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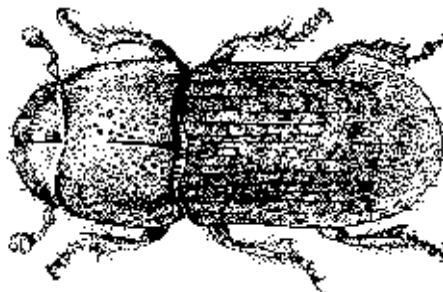
Quarterly Newsletter
on Western Gulf
Forest Pest Management
Issues

PEST is a quarterly newsletter that provides up-to-date information on existing forest pest problems, exotic pests, new pest management technology, and current pesticide registrations in pine seed orchards and plantations. The newsletter focuses on, but is not limited to, issues occurring in the Western Gulf Region (including, Arkansas, Louisiana, Mississippi, Oklahoma, and Texas).

Announcement:

Verbenone Registered. EPA recently approved the registration of verbenone, an anti-aggregation pheromone, to protect southern pines against southern pine beetle. Research by the TFS, USFS, U. of GA, and VA Tech has developed a verbenone pouch; when pouches are attached to trees in front of an active SPB infestation, the verbenone stops or slows the expansion of the infestation. The verbenone pouches should be available for operational use by 2001. Forest managers who wish to purchase and treat SPB infestations with verbenone will first be required to take and pass a training course. For more information contact Dr. Ron Billings, TFS, at (409) 639-8170, or visit the verbenone workshop at <http://www.ento.vt.edu/~salom/Workshop/workshop.html>.

Western Gulf Forest Pest Management Cooperative



Southern Pine Beetle, *Dendroctonus frontalis* Zimmermann

Texas Forest Service, Forest Pest Management,
P.O. Box 310, Lufkin, Texas 75902-0310

Volcano™, a New Bait Registered for Leaf-cutting Ant Control in Texas

Texas landowners who grow pine will soon have a new effective control option for a major pest of pine seedlings - Texas leaf-cutting ant or town ant (*Atta texana*). The Texas Department of Agriculture has just approved a 24C (Special Local Need) registration for Volcano™ Leafcutter Ant Bait for the control of the Texas leaf-cutting ant occurring in the pine forests of Texas. Volcano™, containing the active ingredient sulfluramid, is produced by Griffin L.L.C. in cooperation with FMC in Mexico. Research conducted by the WGFPMC and Texas Forest Service has shown the bait to be effective in completely halting ant activity in as little as 4 weeks with a single application.

Since mirex was banned 20 years ago, methyl bromide has been the most effective option for control of the Texas leaf-cutting ant. However, methyl bromide is highly toxic, scheduled to be phased out by 2005, and has become prohibitively expensive. Other control options such as Amdro® leaf-cutting ant bait and Eradicator™ thermal fog system were recently registered for use against leaf-cutting ants, but both have proven ineffective and are no longer available.

The Texas leaf-cutting ant is a significant pest in areas of East Texas and west central Louisiana that have deep sandy soil and are being reforested in pine. During the late spring, summer, and early fall months, the ants harvest plant material such as herbs, grasses, and hardwood leaves. This plant material is brought back to the ants' colony where it serves as a substrate for a fungus that is the ants' primary food. However, during the winter months, after the grasses dieback and hardwood trees lose their leaves, the ants switch to evergreen plants such as pine and youpon. Newly-planted pines on tracts having one or more leaf-cutting ant colonies are likely to be killed as a result of defoliation by leaf-cutting ants. Ants foraging from established colonies, with a central nest area

Continued on Page 2

Volcano™ (continued from page 1)

averaging 500 square feet, will commonly defoliate and kill nearly all pine seedlings within a 2-3 acre area around the colony.

