**ABSTRACT**

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| |  |  |  | | --- | --- | --- | | **Title of Thesis** | **:** | **STUDIES ON EFFECT OF PROMISING MULBERRY VARIETIES ON SILKWORM, *Bombyx mori* L.** | | **Name of the Student** | **:** | Nikhil Sharma | | **Registration No.** | **:** | J-21-M-837 | | **Major Subject** | **:** | Sericulture | | **Name and Designation of Major Advisor** | **:** | Dr. Magdeshwar Sharma  Professor | | **Degree to be Awarded** | **:** | M.Sc. Sericulture | | **Year of Award of Degree** | **:** | 2023 | | **Name of the University** | **:** | Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu. | |  |  |

**ABSTRACT**

The fortune of Sericulture mostly depends upon the quality of mulberry leaves as well as suitable environmental conditions during silkworm rearing. Mulberry, being the sole food of silkworm, *Bombyx mori* L. must possess all the nutritive elements required for the growth and development of silkworm and also for higher cocoon yield. The present study was conducted in the Division of Sericulture, SKUAST-Jammu where six mulberry varieties *viz.,* S-146, G2, Vishala, S-1635, C-2038, S-13 along with the local check were evaluated on silkworm hybrid (FC1×FC2) during spring season 2023. The observations on larval characters revealed that among all the mulberry varieties tested, maximum larval weight and length was found in S-146 (4.76±0.04g) and (7.90±0.05cm) followed by G2 (4.71±0.03g) and (7.63±0.23cm) and minimum in local check (3.96±0.10g) and (6.76±0.0cm) respectively. The pupation per cent was reported significantly higher in S-146 (98.11±0.48%) closely followed by G2. Further, the total larval duration of (23:00±0.00) and (25:15±0.05) days was recorded in S-146 and the local check respectively. The results also demonstrated that cocoon yield per 10,000 larvae (by weight and no.) was maximum in S-146 (19.11±0.5kg) and (9601.00±46.30) followed by G2 (17.53±0.41kg) and (9087.67±73.18) whereas least values (9.60±0.84kg) and (7744.00±58.77) were obtained in local check. The post cocoon parameters viz., total filament length (1012.66±34.72m) and non-breakable filament length (865.66±32.99m) were found maximum in S-146 but the value of denier (2.00±0.04) was found least as compared to local check (2.85±0.02). Among all the varieties tested, the nutritional indices like ingesta and digesta were significantly higher in S-146 (1.33±0.02g) and (0.70±0.01g) when compared to local check (0.97±0.00g) and (0.41±0.01) respectively. The data for excreta waste, dry matter% and digestibility% revealed significant differences in S-146 and local check (0.60±0.00g and 0.44±0.01g), (61.49±0.59% and 42.28±1.36%) and (35±0.23% and 25.5±0.35%) respectively. Similarly, ECI and ECD to larval body matter were recorded significantly higher in S-146 (34.47±1.14%) and (59±0.83%) and least values were observed in local check (20.61±0.29%) and (48.33±0.57%) respectively. On the basis of the results obtained, the mulberry varieties S-146 followed by G2, Vishala, S-1635, C-2038 and S-13 have potential which would be advisable to recommend in Jammu region for better cocoon yield.

**Keywords:** Mulberry, *Bombyx mori* L., Nutritional indices, Cocoon yield