

ADVANCES IN SEMIOCHEMICAL MEDIATED TECHNOLOGIES AGAINST RPW
(smart traps, pheromones, kairomones, dry traps, attract and kill, repellents)

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The red palm weevil *Rhynchophorus ferrugineus* L (RPW), is a key pest of several economically important palms in Far East Asia, South Asia, Middle East, North Africa and European countries abutting Mediterranean Sea. Conventional food baited traps attracted adult weevils and was used as a method in the control of RPW in South Asia in 1970s. After the discovery of male aggregation pheromone (4-Methyl-5-nonanol and 4-Methyl-5-nonanone) in early 1990s, the synthetic pheromone lures were subjected to several field tests and very efficient pheromone traps were developed and adapted to the prevailing field conditions and made as a component of integrated pest management (IPM). Subsequently the trap design, color, density, foods, and other parameters were standardized to enhance the trap capture rates. Addition of Kairomone (Ethyl acetate) to the pheromone lure significantly augmented the trap catches and became an integral part of the trapping systems.

The pheromone trapping was useful for mass trapping to remove large number of both female and male adult weevils from the fields. Apart from mass trapping, the traps were also used to monitor the pest presence in some areas. The pheromone trapping requires period servicing of each trap by the replacement of fresh food and water. Due to constraints in manpower, transport facilities, and other logistics, the periodic servicing has become a challenge for the trap users and service providers. Hence, the search for alternate pheromone mediated methods that were devoid of servicing are explored by various researchers resulting in the development of dry trap or smart trap. Besides the pheromone traps other methods like attract and kill method and use of repellents are in various stages of experimentation and adaption.