THE FMC UPSIDE

FLEA BEETLE LIFE CYCLE AND CONTROL USING EXIREL® INSECT CONTROL POWERED BY CYAZYPYR® ACTIVE IN CANOLA

Crucifer Flea Beetle (Phyllotreta Cruciferae) and other Flea Beetles - Canola

Flea beetles are small, leaf-feeding beetles with greatly enlarged hindlegs and a habit of jumping when disturbed, which gives them their common name. They are the most chronically damaging insect pest of canola. Direct losses to oilseed production average 8-10% of the annual crop yield, and in outbreak years, flea beetles can cause hundreds of millions of dollars in damages.

Flea beetles damage canola by feeding on stems, cotyledons and young true leaves. Feeding at leaf edges causes notches, while feeding on the leaf surface causes small circular feeding pits. Although each pit is < 3mm (<1/8") and rarely perforates the leaf, tissue around each feeding site dies, and under heavy feeding pressure, the sheer number of feeding pits can give the fragile young leaves a shot-hole appearance.

In winter canola, flea beetles walk or hop into the adjacent canola crops or weeds. When air temperatures exceed 57° F and winds are calm, they will fly, dispersing throughout the field and invading other fields, attacking seedlings as they emerge.

In spring canola, flea beetles leave their overwintering sites in spring and fly when daily maximum air temperatures exceed 57° F. Flea beetle emergence, movement and feeding are greatest during periods of warm, sunny, dry and calm weather. Cold, wet conditions reduce movement and feeding.

Spray Threshold

Early in the season, flea beetle feeding damage to canola can be concentrated at field edges as flea beetles walk or fly into fields. Pesticide applications to field perimeters may control invading beetles if they have not spread throughout the field. This may not be an option for winter canola as warm temperatures facilitate greater movement from nearby fields.

The action threshold for flea beetles in canola crops is an average leaf area loss of 25% or more. Research has found that canola with up to 25% leaf area loss will yield the same as canola with no leaf area loss at all. Yield loss starts to show after 25% leaf area loss and becomes economic (yield loss is more than the total cost of the foliar spray operation) at around 50% leaf area loss. The reason for the action threshold for flea beetles is that leaf area loss can escalate quickly from 25% to 50% and beyond in a severe infestation.

Exirel insect control on flea beetles results are in; slow kill of adults, but excellent feeding protection.

Inside this issue

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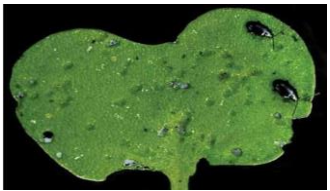


Why Exirel® Insect Control Powered by Cyazypyr® Active?

Protects developing foliage and plants to produce a healthier, stronger crop.

Promotes strong, healthy crops for consistently better yields and quality.

The advanced formulation enhances penetration to the leaf, and moves locally within the plant.

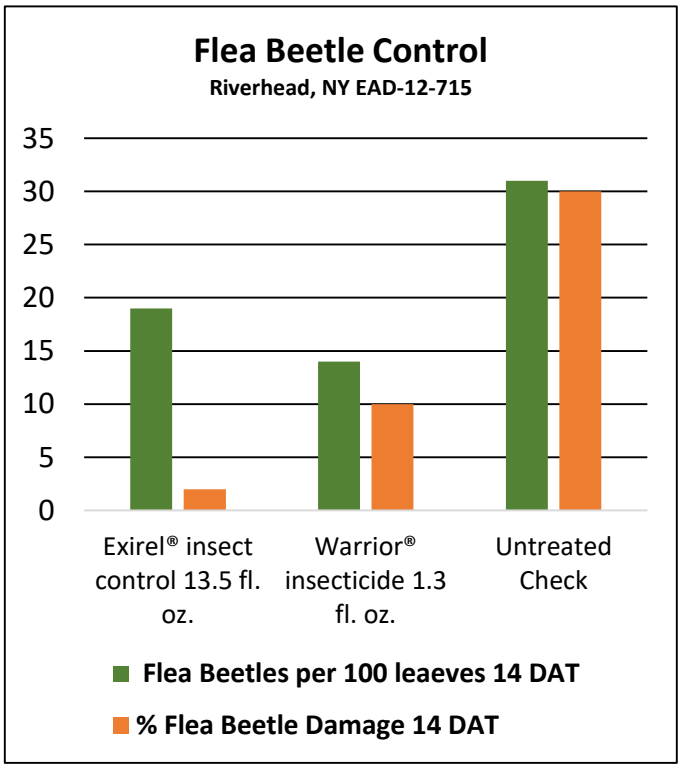
Unique mode of action: Through its targeted Group 28 mode of action, Exirel® insect control impairs insect muscle function. resulting in rapid feeding cessation and decreased feeding damage.

• **Effective on multiple insect life stages:** Exirel insect control impacts multiple pests' life stages and reduces the ability of adult insects to lay eggs.

• **Strong fit in IPM programs:** Exirel insect control is non-disruptive, does not cause secondary pest flares and has moderate to no impact on parasitoids and predators, making it an excellent fit in an IPM program.

• **Ideal resistance management tool:** Novel chemistry, when used in rotation with other effective modes of action, helps reduce the selection for resistance to other insect control products, preserving the long-term viability of tools available for insect control.

Exirel Insect Control



Exirel Insect Control - Requirements

- Use 7 - 17 fl. oz.
- Minimum application interval between treatments is seven days.
- For best performance, use with an MSO or MSO/organosilicone surfactant at a minimum of 1%v/v.
- REI: 12 hrs.
- Do not apply a total of more than 0.4 lb. ai/A of Cyazypyr® active or cyantraniliprole-containing products per calendar year. This is the total from all application methods e.g., seed treatment and foliar application.
- Retreatment may be necessary depending upon adults moving into field.