai Society for Free Radical Research, India Molecular Cardiology and Angiogenesis Laboratory, University of Connecticut, USA	International Conference on Recent Trends in Therapeutic Advancement of Free Radical Science	Jan. 9-11, 2011 Chennai
2	Dr. Moni Gupta, Assistant Professor (Biochemistry)	NRCPB, IARI	21days winter school on Molecular Techniques in Gene Isolation and characterization	Nov. 8- 30 , 2010 New Delhi
3	Mr.Gurdev Chand Assistant Professor (Biochemistry)	Division of Biochemistry, IARI, New Delhi	21days winter school on Advanced Techniques in Plant Biochemistry and Molecular biology.	Feb. 18 to Mar.10, 2011 New Delhi
4	Dr. Vikas Sharma, Assistant Professor (Biochemistry)	CSK Himachal Pradesh Krishi Vishwavidyalaya, Palampur	21 days ICAR sponsored Summer School on "Protected Cultivation for Enhanced Profitability"	Sep. 3-23, 2010 Palampur
		UGC Academic Staff College, University of Jammu, Jammu.	3 days UGC sponsored Short Term Course on "Research Supervision for Assistant Professors"	Mar. 10 -12, 2011 Jammu.
		Lal Bahadur Shastri National Academy of Administration, Mussorie	12 days DST sponsored training on "Science & Technology for Rural Societies"	Dec. 6-17, 2010 Mussorie
		DST, DBT, ICMR, CSIR, Shri Mata Vaishno Devi University.	International Conference on Mitochondrial Research and Medicine.	Nov. 12-13, 2010 Jammu
		University of Jammu,	National Symposium on Microbial Diversity & Bioprospecting	Oct. 29-30, 2010 Jammu.
5	Dr. V.K. Razdan, Professor (Plant Pathology)	CARI, Port Blair	9th National symposium of the society of Plant Protection Science	Feb. 17-19, 2011 Port blair
		University of Jammu	National symposium on "Microbial diversity and Bio-prospecting"	Oct. 29-30, 2010 Jammu
		NAARM, IIM Lucknow	Leadership in Agriculture Innovations	Jan 10-14, 2010 Lucknow

6	Dr. V.S. Verma, Professor (Plant Pathology)	University of Jammu	National symposium on "Microbial diversity and Bio-prospecting"	Oct. 29-30, 2010 Jammu
		Central Research Institute for Dryland Agriculture, Hyderabad	Workshop on "Climate resilient agriculture"	July. 1-3, 2010 Hyderabad
7	Dr. Sachin Gupta, Assistant Professor (Plant Pathology)	University of Jammu	National symposium on "Microbial diversity and Bio-prospecting"	Oct. 29-30, 2010 Jammu
		SRM University, Chennai	98th Indian Science Congress	Jan. 3- 7, 2011 Chennai
8	Dr. Vishal Gupta, Assistant Professor (Plant Pathology)	University of Jammu	National symposium on "Microbial diversity and Bio-prospecting"	Oct. 29-30, 2010 Jammu
		IARI, New Delhi	Winter school on "Pathogenomics and diagnostic – Cloning and Sequencing of plant pathogens and development of specific diagnostics"	Dec. 1-10, 2010 New Delhi
		National Institute of Rural Development, Hyderabad	Workshop on "MDP on PME of Agricultural Research and Development projects"	Sept. 06-10, 2010 Hyderabad
9	Dr. Sanjay Swami, Assistant Professor (Soil Science)	Punjab Agricultural University, Ludhiana	Training Course on Advances in Analysis of Soil, Plant and Irrigation Water	Jan. 04-24, 2011 Ludhiana
		Central Soil Salinity Research Institute, Karnal, Haryana	National Level Training Course on Water and Soil Management for Sustainable Agriculture Production in Canal Commands	Mar. 7-12, 2011 Karnal
10	Dr. A.P. Rai, Assistant Professor (Soil Science)	IISS, Bhopal	Carbon stabilization, saturation and sequestration evolving concepts, mechanisms and approaches.	Nov. 23 To Dec. 2, 2010 Bhopal
11	Dr. Vikas Sharma Assistant Professor (Soil Science)	Soil Conservation Society of India and Soil and Water Conservation Department, Meghalaya	Watershed management on sloping lands for environment and livelihood security	Nov.11-13, 2010 Shillong
12	Dr. Sanjeev Kumar, Assistant Professor (Vegetables)	CSKHPKV, Palampur, H. P.	ICAR, Sponsored Summer School 21 days entitled "Protected cultivation for enhanced profitability"	Sep. 3– 23, 2010 Palampur

13	Dr.R.K.Gupta, Professor (Vegetables)	Indian Society of Horticultural Science New Delhi	4th Indian Horticulture Science Congress,	Oct. 18-21, 2010 New Delhi
		Agriculture Today NAAS Complex, New Delhi	3rd Agriculture Leadership Summit & Awards	Oct. 2010 New Delhi
		Crop Improvement Society of India PAU, Ludhiana	International Conference on "Preparing Agriculture for Climate Change"	Feb. 6 -8, 2011 Ludhiana
14	Dr. Rajinder Peshin, Associate Professor (Agri. Extension Education)	International Food Policy Research Institute (IFRI) Washington and IGNOU Agartala	International Conference on Agricultural Education and Knowledge Management	Aug. 24-26, 2010 Agartala
15	Dr. Nafees Ahmad, Assistant Professor (Agri. Extension Education)	Institute of Agricultural Sciences, BHU, Varanasi	21 days winter school on "ICT mediated Extension – Basic to Advances"	Dec. 15, 2010 to Jan. 5, 2011 Varanasi
		Society Of Extension Education, Tamil Nadu Agriculture University, Coimbatore	National seminar on "Extension Management Reform – Initiatives and Impacts	Dec.11-12, 2010 Coimbatore
		BHU, Varanasi	International conference on 'Managing Sustainable Development of Rural Economy and Agri Business'	Jan. 21-23, 2011 Varanasi
16	Dr. P.S.Slathia, Assistant Professor (Agri. Extension Education)	Asian Productivity Organization Colombo, Sri-lanka	Training programme on Planning & Management of Community based Rural Tourism and Agro-Tourism enterprises	Aug.10-17, 2010 Sri-lanka
17	Dr. Poonam Parihar Assistant Professor (Agri. Extension Education)	Asian Productivity Organization Medan, Indonesia	Workshop on approaches and tools for improving the performance of Agri-business SMEs	Oct. 4-8, 2010 Indonesia
18	Dr. Raj Kumari Kaul, Professor (Post Harvest Technology)	Sant Longowal Institute of Engineering and Technology	New horizons in bio-processing of foods	Feb. 25-26, 2011 Longowal
19	Dr.Anju Bhat, Associate Professor (Post Harvest Technology)	Sant Longowal Institute of Engineering and Technology	New horizons in bio-processing of foods	Feb. 25-26, 2011 Longowal
20	Dr. S.B. Singh, Sr. Scientist (Plant Breeding & Genetics)	SVBP, Univ.of Agril. Sciences Modhipuram, Meerut	National Symposium on Emerging trends in Agricultural Research	Oct.11-12, 2010 Meerut
21	Dr. Anshuman Kohli, Jr. Scientist (Soil Science)	Soil Conservation society of India	National Conference on Watershed Management of Sloping Lands For Enviroment And Livelihood Security	Nov. 11 – 13, 2010 Shillong
22	Sh.Anil Bhushan Jr. Scientist (Vegetables)	ICAR, New Delhi	Summer School on Protected cultivation for enhanced profitability	Sept. 3-23, 2010 Palampur

23	Dr. Ashok Kr.Singh Jr. Scientist (Plant Pathology)	Indian phytopathological society IARI, New Delhi	National Conference on Unraveling multiple facts of biological control in National Purview: trends, Challenges and societal Implications	Oct. 26 – 27, 2010 Varanasi
24	Dr. Anjani Kr. Singh, Jr. Scientist (Plant Breeding & Genetics)	Directorate of Wheat Research (ICAR)	49th AICRP Wheat and Barley workers research meet	Aug. 27 -30, 2010 PAU, Ludhiana
		Directorate of Wheat Research (ICAR)	Short Term Training course on Wheat Improvement and Conduct of Coordinated Trials under AICW & BIP	Mar. 23 -29, 2011 Karnal
25	Dr. Susheel Sharma, Associate Professor (Vegetablels)	Soil Conservation society of India	National Conference on Watershed Management of Sloping Lands For Enviroment And Livelihood Security	Nov. 11 – 13, 2010 Shillong
		CAFT (Vegetables) Nauni H.P	Advanced training on Production and seed production of temperate vegetables	Mar. 8 -28 , 2011 H.P
26	Dr. Sudhakar Dwivedi Assistant Professor (Agriculture Economics & Statistics)	IIM, Lucknow	National Conference on "Managing Agri-food Supply Chain"	April 9-11, 2010 Lucknow
		SKUAST-K, Srinagar Under NAIP	Mid-term review workshop and 3rd meeting of Consortium Advisory Committee (CAC) NAIP – III Component	May 3-5, 2010 Srinagar
		NDRI, Karnal ICAR	Winter School on "Dairy Entrepreneurship Development for Economic and Social Change"	Nov. 10-30, 2010 Karnal.
		Society for Plant Research at CCS University, Meerut	National Conference on Traditional Conservation of Plant Biodiversity and Energy Resources vis-à-vis Biotechnological Tools for Sustainability (NCBEB)	Dec. 25-26, 2010 Meerut
		Banaras Hindu University, Varanasi	**International Conference** on managing Sustainable Development of Rural Economy and Agribusiness	Jan. 21-23, 2011 Varanasi

27	Dr. Manish Kr. Sharma, Associate Professor (Agriculture Economics & Statistics)	NDRI, Karnal under NAIP	Training on "A comprehensive overview-SAS"	Aug. 2-8, 2010 Karnal.
		IASRI, New Delhi under NAIP	Training on "Data analysis through SAS"	Oct. 9-15, 2010 New Delhi.
		University of Jammu	International Conference on development and applications of statistics in emerging area of science & technology along with XXXth annual Convention of ISPS	Dec. 8-10, 2010 Jammu.
		IASRI, New Delhi	Workshop on "Sensitization cum Training Workshop for the Nodal Officers of NISAGENET"	Dec. 27-28, 2010 New Delhi
28	Dr. S. E. H. Rizvi, Professor (Agriculture Economics & Statistics)	I.A.S.R.I , New Delhi	XVI National Conference of Agril. Research Statisticians of ICAR institutes, Project Directorates and Agricultural Universities	Dec. 23-24, 2010 New Delhi
29	Dr S. P. Singh Assistant Professor	Banaras Hindu University, Varanasi	**International Conference** on managing Sustainable Development of Rural Economy and Agribusiness	Jan. 21-23, 2011 Varanasi
30	Dr. J. P. Singh, Jr. Scientist (Agri. Engineering)	CRIDA, Hyderabad, Andhra Pradesh	13th Working Group Meeting of AICRPDA,	Nov. 24-27, 2010 Hyderabad
31	Dr. Peeyush Jr. Scientist (Soil Science)	BHU, Varanasi	Annual Convention of Indian Society of Agricultural chemists & National conference on Soil management for achieving food security and nutritional safety under normal & intensified agro ecosystems	Nov. 01-02, 2010 Varanasi
		University of Jammu	National Symposium " New Trends in Material Research"	Nov. 18-20, 2010 Jammu.
32	Dr. Reena, Jr. Scientist (Entomology)	Ministry of Science and Technology, Gov. of India, New Delhi	DST- Group Monitoring workshop	Feb. 11-12, 2011 Hyderabad
33	Dr. Sonika Jamwal, Jr. Scientist (Plant Pathology)	Indian Society of Mycology and Plant pathology in collaboration with Department of Botany, University of Jammu.	North Zone meet and National Symposium on Microbial Diversity and Bio-Prospective.	Oct. 29-30, 2010 Jammu

34	Sh. Vikas Gupta, Jr. Scientist	CRIDA, Hyderabad, Andhra Pradesh	13th Working Group Meeting of AICRPDA,	Nov. 24-27, 2010 Hyderabad
35	Dr. Anil Sharma, Jr. Scientist (Soil Science)	CRIDA, Hyderabad	Workshop for designing of Agro web	Mar. 17, 2010 Hyderabad
36	Dr. R. K. Salgotra, Sr. Scientist (Plant Breeding & Genetics)	International Association of Science & Technology Development, Cambridge Massachusetts, USA	Computational Bioscience	Nov. 1-3, 2010 USA
37	Dr. Mahital Jamwal, Assistant Professor (Fruit Science)	Tokai University, Japan & King Mongkut's Institute of Technology (KMITL) Ladkrabang, Bangkok, Thailand	16th Asian Agricultural Symposium & 1st International Symposium on Agricultural Technology	Aug. 25-27, 2010 Thailand
38	Dr. Anil Gupta Sr. Scientist (Plant Pathology)	DRR, Hyderabad	45th Annual Rice Group	April 3-6, 2010 Anand
39	Dr. Anuradha Saha Jr. Scientist (Agronomy)	DRR, Hyderabad	45th Annual Rice Group	April 3-6, 2010 Anand
40	Sh. Rajan Salalia Jr. Scientist (Entomology)	DRR, Hyderabad	45th Annual Rice Group	April 3-6, 2010 Anand
41	Dr. S.K. Mondal Associate Professor (Plant Breeding & Genetics)	DWR, Karnal	49th All India Wheat & Barley Research Worker Meet	Aug. 27-30, 2010 PAU, Ludhiana
42	Dr. Tuhina Dey Assistant Professor (Plant Breeding & Genetics)	DWR, Karnal	49th All India Wheat & Barley Research Worker Meet	Aug. 27-30, 2010 PAU, Ludhiana
		CIMMYT South Asia Regional Office, Kathmandu, Nepal	Internal training on wheat improvement and Pathology	Nov. 29 to Dec. 12, 2010 Nepal
43	Dr. M.K. Pandey Jr. Scientist (Plant Pathology)	DWR, Karnal	49th All India Wheat & Barley Research Worker Meet	Aug. 27-30, 2010 PAU, Ludhiana
44	Dr. S.K. Rai Jr Scientist (Plant Breeding & Genetics)	Directorate of Rapeseed-Mustard, Bharatpur	17th Annual Group Meeting, Rapeseed-Mustard	Sep.1-03, 2010 Gwalior
		Directorate of Rapeseed-Mustard, Bharatpur, Rajasthan	Brain storming Meeting on enhancement of productivity of Rapeseed mustard	Sept. 1-3, 2010 GBPUAT-Pantnagar
45	Dr. Bupesh Kumar, Jr. Scientist (Plant Breeding & Genetics)	Directorate of Miaze, Hyderabad	53rd Annual Maize Workshop of AICRP	April 10-12 , 2010 Srinagar
46	Dr. A. K. Raina, Associate Professor (Agri. Engineering)	MANAGE, Hyderabad (Andhra Pradesh)	Five days training for management development programme on Leadership for innovation in Agriculture	July 19-23, 2010 Hyderabad
		National Institute of Hydrology, Roorkee	3 Days training course on 'Hydrological data entry and processing using SWDES'	Mar. 22-24, 2011 Jammu

47	Er. Hemant Dadhich, Assistant Professor (Agri. Engineering)	Biogas Development and Training Centre, IIT Delhi, and Ministry of New and Renewable Energy (MNRE)	5 days International training on "Biogas Production, Purification and Power Generation for Commercial Technology Packages	Oct. 25-29, 2010 New Delhi
48	Dr. Sandeep Mann, Associate Professor (Agri. Engineering)	University of Jammu, Jammu.	Three days International Conference on "Development and Application of Statistics in Emerging Areas of Science & Technology"	Dec. 8-10, 2010 Jammu
49	Dr. R. K. Srivastava, Assistant Professor (Agri. Engineering)	National Institute of Hydrology Roorkee	3 Days training course on 'Hydrological data entry and processing using SWDES'	Mar. 22-24, 2011 Jammu
50	Er. Sushmita Dadhich, Assistant Professor (Agri. Engineering)	National Institute of Hydrology Roorkee	3 Days training course on 'Hydrological data entry and processing using SWDES'	Mar. 22-24, 2011 Jammu
51	Dr. Mohd. Saleem Professor (Agroforestry)	IIIM, Jammu	Entreprenuership Skill Development Programme in Biotechnology with focus on M&APs	Feb. 24, 2011 Jammu
52	Dr. S. K. Gupta Associate Professor (Agroforestry)	PAU, Ludhiana	IUFRO Symposium on "Short Rotation Forestry"	Feb. 10-12, 2011 Ludhiana
53	Dr. Sandeep Sehgal Assistant Professor (Agroforestry)	PAU, Ludhiana	IUFRO Symposium on "Short Rotation Forestry"	Feb. 10-12, 2011 Ludhiana
54	Ms. Meenakshi Gupta, Assistant Professor (Agroforestry)	ICFRE, Dehra Dun.	Training Programme on "Climate Change and Carbon Mitigation (CCCM)"	Oct. 04-10, 2010 Dehra Dun
55	Dr. S.A.Khandi Assistant Professor	NBAGR-Karnal	Soft Computing Techniques in Animal Bioinformatics	Nov. 5-8, 2010 Karnal.
56	Dr Pranav Kumar Assistant Professor	SRS, NDRI, Bangalore	National Training Programme on IPR for Animal Scientists	Mar. 9-18, 2011 Bangalore
57	Dr. D.P.Abrol, Professor (Entomology)	UAS, Dharwad	'First Workshop on Experiential Learning Units Funded by ICAR: Monitoring and Evaluation'	Oct. 27-28, 2010 Dharwad
58	Dr. Kuldeep Srivastava Assistant Professor (Entomology)	UAS GKVK Bangalore	21 days training programme on 'Advances in Agricultural Acarology'	Oct. 8-28, 2010 Bangalore
		NIPHM Hyderabad	One Week Training Programme on Rodent Pest Management'	Dec. I-7, 2010 Hyderabad
59	Dr. Devinder Sharma, Assistant Professor (Entomology)	TNAU, Coimbatore	21 days Winter school on "Biorational Insect Pest Management"	Feb. 17, 2011 to Mar. 09, 2011 Coimbatore

