

The Search For Alternative Chemical Remedies



Part of SASRI's Programme of Work involves investigating alternative chemical remedies even where current chemistries are effective in suppressing the target pest or disease. This is done to prevent the risk of developing resistant strains of pests or diseases through continuous use of a single active ingredient. Furthermore, newer chemicals are becoming available which may be even more environmentally-friendly than current products, and it is in the sugar industry's best interest to take advantage of these developments.

One example of this type of investigative study, which described a preliminary assessment of new insecticides for the control of eldana, was presented at the recent SASTA congress.

In the 1980s and 1990s, many insecticides were screened for use against eldana. The most promising product was alpha-cypermethrin (FASTAC®), which was subsequently registered in 2003 for use against eldana in carry-over cane. Since then, FASTAC® continues to be effectively used by growers in situations where the risk to carry-over crops from eldana is high. However, of concern is the fact that FASTAC® is the only registered insecticide for use against eldana. This

consequently prompted the screening of alternative compounds.

A wide range of available alternative compounds are being screened against eldana, using the following criteria during the selection process:

The product must be:-

- effective against lepidopterous borers;
- from a chemistry group other than the synthetic pyrethroids;
- compatible with SASRI's Integrated Pest Management strategies; and
- available locally.

Three products were selected during the current assessment programme and included in a trial were they were applied to carry-over cane monthly for four months, commencing in October. Trial results were promising and showed that all treatments significantly reduced borer damage. For the most promising product, damage levels in untreated and treated plots were 18 and 3% respectively. The same product gave a sucrose yield advantage of 8 tons/ha compared to the control of 5 tons/ha. Such results show that the alternative chemistries assessed are effective in suppressing eldana damage and improving crop yield. Once registered, such products will contribute to the industry strategy of providing growers with a range of chemistries that can be used against eldana.



This study also re-examined the application frequency of FASTAC®, the only insecticide currently registered for use against eldana. The current recommendation of eight applications (one every two weeks, commencing in August) was compared to four or five applications (one every month, also commencing in August). Results suggest that frequency of application of FASTAC® can be reduced from the standard eight fortnightly applications without any significant loss in efficacy. Once corroborated, such revised application strategies can be included in a revised registered label guiding the use of FASTAC® for eldana control.

The work described above demonstrates SASRI's commitment to providing the industry with agrochemical advice that is economically sound as well as environmentally responsible.



Graeme Leslie
Principal Entomologist
South African Sugarcane
Research Institute

WE DREAM BIG



**The leaders
in biological
and technical
solutions**

