

AN UPDATE ON THE LONGHORN BEETLE

Rowan Stranack

The incursion of the longhorn beetle (*Cacosceles newmannii*) into sugarcane in the South African Sugar Industry in the Entumeni district in Zululand necessitated one of the most extensive pest containment exercises ever launched by this industry. First identified in October 2015, efforts to contain the incursion have focused on eradicating fields of sugarcane where the pest was found, as well as adjacent fields considered high risk. Inspections of 313 fields covering 1 752 ha in the Entumeni area showed that the beetle was restricted to 40 fields totalling 391 ha on four farms.

The damage caused by the larval stage of the beetle was extensive since they can grow to a length of 90mm and burrow in cane stubble attacking the base of the stalk. Larvae then travel 20-30 cm up a cane stalk causing severe damage as they hollow out the inside of the stalk. Infested crops turn yellow and suffer poor growth. Elsewhere in the world, yield losses of up to 50% have been reported. In cases of severe infestation, crops fail to ratoon properly or die completely and ratoon crops usually sustain more damage than plant cane.

The plan

In an attempt to contain the pest, amendments were made to the Sugar Industry Agreement proclaiming the longhorn beetle a hazardous pest. In addition, various remedial measures were gazetted e.g. crop eradication, the emergency registration of the insecticide Warlock 19.2 EC for the treatment of the longhorn beetle on sugarcane, and restrictions on cane movement – in particular the movement and sale of seedcane.

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Top: Female adult beetle.
Bottom: Male adult beetle.
(Photographs: Lynette Clennell)

Progress

Crop eradication included the complete removal of sugarcane and the planting of a cover crop. A fallow period was proposed on this land for at least two years with the hope that populations will reduce to a level that will not pose a threat to the industry. The cover crops planted were mainly permanent pasture that had been deemed unsuitable to effectively support the life-cycle of the pest. During 2017 and 2018, when most of the crop eradication was completed, a total of 1 130 hectares of sugarcane had been removed. The success of this effort can be measured by the fact that in 2018, only two additional fields were found to be infested, and these were both within the greater containment area.

Another measure of the effectiveness of containment is the extent of emergence of adult beetles. This occurs from around January to March each year. In February 2018, there was a limited emergence from one of the previously infested fields. This year (2019), in late February and March, there was another emergence of beetles from three fields which previously had infested sugarcane. These fields had subsequently been planted to pasture after cane eradication. In this instance the adult beetles were noticeably smaller in size compared with those which emerged in the previous years.

Currently, all previously infested and adjacent fields are under close watch.

Current research

Research work is now focused on identifying and producing a pheromone to lure male beetles to traps either placed in different vegetation types to help identify their indigenous host plants (to obtain more information on their ecology), and/or as a trap and kill strategy, linked to poisoned baits. These two options are likely to be key elements in the future control of this pest, reducing breeding populations in sugarcane significantly.

Right: Third instar larva in the cane stalk.
(Photographs: Lynette Clennell)

Rowan Stranack is Extension & Biosecurity Manager at SASRI