60	Dr. A. S. Bali Chief Scientist (Water Management Research Centre)	Directorate of Water Management, Bhubaneswar	Chief Scientists' Meet	June 25-28, 2010 Palampur
61	Dr. Vijay Bharti Jr. Scientist (Water Management Research Centre)	Indian Society of Agronomy	National Symposium on "*Resource Management Approaches towards Livelihood Security*"	Dec. 2–4, 2010 Bangalore.
62	Dr. J.N. Srivastava, , Jr. Scientist (Plant Pathology)	Academic staff college, BHU Varanasi	Refresher course in Agricultural sciences	Jan. 27, to Feb. 16, 2011 Varanasi
63	Mr Brajeshwar Singh, Jr. Scientist (Plant Pathology)	IAS, BHU, Varanasi	National Conference"Unravelling multiple facets of biological control in national purview: Trends, challenges and societal implications"	Oct. 26-27, 2010. Varanasi
64	Dr.Manpreet Jr. Scientist (Agronomy)	Water management Research Centre, Chatha, Directorate of Research , SKUAST-Jammu	Scaling up of water productivity in Agriculture for Livelihood through teaching cum demonstration	June 21 to July 4, 2010 SKUAST-Jammu
65	Sh. Akhil Verma , Jr. Scientist (Agronomy)	Directorate of Maize Research ICAR, New Delhi	53rd Annual Workshop on Maize	April 10-12, 2010 SKUAST-K
		Central Ground Water Board, Ministry of Water Resources, Jammu	Training on Ground Water Development and Management	Hotel Dolphin Udhampur
		Jointly by State Department of Agriculture and Monsanto India Ltd.	Public and Pvt. Partnership Project Rainbow	Aug. 25, 2010 FVSc. R.S. Pura
		State Department of Agriculture, Directorate of Agriculture, Jammu	Maize Seed Mela	May 23, 2010 Jammu
66	Dr. R.S. Sudan, Jr. Scientist (Plant Breeding & Genetics)	Directorate of Maize Research ICAR, New Delhi	53rd Annual Workshop on Maize	April 10 -12, 2010 SKUAST-K
		Central Ground Water Board, Ministry of Water Resources, Jammu	Training on Ground Water Development and Management	Hotel Dolphin Udhampur
		State Department of Agriculture, Directorate of Agriculture, Jammu	Maize Seed Mela	May 23, 2010 Jammu
67	Dr. Bharat Bhushan, Jr. Scientist (Agri. Extension Education)	Central Ground Water Board, Ministry of Water Resources, Jammu	Training on Ground Water Development and Management	Hotel Dolphin Udhampur

68	Dr. S.M. Zargar, Jr. Scientist (Biotechnology)	PAU, Ludhiana	Preparing Agriculture for Climate Change	Feb. 6-8, 2011 Ludhiana
69	Dr.M.K.Khushu, Chief Scientist (Agrometeorology)	CRIDA, Hyderabad,	Biennial working group meeting of AICRP on Agrometeorology	August 25-29, 2010. Hyderabad
		IMD	Forecasting Agricultural Output using Space, Agrometeorology and Land based observation (FASAL)	Sept 15-16., 2010. Pune
		Ministry of Earth Sciences, Govt. of India, New Delhi	Climate change and agriculture	December 10th, 2010 New Delhi
70.	Dr. Mahender Singh, Technical Officer (AAS) (Agrometeorology)	ANGRAU, Hyderabad	IVth Annual Review Meeting of Integrated Agromet Advisory Services.	Dec 20th - 22nd., 2010. Hyderabad
		PAU, Ludhiana	"Crop Growth Simulation Model (DSSAT) for wheat crop"	May 23rd - 28th, 2011. Ludhiana
71	Dr. Vikas Vohra, Assistant Professor (Animal Genetics & Breeding)	NDRI, Karnal	All India Dairy Husbandry Officers	Dec. 3-4, 2010 Karnal.
72	Dr. R K Taggar, Associate Professor (Animal Genetics & Breeding)	NDRI, Karnal.	Data analysis using SAS	Dec. 18-24, 2010 Karnal.
73	Dr. Dibyendu Chakraborty, Assistant Professor (animal Genetics & Breeding)	IVRI, Izatnagar	New horizons in animal breeding technologies for accelerating livestock production and health	Jan. 21-22, 2011 Izatnagar
74	Dr P. K. Verma, Assistant Professor (Vety. Pharmacology & Toxicology)	National Dairy Research Institute, Karnal.	21 days ICAR sponsored winter school on "Recent advances in dairy Nutraceuticals and bioinformatics applications"	Feb.1- 21, 2010 Karnal
75	Dr N K Pankaj, Assistant Professor (Vety. Pharmacology & Toxicology)	IVRI, IZatnagar Bareilly	21 days ICAR sponsored winter school on "Basic techniques in solid phase peptide synthesis and application of synthetic peptides in animal disease diagnosis and research"	Sept. 22 to Oct.12 , 2010 Bareilly
76	Dr Shahid Prawez, Assistant Professor (Vety. Pharmacology & Toxicology)	National Dairy Research Institute, Karnal.	21 days training "Technology advances in novel dairy foods"	Mar. 1- 21, 2011 Karnal

77	Dr. P.S.Mahapatra, Associate Professor (Vety. Physiology)	BRIT, BARC, Mumbai	RIA techniques and their clinical applications	Mar. 15-26, 2011 Mumbai
78	Dr. Kawardeep Kour, Assistant Professor (Vety. Physiology)	IVRI, Izatnagar, UP	Recent Advances in Endocrine Control of Livestock production and Reproduction	Feb. 5, to Mar. 17, 2011 Izatnagar (UP)
79	Dr. R.K.Bhardwaj Assistant Professor (Vety. Clinical Medicine & Jurisprudence)	Mumbai Veterinary College Mumbai	National Symposium of Indian Society of Veterinary Medicine	Feb. 17-19, 2011 Mumbai
80	Dr. S.R.Upadhyay Assistant Professor (Vety. Clinical Medicine & Jurisprudence)	Mumbai Veterinary College Mumbai	National Symposium of Indian Society of Veterinary Medicine	Feb.17-19, 2011 Mumbai
81	Dr Ankur Rastogi, Assistant Professor (Animal Nutrition)	Animal Nutrition Association OUAT, Bhubaneshwar.	7th Biennial ANA Conference on 'Animal Nutrition Strategies for Environmental Protection and Poverty Alleviation'.	Dec. 17-19, 2010 Bhubaneshwar.
82	Dr. Pratiksha Raghuwanshi, Assistant Professor (Vety. Biochemistry)	OUAT, College of Veterinary Sciences & AH, Bhubaneshwar.	7th Biennial Conference of Animal Nutrition India on "Animal Nutrition Strategies For Environmental Protection and Poverty Alleviation"	Dec. 17-19, 2010 Bhubaneshwar.
83	Dr. M. Mutha Rao Associate Professor (Animal Reproduction, Gynaecology & Obstetrics)	CSWRI, Avikanagar, Rajasthan	Training programme on 'Artificial Insemination and Embryo Transfer Technology in sheep'	Jan. 15-29, 2011 Rajasthan
		GBPUA&T Pantnagar (Uttrakhand)	Participation in 26th Annual convention of ISSAR & International symposium on Biotechnologies for optimization of reproductive efficiency of farm and companion animals to improve global food security and human health.	Nov. 10-12, 2010 Pantnagar
84	Dr. Sanjay Agarwal, Assistant Professor (Animal Reproduction, Gynaecology & Obstetrics)	Department of Veterinary Gynaecology and Obstetrics, Guru Angad Dev Veterinary and Animal Sciences University . Ludhiana	National training on "Advances in applications of diagnostic techniques in veterinary theriogenology"	Feb. 16 to Mar. 8, 2011 Ludhiana
85	Dr. Sudershan Kumar, Associate Professor (Animal Reproduction, Gynaecology & Obstetrics)	NDRI, Karnal.	Participation in International conference on Frontiers in Reproductive biotechnology & 21st annual meeting of the Indian society for the study of Reproduction and fertility.	Feb. 9-11, 2011 Karnal.

		GBPUA&T, Pantnagar (Uttrakhand)	Participation in 26th Annual convention of ISSAR & International Symposium on "Biotechnologies for optimization of Reproductive Efficiency of Farm and Companion animals to improve Global Food Security and Human Health"	Nov. 10-12, 2010 Pantnagar
86	Dr. A.K. Pandey, Assistant Professor (Animal Reproduction, Gynaecology & Obstetrics)	GBPUA&T, Pantnagar (Uttrakhand)	Participation in 26th Annual convention of ISSAR & International Symposium on "Biotechnologies for optimization of Reproductive Efficiency of Farm and Companion animals to improve Global Food Security and Human Health"	Nov. 10-12, 2010 Pantnagar
87	Dr. A.K.Gupta, Associate Professor (Vety. Surgery & Radiology)	College of Vety. Sciences Pondicherry.	XXXIV Annual Congress of ISVS	Dec. 8-10, 2010 Pondicherry
		CSWRI, Avikanagar.	15 days training on, "Artificial Insemination and Embryo Transfer Technology in Sheep"	Jan. 15-29, 2011 Avikanagar.
88	Dr. Ankur Sharma, Assistant Professor (Vety. Surgery & Radiology)	Department of Veterinary Surgery and Radiology, GADVASU, Ludhiana.	21 days training programme Diagnostic and surgical procedure for therapeutic and abdominal disorder in veterinary patients	Feb. 11, 2011 to Mar. 3, 2011 Ludhiana.
89	Dr. V. S. Wazir, Associate Professor (Vety. Epidemiology & Preventive Medicine)	ISVM/ Veterinary college Mumbai	29th ISVM Convention & National symposia on recent developments in diagnostics and therapeutics including applications of nanotechnology in Veterinary Medicine	Feb. 17-19, 2011 Mumbai
90	Dr. Sunil Kumar, Assistant Professor (Livestock Products Technology)	National Research Centre on meat, Chengicherla, Hyderabad	A ten day training programme on "Requirements and Developments in Processed Meat Sector for Better Utilization of Meat Animal Resources"	Dec. 7-16, 2010 Hyderabad
		IVRI, Izatnagar, U.P.	National Symposium on Strategies for Sustainable Meat Production and Processing for Nutritional Security and Employment Generation.	Nov. 19 – 20, 2010 Izatnagar

91	Dr. Zuhaib Fayaz Bhat, Assistant Professor (Livestock Products Technology)	National Research Centre on meat, Hyderabad	A ten day training programme on Requirements and Developments in Processed Meat Sector for Better Utilization of Meat Animal Resources.	Dec. 7-16, 2010 Hyderabad
92	Dr. Pavan Kumar, Assistant Professor (Livestock Products Technology)	IVRI, Izatnagar, U.P.	National Symposium on Strategies for Sustainable Meat Production and Processing for Nutritional Security and Employment Generation	Nov. 19 – 20, 2010. Izatnagar
93	Dr. S.K.Kotwal, Professor (Vety. Public Health & Hygiene)	Bihar Veterinary College, Patna, (BAU)	9th All India Conference of Association of Public Health Veterinarians & National Symposium on challenges and Strategies for Veterinary Public FHealth in India.	Feb. 18-19, 2011 Patna
94	Dr. M.Rashid, Assistant Professor (Vety. Public Health & Hygiene)	Division of VPH, IVRI Izatnagar	10 days summer school on "Recent advances in molecular diagnosis and control of important zoonotic diseases	Sept. 21-30, 2010 Izatnagar
		Bihar Veterinary College, Patna, (BAU)	9th All India Conference of Association of Public Health Veterinarians & National Symposium on challenges and Strategies for Veterinary Public Health in India	Feb. 18-19, 2011 Patna

9. PARTICIPATION OF SCIENTISTS IN NATIONAL/ INTERNATIONAL SEMINARS/SYMPOSIA/ CONFERENCES/SHORT COURSES/TRAINING/WORK-SHOPS/SUMMER AND WINTER SCHOOLS HELD AT SKUAST-J

S.No.	Name & Designation of participants	Organizing/ Sponsoring Institute	Name of event	Date and Venue
1	Dr Rajinder Raina, Dr. Kafil Hussain, Dr. Rajiv Singh, Dr. M. Mutha Rao, Dr. Shalini Suri, Dr. Sudershan Kumar, Dr. Sanjay Agarwal, Dr. Sudhir Kumar, Dr. W.A.A. Razzaque, Dr. A.K. Pandey, Dr. Ajay Kumar Gupta, Dr. F Sharma, Dr. D.K.Dwivedi, Dr. Pankaj Gupta, Dr. V. S. Wazir, Dr. M. A. Malik, Dr. Rajeev Singh, Dr. Rajesh Katoch, Dr. Abha Tikoo, Dr. Anish Yadav, Dr. Bablu Kumar, Dr. J. S. Soodan, Dr. H. R. Bhardwaj, Dr. Utsav Sharma, Dr. Sharad Kumar, Dr. A. K. Tripathi, Dr. Dhirendra Kumar, Dr. Seema Tiwari , Dr. R. B. Kushwaha, Dr. Nishant Kumar	SKUAST-J	VIII Annual Congress of ISACP and National Symposium	Feb. 2- 4, 2011 Jammu
2	Mrs. Neetu Sharma	Ministry of Agriculture, Govt. of India	14 days training programme	Sept. 1–14, 2010 WMRC, SKUAST-J Chatha
3	Dr. Sudershan Kumar,	SKUAST-J	2 days Pre-seasonal R-E interface-cum-review workshop.	April 18–19, 2011 Jammu
4	Dr. Susheel Sharma	Govt. of India	Training Programme on scaling up of water productivity in Agriculture for livelihood through teaching and demonstration	June 21, to July 4, 2010 WMRC, SKUAST-Jammu
5	Dr. J. P. Singh,	Division of Agricultural Engineering in collaboration with SAMITI	Training Programme to State officials	Feb. 1-3, 2011 Jammu
6	Dr. Reena & Dr. Sonika Jamwal	Govt. of India	Trainers training Program "Scaling up of water productivity in Agriculture for livelihood through teaching cum demonstration"	Aug. 18–31, 2011 Chatha

S.No.	Name & Designation of participants	Organizing/ Sponsoring Institute	Name of event	Date and Venue
7	Dr. Peeyush	(Govt. of India)	Trainers training Program "Scaling up of water productivity in Agriculture for livelihood through teaching cum demonstration"	Sept. 1-14, 2010 Chatha
8	Dr. Mohd. Saleem	CII, Northern Region, Jammu	Agri Conclave	Feb. 18, 2011 Chatha
9	Dr. K. Ram,	Potential of sericulture in employment generation in rural areas.	Five days training programme on Entrepreneurship development	Oct. 18-22, 2010 Chatha.
10	Dr Asma Khan	ICAR	Development of entrepreneurship with reference to poultry farming	Oct. 18-23, 2010 Chatha

