TS3-OP4

Dynamics of rhinoceros beetle damage as influenced by pheromone trapping

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Rhinoceros beetle (*Oryctes rhinoceros* Linn.), is a cosmopolitan pest of coconut and more preferably it invades juvenile palms. Trapping rhinoceros beetles using ethyl 4-methyl octanoate as a management component is gaining momentum in view of eco-friendly strategy. Studies were conducted at Kayamkulam, Kerala, a pest endemic region during June-2014 to May-2016 on the beetle catch using two different modes of pheromone dispensation viz., Chemtica (Polymer membrane) and ICAR-CPCRI (nanoporous matrix) on a standardized PVC tube with two windows. The pheromone lures were hung from the top and coir pith compost and dispensed the breeding odour at the bottom of the PVC tube. The traps were installed in a 25 year-old West Coast Tall garden @ 1 trap/ha in four different locations. Number of beetles trapped in each trap at different locations was recorded at monthly intervals for the two years period. In addition to the beetle catch, pest incidence on about 25 palms around the traps was also recorded at six monthly intervals. Results indicated one major peak and two minor peaks of beetle population based on trap catches. The beetles entrapped were found to be highest (67 beetles/month) for ICAR-CPCRI (nanoporous matrix) during July-August and minor peaks ranged from 12-15 beetles/ month during October-November and January-February, respectively. Significantly lower beetle catch has been observed for the Chemtica lures for most of the period under study. The beetle catch was significantly lower during the second year (2015-2016) compared to that of the first year (2014-2015) due to low floating population. Though the pest incidence on the palms around the trap was reduced marginally from 68% to 58%, it was found non-significant indicating that the trapped beetles could only moderately subdue the pest attack on the palms. Despite the superiority of ICAR-CPCRI (nanoporous matrix) in trapping more number of beetles in the field, it should not be used as sole component in IPM strategy under homestead conditions of Kerala. Area-wide community level approach in large plantations would be the better option rather than for operation in homestead gardens of Kerala.