Volcano™ Leafcutter Ant Bait, consisting of the sulfluramid insecticide on citrus pulp carrier, is highly attractive to leaf-cutting ants. It works by becoming part of the food chain. Worker ants find the bait, carry it into their underground nests, and distribute it to the queen(s) and other ants, thus eliminating the entire colony in just a few weeks. Typically, in 1-2 weeks, a great reduction in soil excavation and foraging activities by the ants is observed. These activities gradually stop and the colony is completely inactive in 4-8 weeks. To prevent pine seedling losses, leaf-cutting ant colonies must be controlled in and around an area to be reforested prior to planting. Ant colonies are most easily located in late fall or early winter after leaf fall. Volcano™ Leafcutter Ant Bait should be applied at least 4 weeks before tree planting is initiated.

Applications of Volcano™ Leafcutter Ant Bait can be made any time of the year when the ants are active. However, several factors need to be taken into account to insure the best efficacy from the bait.

1) Moisture: the bait should not be applied during rainy periods, when rain is expected within 24 hours, or when soil and vegetation are wet, because the bait will quickly disintegrate. Store unused portions in an air-tight container. 2) Temperature: apply Volcano™ when the ants are most active (mid-day in the winter and early evening in the summer) when temperatures are between 50 and 85 degrees F. Also, DO NOT store or apply the bait at temperatures above 100 degrees F). Such temperatures can cause the active ingredient to volatilize off the citrus pulp carrier, thus reducing the potential effectiveness of the bait. 3) Season: Volcano can be 100% effective in all seasons. However, during the summer months, the bait competes with all of the other plant species available to the ants. Research has shown that a greater volume of bait is required to kill ant colonies during the summer compared to the winter (Table 1). The winter rate period extends from the first major frost (leaf fall) to spring leaf flush. The summer rate period constitutes the remainder of the year.

To treat an ant colony, first, locate the above ground leaf-cutting ant central nest area (area of dense concentration of entrance/exit holes and mounds - usually greater than 5 mounds per sq. yd.). Determine the central nest surface area by multiplying the length times the width in feet. Apply Volcano™ at the rate of 18 oz. (by dry

Table 1. Application Rates for Volcano™ Leafcutter Ant Bait

Area of Central Nest in ft ² ^a	Volume Applied to Central Nest Area ^b	
	Winter Rate (0.018 oz /ft ²)	Summer Rate (0.044 oz /ft ²)
100	1.8	4.4
200	3.6	8.8
300	5.4	13.2
400	7.2	17.6
500	9.0	22.0
600	10.8	26.4
700	12.6	30.8
800	14.4	35.2
900	16.2	39.6
1000	18.0	44.0

^a Length X width of central nest area in feet.

^b One pound of Volcano™ bait is approximately equal to 40 oz. (dry volume). The bait can be stored and easily measured from a graduated (oz.) plastic container with a resealable lid.

Continued on Page 3

Volcano™ (continued from page 2)

volume) of formulation (0.45 lbs. by weight) per 1000 sq. ft. of central nest area during the winter period after fall leaf drop and before spring leaf flush, or 44 oz. (1.1 lbs.) per 1000 sq. ft. during the remainder of the year (after spring leaf flush and before fall leaf drop) (Table 1). For single-mound nests or areas with widely-scattered entrance holes/mounds, apply 0.5 fl. oz. of bait to each individual mound (scatter the bait on and around each mound; DO NOT pour it into the entrance/exit hole).

Broadcast the bait uniformly over the central nest area using a suitable mechanical spreader set for large granular size or use gloves to apply by hand. Portions of the measured dose for a colony can be distributed outside the central nest area to treat nearby entrance holes and/or foraging trails with heavy ant activity. Check treated colonies and surrounding areas for ant activity 30-40 days and 80-

100 days after treatment. Repeat applications as necessary.

Unlike methyl bromide, Volcano™ Leafcutter Ant Bait is only slightly toxic to humans and is not a restricted use pesticide. Therefore, landowners need not be certified applicators to apply this bait. However, it is important that all users read the label and follow all precautions and guidelines for its use.

Volcano™ Leafcutter Ant Bait will be available in one pound packages from Red River Specialties in Jasper in the very near future. A one pound package will cost \$30.00. Note: The cost for treating an average size colony will be about 80% less than methyl bromide. You can place an order by calling George Bieber at (409) 384-7965.

