



IMPACT OF PRE-STEAMING TECHNIQUE ON IMPROVING THE QUALITY OF BIVOLTINE RAW SILK

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ABSTRACT

Silk twisting activity is carried out either separately or as multiend reeling cum twisting enterprise. The winding performance of Indian raw silk is often affected by the prevalent conditions in the twisting factory. Twistors always find it difficult to adopt further suitable methodology to improve the winding performance, owing to the additional cost. With this backdrop, Central Silk Technological Research Institute, Bengaluru, India has developed a suitable cost effective technology, which can be adopted utilizing the existing facilities available with twisting units. The field trials conducted in silk twisting factory revealed significant improvement in the winding performance and elongation of bivoltine raw silk subjected to saturated steam inside the steaming cabinet for 15 minutes duration in the case of skeins weighing below 100 g, and 20 minutes duration for skeins weighing more than 100 g. SEM studies indicated that pre-steaming process of bivoltine raw silk has smoothened the silk filaments and caused the swelling of surface adhering sericin which in turn reduced gum spots. Hence, the pre-steamed, well hydrated bivoltine raw silk with reduced gum spots has improved winding performance with fewer breaks. The cost benefit analysis of pre-steaming technique has established that pre-steaming significantly improved the potential revenue of the twisting unit.

Key words: Bivoltine raw silk, pre-steaming conditions, SEM studies, steaming cabinet, winding performance.