Progress
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Vol. 4 No. 3 Sept. 1999

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).

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Announcement:

Fall East Texas Forest Entomology Seminar. All WGFPMC executive and contact representatives, industry, and TFS foresters are invited to attend the fall session of the East Texas Forest Entomology Seminar scheduled for October 28 - 29, 1999. The meeting will begin at 1:00 pm on Thursday at the Kurth Lake Lodge and continue until noon on Friday at the Arthur Temple College of Forestry at SFASU in Nacogdoches. Registration is $15. For additional information and/or an agenda, contact Ron Billings at 409/639-8170 or tfs.pcs@inu.net.

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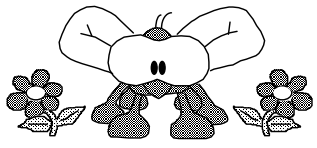
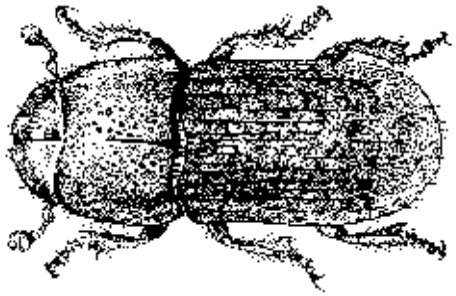


Western Gulf Forest Pest Management Cooperativ



Southern Pine Beetle, *Dendroctonus frontalis* Zimmermann

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

A Reminder: Pounce On Those Weevils Before They Pounce On Your Seedlings

As you make preparations to replant harvested tracts this coming winter and spring, be aware that damage caused by reproduction weevils can mean the difference between acceptable first-year seedling survival and having to replant again the following year. Reproduction weevils (*Hylobius pales* and *Pachylobius picivorus*) can cause serious losses (in some cases >60%) to pine seedlings on certain sites. The weevils feed on the roots and stems of newly-planted pine seedlings, often girdling and killing them.

Not all tracts of land are susceptible to weevil damage. Research conducted by the WGFPMC has determined that weevils are most likely to be a problem on those tracts harvested after July and planted within nine months, particularly those receiving little or no site preparation (see Figs. 4 and 5 in PEST, June 1999). Weevils tend to breed in fresh stumps and slash material and the new generation of weevils emerges from the stumps and attacks pine seedlings in the spring and early summer. Sites harvested prior to August and planted the following winter and/or having received intensive site preparation are seldom affected by the weevils.

To reforest moderate to high hazard sites (those harvested in the fall and winter, just prior to planting), landowners should consider purchasing and planting pine seedlings treated with Pounce®. Pounce® is a pyrethroid insecticide registered in Arkansas and Texas to protect newly-planted pine seedlings from damage or loss to reproduction weevils. The insecticide is applied to seedlings in the nursery just prior to lifting. Evaluations of tracts planted with either Pounce®-treated or untreated seedlings in 1998 showed that the Pounce® treatment reduced weevil-caused seedling mortality by 71%.

Be aware that if Pounce®-treated seedlings are planted in December, insecticide levels may be too low to provide protection when weevil numbers are highest in April (Fig. 1). Therefore, it is recommended that

Continued on Page 2

Pounce (continued from page 1)

Pounce®-treated seedlings be planted from mid-February to early March. This will assure that the insecticide remains at levels sufficient to kill emerging weevils throughout the spring and early summer.

Although the active ingredient of Pounce® (permethrin) has a relatively low toxicity to humans, care should be used when handling and planting treated pine seedlings. Tree planters should wear gloves (nitrile, neoprene, or Vitron® brand) and long-sleeve shirts. Avoid contact of the insecticide with eyes, skin, or clothing. Wash thoroughly after handling treated seedlings and follow instructions on the Pounce® label.

Pounce®-treated seedlings will likely be available for the 1999 - 2000 planting season at a small additional cost from the International Paper Super Tree Nursery, Bullard, TX and Texas Forest Service Indian Mound Nursery, Alto, TX.

