**ABSTRACT**

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| **Title of thesis** | **:** | Evaluation of factors influencing cocoon productivity in Jammu region |
| **Name of the Student** | **:** | Ravi Kant |
| **Registration No** | **:** | J-17-D-315-A |
| **Name and Designation of Major advisor** | **:** | Dr. Kamlesh Bali  Associate Professor |
| **Major Discipline** | **:** | Sericulture |
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**ABSTRACT**

Sericulture is one of the traditional occupations and practiced in all 20 districts in UT of J&K and provides means of livelihood to more than 30, 000 families which suits to rural-based farmers, entrepreneurs, and artisans and require low investment. It has high potential for higher returns and play vital role in improvement of rural economy in India. The present investigation entitled, “**Evaluation of factors influencing cocoon productivity in Jammu region”** was conducted in three districts of Jammu region viz., Ramban, Doda & Kishtwar wherein a total of 225 silkworm rearers were randomly selected to study socio-economic profile viz., gender, age, family size, family type, martial status, caste, occupation, education, total land holding, area under mulberry, no. of mulberry trees, rearing house type, experience, crop insurance, distance from sericulture office and cocoon market, transportation and annual income were recorded. Silkworm rearing was done along with the rearers and multiple factorial design was used to assess the performance at larval, cocoon and post cocoon parameters of those who adopted recommended methods of rearing against the local method. The adopters recorded an average weight of ten mature larva (44.56 g), fifth instar larval duration (7.57 hrs), larval survival (86.57%), single cocoon weight (1.55g), single shell weight (0.34g), shell ratio (21.29%), bed spacing (69.04 worms/sq.ft), filament length (856m), non-breakable filament length (761m), filament size (2.42) and cocoon yield (32.39 kg). All the parameters showed significant variation among the districts season, practices and their interaction. Correlation studies showed that temperature was highly significant and positively correlated to incidence of silkworm disease grasserie (0.76\*\*) and negatively correlated to cocoon yield (-0.53\*\*) during autumn season in district Doda. Humidity was highly significant and positively correlated to the grasserie incidence (0.61\*\*) in district Ramban and significant and negatively correlated to cocoon yield in district Doda (-0.46\*). Multiple regression analysis revealed that silkworm seed reared, temperature, humidity, feeding frequency and fifth instar larval duration alone explained 73% of variation (R2=0.73) in larval survival (%) in district Ramban followed by Doda (70%) and Kishtwar (63%) during spring rearing. For autumn rearing variation of 73% (R2=0.73) was seen in district Ramban followed by Doda (62%) and Kishtwar (51%). Cocoon yield, cocoon rate, shell weight and shell ratio depicted around 78% (R2=0.78) of variation in generation of annual income of respondents in district Doda followed by Ramban (75%) and Kishtwar (66%) during spring season. During autumn rearing variation was found maximum in district Doda (81%) followed by Ramban (72%) and least in Kishtwar (57%). Among the various constraints related to mulberry plantation and silkworm rearing, insufficient land (χ2 = 12.87\*), non-availability of separate rearing house (χ2 = 19.79\*\*), high transportation charges (χ2 = 24.38\*\*) lack of supportive policy were the major constraints. The present investigations revealed that if silkworm rearers adopt recommended package of practices of silkworm rearing and mulberry cultivation, cocoon productivity and its related parameters will definitely improve both qualitatively as well as quantitatively.

**Keywords**: Mulberry, silkworm, silkworm diseases, cocoon productivity.