**ABSTRACT**

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| Title of Thesis | : | Organic based nutrient management in mulberry and its impact on silkworm |
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**ABSTRACT**

The present study entitled, **Organic based nutrient management in mulberry and its impact on silkworm** was conducted during spring season 2019 at Division of Sericulture, SKUAST-Jammu in order to know the effect of different organic manures alone and in combination with biofertilizer (*Azospirillum*) on growth and yield parameters of mulberry (var. China white), rearing performance of silkworm hybrid (FC1 × FC2) and other important metric traits. The results revealed that, among different treatments, application of vermicompost + *Azospirillum* (4.00/g) significantly increased mulberry growth parameters viz., plant girth (7.50 ± 0.13cm), plant height (284.67 ± 7.36cm), number of shoots per plant (15.33 ± 1.20), shoot height (146.63 ± 8.03cm), longest shoot (158.27 ± 6.71cm), intermodal distance (5.00 ± 0.40 cm), number of leaves per plant (1203.33 ± 60.92), fresh leaf yield (3013.00 ± 71.00g/plant), leaf area index (1.54 ± 0.02), moisture content (72.02 ± 1.05%) and moisture retention per cent after 6 hours (74.43 ± 0.01). Observations on larval traits, cocoon, post cocoon parameters of silkworm were also recorded and the results revealed positive impact in case of vermicompost @4kg/plant + *Azospirillum* (4.0 g/plant) (T6) with respect to V instar 10 larval weight (46.69±0.66g), larval survival per cent (97.05 ± 0.58) and shorter total larval duration (27.02 ± 0.01 D:H), ERR (By wt. 14.26 ± 0.01 and By No. 8987 ± 5.51), single cocoon weight (2.06 ± 0.01g), single shell weight (0.48 ± 0.00g), shell ratio per cent (23.10 ± 0.17), total filament length (1308.00 ± 9.07m), non breakable filament length (1308.00 ± 4.73m), filament size (2.50 ± 0.02d) followed by FYM @4kg/plant + *Azospirillum* (4.0g/plant) (T5), Neem cake @2.5kg/plant + *Azospirillum* (4.0g/plant) (T8), vermicompost @4kg/plant (T2), Silkworm rearing waste @3kg/plant + *Azospirillum* (4.0 g/plant) (T7), FYM @ 4kg/plant (T1), Neem cake @2.5kg/plant (T4), Silkworm rearing waste @3kg/plant (T7) respectively as compared to control (T9). Based on the present findings it may be concluded that, the application of vermicompost + *Azospirillum* (4.0 g/plant) would be an advisable treatment so as to produce quality mulberry leaves and cocoon crop with improved metric traits.

**KEYWORDS**: Mulberry, silkworm hybid (FC1×FC2), organic manures, bio-fertilizer .