For more information on the availability and cost of Pounce®-treated seedlings, contact your local conifer seedling nursery. For additional information on pine reproduction weevils or Pounce® insecticide, contact Don Grosman 409/639-8170 or d.grosman@inu.net.

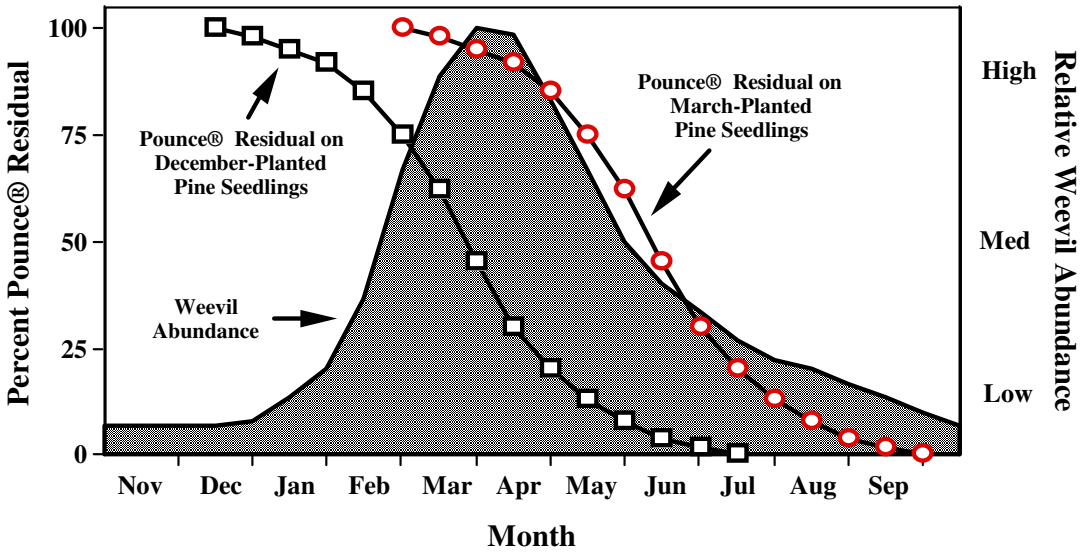


Figure 1. Optimal Timing for Planting Pounce®-treated Pine Seedlings

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Pesticide Announcements

Methyl Bromide Phase-out Timetable Finalized

(from Chemically Speaking; Aug. 1999)

Effective July 1, EPA's final rule revising the phase-out regulations that govern production and importation of methyl bromide became official. The amendment reflects changes in U.S. obligations under the Montreal Protocol. To conform with the Montreal Protocol's schedule for industrialized nations, the EPA issued the following schedule for production and consumption of methyl bromide:

25 percent reduction in baseline levels for 1999;
50 percent reduction in baseline levels for January 1, 2001;
70 percent reduction in baseline levels for January 1, 2003; and,
100 percent reduction in baseline levels for January 1, 2005, with emergency and critical use exemptions permitted under the Montreal Protocol.

EPA also plans on publishing a process to exempt certain quantities of methyl bromide used for quarantine and pre-shipment in the U.S. For more information, call (202) 564-9185, or the Ozone Hotline at (800) 269-1996.

More Pesticide Announcements

Cancellations

(from Georgia Pest Management Newsletter, July 1999)

The following product registrations or uses are being canceled at the request of the registrant. Unless the requests are withdrawn, the cancellations will be ordered 11-22-99. If you want to rescue some product, contact the registrant. Note: I do not know what to make of all of these insect repellents being canceled, but I will look into it. Slapping yourself to death would be an ugly way to go.

