



## PERFORMANCE OF FIVE BIVOLTINE *BOMBYX MORI* L. (LEPIDOPTERA: BOMBYCIDAE) STRAINS ON THREE MULBERRY VARIETIES IN THE COASTAL SAVANNA AGRO- ECOLOGICAL ZONE OF GHANA

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### ABSTRACT

The silkworm, *Bombyx mori* L. feeds on a variety of mulberry plants and the impact of the host plant is reflected on the quantity and quality of silk produced. The nutritional effect of three mulberry (*Morus alba* L.) varieties (Mysore local, Kanva 2 and S36) on the quality of cocoons spun and silk fibre produced by five bivoltine *B. mori* strains (G2xV2xH1xKK, M2xN2xSN1xI1, Z/Y, ICIPE 1, and ICIPE 2) was evaluated. The quality of cocoon and silk fibre was assessed on the basis of cocoon size, cocoon weight, shell weight, shell percentage, silk fibre tenacity, elongation, filament length, cleanliness and neatness. In terms of raw silk production, this study has revealed that the three silkworm strains from Bulgaria (Z/Y, G2- and M2-) yielded more than the two Kenyan strains (ICIPE 1 and ICIPE 2). However, ICIPE 1 silkworm strain had longer filament, good tenacity and elongation which contribute to fibre quality. No significant differences were noticed in the cleanliness and neatness of the fibre of different silkworm strains irrespective of the food plants they were fed upon. All the mulberry varieties were generally good for feeding the silkworms for cocoon production.

**Key words:** *Bombyx mori*, cocoon quality, mulberry variety, silk fibre quality.