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ECONOMICS OF BEEKEEPING WITH *APIS CERANA INDICA* AND *A. MELLIFERA* IN RUBBER SMALLHOLDINGS OF KERALA

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A comparative study on the economics of *Apis cerana indica* F. and *A. mellifera* L. was carried out in the rubber smallholding sector on the basis of a sample survey covering 24 beekeepers identified from six different locations. It was found that beekeeping with *A. cerana indica* yielded honey in the range of 2 to 17 kg per hive per year during a period of 11 years from 1988 while *A. mellifera* yielded 5 to 60 kg per hive per year in a period of six years from 1993. A comparative analysis of the cost and income indicated that the cost of maintenance of *A. mellifera* was almost four times more in 1994, 1995 and 1996, 3.5 times more in 1997 and 3.4 times more in 1998 than that of *A. cerana indica*. The income from *A. mellifera* was eight, ten, five, three and four times more in 1994, 1995, 1996, 1997 and 1998 respectively than that of *A. cerana indica*. However, inconsistency has been observed in the honey yield from both types of apiaries and the profitability of beekeeping due to various factors such as weather, bee forage plants, diseases to bees and the vigour of the colonies. At current prices, culturing of *A. mellifera* was found to be more profitable than *A. cerana indica*. However, for the marginal and small beekeepers *A. cerana indica* is more suitable due to lower initial investment. *A. mellifera* requires higher initial investment and suits more to large organised beekeepers.

Key words : *Apis cerana indica*, *Apis mellifera*, Beekeeping, *Hevea brasiliensis*.

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INTRODUCTION

Indigenous *Apis cerana indica* F. and recently introduced *A. mellifera* L. have been domesticated in rubber plantations. Rubber plants form a potential nectar source in South India particularly in Kerala and some parts of Tamil Nadu and Karnataka (Jayarathnam, 1970; Suryanarayana, 1983). Mature rubber tree secretes nectar from its extrafloral nectaries present on the petiole, bud scales and on the lower surface of the leaf lamina (Thankamma and George, 1968). The nectaries are active 20-25 days after refoliation and coincide with flowering which normally occurs during February to April. Bees are not pollinators of rubber but are nectar gatherers. Nectar flow continues for 2-3 months, as refoliation occurs in an overlapping pattern in mature rubber trees. Nectar flow is adversely affected due to rains during the flow period and leaf shedding consequent to powdery mildew disease.