Controlling slugs and isopods in canola

When large areas of canola seedlings disappear overnight, farmers have cause to worry. In the Overberg, the primary cause of this problem are isopods and slugs. Fortunately, there are several ways to get rid of these pests. Specialist scientist **Dr Geoff Tribe**, consultant to the Protein Research Foundation, explains these to **Lindi van Rooyen.**



DR GEOFF TRIBE

Slugs and isopods can rapidly destroy large patches of canola seedlings. The Protein Research Foundation (PRF) has conducted field trials on various methods of combating the problem.

Results show that a combination of slug pellets and burning the stubble a week before planting was the most effective control measure.

Dr Geoff Tribe, a plant protection expert, explains that one isopod species, *Armadillidium vulgare*, and three slug species, *Deroceras panormitanum*, *Deroceras reticulatum*, *Milax gagates*, are the main agents responsible for seedling losses. He adds that despite large numbers of crickets, millipedes and cutworms found on lands during the investigation, none of these insects had been linked to seedling loss.

ISOPODS

In most cases, isopods account for 80% or more of seedling losses.

The purple- and pink-coloured isopods flourish in lands covered with surface stubble or mulch, under which they can hide. Tribe says that killing the weeds means that canola seedlings are the only available food plants.

"Isopods become active with the slightest moisture," explains Tribe. "If the rains are delayed, slugs and isopods emerge and feed together. In this case, seedlings may be eaten even before they appear on the surface."

According to him, the damage done to canola seedlings often does not correlate to the number of isopods seen on the surface.

"What we don't know is where the isopods go. During trials, we could mark 2 800 isopods in a field, and recover only six. They live just under the soil surface and the number of juvenile isopods varies greatly between seasons. We have yet to establish whether a weed-free land at planting aggravates the situation."

BELOW: Healthy canola fields in the Overberg. PHOTOS COURTESY OF DR GEOFF TRIBE

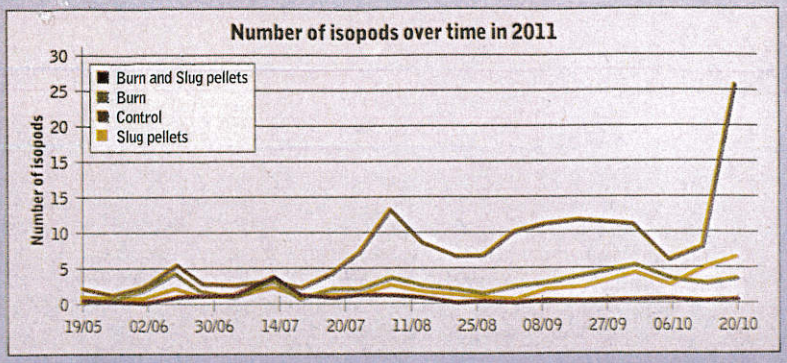
SLUGS

Slugs appear when temperatures drop and moisture is present. Tribe's research has found that canopy provided by canola creates the ideal habitat for the laying of eggs.

A slug infestation can be recognised by the slime trails on the ground and plants.

"They congregate below the soil and feed outwards along the rows of seedlings, leaving behind bare oval





LEFT: The number of isopods recorded at weekly intervals under traps in each of the four treatments over the duration of the season.

patches. The entire seedling is usually eaten, but sometimes a row of stalks is left protruding above the ground," says Tribe.

The study shows that rains in November and December appear to be critical for slug survival in the Overberg.

WINNING THE WAR

After reviewing a combination of treatments during the PRF trials, it was concluded that burning stubble on the fields and applying slug pellets would be the best way to deal with slugs and isopods. Burning alone worked to an extent, improving seedling survival rate.

Trials also showed that broadcasting 8kg/ha of slug pellets containing 30g/kg metaldehyde and 20g/kg carbaryl on the surface at planting was the most cost-effective method of protecting seedlings from slugs and isopods during the four week period after planting.

Tribe says that all products were equally effective but that smaller pellets tend to be more widely spread and are perhaps more accessible to isopods.

Trials showed that placing slug pellets in the soil with seed at planting was ineffective when it came to dealing with this problem. Pellets must be applied superficially at planting.

"Some farmers apply pellets at 15kg/ha and consistently have no seedling loss," explains Tribe.

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FROM TOP:

- Isopods (*Armadillidium vulgare*) clustering on the ground.
- *Milax gagates* and *Deroceras reticulatum* slugs.
- *Deroceras panormitanum* slugs.

