



Whether it is biological or chemical, the key to effective pest control is timing. The best control is achieved when the eggs have just hatched and the mole crickets are most vulnerable. Larger nymphs and adult mole crickets, on the other hand, are increasingly more difficult to control.

As a result, closely monitoring the lifecycle of mole crickets is necessary. In general, hatching occurs around the end of May to the first of June, depending on the season's temperatures.

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*KERRY BROOKS
Gibbs & Soell, Inc.
For Aventis, Inc.*

Mole Cricket Scouting Program

Editor's note: *This article is about a program developed specifically for the Bayer Corporation by Dr. Pat Cobb, professor emeritus from Auburn University, for the timing of MERIT™ insecticide applications for the control mole crickets and white grubs. This article is presented because the concepts and methods for determining the mole cricket egg hatch will determine the window of opportunity for optimum insect control regardless of the product used.*

MERIT Insecticide is a broad-spectrum systemic insecticide that is effective at low-use rates with properly timed application against mole crickets. It is available in several formulations (MERIT 75 WSP, MERIT 75 WP and MERIT 0.5 G).

Merit Insecticide also offers value-added insect control for the white grub complex, while providing control of mole crickets. It is common for both

pests to cause damage in the same stand of turf. With one properly timed, self-applied application per year, this two-in-one control is a smart value and time-saver compared to making two separate applications.

MERIT provided the best results when properly timed. Scouting for adult mole cricket activity is the first step for determining optimal Merit application timing.

Scouting Instructions

Begin by looking for active mole cricket tunnel damage, especially on

sunny southern slopes, tee boxes or areas damaged the previous year. Using a soap flush mixture of 1 to 2 tablespoons of lemon-scented liquid detergent in 1 gallon of water, flush active mole crickets to collect adults. Try to avoid overmixing. If the soap solution is too foamy, it can be difficult to detect the mole crickets.

The best time to flush is during the early morning or late afternoon. Pour approximately 1 quart of soapy water per square foot over fresh active tunnels. Multiple locations in a 20-foot area can be flushed at the same time. Marking with a flag makes a good reference to

Product Clarification – Less Is More

May 22, 2000

To: All Florida golf course superintendents, distributor reps and other end users of ORTHENE™ Turf Tree & Ornamental Spray (75% Powder and/or New 97 Pellet)

From: Peter Blum, Technical Sales Rep., Professional Products Group, Valent U.S.A. Corporation

I would like to clarify a few issues that several superintendents have raised regarding ORTHENE Turf, Tree & Ornamental Spray (75% powder) vs. our new formulation, ORTHENE Turf, Tree & Ornamental Spray 97.

The new OTTO 97 is a 97% pure, high-grade pelletized product and is a totally dust-free, low-odor formulation. This new generation of ORTHENE addresses worker exposure issues - issues the industry remains concerned with on all products being sold in a dusty, powder formulation.

The new OTTO 97 is packaged in a .773 lb. can and a 7.73 lb. plastic resealable zipper-lock bag. These package sizes are equivalent in active ingredient to our 1 lb. and 10 lb. OTTO 75, respectively.

In other words, 1 lb. of OTTO 75 is equal to .773 lb. of OTTO 97. Furthermore, the price of OTTO 97 in a .773 lb. can is the same as the price of the 1 lb. OTTO 75. And the price of OTTO 97 in the 7.73 lb. bag is the same as 10 pounds of our OTTO 75. Thus, OTTO 97 will be the same cost per 100 gallons of tank mix or per acre as the OTTO 75. It simply takes less of the OTTO 97 to do the job as it is almost 25% stronger.

Distributors have the option of pricing OTTO 97 to the users on a per pound basis or on a per unit basis. If they price the OTTO 97 on a per pound basis, the cost per pound will be higher than a pound of OTTO 75. But if they price OTTO 97 on a per unit basis by container size (.773 lb. or 7.773 lb) vs. OTTO 75 (1 lb. or 10 lbs.), they should be of equal value.

One last point: The new OTTO 97 is available only under the product brand name ORTHENE Turf, Tree & Ornamental Spray 97 by Valent U.S.A. Corp.

