



## IMPROVING THE COHESION CHARACTERISTICS OF MULTIBIVOLTINE RAW SILK USING BIVOLTINE SERICIN COATING IN REELING PROCESS

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### ABSTRACT

Cohesion characteristics of multibivoltine raw silk are significantly inferior to that of bivoltine which may be attributed to the racial character. In an attempt to improve the cohesion characteristics of multibivoltine raw silk, sericin extracted from bivoltine silk was coated over multibivoltine raw silk during the reeling process. Pure bivoltine sericin powder for this purpose was extracted from the cocoon shells by using the pressurized degumming machine developed by Central Silk Technological Research Institute (CSTRI), Bengaluru, India without using any chemical. Two methodologies of impregnations of sericin were tried. In the first one, the bivoltine sericin powder was mixed in the reeling basin water during the process of reeling and the second method was to reel multibivoltine raw silk in reeling machine and during the process of small reel permeation before re-reeling process, sericin powder was impregnated in the raw silk using vacuum pressure. Further, two pan cooking method used in both the methods has shown significant improvement (at 1 and 5 % levels) in terms of less waste generation and better size characteristics. Both the processes of sericin coating have resulted in significant improvement in cohesion of raw silk. However, sericin coating (3 gpl) during small reel permeation is recommended in view of better adoptability.

**Key words:** Cohesion, mutliend reeling, sericin, two pan cooking, vacuum permeation.