

For control of Argentine Stem Weevil, Funnel Ant and Mole Crickets in Recreational, Domestic and Commercial Turf

Monarch 100 Insecticide

Technical Brief

- Active Ingredient:** 100 g/L fipronil
- Mode of Action Group:** 2B - Phenylpyrazoles (GABA-gated chloride channel antagonists)
- Formulation:** Suspension Concentrate
- Mode of Action:** Fipronil causes excitation and convulsions in insects and, at sufficient doses, death by disrupting the nervous system. Fipronil (and one of its metabolites) binds to three types of calcium-channels on the membranes of neurons, preventing calcium ion influx into the cell. One of these types of channels is mediated by the neurotransmitter gamma-aminobutyric acid (GABA) and the other two are mediated by glutamate. Fipronil has both contact and ingestion activity, but is particularly effective by way of ingestion.
- Behaviour in Plants:** Fipronil exhibits systemic activity against certain highly susceptible pests. Following soil or seed-treatment application, fipronil movement within plants is generally upward via xylem with very limited movement within the phloem.

Benefits

- Outstanding efficacy on target pests
- Offers exceptional control during the most susceptible periods
- Long-term residual control
- Novel mode of action that reduces the risk of resistance development
- Is non-repellent, so the pest don't know it's there, and cannot react to or avoid it - especially important for funnel ants and mole crickets
- Liquid - based formulation for non-repellent treatment of funnel ants in commercial or domestic turf situations
- Agricultural formulations of 200 g/L fipronil usually have a canola oil as an inert ingredient. Whilst this may be ideal for uses in agriculture it may not suit uses in turf. You may lose the major advantage of the pest not being able to smell, taste or feel (non-repellent) the insecticide. Don't risk giving up one of your major advantages of fipronil being non-repellent by using a formulation that contains canola oil. Monarch 100 Insecticide's formulation DOES NOT contain canola oil.
- Limits the number of pesticide applications
- Can't be smelt, tasted or felt by pests
- Unique resistance management grouping

Insect Management

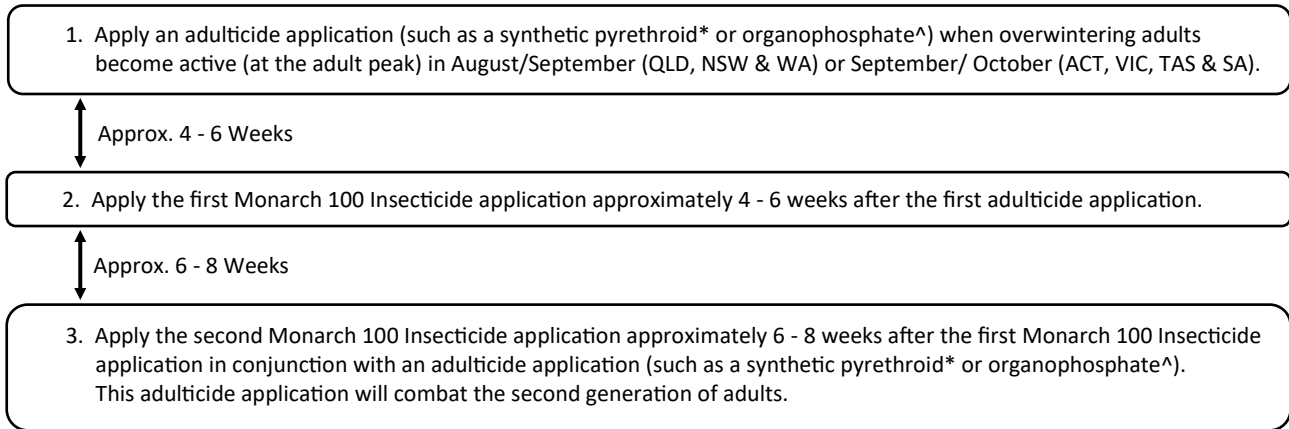
Situation	Pest	Rate per ha	Rate per 100m ²	Critical Comments
Recreational Turf (including bowling greens, golf courses, parks and playing fields), domestic turf and commercial turf farms	Argentine Stem Weevil (<i>Listronotus bonariensis</i>)	750 mL	7.5 mL	Spray evenly over the turf surface at the first sign of pest activity.
	Funnel Ant (<i>Aphaenogaster pythia</i>)	600 mL	6 mL	Ensure incorporation with at least 6mm of rainfall or overhead irrigation immediately after application.
	Mole Cricket # (<i>Sapteriscus didactylus</i> and <i>Gryllotalpa</i> spp.)	300 mL	3 mL	The most likely application timings are one application in October/November and a further application in January/February. #Domestic Turf: For use by authorised lawn-care specialist only.