I hope this addresses the questions you have had regarding these issues. Valent U.S.A. appreciates your business and your interest in our products. If I can be of further service, feel free to contact me. Thank you.

Sincerely,
Peter Blum
Valent U.S.A. Corp.
Boca Raton, FL
(561) 995-9603



The best time to flush is during the early morning or

late afternoon. Pour approximately 1 quart of soapy

water per square foot over fresh active tunnels.

Multiple locations in a 20-foot area can be flushed at

the same time. Marking with a flag makes a good

reference to locate the flushed spot.

locate the flushed spot. Sometimes under dry conditions, an extra soap flush may be needed after the first has soaked in. Adult mole crickets may not surface for several minutes (5 to 10 minutes). Occasionally, tender foliage may be susceptible to slight burn from the soap under hot conditions.

Peak-season mole cricket activity varies depending on location and temperatures. Determine and record the identification of the mole crickets with each collection. Save collected specimens in labeled 4-ounce jelly jars half-filled with alcohol for future reference to predict egg hatch. Make sure all specimens are dated.

Mole cricket sex identification

You will need to be able to identify the female mole cricket in order to examine their eggs to predict egg hatch. The easiest way to determine the sex of mole crickets is to examine the wing area of the adults.

Adult tawny and southern mole crickets have wings that overlap and are the length of the abdomen. Hold the specimen so the wings are visible. Observe just behind the head at the base of the wings. The male will have a raised triangle that looks V-shape at the base of the wings. The female mole cricket will not have the darker raised area at the base of the wings and is lighter in color. This can be confirmed by rubbing a fingernail over the area at the base of the wings.

Mole cricket egg development and early hatch

Once you have identified the female mole crickets, you can examine their eggs to predict egg-lay and hatch.

Peel open the abdomen and locate the oval-shaped eggs behind the internal organs. In general, if eggs are small (pinhead size), light in color, flat or very soft to the touch, the female is in the early stages of egg development. In the later stages of egg development, the eggs become larger and more oval but remain soft and light in color — she may lay eggs within a few weeks. However, if the eggs are firm, and sometimes darker in color, egg lay can be expected within five days and hatch should begin in two weeks.

If you do not find eggs, the females may have already laid their eggs, and you should begin to monitoring for hatch. Start by soap flushing and observing for small nymphs (1 centimeter in size). These come to the top of the grass within a few minutes of soap flush. Small nymphs can be difficult to detect, so pay careful attention. Look closely for movement, because it is easier to see and collect small nymphs that are moving. You may notice nymphs when flushing for adult mole crickets. If your soap solution has too much foam, you may miss some nymphs.

Keeping records on species, numbers, sex and stage of development will provide useful information for MERIT ap-

plication timing. Record the size of nymphs collected if the program is initiated after egg-lay.

MERIT application timing

If the majority of females are in early stages of egg development, wait a week and scout again. If the majority are in the later stages of egg development, application time is near. Scout this area once or twice a week for small nymphs. If very small nymphs are found during flush, apply MERIT within seven to ten days. If larger nymphs (1 centimeter) are found, apply MERIT at first opportunity. Do not wait longer than one week.

Irrigation

Adequate irrigation or rainfall is needed after application to move MERIT into the soil. Apply sufficient irrigation to wet soil a minimum of 1 inch deep. For optimum control, irrigation or rainfall should occur the evening of application and before mowing.

Summary

- MERIT effectively controls mole crickets and the white grub complex with only one preventative application each season. This two-in-one approach is economical and a time saver.
- MERIT provides the option of self-application or custom-application.
- Proper timing is critical to achieve the best results with MERIT. Scouting for adult mole cricket activity is the best way to determine proper timing.
- Mole cricket egg-lay can be predicted by observing eggs in the female's abdomen. If eggs are firm, hard and sometimes dark in color, egg-lay can be expected within five days.
- Male mole crickets have a dark, raised v-shaped at the base of their wings, females don't.
- MERIT is most effective when timed with the first hatch of mole crickets.

PAT COBB, PH.D.

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