



# Seed Applied Insecticides: Advanced Seed Protection Technology

Seed Applied Insecticides (SAIs) are one of the most advanced forms of crop protection technology, offering growers a targeted, environmentally sustainable means of pest management. Applied directly to the seed only where needed, the amount of SAI required for protection is significantly less than what is required for broadcast sprays and in-furrow treatments.

SAI technology, which has a long and safe record of use (seed treatments were first used in Canada in the 1950s), protects seeds and emerging plants from insect damage during the critical first weeks of development, before these pests can cause significant losses in the form of reduced plant populations and/or damage to growing plants. This protection helps growers to maximize both the yield and quality potential of their crop.

## The Value of Seed Applied Insecticides

- Q:** Do Seed Applied Insecticides enhance crop quality and yield?
- A:** Yes. SAIs protect the seed and seedlings from pests, ensuring that the plants get off to a healthy, vigorous start, which ultimately translates into quality and yield improvements. This protection is key to agricultural production in Canada as damaging insect pests have been documented in all growing regions of the country for each major agricultural crop.
- Q:** What role do Seed Applied Insecticides play in an Integrated Pest Management (IPM) program?
- A:** SAIs, when used as part of a preventative IPM program, can minimize the need for replanting crops due to damage from a variety of pests (for example, aphids, wireworms and flea beetles), as well as contribute to a decrease in overall pesticide use by reducing the need for foliar insecticides.
- SAI protection is particularly important in instances where there is no curative option for salvaging plant health after insect damage has occurred.



Treated with fungicide only

Treated with Cruiser Maxx® Corn 250

## Return on Investment

### Corn

4.2–13.3  $\times$  \$5.05  
bu/ac<sup>1</sup> /bu

\$15.35–61.30

ROI/ac<sup>2</sup>

### Soybeans

2.1–8.6  $\times$  \$12.64  
bu/ac<sup>3</sup> /bu

\$8.99–91.15

ROI/ac<sup>2</sup>

### Cereals

2.6–8.0  $\times$  \$8.00  
bu/ac<sup>3</sup> /bu

\$13.72–56.92

ROI/ac<sup>2</sup>

### Canola

4.4–11.8  $\times$  \$15.00  
bu/ac<sup>3</sup> /bu

\$61.00–172.00

ROI/ac<sup>2</sup>

<sup>1</sup> Average yield increases vs. fungicide only; aggregated industry data

<sup>2</sup> Including cost of seed treatment

<sup>3</sup> Average yield increases vs. fungicide only; Syngenta Canada data



## The Value of Seed Applied Insecticides

**Q:** Are there other environmental advantages to Seed Applied Insecticides?

**A:** Yes. SAls offer several environmental benefits including:

- A significantly lower amount of active ingredient per acre compared to foliar and soil-applied pesticides
- Direct application to the seed, which minimizes off-target drift
- Reduced impact on non-target organisms, including beneficial insects
- Protection from increased pest pressure associated with a range of agronomic practices including reduced/no-till field conditions

**Q:** What other benefits do Seed Applied Insecticides provide?

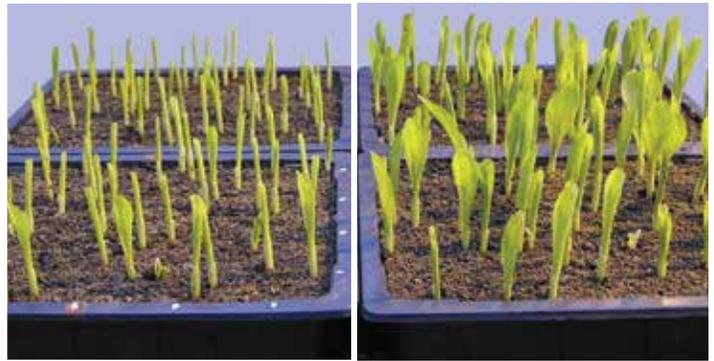
**A:** The value of SAls extends beyond pest control and includes numerous agronomic and production benefits. SAls also:

- Optimize seeding rates due to improved plant stand
- Minimize the need for replants
- Extend the application window for in-season, foliar pesticide applications (when needed)
- Support earlier planting practices, which help to maximize labour and production efficiency
- Complement trait technology to manage insect pests (where there are no traits available to control insect pests and/or to provide a different mode of action for resistance management)

**Q:** Are there benefits to using Seed Applied Insecticides when there is low-to-moderate insect pressure?

**A:** Yes. Insect pests can cause damage to crop growth, quality and yield even at low-to-moderate pressures. Small populations of certain pests may have a detrimental effect, with the result that the seedling may never emerge or the health of the plant may be compromised. If untreated seed is put into the ground where pests exist, there is no way to protect the seed retroactively. In either of these scenarios, the crop may have to be replanted at significant cost.

**Even in the absence of insect pests, SAls enhance plant health and vigour**



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Additionally, even in the absence of pest pressure, SAls provide strong plant establishment, health and vigour by protecting and strengthening the plant at crucial times of development (i.e. germination and root growth). This allows plants to better compete with weeds and diseases and deal with abiotic stresses such as cool soil temperatures or dry conditions at planting.



Visit [SyngentaFarm.ca](http://SyngentaFarm.ca) or contact our Customer Resource Centre at 1-87-SYNGENTA (1-877-964-3682).

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