

## ICAR-NBAIR, Bengaluru successfully controls *Holotrichia consanguinea* with slow release pheromone formulations

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The team of scientists from the ICAR-National Bureau of Agricultural Insect Resources, Bengaluru in collaboration with the ICAR-All India Network Project on Soil Arthropod Pests, Rajasthan Agricultural Research Institute, Durgapura, Jaipur, Rajasthan successfully controlled the White grubs *Holotrichia consanguinea* with slow release pheromone nanoformulations. The team conducted the field trials at the RARI, Durgapur, Jaipur and Krishi Vigyan Kendra, Maulasar, Nagaur, AU, Jodhpur, Rajasthan.



The Groundnut (*Arachis hypogaea* L.), an important oilseed and supplementary food crop of the world is infested by more than 100 insect-pests right from planting stage to its storage. The annual yield loss in the groundnut due to insect-pests is approximately 15%, that is, 1.6 million tonnes of produce worth ₹ 25,165 million. Among the pests, soil pest are more important.



The White grubs or root grubs, the soil inhabiting and root feeding immature stages of scarab beetles being highly destructive in nature, are generally known as May-June beetles due to their emergence during the months of May / June. This is a polyphagous pest both in the grub and adult stage and inflicts heavy damage to the various fruit trees, their nurseries, vegetables, lawns and field crops. *Holotrichia consanguinea* is the predominant species of root grub damaging groundnut and in endemic areas, the damage to groundnut ranges from 20% to 100%. The White grubs are broad, fleshy, whitish or greyish white and the body is curved in the form of 'C' shape. The Grubs favor light soil, fibrous rooted plants and high

particulate organic matter content and are not abundant in waterlogged, compacted, stony soils or lands lacking vegetation.

The aggregation pheromone of *H. consanguinea* was identified as methoxy benzene. Due to the highly volatile nature, suitable dispensers are still not available, necessitating frequent replacement of dispensers at nights, which is practically not feasible for the farmers.

To resolve the farmers' problem, the ICAR-NBAIR, Bengaluru has developed a slow release nanogel formulation of methoxy benzene and the technology was tested in white grub endemic areas of Rajasthan and perfected. This slow release Nanogel formulation is effective in aggregation of beetles upto one month and, thus, avoiding replacement of septa daily. The cost of per sample is ₹ 10 only and the product is available at ICAR-NBAIR, Bengaluru and RARI, Jaipur, Rajasthan. The adult of White grub catches per trap per day was recorded a mean of ₹17.50/day.

*(Source: ICAR- National Bureau of Agricultural Insect Resources, Bengaluru)*