



## **Evaluation of Raw Silk Produced by Bivoltine Silkworm *Bombyx mori* L. (*Lepidoptera: Bombycidae*) Races in Kenya**

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### **ABSTRACT**

*Evaluation of raw silk produced in location S1 (laboratory) and S2 (field) was assessed during long rains (LR) and short rains (SR), using selected bivoltine *Bombyx mori* silkworm strains initially obtained from China and India. They included Chun Lei X Zen Zhu (C X Z), Quifeng X Baiyu (Q X B), Quingsong X Haoyoe (Q X H), 75xin X 7532, Suju X Minghu (S X M) and ICIPE I.*

*This study aimed to evaluate the quality of raw silk produced by the domesticated silkworm *B. mori* L in Kenya. Silkworm rearing was done following the procedure of Jolly (1987). Setting of the silk quality control lab was done following specifications from the Chinese Academy of Agricultural Sciences (CAAS) and the International Silk Association, Lee (1999). Raw silk characteristics were evaluated and performance tested to determine its suitability for silk production. Quality tests of each post-harvest production process were carried out to establish the overall quality of the product. Silk winding breaks varied amongst the different strains, with ICIPE I having the least counts while 75xin recorded the most counts 13, 16, 12 and 12 during/in SR S1, SR S2, LR S1 and LR S2 respectively. Elongation percentages differed between the seasons and strains, between 18 and 20%. It was also observed that silkworm strains with high elongation count had the least number of winding breaks. ICIPE I had an average elongation of 20% and an average of 5 winding breaks counts, whereas 75xin had 18% and 13 of the same respectively.*

*Cleanliness and neatness percentages differed among the strains and were within the acceptable ISA standards but notably ICIPE I cleanliness and neatness percentages were higher than the other silkworm strains during the two seasons, 97 and 96% respectively.*

*The data obtained identified ICIPE I as a more economical strain to rear for quality production of raw silk and yarn.*

**Keywords:** *Silkworm (*Bombyx mori*), winding breaks, elongation, neatness, cleanliness*