

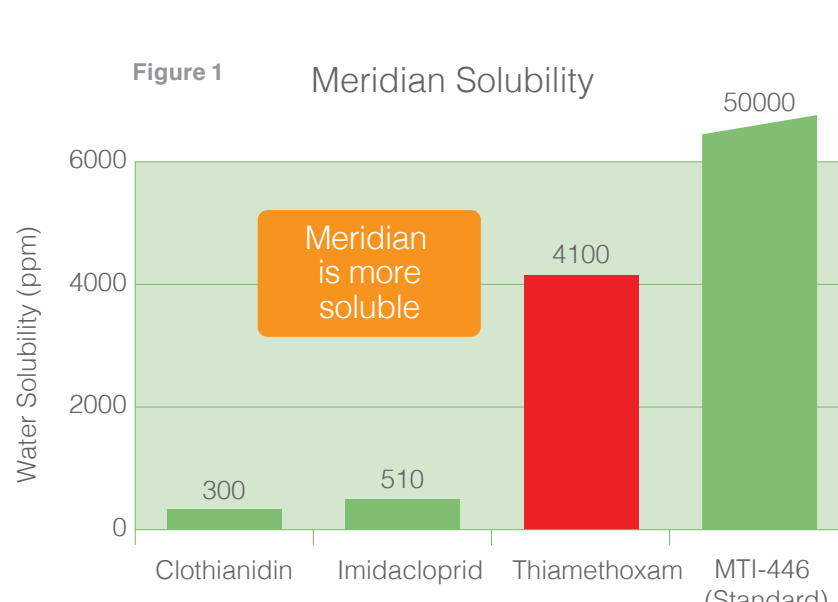
Turf Science in action

Save up to 60,000 litres of water per hectare
Greater availability in dry conditions
Season long control of grubs



Irrigation savings "washing in" after application

Meridian® can help to save up to 60,000 litres of water per hectare during post grub-insecticide application "wash in". The superior solubility of the active ingredient – thiamethoxam (neonicotinoid) – is the main reason for this benefit. Thiamethoxam is approximately 8 times more soluble than imidacloprid (Fig. 1), thus increasing robustness and water savings during incorporation.



Effective in wet and dry soil conditions

Neonicotinoids age in soil, with the majority of the active ingredient available during the first 30 days dissolved in soil moisture. Increased solubility of thiamethoxam during this time will ensure elevated levels of availability and thus efficacy in drier soil conditions. In the longer term (20-100 days), thiamethoxam will bind to soil, to be released more readily back (desorbed) into solution than imidacloprid. This is called bio-availability, meaning the active ingredient is available to the biological system – plants for uptake and/or contact with burrowing grubs. Higher bio-availability contributes to higher levels of efficacy. Meridian will ensure high level performance in most soil conditions (Fig. 2). Meridian may therefore perform better than imidacloprid in drier soils such as fairways, semi-roughs, ovals and parks lacking regular irrigation (Fig. 3)

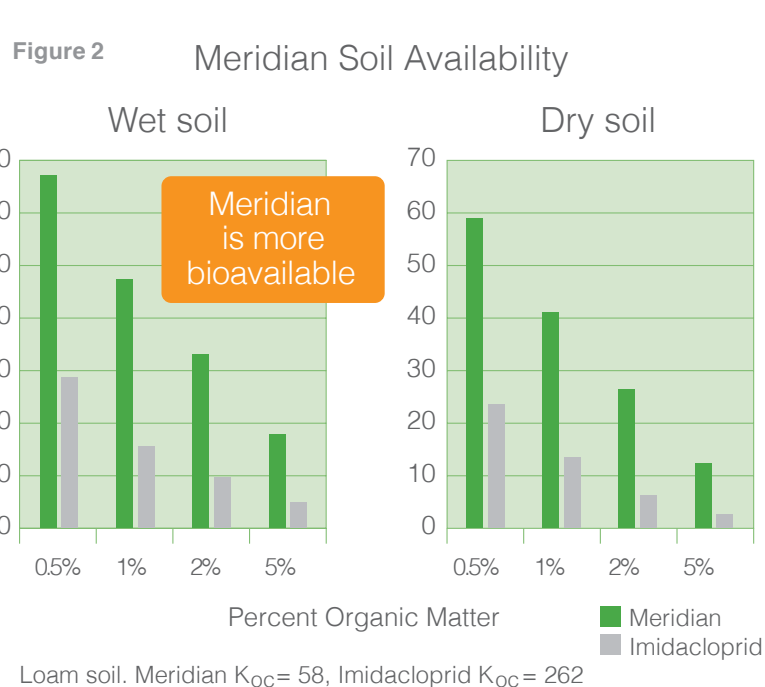


Figure 3 Performance in dry soil

	0-30 days	20-100 days
	Dissolved (majority of active)	Soil bound (majority of active)
Meridian	Higher solubility Increased bio-availability and efficacy	Easier desorption Increased bio-availability and efficacy
imidacloprid	Lower solubility Decreased bio-availability and efficacy	Difficult desorption Decreased bio-availability and efficacy