10. EXTERNALLY FUNDED RESEARCH PROJECTS

S.No	Title of the Project	Principal Investigator
Horticulture Technology Mini-Mission-1 (ICAR)		
1	Development and promotion of IPM module in temperate vegetable crops of Jammu	Dr. Uma Shanker (Entomology)
2	Promotion of year round cultivation of mushroom for self employment in Jammu division.	Dr. Sachin Gupta (Plant Pathology)
3	Promotion of biological control as a key component for management of soil borne diseases of horticultural crops in Jammu province of J&K.	Dr. Vishal Gupta (Plant Pathology)
4	Site specific analysis and demonstration of Nutrients in fruit growing areas of Jammu under precision Horticulture.	Dr. A. K. Bhat (Soil Science)
5	Factors affecting olive oil quality and characterization of olive oil using standard protocols for technology transfer for effective marketing of oil.	Dr A.K. Tiku, (Plant Physiology)
6	Production of quality planting material of ornamental crops in Jammu	Dr. R. K. Pandey (Floriculture)
7	Seed production of hybrids and open pollinated varieties of vegetables under mid hill conditions of Jammu region	Dr. J. P. Sharma (Vegetable)
8	Cultivation of vegetables as livelihood security on the perennial river beds of Jammu district	Dr R. K. Samnotra (Vegetable)
9	Value addition and post harvest handling of perishable agro horticultural produce for women empowerment in J&K state	Dr Raj Kumari Kaul (PHT)
10	Identification and production of Seed and Planting Material of Kala zeera	Dr. S. K. Gupta (Agroforestry)
11	Construction of rainwater harvesting and its demonstration for supplementary benefits for Horticultural crops in sub-temperate areas	Dr Anshuman Kohli (Soil Science)
12	Production of quality planting material for sub-tropical fruits.	Dr.V.K.Wali (Fruit Science)
13	Establishment of Rootstock and Budwood bank and its large scale production	Dr.V.K.Wali (Fruit Science)
14	Training and demonstration on rejuvenation of old/unproductive orchards in Jammu Sub-tropics	Dr.V.K.Wali (Fruit Science)
15	Technology refinement in micro irrigation and fertigation for improving quality and productivity of important horticultural crops in rainfed areas of Jammu.	Dr. Dileep Kachroo (Agronomy)
Department of Science & Technology (DST)		
1	Free radical scavenger and antioxidant activities of selected north western Himalayan medicinal plants	Dr Sanjay Guleria (Biochemistry)
2	Popularization of bio-fertilizers in rainfed areas of Jammu division for sustainable agriculture development	Dr. S.K.Kher (Agril. Extension)
3	Induction of double haploids for bacterial leaf blight resistance in Basmati Rice through anther culture	Dr. R.K. Salgotra (PBG)
4	Development of introgression lines towards pyramiding of aroma QTL's in Basmati rice (*Oryza sativa* L.)	Dr. Tuhina Dey (PBG)

5	Breeding and management strategies in dairy animal for socio – economic upliftment of rural women	Dr. A.K. Pandey (ARGO)
6	Assessment of fungal pathogens during post harvest management of important cash fruit crops of Jammu and Kashmir	Dr Monika Sood (PHT)
7	Exploring the plant diversity of Jammu region for pesticidal properties	Dr. Reena (Ento)

Department of Bio-Technology (DBT)

1	Empowerment of Rural Women Through Backyard Poultry Farming in Jammu Region	Dr. Rajesh Katoch (Vety. Parasitology)
2	Popularization of lac cultivation through large scale demonstrations and trainings in Jammu and Kashmir	Dr. R. K. Gupta (Ento)
3	Biodiversity of Hymenopteran insects associated with various cropping eco- systems in Jammu and Kashmir	Dr. D. P. Abrol (Ento)
4	On farm training on recent trends in silkworm rearing Technology	Dr. Ajay Koul (Sericulture)
5	Isolation, characterization and multiplication of bioagents for management of wilt disease in solanaceous crop in Jammu	Dr. Sachin Gupta (Plant Pathology)
6	Morphometry and Phylogeography of honeybees and stingless bees in India	Dr. D.P. Abrol .(Entomology)

CRIDA, Hyderabad

1	Real time Contingency Plan implementation in a participatory mode.	Sh. Vikas Gupta (Agronomy)
2	Alternate land use for Carbon Sequestration and ecosystem services	Dr. Anil Sharma (Soil Science)
3	Energy Management through Custom Hiring for Timely Farm Operation (Sub-Project) under NICRA Project, DLRSS, Rakh- Dhiansar	Dr. J. P. Singh (Agril Engg.)
4	Rainwater Harvesting *(in-situ and ex-situ)* and its Efficient (Sub-Project) under NICRA Project, DLRSS, Rakh- Dhiansar	Dr. J. P. Singh (Agril Engg.)

AICRPDA, Hyderabad

1	Tillage and the nutrient management for resource conservation and improving soil Quality	Dr. J.P. Singh (Agril Engg.)

Ayurvet Pvt. Ltd, Baddi (HP)

1	To study the efficacy of AV/FRC/18 (Herbal ectoparasiticidal & Fly repellent) in clinical cases of ectoparasitic infestation in ruminants.	Dr. A.K. Tripathi.(VCTH)

Department of Space, Govt. of India

1	Spatial assessment of soil carbon pool of India under NCP	Dr. A. K. Bhat (Soil Science)

National Innovation Foundation (NIF) Ahmedabad

1	Documentation, Validation & Extension of suitable package of practices (PoPs) of Indigenous Technical Knowledge and Practices (ITKPs) in treatment of various ailments of Livestock in Jammu Division of J & K State	Dr. M. S. Bhadwal (Vety. Surgery)

Indian Council of Agricultural Research (ICAR)

1	Seed Production in Agricultural crops and Fisheries.	Dr. Bikram Singh (PBG)
2	Experiential learning- setting up of facilities for hands on training on Hi tech nursery for horticultural crops.	Dr. V. K. Wali (Pomology)
3	Enhancement of livelihood security through farming systems and related farm enterprises in north-west Himalayas.	Dr. Amarjit S. Bali (Agronomy)
4	Network project on outreach of technologies for temperate fruit crops	Dr. R.M. Sharma (Pomology)
5	Molecular basis of capacitation like changes in the assessment and prevention of cryodamage during cryopreservation of bovine spermatozoa (Buffalo and Crossbred Bulls)	Dr. Sudershan Kumar (ARGO)
6	Strengthening Statistical Computing for NARS	Dr. Manish Kr. Sharma, (Economics)
7	Network Project on Insect Biosystemetic	Dr. D.P. Abrol (Entomology)
8	National Initiative on climate Resilient Agriculture	Dr. M.K. Khushu (Agromet)

National Oilseeds and Vegetable Oils Development Board (NOVOD)

1	National Network on Integrated Development of Jatropha	Dr. Mohd. Saleem (Agroforestry)

Ministry of Food Processing, Govt. of India

1.	Grant-in aid as seed capital assistance for running the already established Food Processing Training Centre	Dr Raj Kumari Kaul (PHT)

National Medicinal Plants Board (NMPB)

1	Germplasm collection and mass propagation of *Rauvolfia serpentina* and *Gloriosa superba*	Dr. L. M. Gupta (AgroForestry)

Ministry of Water Resources

1	Farmers' Participatory Action Research Programme (FPARP)	Dr. Rajinder Dhar (Water Management)

Ministry of Agriculture Sciences, Govt. of India

1	Genetic improvement of sheep through embryo transfer technology	Dr. M. Mutha Rao (ARGO)
2	Scaling up of Water Productivity in Agriculture for Livelihoods through Teaching-cum-Demonstration, Training of Trainers and Farmers (SWPA),	Er. N. K. Gupta (Water Management)

National Horticulture Board

1	Commercialization of soft fruits in Jammu plains through Hi-tech production and post harvest management	Dr. R.M. Sharma (Pomology)

Jammu and Kashmir Science & Technology

1	Improving the productivity of Traditional Agriculture system in Rajouri with scientific Interventions	Dr Anshuman Kohli (Soil Science)
2	Mechanisms Controlling the Metalaxyl Induced Developmental Toxicity with Special Reference to Reproduction Indices in Wistar Rats.	Dr Mudasir Sultana (Vety. Pharmacology)

Indian Council of Medical Research

1	Epidemiological studies on important emerging bacterial zoonotic diseases of equines used for tourism and pilgrimage in Jammu and Kashmir	Dr. Anil Taku (Vety. Microbiology)

Ministry of Earth Science (MES)

1.	Agro Advisory Services (Jammu)	Dr. M. K Khushu (Agrometeorology)
2	Agro Advisory Services (Rajouri)	Dr. Anshuman Kohli (Soil Science)
3	Forecasting Agricultural Output using Space, Agrometerology and Land based observations (FASAL)	Dr. M. K Khushu (Agrometeorology)

All India Coordinated Projects

S.No	Title of the project	Directorate/ Division	Funding Agency
1	All India Coordinated rice improvement project, Chatha	Genetics & Plant Breeding	ICAR
2	Farming System Research Centre, Chatha	Directorate of Research	ICAR
3	All India Coordinated project on wheat and barley, Chatha	Genetics & Plant Breeding	ICAR
4	Water Management Research Centre, Chatha	Directorate of Research	ICAR
5	All India Co- ordinated Research Project on Chickpea, Samba	Directorate of Research	ICAR
6	All India Co- ordinated Research Project on Agrometeorology, Chatha	Directorate of Research	ICAR
7	All India Co-ordinated Research Project on Dry land Research, Dhiansar	Directorate of Research	ICAR
8	All India Co ordinated Research Project on Maize, Udhampur	Directorate of Research	ICAR
9	All India Co ordinated Research Project on Rape Seed and Mustard, Chatha	Genetics & Plant Breeding	ICAR
10	All India Co ordinated Research project on Honey Bee and pollinators, Chatha	Entomology	ICAR

11. PUBLICATION ACTIVITIES

Research Publications in National/ International Journals

Abrol, D.P. (2010). Foraging behaviour of Apis florea F., an important pollinator of Allium cepa L. Journal of Apicultural Research and Bee World. 49(4):318-325.

Abrol, D.P. (2010). Megascolia flavifrons–an unusual pollinator of onion flowers. Advances in Pollen Spore Research. 28 : 51-56.

Abrol, Vikas, Sharma, Peeyush, Sharma, Anil, Verma, V. S. and Singh, Birnder (2010). Water productivity enhancement and soil improvement through integrated nutrient management in maize-wheat cropping system in rainfed areas. Enviornment and ecology 28 (2) 930-933.

Abrol. D.P.(2010). Differential floral attractiveness as a determinant of foraging decision in honeybees. Current Science. 99(10):1330.

Agarwal Sanjay, Saxena Atul and Sinha N. K. (2010). Effects of semen additives in cryopreservation of sirohi buck semen. Indian Vet. J., 87 (7): 667-669.

Agarwal Sanjay, Saxena Atul and Sinha N. K. (2010). Effects of semen additives on glutamic oxaloacetic transaminase activity of buck semen. Indian Veterinary Journal.

Agarwal Sanjay, Saxena Atul and. Sinha N. K (2010). Effect of ascorbic acid and caffeine on hypo-osmotic swelling test in sirohi buck. Indian Vet. J., 87 (6): 563-564.

Andrabi, Muneeb., Vaid, Amrish and Razdan,V.K. (2011). Evaluation of different measures to control wilt causing Pathogens in chickpea. Journal of Plant Protection Research 1: 55-59.

Azad M.S,.Gupta I.D, Verma Rachna and Kour Kawardeep.2011 Factor XI genes or plasma thromboplatin antecedent defeciency in Karanfries Cattle. Recent Trends in Biotechnology 1: 1060-1063.

Baba, J. A., Kher, R., Bakshi, P and Wali, V.K. (2010). Effect of planting time and mulching material on quality of strawberry (Fragaria x ananassa Duch.) cv. Chandler. Journal of Research, SKUAST-J. 9(1): 54-62.

Bakshi, P and Masoodi, F.A. (2010). Effect of pre-storage heat treatment on enzymological changes in peach. J. Food Sci. & Technol. 47(4): 461-464.

Bakshi, P and Masoodi, F.A. (2010). Enzymological changes in peach during storage. Indian J. Hort. 67(2): 238-242.

Bharat, Rajeev and Kachroo Dileep (2010). Bio-efficacy of herbicides on weeds in wheat (Triticum aestivum) and its residual effect on succeeding cucumber (*Cucumis sativus*). Indian Journal of Agronomy 55(1): 46-50.

Bhardwaj R.K. and Taku, A.K. (2010). An outbreak of Strangles in horses. Indian Veterinary Journal., 87(8): 745-748.

Bhardwaj, R.K., Singh, R and Gupta, S.K (2011). Secondary Hypothrodism in Canines. Indian Vet. J, 88 (1): 70-72

Bharti Rupali, Khan, A. and Thirumurughan, P. (2010) Heat stress ameliorative effects of housing systems on blood biochemical parameters of crossbred cattle. Indian Journal of Animal Production, 26 (3-4):165-168.

Bhat A.K. and Chesti M H (2010).Dynamics of Methanogens in Redoxomorphoric soils of North western Himalaya. Journal of Himalayan Ecology and Sustainable Development 5:187-195.

Bhat, Z. F. and Pathak, V. (2011). Effect of green gram (Vigna radiate) on the quality characteristics of microwave cooked chicken seekh kababs. Journal of Meat Science 7(1): 1-4.

Bhat, Z. F., Pathak, V., Bukhari S. A. A. and Ahmad, S. R. (2010). Physico-chemical and organoleptic evaluation of curd-pumpkin blend/chutney. Beverage and Food world 37(6): 39-41.

Bhat, Z. F., Pathak, V., Bukhari, S. A. A., Ahmad S. R. and Bhat, H. (2010). Quality changes in Chevon Harrisa (meat based product) during refrigerated storage. International Journal of Meat Science 1(1): 52-61.

Bhau Sunil, Bhagat G.R, Kher S.K (2010). Farmer Characteristic and Adoption of Rice and Wheat technology. Journal of research, SKUAST-J. 9 (1), 79-86.

Bhushan Anil, Sharma, A. K and Sharma, J .P. (2010). Integrated nutrient management in knolkhol under J&K conditions. Journal of Research, SKUAST-J. 9(2): 240-243

Bhushan, A. and Gupta, R. K. (2010). Adventitious shoot regeneration in different ex plants of six genotypes of tomato. Indian J. Hort. (Sp. Issue) 224 – 227.

Biswal, H.; Kumar, A. and Mann, S (2010) Shrink wrapping of Bell Pepper to enhance shelf life under different storage temperatures. Food Processing Journal. 68 (4) 635-642.

Chakraborty, D., Dhaka, S.S., Pander, B.L. and Yadav, A. S. (2010). Genetic studies on 305 days and test day milk yield records in Murrah buffaloes. Indian Journal of Animal Sciences, 80 (9): 898–901.

Chakraborty, D., Dhaka, S.S., Pander, B.L., Yadav, A.S. and Dandapat, A. (2011). Genetic studies on first lactation milk yield and reproduction traits in Murrah buffaloes. Indian Veterinary Journal, 88 (2):33-35.

Charak, A. S., Khokhar, A and Dadheech, R. C. 2010. Correlation and regression study in toria. Journal of Research, SKUAST-J. Res.9(2) 244-246.

Charak, A.S., Manhas, J.S., Singh, A.P., Kotwal, N and Raina,V. (2010). Increasing the productivity and profitability of mash through frontline demonstration in Doda district of J&K. Journal of Research, SKUAST-J, 9 (1): 137-140.

Das K.C., J.Hundal,.Mahapatra, P.S,.Subudhi P.K and K. Sarma. (2010). Chemical composition and in-vitro gas production of fodder tree leaves and shrubs. Indian Veterinary Journal 87(9):899-901.

Das, A. K.; Majumder, N.K. and Majumder, A.C. (2010). Status of Glucose-6–Phosphate Dehydrogenase (G-6-PD) in Indian breeds of buffaloes. Indian Veterinary Journal, 87 (8): 768-770.

Das, A.K. and Majumdar, N.K. (2010). Reduced Glutathione, Glucose-6- Phosphate Dehydrogenase and Hemoglobin in Indian Buffaloes. Indian Journal of Animal Science., 81 (2): 123-126.

Das, A.K.; Taggar, R.K.; Sharma Deepak and Kumar Nishant. (2010). Advances in Animal Genetics and Breeding Techniques for Livestock Improvement. The North-East Veterinarian, 10 (1): 4-6&13.

Dwivedi D.K., Bhardwaj, H. R.., Tripathi, A.K. and Kumar Ashok (2010). Surgical management of intra-thoracic esophageal diverticulum in a german shephered dog. Intas Polivet 11(2): 286-87.

Dutta TK, Bhat, MA, Wani, SA and Taku, AK (2011) Prevalence of Pasturella multocida serotype B:2 in livestock and poultry in Jammu and Kashmir. Indian J Animal Sciences. 82: 242-243.

Dwivedi D.K., Bhardwaj, H.R., Tripathi, A K and Sharma, Ankur, Gupta Pankaj and Kumar Ashok, (2010). Acquired esophageal diverticulum in a German Shephard dog. Intas Polivet . 11 (II).316-317.

Dwivedi D.K, Ganesh T.N and Sudhir Kumar (2010). Surgical management of compound fracture of radius-ulna in a dog. Indian Veterinary Journal 87, 11 :1135-36.

Dwivedi D.K., Kushwaha, R.B and Sharma, Ankur (2010) Surgical management of traumatic lateral hernia in a goat. Intas Polivet. 11(II):273-275.

Dwivedi, D.K., and Kumar, Mahesh (2010). Treatment of compound fracture of tibia in dogs using circular external skeletal fixator(CEF).Veterinary World. . 3(8):378-379.

Dwivedi, D.K., Bhardwaj, H.R., Tripathi, A.K., Ankur Sharma, Pankaj Gupta and Ashok Kumar (2010). Acquired Oesophageal diverticulum in a German Shepherd dog and its surgical management. Intas Polivet. . 11(II): 316-317.

Dwivedi, D.K., Ganesh, T.N. and Kumar, S. (2010). Surgical management of compound fracture of radius –ulna in a dog. Indian Veterinary Journal. 87(11):1135-1136.

Dwivedi, S. and Singh, T. (2010). An analytical study on economics of Saffron Cultivation in Jammu & Kashmir. Journal of Hill Agriculture, 01(2): 168-171.

