**ABSTRACT**

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| **Title of Thesis** | **:** | Development and evaluation of botanical based silkworm bed disinfectant |
| **Name of Student** | **:** | Kunal Guleria |
| **Regd. no.** | **:** | J-19-M-685 |
| **Major Subject** | **:** | Sericulture |
| **Major Advisor** | **:** | Dr. R.K. Gupta |
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| **Name of the University** | **:** | Sher-e-Kashmir University of Agricultural Sciences and Technology |

**ABSTRACT**

Disinfection and hygiene are an integral part of silkworm, *Bombyx mori* rearing and assumes a significant part in the termination of pathogenic microorganisms. Therefore, the powders of different herbal plant parts were developed by SKUAST-J during the study and were compared with the standard (Vijetha) as well as control. Although, all the three formulations proved effective, the most effective treatments were SKUAST formulation 2 and 3. Both formulations (T2 and T3) appeared broad spectrum as they led to disease suppression from 2 percent to 4 percent. Significant increase in larval weight and pupation percentage were also observed when treated with SKUAST formulation 2 and 3. Percentage of flimsy cocoons decreased significantly from 10.33 to 5.33 percent when treated with the most effective formulations developed. The total larval period became shorter when treated with SKUAST formulation 2 and 3.

The study revealed significant increase in effective rate of rearing by number from 8338.33 (control) to 9353.73 and 8889.03 in T2 and T3, respectively. Simultaneously, the effective rate of rearing by weight was also found highest in SKUAST formulation 2 (14.18 kg) and 3 (11.41 kg) when compared with control (9.90 kg), differences being significant. Similarly, single shell weight and single cocoon weight were also found to be statistically superior in the SKUAST formulations T2 and T3 when compared with control. Further, it was also found that the formulations made by the SKUAST-J significantly increases shell ratio from 19.45 in control to 22.25 in T2 and 20.72 in T3.A significant increase in total filament length and non-breakable filament length from 843.00 m in control to 1087.00 m in T2 and 869.00 m in T3 and 787.00 m in control to 1037.66 m in T2 and 869.00 m in T3 respectively. The present study also revealed that the denier in the SKUAST formulations 2 (2.45) and SKUAST formulation 3 (2.94) was significantly less than that in control (2.96).

**Keywords:** Disinfectant, silkworm, herbal

**Signature of Major Advisor Signature of Student**