Season-long control of grubs



WHITE GRUBS

IDENTIFICATION:

These fleshy, white, C-shaped insects which often have a blueish hind end the larvae of scarab beetles. They live in the soil, feeding on humus and the roots of plants. They are often associated with the roots of lawn grasses where they may become troublesome sporadically. In general, they tend to become troublesome where the natural vegetation is removed and replaced by other plants.



TERMITES

IDENTIFICATION:

Their subterranean nests are indicated only by holes on the surface surrounded by small mounds of loose particles of soil. They emerge at night or on cool days in winter, cutting bits of grass and carrying them away to their nests. In the summer rainfall areas they can do a great deal of damage to lawns during the dry winter. They can be distinguished from the fungus grower termites by their darker (brownish) body colour, as well as by the fact that they have eyes, absent in the fungus grower species.



CRICKETS

IDENTIFICATION:

Both adults and immatures can become troublesome on lawns, causing disfiguring tunnels and then feeding on the grass around the holes at night. The damage is especially noticeable during dry periods. Seedlings and young plants may also be attacked. Considerable damage may be done to strawberries where both foliage and fruit are eaten. Mole crickets differ from other crickets in that the front legs are adapted for digging. They feed on the roots of plants and may do extensive damage to potatoes by eating holes in the tubers. Lawns may also be disfigured by their habit of pushing up small piles of earth.



ANTS

IDENTIFICATION:

Only a small group of fungus-growing (or leaf cutting) ants cause direct injury to plants, by cutting pieces of leaves to serve as a substratum for their fungus-gardens (e.g coffee and citrus in South America). The majority, however, are predators or necrophages of their insects, or feed on plant secretions, sweet liquids such as honeydew (excreted by aphids, scale insects and mealy bugs) or grass seeds. Often, however, some species become indirectly harmful to plants by interfering with the natural enemies of aphids, scale insects and mealy bugs. Ants running up and down garden plants are a good indication of the presence of these other pests, which are protected by the ants in return for the honeydew they secrete. In homes they may become a nuisance by making their nests in the potting soil in potplant containers.

Get Preventive and Curative Control of Grubs, Ants and Other Turf Insect Pests with Meridian Insecticide

Meridian® insecticide is a proven leader for preventive and curative control of soil and foliar pests such as chinch bugs, ants, grubs and other surface feeders. Applied foliarly or as a soil application, it provides pest protection in a wide range of areas including lawns and landscape ornamentals such as bedding plants, trees and shrubs.

Curative White Grub Control

The active ingredient in Meridian, thiamethoxam, moves systemically throughout plants to provide curative control of white grubs and to quickly prevent damage to turf. Additionally, Meridian is metabolized slowly in the leaf tissue for long-lasting control.

- When used as a curative treatment, Meridian should be watered in within 24 hours of application to move the product into the root zone.
- White grubs that contact or ingest Meridian are affected and mortality occurs quickly to prevent further turf damage.
- Meridian controls grubs through the second instar (July through August), reducing the need to purchase an additional and expensive curative product.
- The same curative grub application of Meridian is also effective on pyrethroid-resistant chinch bugs.

Prevent More Pests with Less Effort

Meridian also provides preventive control for lawn care operators. Even if there is no rain or irrigation for up to seven days after application, Meridian maintains its efficacy in the soil, making it an effective preventive control option.