Dwivedi, S., Sharma P.K. and Sehar H. (2010). Investment and income pattern in poultry production: A case study of Baramulla

district of J&K. Research Journal of Agricultural Sciences 1(3):262-265.

Dwivedi, S.; and Gupta, D. (2010). Cost and returns of Tomato Cultivation in Mathura District of U.P. – A case study. The Journal of Rural and Agricultural Research, 10(2): 70-72.

Guleria, S., Tiku, A.K. and Rana, S. (2010). Antioxidant activity of acetone extract/ fractions of Terminalia bellerica Roxb. fruit. Indian Journal of Biochemistry and Biophysics. 47: 110-116.

Gupta Arun, Sharma, Neerja and Samnotra, R.K. (2010). Effect of biofertilizers and nitrogen on growth, yield and quality traits in KnolKhol (Brassica oleracea L.var. Gongylodes) The Asian Journalof Horticulture.5.2.294-297

Gupta, D. and Razdan, V.K. (2010). First report of Pestalotia funera causing leaf spot disease on Ziziphus mauritiana from India. Indian Phytopathology 63 (2): 240.

Gupta, Pankaj, Ragunath, M. and Sood, N.K. (2010). Studies on the prognosis of canine mammary neoplasms based on the TNM staging and histologic grading "Indian Journal of Veterinary Surgery 31 (1) : 8-10.

Gupta, S. K., Sanjeev Kumar and Raina, N. S. (2010). Collection and genetic evaluation of kalzeera- Bunium persicum(Boiss.) Fedtr. Journal of Medicinal and Aromatic Plant Sciences. 32(1): 37-41.

Gupta, S., Malik, S.A. and Gupta, M. (2010). Role of oxidative enzymes and biochemical constituents in imparting resistance to french bean varieties against bean anthracnose. Indian Phytopathology. 63: 47-50.

Gupta, V., Summuna, B., Kumar, D. and Razdan, V.K. (2010). In vitro evaluation of biocontrol agents against Fusarium wilt fungus of chilli. Environment & Ecology 28: 2027-10.

Gupta,R. K., Gupta, S., Bali, K. andSrivastava, K. (2010). Enhancing bio-suppression ofParthenium hysterophorus L.: Diapause in Zygogramma bicolorata Pallister and its manipulation through Insulin like Peptides (ILPs). Journal of Asia-Pacific Entomology. 13 : 303–308.

Iqbal, U., Wali, V.K., Kher, R., Sharma, A and Gupta. N. (2010). Impact of integrated nutrient management on soil nutrient status in strawberry(Fragaria x ananassa Duch.) cv. Chandler, Journal of Hill Agriculture. 1(1): 79-81

Jamwal Anamika, Kumar Deepak, Jamwal Sonika and Williams P. (2010). Evaluation of different substrates for mass multiplication of Trichoderma species. Journal of Research SKUAST-J 9(2): 247-249.

Jamwal, K., Wali, V.K.., Kachroo, D and Bazaya, B.R. (2010). Influence of weed control on quality and economics of strawberry (Fragaria x ananassa Duch.) cv. Chandler. Indian J. Weed Sci. 42(1&2): 104-106.

Kachroo, J.; Kachroo, D. and Sharma, A. (2010). Growth and Instability of Major Oilseeds of India based on Logistic and Coppock's Model, Agricultural Situation in India. LXVI (10):589-600.

Kachroo, J.; Sharma, A. and Kachroo, D. (2010). Technical Efficiency of Dry Land and irrigated Wheat Based on Stochastic Model, Agricultural Economic Research Review. 23(2):383-390 .

Kalha, C.S., Gupta, V., Singh, S.K. and Tandon, G. (2011). Effect of different supplements and biofertilizers on yield of Calocybe indica P.&C. Environment & Ecology 29 (1A): 432-434.

Kalita A, Suri Shalini and Sarma K. (2010). Anatomy of os coxae of Barking Deer (muntiacus muntjal) Journal of Research, SKUAST-J 9: 259-263

Kant Vinay, Srivastava, AK, Verma, PK, Raina, R and Pankaj NK (2010) Alterations in Electrocardiographic parameters after sub-acute exposure of fluoride and ameliorative action of aluminium sulphate in Goats. Biological Trace Element Research 134 (2): 188-194.

Katoch, R., Yadav, Anis, Sharma, R.K., Kour, R. and Tazeen (2010). Efficacy of Eprinomectin pour-on against natural infestation of sarcoptic mange in goats. Veterinary Practioner, 10: 99-100.

Kaushik, P., Singh, D. K., Dayal, S., Kumar, B., Kumar, P. and Chaudhuri, P. (2011) Effect of CpG oligodeoxynucleotide on

the immune response of 28 kDa outer membrane protein of Brucella. Journal of applied Animal Research. (39): 57-60.

Khajuria, J.K., Katoch, R., Yadav, Anish, Vohra, S. Soodan J.S. Borkataki, S. and Singh, A. (2010). Prevalence of gasterointestinal parasites affecting pigs in Jammu district of J &K. Veterinary Practioner, 11: 167-168

Khajuria, S., Gupta, R. and Sharma, R. (2010) Agri-horti systems adapted by the farmers in Bhaderwah valley of J&K. Journal of Social Research. 51(2): 183-187.

Khan, MA, Nagoo, S, Naseer, S, Nehvi, FA and Zargar, SM (2011). Induced mutation as a tool for improving corm multiplication in Saffron (Crocus sativus L.). Journal of Phytology. 3(7): 8-10

Khan, MA, Zargar, SM and Saini, RG (2011). A novel hypersensitive stripe rust (*Puccinia striiformis* westened f. sp. Tritici) resistance gene in bread wheat cultivar Cook effective in India. Journal of Phytology. 3(7):44-46

Khan, A. and Nagra, S.S (2010). Comparative study on the use of organic vis-à-vis conventional feed supplements in broilers chicks. Indian Journal of Animal Production 25(3-4):94-98.

Khan, A. and Nagra, S.S (2010). Performance of broilers chicks as influenced by feeding diets supplemented by organic acids. Indian Journal of Poultry Science 45(1):30-34.

Khandi, S.A., Gautam, Mandal, M.K. and Hamdani, S.A. (2010). Correlates of Gujjars attitude towards modern animal husbandry practices. Environment and Ecology, 28 (2B): 1257-1260

Kher, S.K, Kour, Jaswinder (2010). Knowledge Level of Mushroom Growers in Jammu District of J&K state, Journal of Research, SKUAST-J. 9 (1).

Kher, R., Baba, J. A. and Bakshi, P. (2010). Influence of planting time and mulching material on growth and fruit yield of strawberry cv. Chandler. Indian J. Hort. 67(4): 441-444.

Kher, R., Bakshi, P. Wali, V.K and Sharma, A. (2010). Physico-chemical characteristics of some strawberry (Fragaria x ananassa Duch.) cultivars under sub-tropical conditions of Jammu region. Journal of Research, SKUAST-J. 9 (2): 255-258.

Kour, S, Arora, S, Jalali, V.K. and Mondal, A.K. (2010). Sulphur form in relation to physical and chemical properties of midhill soils of North India. Communications in Soil Science and Plant Analysis 41 (3) : 277-289

Kumar J., Singh Y., Verma P.K. and Nazki A.R. (2010) Effect of dietary supplementation of Emblica officinalis on biochemical indices in Vanaraja Chicks. Indian Journal of Animal Sciences 80(1):78-80.

Kumar, A, Sharma, B.C., Kumar, R, Sharma, P.K and Wazir,V. (2010). Integrated Weed Management in Marigold under Irrigated Sub-Tropical Conditions of Jammu and Kashmir. Indian Journal of Weed Science. 42(1&2):10-13.

Kumar, A. and Pal, D. (2010). Epidemiology of human rabies cases in Kolkata with its application to post prophylaxis. Indian Journal of Animal Research. 44 (4): 241-247.

Kumar, A., Kaur, M, Singh, P. and Rastogi, A. (2010). Effect of oat bran on nutritional quality of chevon patties. Indian Journal of Small Ruminants. 16(1): 284-286.

Kumar, A., Kaur, M., Gogna, N., Singh, P. and Rastogi, A. (2010). Efficacy of oat bran as dietary fiber on quality characteristics of chevon patties. Indian Journal of Small Ruminants. 16 (2): 284-286.

Kumar, A., Kumar, A., Sadish, S., Latha, C.S., Kumar, K., Kumar, A. (2010). Seroprevalence of brucellosis in bovines and caprines. Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases. 30 (2):137-138.

Kumar, A., Kumar, A., Sadish, S., Latha, C., Kumar, K. and Kumar, A. (2011). Epidemiology of brucellosis in occupationally exposed human beings. Indian Journal of Animal Research. 44 (3): 188-192.

Kumar, A., Pramanik, A. K. and Mandal, T. K. (2010). Comparative determination of oxytetracycline in poultry food matrices by HPLC and immuno-chromatographic monoclonal based ELISA. Indian Journal of Poultry Science. 45 (2): 32-37.

Kumar, Ajay; Ajrawat Berjesh, Singh Umeed and Malik Prashant (2010). A study on Interest and Activities of Rural young Boys and youth in CAD Block Vijaypur. Journal of Dairying, Foods and Home Sciences 29(1):32-36.

Kumar, B. and Gupta, B.B. (2010). Gene effects for metric traits in three bread wheat crosses. Environment and Ecology 28(2B):1400-1403.

Kumar, B. and Gupta, B.B. (2010). Combining ability in F_1 hybrids of a diallel cross of bread wheat. Environment and Ecology 28(1B):494-498

Kumar, B. and Gupta, B.B. (2011). Gene action for various morpho-physiological and biochemical determinants of drought tolerance in wheat. International Journal of Current Research 33(6):55-058

Kumar, B., Pandey S.K. and Singh, S.B. (2010). Performance of Single Cross Maize Hybrids in the intermediate hill (rainfed) zone of Jammu and Kashmir state. Progressive Research 5(1):15-18

Kumar, J, Kumar, A and Sharma, B.C.(2010). Effect of chemical and crops establishment methods on weeds and yield of rice and their residual effects on succeeding wheat crop. Indian Journal of Weed Science. 42(1&2):78-82.

Kumar, S. and Sharma, J.K. (2010). Genetic divergence studies in lentil (Lens culinaris medik) under different cropping systems in mid-hills of North Western Himalayas. Himachal Journal of Agricultural Research 36(1):1-6.

Kumar, S., Rattan, P., Dhotra, B. and Sharma, J. P. (2010). Effect of different doses of nitrogen and leaf cuttings on leaf and seed yield of coriander. Journal of Research, SKUAST-J, 9(2): 145 – 149.

Kumar, S., Rattan, P., Sharma, J. P. and Gupta, R. K. (2010). D^2 analysis for fruit yield and quality components in tomato (Lycopersicon esculentum Mill.) Indian Journal of Plant Genetic Resources, 23(3): 318 – 320.

Kumar, S., Rattan, P., Sharma, J. P. and Gupta, R. K. (2010). Genetic variation and interrelationship studies in chilli (Capsicum annuum L.) Journal of Research, SKUAST-J, 9(1): 132 – 136.

Kumar, S., Sharma, J. P. and Chopra, S. (2011). Studies on variability, heritability and genetic advance for morphological and yield traits in brinjal (*Solanum melongena* L.) Mysore J.Agric.Sci.45(1):63-66

Kumar, S., Singh, H.B. and Sharma, J.K. (2010). Heterosis for morpho physiological and qualitative traits in rice (Oryza sativa L). Oryza 47(1): 17-21.

Kumar, Vijay, Singh, G.R., Kumar, Ajay and Pathinia, Kanchan (2010). Status of major nutrients in soils of Haridwar District. Environment and Ecology 28(2): 759-761.

Kumar. B. Pandey, S. K. and Singh, S. B. (2010). Performance of single cross maize hybrids in the intermediate hill (rainfed) zone of Jammu and Kashmir state. Progressive Research 5(1): 15-18.

Kushwaha, R. B., Gupta, A. K., Bhadwal, M. S.,. Tripathi, A. K and Kumar, Sharad (2010). Surgical removal of gingival tumour with the involvement of rostral mandible in a cow. Indian J. Vet. Surg., 31(2): 158.

Kushwaha, R.B. and Diwedi, D.K. (2010). Surgical repair of traumatic oerophageal repture in a pigeon. Intas Polivet. (11): 395-96.

Kushwaha R.B., Gupta A.K., Bhadwal M.S. and Ahmed Nazir (2010). Closure of external ear canal secondary to telescope guided electrocauterisation of ear canal tumour in a labrador dog. Indian J.Vet Surg. 31(1):65-66.

Kusum, Raina, R., Verma, P.K. (2010) ameliorative efficacy of copper salt on electrocardiographic parameters in molybdenum intoxicated goats. Journal of Veterinary Pharmacology and Toxicology 9(1-2) 60-63.

Kusum, Raina, R., Verma, P.K. Pankaj, N.K., Kant, V. Kumar J., and Srivastava A.K. (2010) Hematological profile of sub-acute oral toxicity of molybdenum and ameliorative efficacy of copper salt in goats. Toxicology International 17(2) 82-85.

Latima, Pangotra S , Chabra R and Taku A. (2010). Molecular characterization of shiga toxin producing Escherichia coli from

sheep. Indian J Small Ruminant Research 16(1):62-66

Mahapatra, P.S and Das, K.C. (2010). Influence of age and season on body weight and haemato-biochemical parameters of quail. Indian Veterinary Journal 87(12):1201-1203.

Mahmood, A. and Rizvi, S.E.H. (2010). Statistical Assessment of Growth Trends of Peach Fruit in Jammu & Kashmir State of India, Economic Affairs, 55(3&4):333-338 .

Mallick, S. A., Gupta, Moni and Gupta, Sachin (2010) An approach towards more productive, efficient and competitive nitrogen fixing symbiotic bacteria – A review. Environment & Ecology, 28(4):2349-2361

Manhas, J.S., Garg, S. Charak, A.S. and Gupta, L. (2011). Assessment of impact of adult trainer's training programme on watershed management. . Indian J. Adult Edu. 72(2) 51-61.

Mir, I. A., Kumar, R., Sharma, R. K. and Barman, K. (2010). Effect of addition of herbs on invitro digestibility of feeds with rumen liquor of goat. Indian Journal of Veterinary Research. 19 (1): 13-18.

Mondal, SK, Magotra, V, Jamwal, BS, and Pratap, Aditya (2010). Phenotypic stability in winter wheat (Triticum aestivum L) genotypes for yield and yield contributing traits. Environment & Ecology 28(2B): 1440-1445.

Mutha Rao, M., Naidu, K.V., Umamahesh, Y. and Misra, AK (2010). Effect of transient suppression of LH surge on superovulatory responses in Ongole cows. Ind. J. Anim. Science. 80(9): 847-850.

Mutha Rao, M., Srinu, M and Pandey, A.K. (2010). Delivery of mummified fetus by caesarian operation in an Ongole cow. Ind. J. Anim. Reprod.30: 89-90.

Mutha Rao, M., Umamahesh, Y.and Babu Rao, K. (2010). Effect of breed or embryo source on pregnancy rate of cryo preserved bovine embryos. Indian veterinary journal, 87:601-602

Mutha Rao, M., Umamahesh, Y. and Misra, AK (2010). Evaluation of ovarian response and embryo production pattern in Ongole cows. Ind. J. Anim. Science, 80:973-975.

Mutha Rao, M., Venugopal Naidu, K., Umamahesh, Y.and Babu Rao, K. (2011). Estrus induction in superovulated cows using prostaglandin treatment. Indian veterinary journal. 87:67-68.

Mutha Rao, M., Umamahesh. Y and Venugopal Naidu. K (2011). Ovarian response and embryo yield in superovulated Ongole cows. Indian Veterinary Journal. 88:18-19

Mutha Rao, M, Umamahesh. Y, Venugopal Naidu. K and Babu Rao.K. (2011) Pregnancy rate in embryo transfer recipient cows. Indian veterinary journal. 88:31-33.

Navneet, Kaur, Katoch, R and Khan, A. (2010). Backyard Poultry Farming in Jammu villages. Livestock International 14 (3):2.

Pandey, RK, Singh, AK, Sharma, M. and Gupta, R.K. (2010). In-vitro effect of cytokinin on proliferation of lilium bulblets. Environment and Ecology. 28(2B):1365-1367.

Pandey, R. K., Dogra, S., Jamwal, S. and Bhat, D. J. (2010). Performance of Asiatic lily hybrids under Jammu conditions. Env. &Ecology, 28(2): 775 - 776.

Pandey, R. K., Dogra, S., Sharma, J. P, Jamwal, S. and Bhat, D. J. (2010). Performance of gladiolus cultivars under Jammu conditions.J.Res.SKUAST-J.9(2):210-214

Rai, AP, Mondal, AK, Rai, GK and Agrawal, HP (2011) Profile distribution of various forms of sulphur and their relationship with soil properties in soils of varanasi district. Journal of Soil and Water conservation 10(1): 44-48.

