

## MANAGEMENT OF WHITE GRUB, *HOLOTRICHIA CONSANGUINEA* (BLANCHARD) INFESTING GROUNDNUT (*ARACHIS HYPOGAEA* L.)

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(Received 3 February 2021, Revised 13 April 2021, Accepted 26 April 2021)

**ABSTRACT :** The investigations on “Management of white grub, *H. consanguinea* infesting groundnut (*A. hypogea*)” was conducted at Krishi Vigyan Kendra, Maulasar (Nagaur-II), Rajasthan, India during the *Kharif* 2019 and 2020 in the form of on-farm trials with T<sub>1</sub> - Farmer’s Practice (Quinalphos @ 4 lit./ha) and T<sub>2</sub> - Improved technology (Pheromone (Methoxy benzene) traps 7-8/ha, seed treatment with clothianidin @ 2 g/kg seeds and drenching with imidacloprid 17.8 SL @ 300 ml/ha at 20-25 days after sowing). The results revealed that the Improved technology treatment comprising of Pheromone (Methoxy benzene) traps 7-8/ha, seed treatment with clothianidin @ 2 g/kg seeds and drenching with imidacloprid 17.8 SL @ 300 ml/ha at 20-25 days after sowing was found most effective against white grubs in groundnut. The improved technology (T<sub>2</sub>) recorded gross and net returns of Rs. 127756/- and Rs. 70340/- as against Farmer’s Practice (T<sub>1</sub>) with gross and net returns of Rs. 104729/- and Rs. 50629/-, respectively over two years. The Improved technology (T<sub>2</sub>) recorded an incremental cost-benefit ratio of 2.22 as against Farmer’s Practice (T<sub>1</sub>) with IBCR of 1.93.

**Key words :** Groundnut, *Holotrichia consanguinea*, management, insecticide.

**How to cite :** Mamta Devi Choudhary, Arjun Sing Jat, Sumitra Devi Bamboria and Nishu Kanwar Bhati (2021) Management of white grub, *Holotrichia consanguinea* (Blanchard) infesting groundnut (*Arachis hypogaea* L.). *J. Exp. Zool. India* **24**, 1175-1178. DocID: <https://connectjournals.com/03895.2021.24.1175>

### INTRODUCTION

Groundnut is one of the most important oilseeds and supplementary food crops of the world and is attacked by more than 100 insect pests right from the germination stage to its storage (Nanogopal, 1992). The annual yield loss in groundnut due to insect pests is approximately 15 per cent *i.e.*, 1.6 million tonnes of produce worth Rs. 25165 million (Dhaliwal *et al*, 2010 and Jasrotiys *et al*, 2016). Among these pests, soil-inhabiting pests are more destructive than other pests. White grubs are the soil-inhabiting and root-feeding immature stages of scarab beetles, of which the larval stage more destructive in nature (Theurkar *et al*, 2012). This is a polyphagous pest both in the grub and adult stage and inflicts heavy damage to crops. By the analysis of the problem causing low productivity in groundnut is due to heavy infestation of white grub in Nagaur district. The damage to the groundnut crop ranges from 20-80 per cent. The presence of one grub/m<sup>2</sup> in soil may cause 80-100 per cent mortality

in plants (Yadav and Sharma, 1995). In our country, *Holotrichia*, *Brahmina*, *Leucopholis* and *Lapidiota* were recorded as the major genus of white grubs (Kumar, 2015). In Rajasthan, mainly three species of white grubs namely, *Holotrichia consanguinea* (Blanchard), *H. serrata* (Fab.) and *Maladera insanabilis* (Brenske) are most prevalent in groundnut crop (Mathur *et al*, 2010). The majority of farmers solely depend on chemical control measures resulting in several unwanted problems like pest resistance, pesticide residue and health hazards. Further, Prabhu *et al* (2011), Rakesh *et al* (2012) and Munib *et al* (2016) explained that the efficacy of *Metarrhizium anisopliae* (Metchnikoff) Sorokin against root grub depends on ago-ecological conditions that are congenial to fungus, which may be suited only for the transitional belt. For effective management, the improved technology (combination of all tactics) may provide a great pillar for the management of white grubs in groundnut (Jakhar *et al*, 2020).