1712 Mating disruption using PB Rope L: A promising option for pink bollworm (*Pectiphora gossypiella* Saunders) management in cotton

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Integrated management of pink bollworm through mating disruption technique using a sex pheromone formulation offers a practical and ideal approach. Large scale field experiments were conducted during 2005-06 and 2006-07 at agril research station Dharwad to evaluate the efficacy of PB Rope L (Sex pheromone based commercial product) for management of pink bollworm. PB Rope L dispensers @ 200/ha were tied to cotton stalks at pinsquare stage. The performance was compared with the RPP. The mating disruption block registered significantly lower moth trap catches. The extent of reduction was 79.38 and 93.81 per cent over RPP during the consecutive years. The average reduction in green boll damage was 72.62 and 70.11 per cent. The reduction in the larval population in fruiting bodies was 52.34 and 56.70 per cent over RPP. Significant difference with respect to open boll was noticed. The extent of reduction was 68.86 and 66.17 per cent over RPP. The reduction in locule damage was quite conspicuous where mating disruption was exercised. Significantly higher seed cotton yield (32.12 and 40.92 %) was recorded over control (RPP).

Pink bollworm ***Pectinophora gossypiella*** (Saunders) is one of the key pests of cotton, emerging as a real threat to cotton cultivation in southern and central parts of India inflicting locule damage to an extent of 55 per cent and reducing the seed cotton yield to an extent of 35 to 90 per cent (Narayanan 1962) ascertained that 75 to 100 per cent bolls are liable to be damaged by this pest. Agarwal and Katiyar (1979) calculated yield loss to an extent of 6525 MT annually. Its infestation causes premature opening of bolls resulting in stained immature fiber (Agarwal *et al.,* 1984).Significant reduction in fiber properties of lint from infested bolls has been observed by Shiva Subramanian, 1991.

The severity of pink bollworm infestation causes both qualitative and quantitative loss heavily and it is much more pronounced in interspecific hybrids which are important sources of extra long staple cotton and is of utmost importance from the point of view of textile industry and export. Pink bollworm endemic nature and reproductive capacity seriously challenged all control efforts. Besides this pest is inaccessible to routine methods of pesticide control and even conventional IPM components do not provide acceptable level of management. As a possible means the use of certain behavior modifying chemicals are potentially a viable alterative to the use of conventional insecticides and reached the stage of commercial production. Sex pheromone formulation of pink bollworm containing ZZ/ZE-7-11 Hexa decadien-1-yl-Acetate as active ingredient has been commercially used world over as an integrated component of IPM for successful management of PBW incidence in particular and other insect pest in general in cotton. Insect pest management through mating disruption technique using sex pheromone offers a practical and ideal approach to combat the above complex situation prevailing in cotton ecosystem (Patil.*et al.,*2004). Considering the severity of this dreaded pest, effort has been made to find out a suitable

control measure a large scale field experiment was undertaken at ARS, Dharwad farm to evaluate the efficacy of PB Rope L [Sex -pheromone formulation of Pink bollworm manufactured by Shin-Etsu Chemical Co. Ltd., Japan. supplied by New chemi industries Ltd., Mumbai, India during 2005-06 and 2006-07 cropping periods.