Rai, GK and Kumar, A. (2010) Role of Proteolytic Enzyme Inhibitors in Plant Defense against pathogenic microorganisms. Envi and Ecol. 28 (2B):1381-1387.

Rai, GK, Rai, PK. and Rai, HK. (2010). Processing quality and storage behaviour of potato (Solanum tuberosum L.) as influenced by potassium fertilization. Envi. & Ecol. 28(3A): 1801-1805.

Rai, SK, Rai, GK, and Singh, AK. (2010). Hierarchical Cluster Analysis in Exotic Introduction of

Chilli (Capsicum annumL.). Environment and Ecology. 28(4A):2423-2425.

Rai, A.P., Rai, P.K. and Agarwal, H.P. (2010). Fraction and relationhip of sulphur in some profile of inceptisols in Varanasi district. Indian Journal of agricultural chemistry XXXXIII (3):163-170.

Rai, S., Singh, N. N. and Shankar, U. (2010). Functional response of grub and adult of Coccinella septempunctata (L.) and Coccinella transversalis (Fab.) on mustard aphid, Lipaphiserysimi (Kalt). .Archives of Plant Protection and Phytopathology. 43(18):1829-1835.

Raina, A.K. and Srivastava, R.K. (2010). Impact of engineering measures for controlling in Baroi Khad- A rainy season torrents of Jammu. Journal of Soil and Water Conservation 9(4): 45-47.

Raina, N. S., Raina, R., Rana, R C and Sharma, Y P. (2010). Floral studies in gynodioeciuos (Valeriana jatamansi). Journal of Research, SKUAST-J (1):87-94.

Raina, P.K. and Razdan, V.K. (2010). Influence of weather factors and management of Septoria leaf spot of tomato in sub-tropics. Indian Phytopathology 63 (2): 26-29.

Raina, P.K., Gupta Anil and Gupta, Vishal 2010. Sarkanda-a potential substrate for pleutotus cultivation, :Journal of Research SKUAST-J, 9(1): 127-31

Raina, P.K., Gupta, A. and Gupta, V. (2010). Sarkanda-A potential substrate for Pleurotus cultivation, Journal of Research, SKUAST-J 9(1):127-131.

Raina, R., Verma, P.K., Pankaj, N.K., Vinay Kant and Prawez, S. (2010). Protective effect of ascorbic acid on oxidative stress induced by repeated dermal application of cypermethrin. Toxicological and Environmental Chemistry 92(5):947-953.

Rao, T Thirumal, Mutha Rao M, Naidu K.V. and Rao K.B. (2011). Semen ejaculate characteristics and fertility in Ongole bulls. Indian Veterinary Journal 88: 36-37.

Sarma, K., Suri, S., & Doley, P.J. (2010). Anatomy of the tongue of barking deer. Journal of Research, SKUAST-J 9: 145-149

Sharma, Ankur, Bhardwaj, H.R. (2010) Comparative evaluation of propofol alone and along with xylazine or midazolam in healthy dogs. Indian J. Vet. Surg. 31(2):81-85

Sharma N., Jamwal, S.S. and Gupta, R. 2010. Performance of different varieties of Peas under intermediate zone of Jammu region. Environment and Ecology 28(2A):1183-1185.

Sharma, Neerja, Gupta, A.K. and Samnotra, R.K. 2010. Effect of integrated nutrient management on growth yield and quality parameters in Tomato (*Lycopersicon esculentum Mill L.*) The Asian Journal of Horticulture 5 2.314-317

Sharma, A., Abrol, V., Sharma, P. and Singh, B. (2010). Rainfall and temperature variations affecting maize yield and nitrogen removal in kandi soil. Journal of Soil and Water Conservation 9(2): 127-130.

Sharma, A., Jalali, V.K. and Arora, S. (2010). Non-exchangeable potassium release and its removal in foot-hill soils of North-west Himalayas. Catena 82(2): 112-117.

Sharma, Ankur and Bhardwaj H.R. (2010) Influence of Auriculo-palpebral and retro-bulbar nerve block on Intra ocular pressure and lacrimal function in buffalo calves. Journal of Research, SKUAST-J 9(1):1-6.

Sharma, Ankur and Bhardwaj H.R. (2010). Comparative evaluation of propofol alone and premedicated with xylazine and midazolam in healthy dogs. Indian Journal of Veterinary Surgery. 31(II): 105-108.

Sharma, Ankur, Bhardwaj H.R. and Dwivedi D.K. (2010). Fibro-odontoma in a cow and its surgical management. Intas Polivet. 11(II):153-154.

Sharma, Ankur, Dhakate, M. S.and S. V. Upadhye (2010). Chemotheraputic Management of Canine Mammary Tumors. Vet Scan, 5 (1), Article 55.

Sharma, Ankur, Kushwaha, R B. and Gupta, Ajay (2010). Perineal hernia in a dog involving multiple abdomino-pelvic organs-a case report. Intas Polivet, 11(II):341-34.

Sharma, Ankur, Upadhye S.V. and Kour, Kawardeep (2011). Congenital abomasal

fistula in a buffalo calf and its surgical treatment. Buffalo Bulletin. 30(1).

Sharma, M.; Bhatanagar, S. and Khan, I. (2010). A General Class of Improved ratio Type Estimation through Auxiliary information. International Journal of Agricultural & Statistical Sciences, 6 (1):115-118.

Sharma, N., Arora, R.K., Khar, S. 2010. KVK trainings for the farmers in hilly areas of Poonch district: Identifying need of the hour. Journal of Hill Agriculture 1(2): 140-145

Sharma, Peeyush, Abrol, Vikas and Sharma, R. K. (2011). Impact of tillage and mulch management on economics, energy requirement and crop performance in maize–wheat rotation in rainfed subhumid inceptisols, India Europ. J. Agronomy 34: 46–51.

Sharma, S., Wali, V.K., Kher, R and Sharma, M. (2010). Effect of carbohydrate source, pH and supporting media on in vitro rooting of strawberry (Fragaria x ananassa Duch.) cv. Chandler. Journal of Research SKUAST- J 12 (1): 62-67.

Sharma, V., Mallick, S.A. and Tiku, A.K. (2010). Anticancer activity of Devil tree (Alstonia scholaris Linn.) leaves on human cancer cell lines. Indian Journal of Agricultural Biochemistry, 23(1): 63-65

Sharma, V., Mondal, A. K, and Sharma, V., (2010). Diagnostic survey for nutrient management in rice through DRIS approach. Journal of Soil & Water Conservation. 9 (3):177-181.

Sharma, V., Mondal, A. K, Bhat, A.K. and Wali, P. (2010). Boron adsorption characteristics in termperate orchard sinks of Jammu. Agropedology 20 (1):67-73.

Sharma,S.K.,Soodan,.J.S. and Sharma, N.(2011) Haemato-biochemical alterations in canine dermatitis. Indian Vet. J. 88(4):56-58.

Singh ,R., Bhardwaj. R. K. and Katoch, R. (2010) Effect of Iron Administration on Blood Values of Anemic Goats. Indian Veterinary J 87 (8) : 822-823

Singh, AK, Pandey, RK and Sharma, M. (2010). Hardening and acclimatization of in-vitro raised bulblets. Environment and Ecology. 8 (2B):1378-1380.

Singh, Anjani Kumar, Singh, AP, Singh, AK and Singh, SB (2011). Correlation and path analysis of yield and yield contributing traits in rice under intermediate hill zone of Jammu & Kashmir. Environment and Ecology 29 (1): 47-49

Singh, Bikram, Reena and Singh, SK (2010). Stability analysis for seed yield and yield components in mungbean under rainfed conditions of lower Shivaliks. Journal of Research, SKUAST-J 9(2): 236-239.

Singh, J. (2010). Minor valuable fruits of north India "Environment & Ecology 28 (3B): 2157-61

Singh, SB and Kumar Singh, Anjani (2010). Detection of epitasis for morpho-physiological and yield components in yellow maize (Zea mays L.) under irrigated condition Progressive Research. 5 (2): 262-267.

Singh, SB, Kumar Singh, Anjani and Singh, AP (2010). Genetic variability trait relationship and path analysis for green fodder yield and its components in Cowpea (Vigna anguiculata L.) under rainfed environment. Progressive Agriculture An International Journal 10(1): 42-46

Singh, Sanjit Kumar, Srivastava, A.K., Maroof, Ahmad and Kumar, Dhirendra. (2010). Effect of floor space on growth performance of Japanese Quail under cage system of management. Indian Journal of Animal Production and Management, 26: 23-25.

Singh, SB and Singh, Anjani Kumar (2011). Genetic variability and Divergence Analysis in Oat (Avena Staiva) rainfed environment in intermediate Himalayan hills. Indian Journal of Genetic resources.24 (1): 57-62

Singh,A K, Singh,SB, Singh, AP and Singh, V. (2010). Influence of sowing time on growth and yield of chickpea genotypes during rabi season in hilly area of Jammu region Journal of Food legume.23 (3&4): 223-225

Singh, SB, Gupta, BB, Singh, AK (2010). Heterotic Expression and Combining ability analysis for yield and its components in maize (Zea maize L) inbreds. Progressive Agriculture An International Journal.10 (2): 275-281

Singh, A.K, Singh, Amit Kumar, Srivastava ,J.N. and Sharma, A.K. (2010). Evaluation of fungicides and cultural practices against

fusarium wilt of chilli in intermediate zone of J&K. Veg. Science. 37(2): 208-209

Singh, A. K., Pandey R. K. and Sharma, M. (2010). Hardening and acclimatization of in virto raised lilium bulblets. Env. & Ecology, 28(2): 1378 -1380.

Singh, A. K., Singh, S. B., Singh, A. P., Singh, A. K., and Sharma A. K. 2010. Effect of different soil regime on biomass partitioning and yield of chickpea genotypes under intermediate zone of J&K. Food of Legume 23(2): 156-158.

Singh, A., Agrawal, R., Singh, R., Singh, D.K. and Pande, N. (2010). Seroprevalence of brucellosis in small ruminants. Indian Veterinary Journal 87: 224-225.

Singh, A., Agrawal, R., Singh, R., Singh, V.P. and Pande, N. (2010). Seroprevalence of contagious caprine pleuropneumonia (CCPP) in sheep and goats. Indian Journal of Veterinary Medicine 30 (1): 35-36.

Singh, A.K., Singh, Amit Kumar, Srivastava J.N. and Sharma, A.K. (2010). Evaluation of fungicides and cultural practice against fusarium wilt of chilli in intermediate hill zone of J&K. vegetable Science. 37(2): 208-209

Singh, K., Peshin, R. and Saini, S.K. (2010). Impact of the vocational training programmes conducted by the Krishi Vigyan Kendras (Farm Science Centres) in Indian Punjab. Journal of Agriculture and Rural Development in Tropics and Sub-Tropics 111 (2): 70-85.

Singh, R., Kumar, S. and Bhardwaj, R. (2010) .On-farm evaluation of urea molasses multi-nutrient blocks enriched with minerals in goats. Indian Journal of Animal Sciences 80 (4): 358-361.

Singh, R., Kumar, S. and Brar, P.S. (2010). Evaluation of urea molasses multi-nutrient blocks enriched with area specific mineral mixture in Buffaloes (Bubalus bubalis). Indian Journal of Animal Sciences 80 (6) : 561-564

Singh, S. B., Gupta, B. B. and Singh, A. K. (2010). Heterotic expression and combining ability analysis for yield and its components in maize (Zea mays. L) inbreds. Prog. Agric. 10(2): 275-281.

Singh, S. B., Singh, A. K. and Singh, A. P. (2010) Genetic variability, trait relationship and path analysis for green fodder yield and its components in cowpea (*Vigna anguiculata*) under rainfed environment. Prog. .Agric 10(1): 42-46

Singh, S. P.; Singh, A.K. and Dwivedi, S. (2010). Cost Return and Productivity of main Vegetable Crops in Eastern U.P. Ecol. Env. & Cons. 16 (4): 537-540

Singh, S. P.; Singh, A.K. and Dwivedi, S. (2010). Land Use and Cropping Pattern Followed by Vegetable Growers in Eastern Uttar Pradesh. Research Journal of Agricultural Sciences.1 (4): 448-450 .

Singh, S.K., Bikram Singh, V.B. Singh and Reena (2010). Morphological, cultural and pathogenic variability among the isolates of Fusarium oxysporum f. sp. ciceri causing wilt of chickpea. Annals of Plant Protection 19(1): 155-158.

Singh, S.K., Singh, Bikram, Singh, V.B. and Reena (2011). Morphological, cultural and pathogenic variability among the isolates of Fusarium oxysporum f.sp. ciceri causing wilt of chick pea. Annals of Plant Protection Science 19 (1) : 155- 158.

Singh, SK and Srivastava, JS (2010). Resistant mutant of fluorescent Pseudomonas and its effect on growth of pea cultivars. Annals of Plant Protection sciences 18(2): 443-446.

Singh, SK, Singh, B and Srivastava, JS (2011). Use of Rhizobium, mycorrhizal fungi and organic amendments on growth of Pisum sativum. Annals of plant protection sciences 19(1): 134-137.

Singh, V.B., Singh, V.K., Chauhan, V.B. and Singh, S.K. (2010). Physiological variability among isolates of Phytophthora drechsleri f. sp. cajani. Annals of Plant Protection Science 18 (2) : 529- 532.

Singh. S. B., Singh, A. K. and Singh. A. P. (2011). Identification of heterotic combinations for some morphophysiological and yield components related to drought tolerance in maize (Zea mays.L). Prigressive Research an International Journal 6(1):1-8.

Sinha,B.K. and Hemantaranjan, A.(2010). Growth analysis in Pea (Pisum sativum L.) with

reference to zinc nutrition. Environment & Ecology., 28(2) : 824-826.

Sirohi, S.P.S., Singh, S. P. and Singh, S. B. 2010. Combining ability analysis in mungbean (Vigna radiate L. Wilczek). Progressive Research 5 (1): 72-77.

Sodhi, R. S., Kumar, S., Rattan, P., Sharma, J. P. (2010). Screening of tomato germplasm for resistance against leaf curl virus disease under field conditions. Enviv. & Ecology 28 (1B): 502 - 503.

Sood, Monika, Kaul, Raj Kumari. and Anand, V. (2010). High pressure processing: an emerging technology for food processing. Beverage and food world 3: 42-46.

Srivastava, R.K.; Sharma H.C. and Raina A.K. (2010). Soil and Water Conservation Measures for Watershed Management using Remote Sensing and GIS. Journal of Soil and Water Conservation 9(3): 8-13.

Taku, A, R Chhabra and War BA (2010) Footrot on a sheep breeding farm in the Himalayan state of Jammu and Kashmir. Rev. Sci. Tech. Off. Int.Epiz., 29(3):671-75

Thappa, M., Kumar, S and Rafiq, R. (2011). Influence of plant growth regulators on morphological, floral and yield traits of cucumber (Cucumis sativus L.).Kasetsart J.(Nat. Sci.) 44:1-12

Tikoo, A., Singh, R., Agrawal, R., Mahajan, S., Singh, G. and Iqbal, A. (2010). Antimicrobial activity of some plant extracts against E. coli. Journal of Research, SKUAST-J 9(2):229-232.

Tripathi, A K, Soodan J S and Kushwaha R B (2010). Gastric foreign body syndrome in a Golden Retriever Dog. Intas Polivet. 11(II), No: 2. 181-82

Tripathi, A. K and. Rajora V.S (2010). Comparative evaluation of Immunomodulatory activity of Ocimum sanctum and Emblica officinalis and their influence on Cyclophosphamide induced immunosupression. J.Trop. Med Plants, 11 (2):207-10.

UL-Ayan, Qurat, Gupta, Neeraj, Gupta, Vikas, Pathania, Kanchan and Singh, D.B. (2010). Effect of different treatments in papaya cubes during storage. Enviornment and Ecology 28 (4): 2306-2308.

Umar, I, Wali, V.K., Kher, R., Sharma, A. and Gupta, N. (2010). Impact of integrated nutrient management on soil nutrient status in strawberry (Fragaria x ananassa Duch) cv Chandler. Journal of Hill Agriculture 1(1) : 79-81.

Verma, P.K.,Singh Y. and Kumar J. (2010). Anti-stress properties of Citrus limon in chickens. Indian Journal of Animal Sciences 80(11): 1093-95.

Verma, P K, Mutha Rao, M., Srilatha, Ch. and Raina, R. (2010). Histopathological alterations in testes on chronic dermal exposure of cypermethrin in Wistar rats. Indian Journal of Animal Reproduction, 31(1): 67-69

Vinay Kant, Srivastava A.K., Raina, R., Verma, P.K., and Kumar P (2010). Negligible ameliorative action of aluminium sulphate on enzymatic alterations produced during subacute toxicity of fluoride in Goats. Fluoride 42(2): 120-123.

Vinay Kant, Srivastava, A.K. Raina, R Verma, P.K., Pankaj, N.K. (2010) Single and multiple daily dose toxicokinetics of fluoride after oral administration of sodium fluoride in goats. Toxicological and Environmental Chemistry 92(2): 331-336.

