**ABSTRACT**

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| Title of Thesis | : | **EVALUATION OF PROMISING BIVOLTINE HYBRIDS OF SILKWORM, *Bombyx mori* L.** |
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**ABSTRACT**

The present investigation entitled, **“EVALUATION OF PROMISING BIVOLTINE HYBRIDS OF SILKWORM, *Bombyx mori* L.”** was carried out at Division of Sericulture SKUAST-Jammu during autumn-2020. Twelve bivoltine silkworm hybrids *viz.,* U-8×PO1, ND3×PO1, PO1×U-8, U-3×U-1, JD6×U-6, U-4×U-6, PO3×ND5, U-6×ND3, ND3×NSP, ND2×NSP, SH6×NB4D2 and FC1×FC2 were selected for the study. The rearing was conducted following recommended rearing practices in completely randomized design with three replications and 350 worms in each replicate were maintained for all the hybrids after third moult. The hybrids were evaluated on the basis of economic traits *viz.,* fecundity, hatching, brushing per cent, total larval duration (D:H), weight of ten mature larvae (g), larval survival percentage, cocoon yield/10,000 larvae by weight (kg) and by number, single cocoon weight (g), single shell weight (g), shell ratio per cent, total filament length (m), non-breakable filament length (m) and filament size (d) by using analysis of variance and Mano’s Evaluation Index (E.I.) method. Significant variations in terms of performance of various economic traits studied among the silkworm hybrids were observed. Moreover, the silkworm hybrids showed comparatively less susceptibility towards flacherie and grasserie diseases are FC1×FC2 (1.13 ± 0.01) and (3.19 ± 0.42) and U-4×U-6 (2.66 ± 0.19) and (3.33 ± 0.13) respectively as the incidence was recorded to be less than 2.00 per cent and 4.00 per cent, respectively for both the cases.

On the basis of overall performance for various traits of economic significance, the cumulative evaluation index values showed that the silkworm hybrids *viz.,* FC1×FC2 (59.84); PO3× ND5 (57.48); U-3×U-1 (55.77); U-4×U-6 (54.97); JD6×U-6 (51.47) and ND3 × NSP (50.84) exhibited greater E.I. values more than 50 while rest of the silkworm hybrids were unable to obtain standard score of 50. These findings suggested that the above shortlisted hybrids were suitable for commercial rearing to enhance the cocoon production.

**Keywords:** *Bombyx mori* L., silkworm hybrids, bivoltine, economic traits, Evaluation Index.

**Signature of Major Advisor Signature of Student**