Chlorpyrifos 4# AG, Chlorpyrifos 15G, and Nufos 15G: popcorn. (FR, 6-21-99)
Cutter Evergreen Scent Insect Repellent Spray
Cutter Evergreen Scent Insect Repellent Cream
Cutter Evergreen Scent Insect Repellent Pump Spray
Cutter Evergreen Scent Insect Repellent Stick
Cutter Insect Repellent Spray
Cutter Insect Repellent Stick
Cutter Insect Repellent
Cutter Insect Repellent Cream Formula M
Cutter Evergreen Scent Insect Repellent Spray Formula M
Cutter Evergreen Scent Insect Repellent Cream Formula M
Cutter Original Insect Repellent Spray Formula
Cutter Original Insect Repellent Pump Spray
Cutter Insect Repellent - Tick Repellent
Cutter Evergreen Insect Repellent
Cutter Insect Repellent #10
Cutter Evergreen Insect Repellent #10E
Cutter Insect Repellent #10G
(Actually, a lot more Cutter products are being canceled, but you get the idea.)
Off! Liquid Insect Repellent
Off! Pressurized Insect Repellent
Off! Formula III Liquid Spray Insect Repellent
(Add in about 20 more S.C. Johnson products with DEET)
20% Lindane EC
878 Insect Repellent Spray
Adios II Insect Repellent
Agco Methomyl 2 Insecticide Dust
Ala-Scept ESC Herbicide
Ala-Scept Herbicide
All in 1 Tuft 16-4-6
All products containing isofenphos
Amrep 5006
Baygon Crack & Crevice Insecticide
Ben's Backyard Formula Tick & Insect Repellent
Ben's Wilderness 50% Formula Tick & Insect Repellent
Best Garden Weeder
Black Flag Insect Repellent Spray
Bug Stop Lotion
Bug Stop Pump Spray
Clean Crop Lindane 25 Seed Treater
Clean Crop Lindane 25WP Dyed Seed Treater
Clean Crop Lindane 75WP Seed Treater
Contact Insect Repellent
Cornbelt Dacthal 5G
D-15 Insect Repellent
Deco Salt No. 35
DEET Plus Composite Spray
DEET Plus Insect Repellent
Dichlorobenil 2G
Drexel Lindane 20% EC
Falls Lindane 20% EC
Fertilizer Plus Lawn Disease Preventer
Garden Weeder contains Dacthal
Golden Sun Feeds Hi Phos "12" Lavi Ban
Hartz Flea & Tick Repellent for Cats
Hartz Flea & Tick Repellent for Dogs
Imperial 5% Dacthal
Imperial Garden Weed Preventer
Insect Guard
Insect Guard II
Insect Repellent 3
Iprodione HG Fungicide
Iprodione Lawn & Ornamentals Fungicide
Kathon CS 25
Kathon CS 35
Kathon CS-30 Oil Field Microbiocide
Kathon MWX
Kelthane 35 Agricultural Miticide
Lawn Disease Control Plus Fertilizer
Lindane 12.5% Concentrate
Lindane 12.5% Insecticide
Lindane 1-E
Lindane 400 Undyed Flowable Liquid
Magnacide 4551
Martin's Bombane Jet Stream
Martin's Cube Powder 5% Rotenone
Martin's Rotenone Powder
Martin's US EQ 335 Screw Worm Remedy
Mira Insect Repellent Spray for Horses
Misty Anti-Crawl II Residual Insecticide
Mosquito Quard
Personal Repellent Formula 5731
Prentox 20 Lindane EC
Prentox Lindane 20% EC
Prentox Lindane 25W
Rainbow Jungle Formula Insect Repellent
Ramrod + Atrazine DF Herbicide
Ramrod and Atrazine Flowable Herbicide
Real Kill Insect Repellent Spray
Rovral 30 Flowable Fungicide
Royal Brand Lindane 25W
SA-50 Brand Home Garden Weed Granules
Screen Insect Repellent
Smep Granular Hy-Kil-4
Southland Pearson 20% Borer Spray
State Formula 254 IRS Insect Repellent Spray
(note, this is not IRS repellent)
Watkins Insect Repellent-Formula 50
Z Stop