For additional information on leaf-cutting ants and/or Volcano™ Leafcutter Ant Bait (labels and MSDS sheets), contact your local Texas Forest Service District Forester or Dr. Don Grosman by phone at 409/639-8170 or by e-mail at d.grosman@inu.net.

Pesticide Announcements

Cancellations (on again, 'Off' again)

(from Georgia Pest Management Newsletter Sept., 1999)

In the last PEST issue (Sept. 1999), it was mentioned that a large number of 'Off' and 'Cutter' product registrations were being canceled at the request of the registrants. Many people thought the S.C. Johnson Company might be discontinuing all of their insect repellent products. Following several confusing telephone conversations, the 'rest of the story' was revealed. In the past, it was quite inexpensive to maintain pesticide registrations. Companies often retained registrations for products they were not currently marketing. Pesticide registration has become more expensive, and many companies are canceling registrations for products they do not intend to market. The large number of 'Off' registrations were canceled because the company is not going to market those products. However, S.C. Johnson has assured that they will continue to market a full line of insect repellent products. The company that markets 'Cutter' was not contacted, but the situation is probably similar.

New Products

(API Newsletter, Oct. 1999, P&T Chem. News, Vol. 27, No. 50)

EPA recently registered Proclaim, a new insecticide, manufactured by Novartis Crop Protection. Proclaim (**emamectin benzoate**) is effective against lepidopteran larvae and has little effect on beneficial insects. Proclaim is reported to have translaminar activity (moves into the leaves and acts as a reservoir) and therefore has good residual properties. It was labeled on Brassica vegetables, celery and lettuce. Other labels are expected in the future. Note: WGFPMC has been testing this same active ingredient using the Wedgle Tip and Helson injectors in pine seed orchards. It has shown excellent potential for control of coneworm.

Continued on Page 3

Pesticide Announcements (continued from page 2)

More New Products

(Chemically Speaking, Nov. 1999, PRNewswire, Oct. 1999)

A significant new use registration has been issued for a termiticide named Termidor (fipronil), from Rhone-Poulenc. This product, in tests at the proposed label rate, is reported to give 100 percent control of termites for more than five full years. Termidor 80WG and Termidor SC insecticides can be used to manage subterranean termites in structures, posts, poles, and wood landscape ornamentation. Fipronil is already registered for a range of uses from agricultural, ornamental, and veterinary products, to bait stations for in-home consumer use.

PubMed

(Chemically Speaking, Nov. 1999)

For anyone who wants to go deep into the pesticides subject, PubMed ([Http://www.ncbi.nlm.nih.gov/PubMed/](http://www.ncbi.nlm.nih.gov/PubMed/)) provides access to millions of academic research articles and publications about all aspects of science. Most are written for other researchers, but many articles contain clear descriptions about scientific investigations on pesticide use. PubMed provides free public access to MedLine, a database that contains citations and brief descriptions of the article. Users can search for a particular pesticide or compound. The more specific, the better: searching for just the word "pesticide," for example, returns 66,894 citations. Although a specific article's abstract gives a sense of the study's conclusions, users have to pay to order the full text, assuming you cannot track it down at the local library. The site is sponsored through the National Institutes of Health's National Library of Medicine. For more information, call (503) 294-5072.

Pest Alert: Blackheaded Pine Sawfly

(by H. A. (Joe) Pase III, Texas Forest Service)

In early November, several reports were received about pine defoliation in Upshur, Smith, Angelina, Nacogdoches, Cherokee and Houston counties in East Texas. It has been determined that an insect, the blackheaded pine sawfly (*Neodiprion excitans*), is causing the defoliation. This insect ranges naturally from Virginia to Florida and west to East Texas. Preferred hosts are loblolly and shortleaf pines, but this sawfly is known to feed to a lesser extent on slash pine, longleaf pine, and a few other pine species. Medium to large trees are usually attacked.