Yathish, H. M., Sharma, Ashwani, Kumar, Vijay, Jain, Asit, Chakraborty, Dibyendu, Singh, Avtar, Tantia, M. S. and Joshi, B. K. (2010). Genetic polymorphism of CD18 gene in Karan Fries young bull calves using PCR-RFLP analysis. Current Trends in Biotechnology and Pharmacy, 4(4): 900-907.

12. LINKAGES AND COLLABORATION

The university has developed strong linkages with national and international organizations with a view to harness the information, materials, expertise and exchange of scientists and students visits. MoUs have been signed by the University with the national and international organizations. The university has signed MoU with Cornell University, USA to facilitate the exchange of new technology of mutual interest, students and the faculty

Hauke Koch a scholar from ETH laboratory Zurich Switzerland working with Professor

Collaboraton with Cornell Universtiy, USA

Schmid Paul Hempel visited Division of Entomology w.e.f August 19th 2010 to September 9, 2010 as part of collaborative project on *Crithidia* parasites of bumblebees, analyzing genotypic variability in bumblebee populations and their immunity to parasite

Given the national leadership in almost all major agricultural research areas, the university has close linkages with following other institutes of the country.

Hauke Koch a scholar from ETH laboratory Zurich Switzerland at Chatha

Institute	Web Site
State Agriculture Universities	
Assam Agricultural University	www.aau.ac.in
Acharya NG Ranga Agricultural University, Hyderabad	www.angrau.net
Ch.Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Palampur	www.hillagric.ernet.in
Gujarat Agricultural University	www.gau.guj.nic.in
Jawaharlal Nehru Krishi Vishvavidyalaya, Jabalpur	www.jnkvvjabalpur.org
Kerala Agricultural University	www.kau.edu
Orissa Univ. of Agriculture & Technology	www.ouat.ac.in
Punjab Agricultural University	www.pau.edu
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Krishinagar, Akola, Maharashtra	www.pdkv.mah.nic.in
Sher-e-Kashmir University of Agric. Sc.& Tech, Kashmir	www.skuastkashmir.ac.in
Tamil Nadu Agricultural University, Tamil Nadu	www.tnauniv.org
University of Agricultural Sc. GKVK, Karnataka	www.uasbng.kar.nic.in
Dr. Yashwant Singh Parmar Univ. of Horticulture & Forestry, Solan (H.P)	www.ysparmeruniversity.org
Deemed University & Institutes	
Indian Council of Agriculture Research	www.icar.org.in
Indian Agriculture Research Institute	www.iari.res.in
Indian Veterinary Research Institute	www.ivri.nic.in
National Dairy Research Institute	www.ndri.hry.nic.in
CIFE	www.fisheries.university.org
Allahabad Agriculture Institute	www.aaidu.org

13. STATUTORY MEETING

University Council

The University Council is the advisory body of the University. It reviews policies and programmes of the University and advises in its future plans, development and expansion and examines the annual accounts and audit report of the University.

Meeting: 5th University Council meeting held on 20-12-2010

MEMBERS OF UNIVERSITY COUNCIL as on 31-03- 2011

MEMBERS OF UNIVERSITY COUNCIL	
Sh. N.N. Vohra **His Excellency** Governor J&K State (Hon'ble Chancellor, SKUAST-Jammu)	Chairman
Jenab Omar Abdullah Hon'ble Chief Minister, J&K State (Hon'ble Pro-Chancellor, SKUAST-Jammu)	Member
Jenab G.H. Mir Hon'ble Minister for Agriculture, Co-operatives & fisheries, J&K State	Member
Dr. B. Mishra Hon'ble Vice Chancellor, SKUAST-Jammu	Member
Dr. Tej Pratap Hon'ble Vice Chancellor, SKUAST-Kashmir	Member
Dr. M.S. Kang Hon'ble Vice Chancellor, PAU, Ludhiana	Member
Dr. A. R. Trag **H**on'ble Vice-Chancellor Islamic University of Science & Technology Avantipura, Kashmir	Member
Sh. M.I. Khandey **Principal Secretary to Govt.** Agriculture Production Department, J&K Govt., Jammu	Member
Sh. Sudanshu Pandey Commissioner/Secretary to Govt., (Financial Advisor-SKUAST-Jammu)	Member
Dr. B.B. Gupta **Secretary** Registrar, SKUAST-Jammu	Non-Member Secretary

Board of Management

The Board of Management is the principal executive body of the University. It has the power of management and administration of all the affairs of the University, including finance, revenue, property and academic affairs.

15th meeting of Board of Management of SKUAST-Jammu was held on 08/11/2010 in the Committee Hall of Vice Chancellor's Secretariat, SKUAST-J, Chatha, Jammu.

Dr. B. Mishra, Hon'ble Vice-Chancellor Chairing the 15th Board of Management Meeting

Members of Board of Management as on 31-03-2011

Dr. B. Mishra, Hon'ble Vice Chancellor, SKUAST-J	**Chairman**
Sh. M. I. Khandey, IAS, Principal Secretary to Govt., Agriculture Production Department Govt. of J&K.	**Member**
Shri Sudhanshu Pandey, IAS, Commissioner/ Secretary to Govt, Finance Department Govt. of J&K	**Member**
Sh. B.B.Vyas, IAS Commissioner / Secretary, Planning & Development Department, Govt. of J&K,	**Member**
Dr. H.S.Gupta, Director, Indian Agricultural Research Institute, New Delhi	**Member**
Dr. A.K. Srivastava, Director, National Dairy Research Institute, Karnal, Haryana	**Member**
Dr. B.K.Joshi, Director, National Bureau of Animal Genetic Resources, Karnal, Haryana	**Member**
Krishi Pandit Bakshi Ganesh Das, Progressive farmer, R/o Saranoo, Rajouri.	**Member**
Sh. S.C.Dutta, Agro-industrialist, Pvt. Ltd. 97-BO98 A, Jammu.	**Member**

Dr. K.S. Risam, Director Extension Education, SKUAST-Jammu	**Member**
Dr. R.M.Bhagat, DRI-cum-Dean, PGS, SKUAST-Jammu	**Member**
Dr. N.A.Sudhan Director Research, SKUAST-Jammu	**Member**
Dr. B.B. Gupta Registrar, SKUAST-J	**Non-Member Secretary**

Joint Action Committee Meeting:

6th meeting of Joint Action Committee Meeting of SKUAST-J & SKUAST-K was held on 11/03/2011 at Hotel Ashok, Jammu.

Academic Council

The Academic Council is the principal academic body responsible for academic policies, rules and regulations of the University. All matters relating to academic programmes are regulated by the Academic Council.

11th Academic Council meeting of SKUAST-Jammu was held on 24/02/2011 at Committee Room, Administrative Block, SKUAST-J, Main Campus, Chatha under the chairmanship of Dr. B.Mishra, Hon'able Vice-chancellor

Dr. B. Mishra Hon'ble Vice-Chancellor Chairing the 11th Academic Council Meeting

Research Council Meeting

The 11th Research Council Meeting of Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu was held at main campus, Chatha, Jammu on 7th and 8th April, 2010 under the chairmanship of Dr. B. Mishra, Hon'ble Vice-Chancellor of SKUAST-Jammu. Dr. A. K. Mishra, Director, Project Directorate of Cattle, Meerut and Dr. B. C. Viraktamath, Project Director, Directorate of Rice Research (ICAR), Hyderabad, participated as the experts of eminence from veterinary and agriculture fields, respectively. Dr. R. M. Bhagat, Director Research in his welcome address stressed upon the need based research projects and prioritize according to the problems being faced at the farmers' level. He assured that the future direction in the research would be formulated based on the deliberations from the meeting. Dr. A. K. Mishra, expert from veterinary field, suggested that the University must generate the information regarding the local problems of the region and find solutions. He also advised for collaborative work from within and outside the University, so that the low productivity which is a problem being faced is combated and animal rearing is made a profitable venture. Dr. Mishra further suggested that research should be taken up on use of technologies like Artificial Insemination and Embryo Transfer to propagate elite breeds of local cattle; Sexing of semen to produce desired sex progeny; Cloning/ transgenic animal production supplemented with bioinformatics, information technology etc., to increase the potential of local breeds of cattle. He also highlighted the need for improved diagnostics, prophylactics, modern vaccines like DNA vaccines, need for linkages, utilizing infrastructure between institutions and marketing produce of livestock effectively for overall development of livestock sector.

Dr. B. C. Viraktamath, expert of eminence from agriculture field emphasized the need for collection, evaluation and conservation of local germplasm of basmati and other crops. He suggested that data of agriculture from different districts should be analyzed which will help in formulating the roadmap of future research. He further suggested that biotechnological work should be initiated in the University.

Mr. Ajay Khajuria, Director Agriculture, Jammu, stressed upon the need of greater coordination between the University and the extension agencies so that the recommendations from the University are effectively disseminated to the farmers.

Mr. J. L Sharma, Director, Horticulture, Jammu, suggested that for combating the effects of climate change, university should prepare a suitable contingent plan which could be linked with NAREGA. Dr. M. L. Sharma, Director, Sheep Husbandry, highlighted the problems of sheep rearing in the Jammu Division such as sheep pox, foot & mouth disease (FMD), pestedes petits (PPR) and toxicosis.

Dr. B. Mishra, Hon'ble Vice Chancellor, in his key note address, thanked the Eminent Experts and Directors of the development departments for participating in the meeting. In his address, he emphasized the need of interdisciplinary approaches for tackling the problems faced by the farming community. He promised that graduate biotechnology course will be started in the University from this session. He pointed out that in the coming years global warming and melting of the glaciers will have negative impact on the agriculture production and will be a limiting factor on the agriculture especially rainfed agriculture as nearly 70 per cent area of Jammu comes under this stress ecology. He expressed his worries about yield stagnation and negative growth in the productivity and advised immediate action for breaking the yield barrier. He further suggested for a long term research strategy so that new quality products can be developed. He also highlighted the importance of livestock improvement and role of poultry, fisheries and other allied sciences towards making the state self sufficient.

Other Importnat Meeting

XXI Meeting of the ICAR Regional Committee No: 1

The XXI meeting of the ICAR Regional Committee No. 1 of Indian Council of Agricultural Research was held at Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu from June 10-11, 2010.

In the inaugural session of 2-day meeting Dr. B. Mishra, Hon'ble Vice-Chancellor, SKUAST-J, in his welcome address stated that it is a historical day for SKUAST-J for organizing the meeting of ICAR Regional Committee No. I. He said that meeting shall benefit the states of Uttrakhand, Himachal Pradesh and J&K for drawing the road map for enhancing agricultural production in this region.

Inaugural Session of the XXI Meeting of the ICAR Regional Committee No. 1

"To regenerate and rejuvenate agriculture in the hill states and for attracting young generation to agriculture, farming has to be economically viable" said Jenab G.H. Mir, Hon'ble Minister for Agriculture, J&K state in the inaugural session of XXI meeting of ICAR Regional Committee No. I. He prompted the universities and development departments to replicate the model of green revolution in the state. He emphasized the need of quick transfer of technologies to the farmers.

Jenab Javed Ahmad Dar, Hon'ble Ministerof State for Agriculture, said that due to unique agro-climatic conditions in the state, there is a vast potential for agriculture. Jenab Agha Syed Rahullah, Hon'ble Minister for Animal and Sheep Husbandry called for time bound research in animal science sector. Shri Shyam Lai Sharma, Hon'ble Minister for Horticulture and Floriculture, suggested that opportunities in cultivation of medicinal plants and floriculture should be utilized for raising the income from agriculture, while Jenab Ali Mohammad Sagar, Hon'ble Minister for Rural Development, Panchayat, law and Parliamentary Affairs highlighted the challenges like global warming, depletion of water, pressure on natural resources, increasing population and shrinking of cultivable land.

Dr. S. Ayyappan, Director General (ICAR) and Secretary, DARE, highlighted that agriculture is the only area where you invest one and get seven in return. He added that objective of organizing such meetings is to find out problems and devise collaborative measures to enhance

Technical Session of the XXI Meeting of the ICAR Regional Committee No. 1

agricultural profitability. Dr. Ayyappan assured that ICAR would provide all the support to state governments and agricultural departments to deal with the effects of climate change. Listing problem of market linkage, he said that reaching of fertilizers to the farmers in remote areas in hills is a challenge that can be seen from the quite low consumption of fertilizers in J&K as compared to national average.

Hon'ble DG stressed the role of KVKs in dissemination of technologies to the farming community and interfaced with the Programme Coordinators of Krishi Vigyan Kendras belonging to J&K, Himachal Pradesh and Uttrakhand and asked them to furnish details of innovations, extension activities, technologies transferred, administrative, technical and financial issues. The Director General lauded the efforts taken by new Vice Chancellor Dr. B. Mishra.

14. VISITS OF IMPORTANT DIGNITARIES

- Dr. Manmohan Singh, Hon'ble Prime Minister of India.
- Sh. N. N. Vohra, His Excellency the Governor of J&K
- Jenab Omar Abdullah, Hon'ble Chief Minister, J&K
- Jenab G. H. Mir, Hon'ble Minister for Agriculture, J&K
- Jenab Ali Mohammad Sagar, Hon'ble Minister for RD, Panchayat, Law and PA, J&K
- Sh. R. S. Chib, Hon'ble Minister for Medical Education, J&K
- Sh. Raman Bhalla, Hon'ble Minister for Revenue & Relief, J&K
- Sh. Sham Lai Sharma, Hon'ble Minister for Hort. & Floriculture, J&K
- Jenab Aga Syed Rahullah, Hon'ble Minister for Animal & Sheep Husbandry, J&K
- Dr. S. Ayyappan Secretary, DARE, Govt. of India and DG, ICAR
- Dr. H. P. Singh, Deputy Director General (Hort.), ICAR
- Dr. K. D. Kokate, Deputy Director General (Ag. Extn.), ICAR
- Dr. K. M. L. Pathak, Deputy Director General (AS), ICAR
- Dr. Bangali Baboo, National Director, NAIR ICAR
- Dr. M. Mahadevappa, Ex-Chairman ASRB & Ex. VC, UAS, Dharwad
- Dr. S. S. Magar, Ex- Vice Chancellor, BSKKV, Dapoli, Maharashtra
- Prof. Anwar Alam, Ex- Vice Chancellor, SKUAST-K, Srinagar
- Dr. P. Raghava Reddy, Vice Chancellor, ANGRAU, Hyderabad
- Dr. S. S. Chahal, Vice Chancellor, MPUAT, Udaipur, Rajasthan
- Dr. K. R. Dhiman, Vice Chancellor, UHF, Solan (H. P)
- Dr. Tej Partap, Vice Chancellor, SKUAST-K, Srinagar
- Dr. A. K. Srivastava, Director, NDRI Karnal
- Dr. H.S. Gupta, Director IARI, New Delhi
- Sh. Mohammad Iqbal Khanday, Principal Secretary (Agric. Prod. Dept), Govt. of J&K
- Smt. Sonali Kumar, Ex Principal Secretary (Agric. Prod. Dept.), Govt of J&K
- Sh. B. B. Vyas, Principal Secretary to Hon'ble Chief Minister of J&K
- Sh. R. K. Goyal, Principal Secretary to HE, the Governor of J&K ADG (EQR), ICAR
- Sh. B. D. Sharma, Commissioner-cum-Secretary (Animal & Sheep Husbandry), Govt. of J&K
- Dr. Ronnie Coffman, Director IP/CALS of Cornell University, USA
- Dr. N. Nadarajan, Director IIPR, Kanpur
- Dr. N.P. Singh, Project Coordinator, AICRP on chickpea, IIPR, Kanpur
- Dr. A. K. Mishra, Director, Project Directorate of Cattle, Meerut
- Dr. B. C. Viraktamath, Project Director, Directorate of Rice Research (ICAR), Hyderabad.

