



Bug-Wise

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Fipronil: Fipronil is one of the newer insecticides available in the homeowner market, and it is worth taking a few minutes to become more familiar with this useful insecticide. Fipronil was first registered in the US in 1996, but did not enter the homeowner market until some time later. It is the sole member of the fiprole class of insecticide chemistry, which means it will work on many pests that are resistant to some of the older classes, like organophosphates, carbamates, or pyrethroids. Fipronil has both contact and ‘stomach’ activity and also moves systemically in plants. This active ingredient has some uses in the row crop market, where it is sold as Regent, for use in corn. Some of the more common fipronil based products in the homeowner market are discussed below.

Frontline: Frontline is a ‘spot-on’ type treatment that is widely used for control of ticks and fleas on both dogs and cats. This is a rather pricy product, that must be reapplied monthly, but, since its introduction into this market, Frontline has become the standard for ‘on-pet’ flea and tick control. Frontline Plus is another formulation that contains fipronil + methoprene. The methoprene provides additional control of immature fleas. When purchasing Frontline for dogs, homeowners should keep in mind that it comes in different sized packages, based on the weight of the dog to be treated. Frontline for cats is only sold in one package size.

Termidor: Termidor is not available for use directly by homeowners, but it is commonly used by pest control companies to treat homes for termites. Since its introduction into this market, Termidor has proven to be an excellent, long-lasting liquid termiticide. In USDA trials it has provided 10 years of continuous protection against termites, and these trials are still ongoing. Unlike the older termiticides, such as chlordane and chlorpyrifos (Dursban), fipronil is non-detectable to termites. This means that the termites readily wander into the treated zone and are controlled, whereas with the older products, they tended to avoid the treated zone – until they found some type of breach in the treatment barrier.

Over ‘n Out!: This is a granular insecticide treatment that is available to homeowners for fire ant control. It contains 0.0103% fipronil. This product is sold in 10 pound bags and is applied at a rate of 2 pounds per 1000 square feet. It should be watered in immediately after application. Note that this is not a fire ant bait; it is an insecticide granule. The insecticide remains in the soil where it controls foraging fire ants and prevents the establishment of fire ant colonies. The label indicates that this product will provide season-long control of fire ants. Although it is a relatively costly treatment, this is a very useful product establishing and maintaining areas that are nearly fire ant free. Top Choice is a granular formulation of fipronil (0.0143%) that is used by commercial applicators and on golf courses for control of fire ants and mole crickets.

Baits: Fipronil is also used as the active ingredient in several insecticide baits, including baits for cockroaches, fire ants, and other pest ants. However, few of these fipronil based baits are locally available to homeowners.

Mole Crickets: These pests primarily occur in the southern end of the state and damaging numbers are rarely seen north of Interstate 20. However, the closer one gets to the Gulf Coast the more common these pests become. Mole crickets prefer sandy or loamy soils and are major pests of golf courses and athletic fields in the southern portion of the state, but they also occur in home lawns.

Actually, there are two different species of mole crickets, the tawny mole cricket and the southern mole cricket, and both are ‘exotic’ pests that invaded the state some years ago. Both species complete only one generation per year and overwinter as partly grown nymphs. Damage is caused by their extensive tunneling and by feeding directly on the roots. Southern mole crickets are actually primarily predators that feed on other insects, but their tunneling still causes significant damage. Greatest damage occurs in the spring of the year when the large nymphs feed heavily as they are maturing into adulthood (they eat like teenagers). Unfortunately, these large nymphs are very difficult to control. Specially formulated mole cricket bait, containing carbaryl, is one of the better treatment options for large nymphs.

Depending on weather, location, and species, adults emerge and begin mating flights from April to mid-May. Eggs, which are deposited in clusters in the soil, hatch in about 3 weeks, with most egg hatch occurring in June to early July. The tiny nymphs immediately begin tunneling through the soil and feeding on roots. These small nymphs are the stage that is most susceptible to control.

By the time eggs have hatched and small nymphs are actively feeding, the turf will have begun to recover from the damage caused by the old nymphs early in the spring, and many homeowners conclude that their mole cricket problem has ‘gone away’. It hasn’t. If a piece of turf had problems with mole crickets this spring, it will probably have just as much damage next spring. It’s just that the newly hatched nymphs cause such a relatively small amount of damage that they go un-noticed. However, **the key to successful mole cricket control is to treat when the nymphs are small**, which means treating in late May through June when damage is least obvious.

Treatments for control of mole crickets in commercial turf are discussed in Extension Publication 1858. Treatments for use on home lawns are listed in the following table. As mentioned in the previous section, Top Choice (fipronil) is one more common treatments used to control heavy mole cricket pressure on high value golf greens. Although, the Over ‘n Out fipronil based product available to homeowners is only labeled for control of fire ants, it will also aid in control of mole crickets and is a good treatment option for home owners who are interested in controlling both fire ants and mole crickets. However, homeowners should recognize that Over ‘n Out contains slightly less fipronil than Top Choice (0.0103% vs 0.0143%) and the label provides no guarantee that this product will control mole crickets.

Insecticides for Control of Mole Crickets in Home Lawns

Insecticide	Brand Name *	Rate/1000 sq. ft.	Comments
Treatments Applied as Sprays			
lambda-cyhalothrin (0.5% concentrate)	Triazicide Soil & Turf Insect Killer Concentrate	4 fl oz	Irrigate after application
cyfluthrin 0.75% (concentrate)	Bayer Power Force Multi-Insect Killer	6 fl oz	Irrigate after application
Treatments Applied as Granules			
bifenthrin (0.1% granules)	Ortho Lawn Insect Killer Granules	4.8 lbs	Water thoroughly following application
Imidacloprid (0.2% granules)	Bayer Season-long Grub Control	3.8 lbs	Irrigate within 24 hours after treatment Imidacloprid is most effective against newly hatched nymphs, which occur in late May through June.
lambda-cyhalothrin (0.04% granules)	Triazicide Soil & Turf Insect Killer Granules	3 lbs	Water ¼ to ½ inch following application
Fipronil ** (0.0103% granules)	Over’n Out **	2 lbs	** Over’n Out is not specifically labeled for control of mole crickets. However, when used to control fire ants, this product will aid in the control of mole crickets. Irrigate after application
Carbaryl (5% bait)	Mole Cricket Bait	0.75 to 0.9 lb	This is a bait. Do not water following treatment. Baits are more effective against large nymphs and adults.

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This information is for educational and preliminary planning purposes only. Brand names mentioned in this publication are used as examples only. No endorsement of these products is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control. Always read and follow the insecticide label.