FMC An Agricultural Sciences Company

CARBINE® INSECTICIDE

GROUP 29

Works smarter, harder, longer.

What is Carbine® insecticide?

Carbine® insecticide is a high-performing, selective insecticide that works fast to stop aphid feeding within 30 minutes of application[1]. Controlling both nymphs and adult aphid stages, even in higher temperatures, Carbine® insecticide is a novel Group 29 mode of action with no known resistance issues. It also provides reduction of lygus and tarnished plant bug numbers.

How does Carbine® insecticide help my farm business?

Fast and effective. Carbine® insecticide uses flonicamid, a novel mode of action with no known resistance issues, to provide fast, selective control of aphids at both nymph and adult stages in pulse crops.

A scientific study by researchers at Ghent University in Belgium, observed the susceptibility of the pea aphid *Acyrthosiphon pisum* against flonicamid and the effect of its novel mode of action, to confirm that flonicamid is a fast and effective way to stop aphids from feeding. See the results for yourself.

Carbine® insecticide quickly stops aphids from feeding

Two (2) days after application, pea aphids were 50% smaller than the untreated pea aphids.

Three (3) days after application all treated pea aphids were dead.

Source: Sadeghi, A. et al. (2009) Evaluation of the susceptibility of the pea aphid, Acyrthosiphon pisum, to a selection of novel biorational insecticides using an artificial diet. Journal of Insect Science. Vol. 9 (Article 65)

Extended control for longer protection. Aphids can reproduce at a fast rate. Not only does Carbine® insecticide work fast, it also protects your crop longer with up to 14 days of extended control[2].

Leaves the good guys to help in the fight. With no known cross-resistance to other active ingredients, Carbine® insecticide is an ideal partner for an Integrated Pest Management (IPM) program because of its minimal impact on many important beneficial insects and pollinators[3] when applied as directed by label. Its unique environmental and toxicological profile make it a sound choice for growers and applicators.

Carbine® insecticide provides selective and extended control[2] of aphids in peas with minimal impact on many important beneficials[3]

Untreated

Carbine® insecticide (10 DAA)

Source: Internal FMC field trial, MB, 2022

Quick Facts:

Active Ingredient:
Flonicamid

Packaging:
4 X 1.587 KG jugs/case

Minimum water volume (ground):
Minimum 10 US gal/acre (100 L/ha). Thorough spray coverage of plant foliage is essential for optimum control. Do not apply by air.

Application:
Ground

Rainfastness:
When dry on leaf surface. Avoid application when heavy rain is forecast.

Re-entry period:
12 hours

Pre-harvest interval:
7 days

When should I apply Carbine® insecticide?

Crop	Pest	Rate	PHI (days)	Application Information
Pulses (not including soybean): Lentil, field pea, chickpea, dry edible beans, faba bean, lupins	Aphids	49-65 g/ac (25 ac/jug)	7	Apply before aphid populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary. Use higher rates for greater pest populations and/or dense foliage. Do not apply more than 65 g/ac per application (up to 3 applications per season).
	Lygus & tarnished plant bug	81 g/ac (20 ac/jug)		Apply when lygus bugs first appear in the field and before populations reach high levels. Carbine® insecticide will stop lygus bug feeding rapidly but it may take several days to see a reduction in lygus bug numbers. Reapply when new insects are detected.
Non Grass Animal Feeds: Alfalfa (seed*, forage), clover, lespedeza, lupin, sainfoin, trefoil, vetch; crown vetch, milk vetch	Aphids	49-65 g/ac (25 ac/jug)		Apply before aphid populations reach economic thresholds or as populations begin to increase but before damaging populations become established. Scout fields and reapply if necessary. Use higher rates for greater pest populations and/or dense foliage. Within the range, use higher rate for greater pest populations and/or dense foliage.
	Tarnished plant bug	81 g/ac (20 ac/jug) max 3 applications OR 121 g/ac (13.2 ac/jug) max 2 applications		

* Do not use seed or treated forage for human or animal consumption from treated alfalfa that was grown for seed production specifically.

How does Carbine® insecticide work?

- Active by contact and ingestion
- Provides up to 14 days of extended control[2]
- Both immature and adult stages are controlled
- Higher temperatures do not reduce efficacy
- Translaminar activity controls the aphid whether they fed on the top or bottom of the leaf
- Minimal impact on many important beneficial insects and pollinators[3]

What should I expect after applying Carbine® insecticide?

Rapid and irreversible feeding cessation within 30 minutes[1]

- Stylet mouthpart is impaired and pest is unable to penetrate tissue to feed
- Evidence of activity: leg flicks, swivels, uncoordinated movements

Mortality due to dehydration/starvation which may take up to:

- 2 – 4 days for aphids
- 7 – 10 days for lygus bug (including tarnished plant bug)

NOTE: target insects are not causing damage during this time

What to look for:

- No recolonization
- No new nymphs

It's time to outsmart aphids!

Don't let aphids rob the yield potential of your alfalfa, lentils, field peas, chickpeas and other pulse crops (excluding soybeans).

Crops

Pulses:

- Lentil
- Field pea
- Chickpea
- Dry bean
- Faba bean
- Lupin
- Alfalfa (seed and forage)
- Clover

Non Grass Animal Feeds:

- Alfalfa (seed* and forage)
- Clover
- Lespedeza
- Lupin
- Sainfoin
- Trefoil
- Vetch (crown and milk)

Insects

- Aphid
- Lygus bug
- Tarnished plant bug

Questions? Ask your retailer about Carbine® insecticide today.

[1] Morita et al. 2007. Pest Man. Sci.
[2] Rate and environmental conditions dependent.
[3] When applied at label rates. In line with Integrated Pest Management and Good Agricultural Practices, insecticide applications should be made when pollinators are not foraging to avoid unnecessary exposure.

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