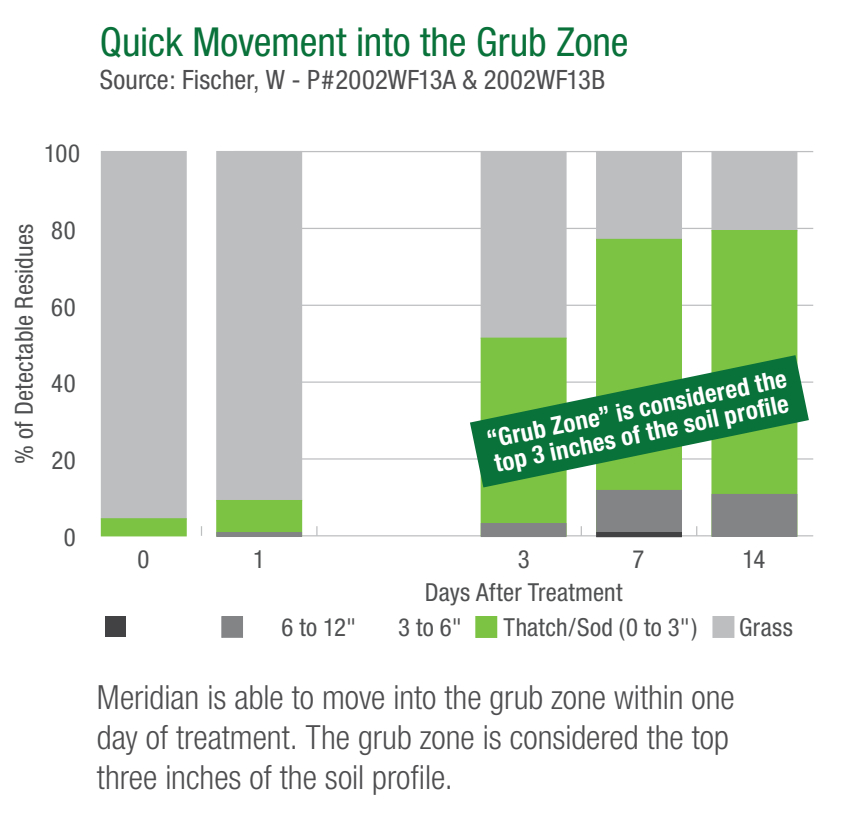
Protecting Landscape Ornamentals

One of the most differentiating features of thiamethoxam is its systemic activity in plants. When applied to soil, the active ingredient is absorbed through the roots and spreads throughout the plant. When applied foliarly, the active ingredient is transferred through the canopy of the plant. As a result, key landscape ornamental pests such as aphids, mealybugs, scale, white flies and tent caterpillars are also controlled.

Flexible Application to Fit Your Needs

Meridian widens the window of application for flexible, preventive control by providing season-long control on your schedule. If you miss the early window for application, Meridian can be applied later in the season. With two formulations, you can apply Meridian in the most efficient way for your business.

- Meridian 0.33G: a spreadable granule sold in a 40-lb. package
- Meridian 25WG: a water-dispersible granule used for spray applications that is sold in 17-oz. and 102-oz. packages.



IRAC MOA CLASSIFICATION
GROUP 4 THIAMETHOXAM

Why Choose Meridian?

When compared to Merit® insecticide, Meridian scores high marks:

- Meridian is labeled for control against a broader range of landscape insects including ants, sod webworms, plant bugs and tent caterpillars.
- Meridian demonstrates a favorable 40 percent plant uptake rate 24 hours after treatment.
- Meridian remains effective up to seven days after treatment, even without watering in from rain or irrigation.

Turfgrass Soil Insecticide Comparison

	Meridian®	Merit®
White Grubs	Equal	Equal
Curative Grub Control	✓	✗
Chinch Bugs	✓	✓
Mole Crickets	✓ - suppression	✓
Ants	✓	✗
Landscape Insects		
Aphids	✓	✓
Whiteflies	✓	✓
Mealybugs	✓	✓
Leafhoppers	✓	✓
Surface Water advisory	✓	✓
Ground Water advisory	✓	✓
Plant uptake	40% at 24h	10% at 24h
Current Formulation(s)	0.33G, 25WG	75WP, 75WSP, 2F, 2.5G, 0.5G
Watering Requirements for preventive treatments	up to 7 DAT	within 24 hours after application

✗ = not labeled. DAT = days after treatment. ✓ = labeled.
✓ - suppression = suppression claim only.

Labeled Use Rates by Formulation

Pests	Dosage	Application
White Grubs	12g/100m ²	Apply as a broadcast spray. Only first two instars of white grubs will be controlled. Apply during September/October and follow up November/December as a preventative treatment or when small white grubs are present. Mix in 10 l water and apply with a knapsack sprayer to 100 m ²
Mole Crickets*	12g/100m ²	Apply as a broadcast spray. Only juvenile mole crickets (less than 18mm in length) will be controlled. Do inspection, prior to application, by washing mole crickets from the soil with a liquid soap solution. Apply during November / December as a preventative treatment or when small mole crickets are present. Mix in 10 l water and apply with a knapsack sprayer to 100 m ²

*Suppression only. All rates are per year.

Key Features of Meridian

- True broad-spectrum control of surface-feeding insects including white grubs and chinch bugs.
- Wide application window for flexible control.
- Curative control through second instar.
- Highly systemic movement of the AI means faster control.
- Relaxed watering in requirements when applying preventively.



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Distributed in South Africa by Talking Turf cc. Registration number: 2004/106765/23
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