

SURVEYING WHITE GRUB LARVAE (SCARABAEIDAE) IN THE SOUTH AFRICAN SUGAR INDUSTRY

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An annual industry-wide survey for white grub larvae was initiated in 1995 following increased reports of the presence of species in the sugarcane industry. The main aims were to investigate larval distribution and infestation levels, and to identify the species present. Larvae were sampled from pits (300 mm cubed) dug below cane stools during July through to September when they are normally most abundant. As far as possible, larvae were identified in the field; unidentified specimens were reared to adults in the laboratory and sent to the biosystematics division of the Plant Protection Research Institute for identification.

In 1996, larvae were recovered from all 14 Pest and Disease regions surveyed (Figure 1).

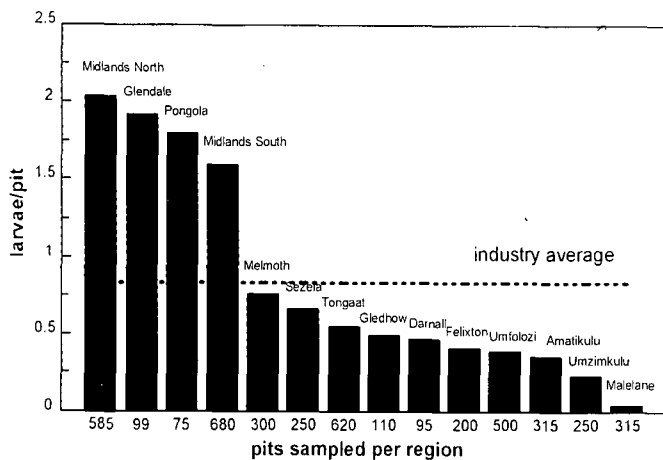


Figure 1. Larval numbers and sample size in 14 pest and disease regions in the industry surveyed for white grub.

Larval distribution varied within regions and, at the field level, distribution was patchy. Although present on most farms surveyed, larvae were found in an average of only 56% of fields within farms.

Keywords: white grub, Scarabaeidae, sugarcane

Larval abundance throughout the regions sampled was low. Even in the Midlands, where the highest levels were recorded, an average of only two larvae were recovered per pit (Figure 1). In regions where larvae were recovered from all the farms, viz. Amatikulu, Felixton and Melmoth, an average of only one larva per pit was recovered. The numbers of pits, expressed as a percentage of the total, containing one or two, between three and six, and more than six larvae, were 68, 23 and 9 respectively. In the majority of pits (72%) no larvae were found.

During the surveys 13 species of white grub were recovered (Table 1). Basic biological information obtained from the surveys is being used to plan research programmes and to interpret the resultant data.

Table 1
White grub recovered during the 1996 survey in South African sugarcane regions.

Subfamily	Species
Dynastinae	<i>Heteronychus licas</i> Klug
	<i>H. rusticus</i> Klug
Melolonthinae	<i>Asthenopholis subfasciata</i> (Blanch)
	<i>Hypopholis sommeri</i> Burmeister
	<i>Trochalus aerugineus</i> Burmeister
	<i>Schizonycha</i> sp.
	<i>Apogonia ovata</i> Fahraeus
	<i>Autoserica</i> sp.
Rutelinae	<i>Adoretus</i> sp.
	<i>Anomala ustulata</i> Arrow
	<i>A. caffra</i> Burmeister
	<i>A. prob. resplendens</i> Fahraeus
	<i>A. prob. zambesicola</i> Peringuey