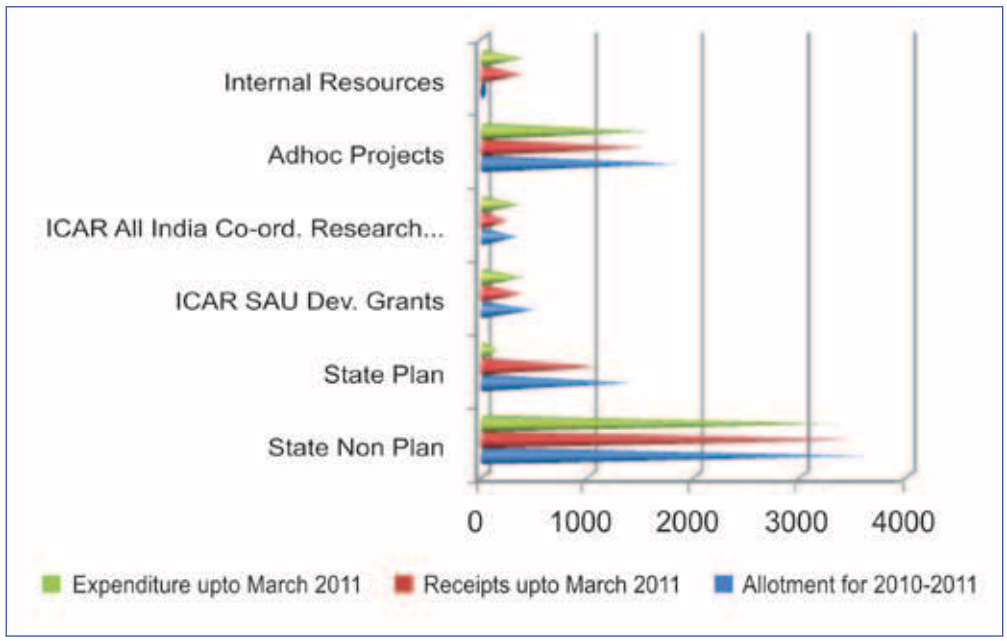
Visit of Deligation From the Cornell University, USA, To The Division of plant pathology

Dr. S. Ayyappan Secretary, DARE, Govt. of India and DG, ICAR in presence of Dr. B. Mishra, Hon'ble VC planting a sapling of Raj Harad in the Herbal Garden at Chatha

15. RESOURCES AND FINANCIAL ESTIMATES (2010-11)

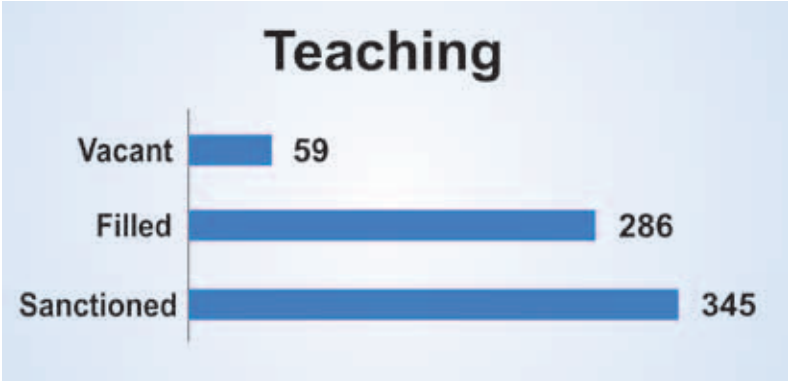
(Rs. In Lakhs)

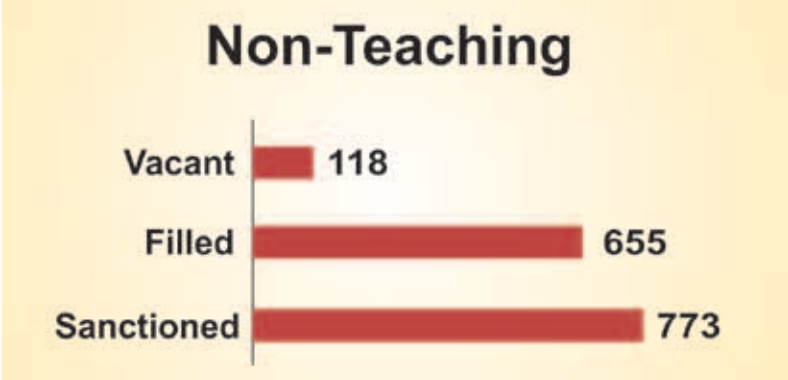
S.No.	Particulars	**Allotment for 20010-2011**	**Receipts up to March 2011**	**Expenditure upto March 2011**
1	State Non Plan	3641.18	3506.78	3360.66
2	State Plan	1405.36	1102.50	143.23
3	ICAR SAU Dev.Grants	495.00	379.73	386.94
4	ICAR All India Co-ord. Research Schemes	327.55	224.42	347.66
5	Adhoc Projects	1818.40	1505.33	1572.62
6	Internal resources	---	374.64	374.64



16. STAFF POSITION (AS ON MARCH 31, 2011)

S. No	Category	Sanctioned	Filled	Vacant
A.	Teaching			
	Dean	02	-	02
	Assoc. Dean	02	02	-
	Prof. /Equivalent	34	17	17
	Assoc. Prof./Equivalent	87	75	12
	Asstt. Prof./Equivalent	220	192	28
		345	**286**	**59**
B.	**Non-teaching**			
	Administrative	244	184	60
	Technical	46	36	10
	Auxiliary/ Supporting	483	435	48
	Total	**773**	**655**	**118**
	Grand total (A+B)	**1118**	941	177





17. APPOINTMENTS/PROMOTIONS AND SUPERANNUATION

A. Appointments:

S. No.	Name	Appointed as
Teaching		
1.	Dr. Anand Kumar Pathak	Asstt. Professor/ Jr. Scientist (Animal Nutrition)
2.	Dr. Jatinder Singh	Asstt. Professor/ Jr. Scientist (LPM)
3.	Dr. Zuhaib Fayaz Bhatt	Asstt. Professor/ Jr. Scientist (LPT)
4.	Dr. G. Vijaya Bhaskar Reddy	Asstt. Professor/ Jr. Scientist (LPT)
5	Dr. Pankaj Gupta	Asstt. Professor/ Jr. Scientist (Vety. Surgery & Radiology)
6.	Dr. Deshpande Kuldeep Yeshwant	SMS (Animal Science)
7.	Dr. Rajesh Godara	Asstt. Professor/ Jr. Scientist (Vety. Parasitology)
8.	Dr. Idrees Mehraj Allaie	Asstt. Professor/ Jr. Scientist (Vety. Parasitology)
9.	Dr. Kawardeep Kour	Asstt. Professor/ Jr. Scientist (Vety. Physiology)
10.	Dr. Shafiqur Rehman Abdul Ghafoor	Asstt. Professor/ Jr. Scientist (Vety. Pathology)
11.	Dr. Shafkat Ahmad Khandi	Asstt. Professor/ Jr. Scientist (Vety. & Animal Husbandry Extn.)
12.	Dr. Pranav Kumar	Asstt. Professor/ Jr. Scientist (Vety. & Animal Husbandry Extn.)
13.	Dr. Dhirendra Kumar	Asstt. Professor/ Jr. Scientist (ABG)
14.	Dr. Rajesh Kumar	Asstt. Professor/ Jr. Scientist (ABG)
15.	Dr. Maninder Singh	Asstt. Professor/ Jr. Scientist (VPH&H)
16.	Dr. Prem Kumar	SMS (Fisheries)
17.	Er. Hemant Dadhich	Asstt. Professor/ Jr. Scientist (Ag. Engg.)
18.	Er. Sushmita Mukherjee Dadhich	Asstt. Professor/ Jr. Scientist (Ag. Engg.)
19.	Dr. Manpreet Kour	Asstt. Professor/ Jr. Scientist (Agronomy)
20.	Dr. Ajigurt Manu Parmar	SMS (Hort.)
21.	Dr. Susheel Sharma	Asstt. Professor/ Jr. Scientist (Hort.)
22.	Dr. Sajad Majeed Zargar	Asstt. Professor/ Jr. Scientist (Biotech.)
23.	Dr. Ravinder Singh	Asstt. Professor/ Jr. Scientist (Biotech.)
24.	Dr. Manoj Kumar	Asstt. Professor/ Jr. Scientist (Ag. Engg.)
25.	Dr. Pavan Kumar	Asstt. Professor/ Jr. Scientist (LPT)
26.	Dr. Dibyendu Chakraborty	Asstt. Professor/ Jr. Scientist (ABG)
Non-teaching		
1.	Jagdish Raj	Prog. Asstt. (Computer)
2.	Shami Kumar	Computer Asstt.
3.	Gurjeet Singh	-do-
4.	Deepa Rani Thakur	-do-
5.	Avnil Mahajan	-do-
6.	Sindhu Sharma	-do-
7.	Anupam Sharma	-do-
8.	Aasia Gaffor	-do-
9.	Anil Kumar	-do-
10.	Prince Rajan Khajuria	-do-
11.	Arun Kumar	-do-
12.	Jugal Kishore Baru	-do-
13.	Ajay Kumar Prashar	-do-
14.	Kuldeep Raj	Class IV
15.	Sanjay Kumar	-do-
16.	Singara Ram	-do-
17.	Abdul Hamid	-do-
18.	Manu Sharma	-do-
19.	Manzoor Hussain	-do-
20.	Mohan Lal	-do-
21.	Rajesh Kumar	-do-
22.	Yash Paul	-do-
23.	Kewal Kishore	-do-
24.	Avtar Singh	-do-

25.	Romesh Kumar	-do-
26.	Raj Kumar	-do-
27.	Rattan Lal	-do-
28.	Param Jit	-do-
29.	Mohd. Aslam	-do-
30.	Seaf-U-Din	-do-
31.	Kesho Kumar	-do-
32.	Rajinder Paul	-do-
33.	Ashok Kumar	-do-
34.	Pardeep Kour	Jr. Steno.
35.	Nikhil Dutt	-do-
36.	Gurmeet Kour	-do-
37.	Bandhana Sharma	-do-
38.	Kulbhushan	-do-
39.	Shambu Nath	Asstt.-cum-Typist
40.	Sajad Ahmad	-do-
41.	Bikram Ram	-do-
42.	Bikesh Singh	Driver
43.	Jagan Nath	-do-
44.	Manohar Lal	-do-
45.	Mohd. Iqbal	-do-
46.	Chanchal Singh	-do-
47.	Barkat Ali	-do-
48.	Mohd. Aslam	-do-
49.	Amit Sharma	-do-
50.	Vijay Kumar	-do-
51.	Prem Chand	-do-
52.	Narinder Paul Singh	-do-

B. Promotions

S.No.	Name	Promoted as
1.	Ms. Kiran Bala	Jr. Stenographer

Superannuation

Scientific Staff

S.No.	Name	Superannuate on
1.	Dr. Arshad Mahmood, Prof. Ag. Econ. & Stats.	31/07/2010

Non-Teaching:

S.No.	Name	Superannuate on
1.	Sh. Chaman Lal, Tractor Driver	30/04/2010
2.	Sh. Chanchal Singh, FCLA	30/06/2010
3.	Sh. Narotam Singh, Security Guard	30/09/2010
4.	Sh. Krishan Singh, FCLA	30/11/2010
5.	Sh. Nasib Singh, Cook	31/10/2010
6.	Sh. A.K. Koul, Dy. Registrar (Acad.)	31/12/2010
7.	Sh. Rattan Chand, Head Asstt.	31/01/2011
8.	Sh. J.R. Padha, FCLA	28/02/2011
9.	Sh. Harbans Lal, Gardner	28/02/2011
10.	Sh. Guchchu Ram, Security Guard	31/03/2011
11.	Sh. Rattan Lal Sharma, FCLA	31/03/2011

D. Employees who left this University during (2010-11)

S.No.	Name	Designation
1.	Dr. Idrees Mehraj	Asstt. Professor
2.	Yasser Ali	Prog. Asstt. (Comp)
3.	Neeraj Gangal	FCLA
4.	Mohd. Iqbal Dar	FCLA
5.	Gurjeet Singh	Computer Asstt.

18. * PERSONNEL (AS ON 31/03/2011)

Assistant Professor/Equivalent and above

Governance:

Vice-Chancellor's Office

S. No	Name	Designation
1	Dr. B. Mishra	Hon'ble Vice-Chancellor
2	Dr. A.S. Bali	OSD to Hon'ble Vice-Chancellor
3	Sh. Sanjay Sharma	PRO to Hon'ble Vice-Chancellor
4	Sh. Devinder Sharma	Secretary to Hon'ble Vice -Chancellor

DRI-Cum-Dean Post Graduate Studies

1	Dr. R.M. Bhagat	DRI-cum-Dean PGS
2	Dr. S. B. Bakshi	Dy. Director, Student Welfare
3	Dr. A. K. Gupta	Medical Officer
4	Dr.(Mrs.) Sushma Gupta	Medical Officer
5	Sh. Keemti Lal	Assistant Registrar

Directorate of Extension Education

1	Dr. Kernel Singh Risam	Director Extension Education
2	Dr. Pramod Baru	Associate Director Extension Education (HQ at Bhaderwah)
3	Dr. R. K. Arora	Associate Director Extension Education (HQ at Poonch)

Directorate of Research

1	Dr. R.M. Bhagat	Director Research
2	Dr. J. P. Sharma	Associate Director Research
3	Dr. Deepak Kher	Associate Director Research
4	Dr. R. R. Jat	Associate Director Research
5	Dr. Pradeep Wali	Deputy Director Research (Attached with DEE)
6	Dr. M. C. Dwivedi	Farm Manager
7	Dr. A. K. Singh	Farm Manager
8	Dr. Ajay Gupta	Assistant Director (Attached with MSP, Chatha)

Registrar Office

1	Dr. B.B. Gupta	Registrar
2	Sh. Sanjay Sharma	I/c Dy. Registrar
3	Smt. Hansey Koul	Assistant Registrar
4	Sh. Tarsem Raj	Assistant Registrar
5	Sh. Manohar Lal	Assistant Registrar

Comptroller Office

1	Smt. Pushpa Devi	Comptroller
2	Sh. Ashok Kumar Singh	Dy. Comptroller
3	Sh. Sohan Lal Sharma	I/c Dy. Comptroller
4	Sh. R. K. Kapoor	Assistant Comptroller
5	Smt. Veena Gupta	Assistant Comptroller
6	Sh. Jitender Raina	Assistant Comptroller
7	Sh. Babu Ram	Assistant Comptroller
8	Sh. Vijay Sharma	Assistant Comptroller

Project Planning &Monitoring Office

1	Sh. Ashok Kumar Singh	I/c PP&MO

Estates Division Office

1	Sh. Anup Koul	Estate Officer
2	S. Iqbal Singh Sudan	Executive Engineer
3	Sh. Kewal Kumar Raina	Assistant Executive Engineer

Library

1	Dr. A.K. Tiku	I/c University Librarian
2	Smt. Shashi Prabha Raina	Assistant Librarian
3	Sh. Leela Dhar Mangi	Assistant Librarian

Faculty of Agriculture, Chatha

Dean's Office

1	Dr. Ajay Koul	Dean
2	Dr. C.S. Kalha	Associate Dean
3	Smt. Raj Kumari Aima	Administrative Officer
4	Sh. Devinder Samotra	Account Officer

Division of Agronomy

1	Dr. A.S. Bali	Professor (Presently OSD to HVC)
2	Dr. M.K. Khushu	Professor
3	Dr. B.C. Sharma	Associate Professor
4	Dr. Anil Kumar	Associate Professor
5	Dr. Lekh Chand	Associate Professor
6	Dr. Meenakshi Gupta	Assistant Professor
7	Mrs. Neetu Sharma	Assistant Professor
8	Dr. Sarabdeep Kour	Assistant Professor

Division of Agricultural Economics & Statistics		
1	Dr. S. E. H. Rizvi	Professor
2	Dr. A. B. Khan	Professor
3	Dr. Jyoti Kachroo (Punjabi)	Professor
4	Dr. Manish Kr. Sharma	Associate Professor
5	Dr. S. P. Singh	Assistant Professor
6	Dr. Sudhakar Dwivedi	Assistant Professor
Division of Agriculture Extension Education		
1	Dr. S.K.Kher	Professor
2	Dr. Rajinder Peshin	Associate Professor
3	Dr. P.S.Slathia	Assistant Professor
4	Dr. Nafees Ahmad	Assistant Professor
5	Dr. Poonam Parihar	Assistant Professor
Division of Agricultural Engineering		
1	Dr. C. K. Lidhoo	Professor
2	Dr. A. K. Raina	Associate Professor
3	Dr. Sushil Sharma	Associate Professor
4	Dr. Sandeep Mann	Associate Professor
5	Dr. R. K. Srivastava	Assistant Professor
6	Er. Hemant Dadhich	Assistant Professor
7	Er. Sushmita M. Dadhich	Assistant Professor
Division of Agro-forestry		
1	Dr. Mohd. Saleem	Professor
2	Dr. S. K. Gupta	Associate Professor
3	Dr. K.K. Sood	Associate Professor
4	Dr. N. S. Raina	Associate Professor
5	Dr. L.M. Gupta	Assistant Professor
6	Dr. Sandeep Sehgal	Assistant Professor
7	Ms. Meenakshi Gupta	Assistant Professor
Division of Biochemistry & Plant Physiology		
1	Dr. A. K. Tiku	Professor
2	Dr. S. A. Mallick	Professor
3	Dr. Sanjay Guleria	Associate Professor
4	Dr. Moni Gupta	Assistant Professor
5	Mr. Gurdev Chand	Assistant Professor
6	Dr. Vikas Sharma	Assistant Professor
7	Dr. B. K. Sinha	Assistant Professor
Division of Entomology		
1	Dr. D. P. Abrol	Professor
2	Dr. V. Kaul	Professor
3	Dr. Hafeez Ahmad	Associate Professor
4	Dr. R. K. Gupta	Associate Professor
5	Dr.Kuldeep Srivastava	Assistant Professor
6	Dr. Uma Shankar	Assistant Professor
7	Dr. Devinder Sharma	Assistant Professor
Division of Vegetable Science & Floriculture		
1	Dr. R. K. Gupta	Professor
2	Dr. Arun K. Gupta	Professor
3	Dr. R. K. Samnotra	Associate Professor (Presently attached at FFPVRA, Karlah, Chenani)
4	Dr. R. K. Pandey	Associate Professor
5	Dr. Sandeep Chopra	Assistant Professor
6	Dr. Satesh Kumar	Assistant Professor
7	Dr. Sanjeev Kumar	Assistant Professor
8	Dr. Deep Ji Bhat	Assistant Professor
9	Dr. Sheetal Dogra	Assistant Professor
10	Mr. Balbir Dhotra	Assistant Professor
Division of Genetics and Plant Breeding		
1	Dr. B.B. Gupta	Professor
2	Dr. S.K. Gupta	Professor
3	Dr. Bikram Singh	Professor
4	Dr. A.K. Razdan	Professor
5	Dr. S.K. Mondal	Associate Professor
6	Dr. S.K. Sudan	Associate Professor
Division of Plant Pathology		
1	Dr. V.K. Razdan	Professor
2	Dr. V.S. Verma	Professor
3	Dr. P. K. Raina	Associate Professor
4	Dr. S. K. Singh	Assistant professor
5	Dr. Deepak Kumar	Assistant Professor
6	Dr. Sachin Gupta	Assistant Professor
7	Dr. R.S. Sodhi	Assistant Professor
8	Dr. Vishal Gupta	Assistant Professor
Division of Fruit Science & Post harvest technology		
I)Fruit Science Section		
1	Dr. V. K. Wali	Professor
2	Dr. Parshant Bakshi	Assistant Professor
3	Dr. Mahital Jamwal	Assistant Professor
4	Dr. Arti Sharma	Assistant Professor