The blackheaded pine sawfly may have as many as four generations per year in East Texas. The spring and summer generations tend to feed on the second year needles (away from the tips of the branches), and as a result don't have a serious impact on the trees. However, when the fall generation develops to outbreak levels, and many of the second year needles have naturally fallen, trees may be striped of most or all their remaining needles. When pines are completely defoliated late in the growing season, they remain bare throughout the winter. Tree mortality as a direct result of defoliation has not been recorded. Nevertheless, the defoliation weakens and stresses the trees and can make them susceptible to

attack by pine engraver beetles (*Ips* spp.). Drought stress has already weakened many trees in East Texas and, as a result engraver beetles, are killing numerous scattered trees. Defoliation in addition to the drought stress could make pines even more susceptible to attack by pine engraver beetles.

The blackheaded pine sawfly is actually a wasp rather than a fly. The adult does not sting and is seldom seen in the forest. The larvae, which resemble caterpillars, are responsible for the defoliation. Full-grown larvae are about one inch long (25 mm), and have a variable color pattern. Typical larvae are pale green in color and have two gray or black stripes that run the length of their backs. In addition, they have conspicuous rows of black spots along each side. They have a glossy black head and a black spot on their rear end.

As the larvae feed on the needles, their droppings often sound like a soft rain as they fall to the ground. Heavy feeding can literally turn the ground green from the droppings. Mature larvae seek a

Continued on Page 5

Pest Alert (continued from page 4)

sheltered place to pupate, with most moving to the soil and needle litter to spin a brown or tan cocoon. Some cocoons can be found on branches or under loose bark scales.

Outbreaks of the blackheaded pine sawfly occur periodically and usually subside rapidly due to native parasites, predators, and disease. Direct control with insecticides is seldom necessary, but spraying high value trees may be an option. Insecticides such as Orthene, Sevin, and Dursban, among others, will provide good control. It has been reported that Sevin

may burn the needles of small pine trees. It should be noted that spraying large trees can be quite expensive, non-target organisms will be impacted, and drift can be a problem. It is generally not recommended to harvest defoliated trees unless pine engraver beetles become a serious problem. Defoliated trees that have not been attacked by engraver beetles are still alive and will develop a new set of needles in the spring.

A long-term outbreak of blackheaded pine sawfly is not expected. It is unfortunate that this defoliation happens to coincide with the already present drought stress.

Thought You Might Be Interested to Know . . .

Southern Industrial Forest Research Council Meeting

Don Grosman recently attended the Southern Industrial Forest Research Council (SIFRC) meeting in Atlanta. The WGFPMP was one of 19 research programs asked to give an overview of their program, accomplishments, and vision for the future. The function of the meeting was, in part, to allow coordinators of the different programs/cooperatives/consortiums to meet and discuss where potential areas of cooperative research might be established.

Discussions with Dr. Wayne Berisford, U. of Georgia's Pine Tip Moth Consortium, suggested the need for the WGFPMP to establish a cooperative study with the Tip Moth Consortium to evaluate the true impact of Nantucket pine tip moth across the South. A study proposal is being drafted by Dr. Berisford and should be available to the WGFPMP members for review early in 2000.

Articles of Interest

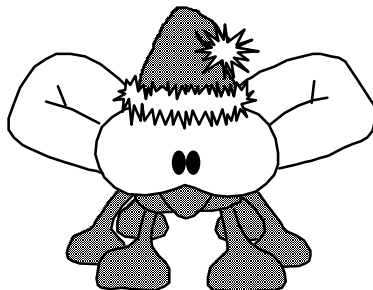
Three articles recently appeared in the November issue of the Southern Journal of Applied Forestry (Vol. 24, No. 4) that may be of interest to you.

P. Turchin et al. Effects of thinning on development of southern pine beetle infestations in old growth stands. p. 193 -196.

T.B. Harrington et al. Stem sinuosity, tree size, and pest injury of machine-planted loblolly pine with bent versus straight taproot. p. 197 - 202.

Y. Zhang and B. Zeide. Which trees and stands are attacked by the southern pine beetle? p. 217 - 223.

If you do not receive this journal and would like a copy of one or more of these articles, call Don Grosman (409) 639-8170 and a copy will be mailed to you.



Santa Bug says "Pest Wishes for the Holidays!!!"