Note: The above table represents only a modified extract from the full registered label. Always read the full product label before use.

How to get the most out of your application

Plan and implement a program to gain maximum control of your unwanted pests using the strengths of Monarch 100 Insecticide, by applying at the correct timings of the pest's life cycle.

Argentine Stem Weevil (ASW) – ASW should be managed and controlled with a program approach. Any basic program should include the following:



If pest pressure continues longer than the timelines described in the above applications (i.e. into the depths of summer) please contact Turf Culture for further program and product options to ensure you gain the best control whilst undertaking a sustainable resistance management program.

A program approach to control the larvae for African Black Beetle, Argentinian Scarab and Billbug using larvicide products such as Columbus Insecticide (250 g/L thiamethoxam) or Tirem 200 SC Insecticide (200 g/L imidacloprid) will compliment your Argentine Stem Weevil program. At minimum, a program of this nature should involve 2 applications spaced correctly over the season to ensure control during the main pest pressure periods.

Be sure to rotate the adulticide applications between the Mode of Action Resistance Management Groups. For example: if you use a synthetic pyrethroid* for the first application listed above use an organophosphate^ for the third application listed above (or vice versa if you use an organophosphate first). Rotation of Resistance Management Groups for adulticide applications is vital as Argentine Stem Weevil adults are prone to develop resistance.

* synthetic pyrethroid – are products within the Mode of Action Management Group 3A. Product options registered for Argentine Stem Weevil control include Ceasefire 80 SC Insecticide (80 g/L bifenthrin).

^ organophosphate – are products within the Mode of Action Management Group 1B. Product options registered for Argentine Stem Weevil control include Pennside Flowable Microencapsulated Insecticide (240 g/L diazinon).

Mole Crickets—Ensure even application for best results as Monarch 100 Insecticide is non-repellent, which means Mole Crickets never know it's there, so they cannot react to it or evade it. Mole Crickets have been known to detect insecticide applications and react by burrowing down deep to evade insecticide, therefore use Monarch 100 Insecticide's non-repellent feature and do not mix other insecticides with Monarch 100 Insecticide that can tip off the Mole Crickets by way of smell, taste or feel. The residual activity of Monarch 100 Insecticide is such that it can be applied before egg laying and will still control the nymphs as they hatch.

Funnel Ants—Ensure even application for best results as Monarch 100 Insecticide is non-repellent, which means the funnel ants never know it's there, so they cannot react to or evade it. Funnel ants in transit to or from their colonies can pick up Monarch 100 Insecticide and spread it to other ants in their colony.

Mixing

Prior to pouring, shake container vigorously then add the required quantity of Monarch 100 Insecticide to water in the spray vat while stirring or with agitators in motion.

Application

Apply Monarch 100 Insecticide evenly over the turf surface at the first sign of pest activity.

Ensure incorporation with at least 6mm of rainfall or overhead irrigation immediately after application.

Total application volume should not be less than 400 L/ha.

Avoid conditions when spray drift may occur.

Apply with suitable low set boom spray equipment or hand wand sprayer for small areas.

Packaging

Pack size: 1L, 5L



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