II) Post Harvest Technology Section

1	Dr Raj Kumari Kaul	Professor
2	Dr Anju Bhat	Associate Professor
3	Dr Jagmohan Singh	Assistant Professor
4	Dr Monika Sood	Assistant Professor

Division of Sericulture

1	Dr. Kalu Ram	Professor
2	Dr. S.P. Devi	Associate Professor
3	Dr. R.K. Bali	Associate Professor
4	Sh. Darshan Singh	Assistant Professor
5	Sh. R.L. Bhagat	Assistant Professor

Division of Soil Sciences And Agril. Chemistry

1	Dr. A. K. Bhat	Professor
2	Dr. K. R. Sharma	Professor
3	Dr. A. K. Mondal	Associate Professor
4	Dr. Vikas Sharma	Assistant Professor
5	Dr. Sanjay Swami	Assistant Professor
6	Dr. A.P. Rai,	Assistant Professor
7	Dr. Renu Gupta	Assistant Professor

School of Biotechnology

1	Dr. S. K. Gupta	ProfessorPBG & Nodal Officer
2	Dr. A.K. Singh	Assistant Professor
3	Dr. G. K. Rai	Assistant Professor
4	Dr. S. M. Zargar	Assistant Professor
5	Dr. Ravinder Singh	Assistant Professor

FACULTY OF VETERINARY SCIENCES AND ANIMAL HUSBANDRY

R.S. PURA

Dean's Office

1	Dr. A. R. Nazki	Dean
2	Dr.M.S.Bhadwal	Associate Dean
3	Sh. Raman Sharma	Accounts Officer

Division of Veterinary Public Health & Hygiene

1	Dr. S.K.Kotwal	Professor
2	Dr. M.Rashid	Assistant Prof
3	Dr. H.K.Sharma	Assistant Prof
	Dr. Maninder Singh	Assistant Prof

Division of Veterinary Pathology

1	Dr. Shagufta Azmi	Associate Professor
2	Dr. Nawab Nashiruddullah	Associate Professor
3	Dr. Shilpa Sood	Assistant Professor
4	Dr. Shafiqur Rahman	Assistant Professor

Division of Parasitology

1	Dr. Rajesh Katoch	Professor
2	Dr. J. K. Khajuria	Associate Professor
3	Dr. Anish Yadav	Associate Professor
4	Dr. Rajesh Godara	Assistant Professor
5	Dr. Sanku Borkataki	Assistant Professor

Division of Pharmacology & Toxicology

1	Dr Mudasir Sultana	Professor
2	Dr. Rajinder Raina	Professor
3	Dr. Shahid Prawez	Assistant Professor
4	Dr. Nrip K. Pankaj	Assistant Professor
5	Dr. Pawan K. Verma	Assistant Professor

Division of Veterinary Biochemistry

1	Dr. Aditi Lal Koul	Assistant Professor
2	Dr. Pratiksha Raghuwanshi	Assistant Professor

Division of Veterinary Physiology

1	Dr. A.R.Nazki	Professor
2	Dr. P.S.Mahapatra	Associate Professor
3	Dr. Jonali Devi	Associate Professor
4	Dr. Jafrin Ara Ahmed	Assistant Professor
5	Dr. Kawardeep Kour	Assistant Professor

Division of Anatomy & Histology

1	Dr. Shalini Suri	Associate Professor
2	Dr. Kamal Sarma	Associate professor
3	Dr. Probal Jyoti Doley	Assistant Professor

Division of Livestock Products Technology

1	Dr. Sunil Kumar	Associate Professor
2	Dr. Arvind Kumar	Assistant Professor
3	Dr. Zuhaib Fayaz Bhat	Assistant Professor
4	Dr. Pavan Kumar	Assistant Professor

Division of Veterinary Clinic & Teaching Hospital

1	Dr. J. S. Soodan	Professor
2	Dr. H. R. Bhardwaj	Associate Professor
3	Dr. Utsav Sharma	Associate Professor
4	Dr. Ashok Kumar	Assistant Professor
5	Dr. Sharad Kumar	Assistant Professor
6	Dr. A.K. Tripathi	Assistant Professor
7	Dr. Seema Tiwari	Assistant Professor
8	Dr. R. B. Kushwaha	Assistant Professor

Division of Vety. & AH Extension		
1	Dr. Shafkat Ahmad Khandi	Assistant Professor
2	Dr. Pranav Kumar	Assistant Professor
Division of Livestock Production & Management		
1	Dr. Asma Khan	Associate Professor
2	Dr. Sahar Masud	Assistant Professor
3	Dr. Depanjali Konwar	Assistant Professor
Division of Animal Reproduction, Gynecology & Obstetrics		
1	Dr. M. Mutha Rao	Associate Professor
2	Dr. Sudershan Kumar	Associate Professor
3	Dr. Sanjay Agarwal	Assistant Professor
4	Dr. W.A.A. Razzaque	Assistant Professor
5	Dr. Sudhir Kumar	Assistant Professor
6	Dr. A.K. Pandey	Assistant Professor
7	Dr. Nishi Pande	Assistant Professor
Division of Vety. Surgery & Radiology		
1	Dr. A.K.Gupta	Associate Professor
2	Dr. Ankur Sharma	Assistant Professor
3	Dr. D.K.Dwivedi	Assistant Professor
4	Dr. Pankaj Gupta	Assistant Professor
Division of Veterinary Clinical Medicine & Jurisprudence		
1	Dr. S.K.Gupta	Professor
2	Dr. Rajiv Singh	Associate Professor
3	Dr. Kafil Hussain	Assistant Professor
4	Dr. Neelesh Sharma	Assistant Professor
5	Dr. Rajinder Kumar Bhardwaj	Assistant Professor
6	Dr. S.R.Upadhyay	Assistant Professor
Division of Veterinary Epidemiology & Preventive Medicine		
1	Dr. V. S. Wazir	Associate Professor
2	Dr. M. A. Malik	Associate Professor
3	Dr. Rajeev Singh	Assistant Professor
4	Dr. Rajesh Agrawal	Assistant Professor
5	Dr. Abha Tikoo	Assistant Professor
Division of Animal Genetics & Breeding		
1	Dr A K Das	Associate Professor
2	Dr R K Taggar	Associate Professor
3	Dr Nishant Kumar	Assistant Professor
4	Dr Dhirendra Kumar	Assistant Professor
5	Dr Dibyendu Chakraborty	Assistant Professor
Division of Animal Nutrition		
1	Dr Ramesh Kumar Sharma	Associate Professor
2	Dr Ankur Rastogi	Assistant Professor
3	Dr Anand K. Pathak	Assistant Professor
Division of Vety. Microbiology& Immunology		
1	Dr. Anil Taku	Associate Professor
2	Dr.M.A.Bhat	Associate Professor
3	Dr. Bablu Kumar	Assistant Professor

Regional/Sub-Research Stations/ CENTRES/SCHEMES

Regional Agricultural Research Station, Rajouri		
1	Dr. A.K.Sharma	Associate Director Research
2	Dr. S.B.Singh	Sr.Scientist (Plant Breeding & Genetics)
3	Dr. Anshuman Kohli	Jr. Scientist (Soil Science)
4	Sh.Kamlesh Bali	Jr. Scientist (Entomology)
5	Sh. Manmohan Sharma	Jr. Scientist (Plant Breeding & Genetics)
6	Sh.Vikas Sharma	Jr. Scientist (Agronomy)
7	Dr.Jasbir Singh Manhas	Jr. Scientist (Agril. Extn. Education)
8	Sh. Anil Bhushan	Jr. Scientist (Vegetable Science)
9	Dr.Ashok Kr.Singh	Jr. Scientist (Pl. Pathology)
10	Sh.Sunil Kr. Mishra	Jr. Scientist (Agronomy)
11	Dr.M. H. Chesti	Jr. Scientist (Soil Science)
12	Dr. Anjani Kr.Singh	Jr. Scientist (PBG)
13	Dr. Susheel Sharma	Jr. Scientist (Horticulture)
Maize Breeding Research Sub Station, Poonch		
1	Dr. Amit Kumar Singh	Jr. Scientist(Ento)
2	Dr. Praveen Singh	Jr. Scientist(PBG)
3	Sh. Magdeshwar Sharma	Jr. Scientist(Ento)
Regional Horticultural Research Sub Station, Bhaderwah		
1	Dr.J.N.Srivastava	Jr. Scientist (Plant Pathology)
2	Dr. Amit Jasrotia	Jr .Scientist (Pomology)

3	Dr.Vishal Raina	Jr. Scientist (PBG)
4	Mr. Brajeshwar singh	Jr. Scientist (Plant Pathology)
5	Dr. Neeraj Kotwal	Jr. Scientist (Entomology)
6	Dr.A.C.Jha	Jr. Scientist (Plant Pathology)
7	Dr.Kiran Kour	Jr. Scientist (Pomology)
8	Mr. Manoj Kumar	Jr. Scientist (Soil Science)
9	Dr. Rakesh Kumar	Jr.Scientist (Pomology)
10	Dr. Manpreet Kour	Jr. Scientist (Agronomy)
Rain fed Horticultural Research Sub Station, Raya		
1	Dr. Vijay Bahudar Singh	Junior Scientist (Plant Pathology)
2	Sh. Vijay Kumar	Junior Scientist (Soil Science)
3	Dr. Neeraj Gupta	Junior Scientist (Post Harvest Technology)
Dry land Research Sub Station, Dhiansar		
1	Dr. R.K. Salgotra	Sr. Scientist (PBG)
2	Dr. J. P. Singh	Jr. Scientist (Agricultural Engineering)
3	Dr. Peeyush	Jr. Scientist (Soil Science)
4	Dr. Reena	Jr. Scientist (Entomology)
5	Dr. V.K. Singh	Jr. Scientist (Plant Pathology)
6	Sh. Parmendra Singh	Jr. Scientist (Agronomy)
7	Dr. Jai Kumar	Jr. Scientist (Agronomy)
8	Dr. Sonika Jamwal	Jr. Scientist (Plant Pathology)
9	Dr. Anil Sharma	Jr. Scientist (Soil Science)
10	Dr. Brinder Singh	Jr. Scientist (Soil Science)
Pulse Research Sub-Station, Samba		
1	Dr. B.S. Jamwal	Sr. Scientist (PBG)
2	Dr. S.K. Singh	Jr. Scientist (Pl. Pathology)
3	Sh. B.N. Singh	Jr. Scientist (Agronomy)
Farming Research Centre (ICAR), Chatha		
1	Dr. Dileep Kachroo	Chief Scientist (Agronomy)
2	Dr. N. P. Thakur	Sr. Scientist (Soils)
3	Dr. Ashok Gupta	Sr. Scientist (Agronomy)
4	Dr. Vijay Khajkuria	Jr. Scientist (Agronomy)
Water Management Research Centre (ICAR) Chatha		
1	Dr. A. S. Bali	Chief Scientist
2	Dr. Rajinder Dhar	Senior Scientist (Agronomy)
3	Er. N. K. Gupta	Senior Scientist (Agril. Engineering)
4	Dr. Abhijit Samanta	Senior Scientist (Soil Science)
5	Dr. Vijay Bharti	Junior Scientist (Agronomy)
All India Co-ordinated Research Project on Rice (ICAR), Chatha		
1	Dr. Anil Gupta	Sr. Scientist (Pl Pathology)
2	Dr. Anuradha Saha	Jr. Scientist (Agronomy)
3	Mr. Rajan Salalia	Jr. Scientist (Entomology)
4	Dr. Bupesh Kumar	Jr. Scientist (PBG)
All India Co-ordinated Research Project on Barley (ICAR), Chatha		
1	Dr. Tuhina Dey	Jr. Scientist (PBG)
2	Dr. M.K. Pandey	Jr. Scientist (Pl Pathology)
All India Co-ordinated Research Project on Mustard (ICAR), Chatha		
	Dr. S.K. Rai	Jr. Scientist (PBG)
	Dr. B. R. Bhazaya	Jr. Scientist (Agronomy)
All India Co-ordinated Research Project on Wheat (ICAR), Chatha		
1	Dr. Tuhina Dey	Jr. Scientist (PBG)
2	Dr. M. K. Pandey	Jr. Scientist (Plant Pathology)
All India Co-ordinated Research Project on Maize, (ICAR) Udhampur		
1	Sh. Akhil Verma	Jr. Scientist (Agronomy)
2	Dr. R.S. Sudan	Jr. Scientist (PBG)
All India Co-ordinated Research Project on AGROMETEOROLOGY (ICAR), Chatha		
1	Dr. M.K. Khushu	Chief Scientist (Agronomy)
2	Dr. Mahinder Singh	Technical Officer
Krishi Vigyan Kendras		
Krishi Vigyan Kendra, R.S. Pura		
1	Dr. Rakesh Nanda	Programme Coordinator
2	Dr. Vinod Gupta	SMS (Agriculture Extension)
3	Dr. Pradeep K. Rai	SMS (Soil)
4	Dr. Prem Kumar	SMS (Fisheries)

5	Dr. Shyam Prasad Gupta	SMS (Horticulture)
6	Dr. Anil Kumar Sharma	SMS (Agronomy)
7	Dr. Daleep Koul	SMS (Plant Breeding)
Krishi Vigyan Kendra, Rajouri		
1	Dr. S.B. Singh	I/c KVK, Rajouri
2	Dr. Shahid Ahmed	Programme Coordinator (Presently attached at KVK, Jammu)
3	Dr. A. P. Singh	SMS (Agronomy)
4	Sh. Manoj Kumar	SMS (Horticulture)
5	Dr. Abhay Kumar Sinha	SMS (Agriculture Engineering)
6	Sh. Rakesh Sharma	SMS (Agriculture Extension)
7	Sh. Puneet Choudhary	SMS (Agroforestry)
8	Dr. Y.K. Deshpandey	SMS (Animal Sciences)
Krishi Vigyan Kendra, Bhaderwah, Doda		
1	Dr. R. S. Bandral	Programme Coordinator
2	Dr. Bharat Bhushan	SMS (Extn. Education) attached with AICRP on maize, udhampur
3	Dr. B. Brahama	SMS (LPM)
4	Ms. Ravneet Kour	SMS (Horticulture)
5	Dr. Julie Dogra	SMS (Home Science)
6	Mr. Sanjay Khajuria	SMS (Agroforestry)
7	Dr. Amit Singh Charak	SMS (Agronomy)
Krishi Vigyan Kendra, Reasi, Udhampur		
1	Dr. Vikas Tandon	Programme Coordinator
2	Dr. Banarsi Lal	SMS (Extn. Education)
3	Dr. Rajesh Kumar	SMS (Horticulture)
4	Dr. Sheetal Badyal	SMS (Home Science)
5	Sh. Lalit Upadhaya	SMS (Agro-forestry)
6	Sh. Vikas Abrol	SMS (Soils)
Krishi Vigyan Kendra, Poonch		
1	Dr. Sanjay Khar	Programme Coordinator
2	Dr. Neerja Sharma	SMS (Horticulture)
3	Dr. Arvind Kumar Isher	SMS (Entomology)
4	Dr. Sanjeev Kumar	SMS (Plant Breeding)
5	Dr. Vishal Mahajan	SMS (Agroforestry)
6	Dr. Suraj Prakash	SMS (Agriculture Extension)
7	Sh. Pawan Kumar Sharma	SMS (Economics)
Krishi Vigyan Kendra, Kathua		
1	Dr. Amrish Vaid	Programme Coordinator
2	Dr. Berjesh Ajrawat	SMS ((Agriculture Extension)
3	Dr. Anamika Jamwal	SMS (Plant protection)
4	Dr. Vivak M. Arya	SMS (Soil Science)
5	Dr. Rajeev Bharat	SMS (Agronomy)
6	Dr. Ajit Gurt Mannu Parmar	SMS (Horticulture)
7	Dr. Avinash	SMS (Animal Sciences)

**Not As per the Seniority*