The cabbage seedpod weevil was first discovered in 1995 in canola fields in Alberta; and by 1999 serious outbreaks occurred throughout southern and central Alberta. Through this study researchers determined aspects of cabbage seedpod weevil biology, monitoring strategies and potential chemical insecticides for control. Results indicate that canola growers need to scout their crops early and monitor populations to plan for insecticide control if necessary.

In 1995, the first cabbage seedpod weevil (Ceutorhynchus obstrictus) was observed in canola fields in Alberta. In 1999 and 2000, outbreaks of the cabbage seedpod weevil occurred extensively throughout southern and central Alberta, with population densities as high as 15 to 80 adults per sweep net sample. The threshold level used in Alberta was 3 to 4 adults per sweep.

A three-year project was initiated in 1998 to determine important aspects of the phenology, distribution and control of C. obstrictus in spring canola in Alberta. Researchers needed this information for developing an integrated management strategy for this pest. The objectives of the project were to determine aspects of biology, natural enemies and appropriate monitoring strategies for cabbage seedpod weevil. Researchers also wanted to monitor changes in the distribution and abundance of populations and to evaluate chemical insecticides for control of C. obstrictus.

Research results from 1998 and 1999 provided good information for researchers, however poor growing conditions and lack of data prevented researchers from using any results from 2000. The research results show that adults of cabbage seedpod weevil invade canola crops in spring, with abundance levels increasing from the seedling to the flowering stages. Crops become particularly susceptible to infestation by adults when they reach the bud stage, and growers should monitor crops carefully from the bud stage through until pod ripening. Standard sweep net samples are recommended for monitoring populations.

The research also found that adult weevils are often clumped near field edges early in their invasion phase of canola crops. Growers should monitor field edges in the rosette stage to identify time of invasion, which may mean they only need to spray field edges rather than the entire crop. Adult weevils also migrate to cruciferous weeds (e.g.
flixweed, pennycress, hoary cress, wild mustard) and volunteer canola early in the season before the canola goes into bud. Therefore, growers should use management strategies to minimize these weeds and remove important refuge sites for weevil adults.

Researchers evaluated potential insecticides and found that the synthetic pyrethroid compounds (eg. deltamethrin or Decis® and cyhalothrin-p-lambda or Matador®) were the most effective for reducing populations. These products are known to have little residual insecticidal activity, which is a key benefit when spraying crops in early flower when pollinators are abundant.

Researchers also found that crops of *B. napus* are very susceptible to infestations of cabbage seedpod weevil, however *B. juncea* appears to be less susceptible and *S. alba* is completely resistant. Therefore, in areas infested annually by high densities of cabbage seedpod weevil, growers should consider sowing *B. juncea* or *S. alba* instead of *B. napus*.

Researchers found little evidence of parasitism in adults or larval populations. One parasitoid species was reared from a weevil population near Lethbridge, and appears to be the same species responsible for significant parasitism of this pest in the northwestern US and Europe. Growers can conserve natural enemy populations by avoiding insecticide applications unless weevil populations exceed the economic threshold.

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