INFLUENCE OF CLIMATE CHANGE ON RUBBER HONEY PRODUCTION

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Apiculture and commercial honey production in Kerala mainly depend on the rubber plantations. Rubber, *Hevea brasiliensis* Muell Arg. yields both latex and honey (nectar). The latex is produced by the laticeferous cells in the bark and nectar exuded from the extra-floral nectaries at the junction of the trifoliate leaf petiole. The leaves of rubber tree shed during December-January. Generally the shedding of older leaves commences in the Northern parts of Kerala during December and extends up to January in Southern parts. After this, refoliation starts almost within one or two weeks depending on the weather conditions. The occurrence of rainfall during these period results in the infection of tender leaves *Oidium* causing leaf shedding, affecting seriously the nectar secretion. The young leaves at half maturity (light green colour) secrete nectar through extra-floral nectaries situated at the junction of the petiole. The honey flow begins in Northern districts of Kerala during January- February months and it extends up to February-March in Southern districts. A study was conducted by AICRP on Honey bees and Pollinators at Vellayani centre to correlate the influence of untimely rainfall and honey yield in rubber. Weather conditions influenced the secretion of nectar from the extra floral nectaries. Rain washes away or diluted the nectar from the leaves resulting in severe economic loss to the beekeepers. The increased relative humidity during the refoliation period due to untimely rainfall paved way for the incidence of powdery mildew (*Oidium heveae* Steinm) on tender leaves. The leaves showed powdery/ashy coating, curling, crinkling and edges of leaves rolled inwards resulting in leaf fall within a week. The average honey yield and data on summer rain for the last five years showed that the untimely rainfall in 2008 honey flow season negatively affected honey yield. The secretion of extra floral nectaries and in turn the production of honey from the rubber plant are related to the prevailing weather and climate change especially too much rains during the nectar secreting season will be harmful for honey production.

Keywords: Climate, Honey production, Nectar, Powdery mildew, Refoliation.

Honey bees (Genus: *Apis*), belong to the super family Apoidea in the order Hymenoptera, occurring in almost all parts of the world except the polar region with its possible centre of origin in South and South East Asia (250 genera in 9 families). These bees are either solitary or lead a social life but all individuals share some common characteristics. Nearly all bees feed on pollen and nectar and they tend the young ones in the cells with food. They represent only a small fraction of approximately 20,000 known species of bees. The commercial beekeeping is being practiced in exploiting

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