**ABSTRACT**

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| **Title of the Thesis** | **:** | Fortification of mulberry leaves with different proteins and its effect on silkworm, *Bombyx mori* L. |
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| **Major subject** | **:** | Sericulture |
| **Name and Designation of**  **Major Advisor** | **:** | Dr. R. S. Bandral  Professor, Division of Entomology |
| **Degree to be awarded** | **:** | Ph. D.Sericulture |
| **Year of award of Degree** | **:** | 2022 |
| **Name of University** | **:** | Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu |

# ABSTRACT

The present study entitled as “Fortification of mulberry leaves with different proteins and its effect on silkworm, *Bombyx mori* L.” was carried out at Division of Sericulture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, Chatha, during 2021-2022. To optimize the concentrations of proteins, eighteen concentrations of different proteins were used. Mulberry leaves fortified with these concentrations were then fed to silkworm larvae during 4th and 5thinstars and their impact on silkworm larval growth and silk productivity parameters were analyzed. The optimized concentrations of different proteins were then used to assess the economical parameters and feeding indices of silkworm. Results showed that among the different concentrations tested, significantly optimized concentrations of proteins were obtained with bee pollen (2%), drone brood (6%), protinex (10%), bee pollen (3%) + drone brood (3%), bee pollen (5%) + protinex (5%) and drone brood (5%) + protinex (5%).Highly significant results were obtained when fortified mulberry leaves were fed to silkworms once during 4th and 5th instar. The economical parameters of silkworm were significantly increased with optimized concentrations of different proteins. Lowest disease incidence (2%), maximum larval weight (43.43g), cocoon weight (2.26g), shell weight (0.516g), pupal weight (1.74g) and shell ratio (22.86%) were recorded at (2%) bee pollen concentration followed by protinex (10%), bee pollen (5%) + protinex (5%) and drone brood (6%).The optimized concentrations of different proteins also resulted in higher nutritional efficiency conversions at (2%) bee pollen concentration followed by protinex (10%) and drone brood (6%). It is concluded from the present investigation that the fortified mulberry leaves with different concentrations of different proteins showed significantly better results than control batch.

**Keywords:** Fortification, mulberry, silkworm, bee pollen, protinex and drone brood.