**ABSTRACT**

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| **Title of the Thesis** | **:** | EFFECT OF FUNGICIDES ON ECONOMIC AND BIOLOGICAL PARAMETERS OF SILKWORM, *Bombyx mori* L. |
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| **Major Subject** | **:** | Sericulture |
| **Name and designation of Major Advisor** | **:** | Dr. R.S. Bandral  Professor |
| **Degree to be awarded** | **:** | M.Sc. Sericulture |
| **Year of Award of Degree** | **:** | 2023 |
| **Name of University** | **:** | Sher-e-Kashmir University of Agricultural Science and Technology of Jammu. |

### ABSTRACT

The present study entitled, “Effect of fungicides on economic and biological parameters of silkworm, *Bombyx mori* L.” was carried out in research laboratory of Division of Sericulture, Sher-e-Kashmir University of Agricultural Science & Technology of Jammu, Chatha during 2022-2023. During the course of investigations, three fungicides, each with distinct concentrations were applied in experimental scenarios, involving both *in-vivo* and *in-vitro* conditions. The fungicide treated leaves were fed to 4th instar larvae and their effect on silkworm growth and economic parameters were analyzed. The result showed that among the different concentrations of fungicides offered to 4th instar larvae by leaf dip method, azoxystrobin (0.1 and 0.2%) resulted in significantly higher mortality. However, carbendazim (0.05, 0.1 and 0.2%) recorded significantly lower mortality. Moreover, the application of fungicide sprayed leaves in the field resulted in better outcome when fed to 4th instar larvae of silkworm. It was found that significantly higher mortality was recorded in azoxystrobin (0.2%) whereas, significantly lower mortality was observed when 4th instar larvae were fed with carbendazim (0.1%) treated leaves. Also, the larval growth and economical parameters were significantly higher in larvae fed with carbendazim treated leaves. Among all the treatments, carbendazim (0.1%) resulted in maximum larval length, larval weight, cocoon weight, shell weight, shell ratio followed by carbendazim at 0.2 per cent and difenconazole at 0.1 per cent. Regarding the effect of fungicide treated leaves on nutritional consumption indices, significantly higher values were recorded in larvae fed with carbendazim (0.1%) followed by carbendazim (0.2%). It was concluded that carbendazim exhibited superior performance compared to the other fungicides. Furthermore, field spray application of carbendazim showed no signs of toxicity after three days. These findings support carbendazim as safe option for controlling fungal pathogens and causing minimum damage to the cocoon crop.

### Keywords: Silkworm, Fungicide, carbendazim, azoxystrobin, difenconazole