More Pesticide Announcements

Now There Are None

You no doubt noticed in the cancellation list provided above that many of the lindane (boldfaced) labels are being canceled. I learned from Dr. John Taylor, USFS, that most uses of lindane are being phased out, and the product will be discontinued within the next few years. This was one of the few chemicals that could be applied in forested areas in the South for control of southern pine beetle (SPB) and black turpentine beetle (BTB). If this isn't bad enough, I've been informed that forestry uses for chlorpyrifos (Dursban®) have been cancelled as well [some labels for ornamental use still remain]. The bottom line appears to be that we no longer have an "effective" insecticide registered for forestry use against SPB or BTB. The only other insecticide registered for bark beetles (*Ips* engraver beetles) is carbaryl (Sevin®). Unfortunately, trials conducted in the 1970's indictated that carbaryl is not very effective against bark beetles in the South. I'm working with Dr. Taylor on the possibility of adding SPB and/or BTB to a Dibrom® (naled) and/or Dimilin® (diflubenzuron) label. Both of these products are registered for forestry use. I'll keep you posted.

Seed Orchard Pesticide News

In case you didn't hear, the following changes will be made to all azinphos-methyl (Guthion®) labels prior to December 1, 1999. Any product remaining in Bayer inventory will be re-labeled by that date. Distributors/dealers will be notified of changes by October 10, 1999. Sales and/or distribution of existing stocks that have not been re-labeled will be illegal after December 1, 1999. Some of the label changes include:

Southern Pine Seed Orchards:

- reduce maximum yearly rate (from 18 lbs to 4.5 lbs)
- reduce maximum treatment rate per application (from 3.0 lbs to 1.5 lbs)
- reduce maximum number of applications (from 6 to 3)
- restrict to aerial application only

Ornamental/Shade/Forest/Christmas trees:

- delete all use (all US)

Other:

- prohibit application by backpack or hand-wand sprayers
- all non-tree crop REIs (except for mowing, irrigating, and scouting) are extended from 48 hours to 4 days under normal conditions or to 5 days under conditions where rainfall < 25 inch/yr
- restrict aerial application to closed cockpits only

Note: The effects of these changes in pine seed orchards should be minimal. A southwide Guthion® rate study (Mangini et al. 1998, So. J. of Appl. For. 22: 106-110) showed that an application rate of 1.5 lbs ai/acre is as effective as 3.0 lbs ai/acre. Also, most if not all orchard managers have been applying Guthion® only 2 or 3 times per year and by air.

Seed Orchard Pest Management Subcommittee Minutes

I recently attended a Seed Orchard Pest Management Subcommittee (SOPMS) meeting in Atlanta (SOPMS is a subcommittee of the Southern Forest Tree Improvement Committee). Discussion focused on the changes made to the Guthion® label in response to FQPA and the fact that esfenvalerate (Asana® XL) and permethrin (Ambush®/Pounce®), two pyrethroids used in pine seed orchards, are scheduled for reassessment under FQPA in the near future. Members of the SOPMS expressed concern that use of Asana® XL (the most commonly used pyrethroid) in pine seed orchards could be threatened given that the maximum rates applied in pine seed orchards (0.19 lbs ai/acre/ application and 1.6 lbs ai/acre/year) are substantially higher than apples (0.025 - 0.075 lbs ai/acre/ application and 0.525 lbs ai/acre/year), the crop with the second highest rate. Plans are being made to conduct a southwide rate study (similar to the Guthion® study) in 2000 to determine if lower application rates of Asana® XL would be as effective as the current label rate. Bill Lowe and Tom Byram, WGTIP, and Bob Wier, NCSTIP, will be coordinating the project and recruiting participants. I will likely assist by evaluating insect damage on collected cones. I strongly encourage WGFPMC member participation in this project.

More Pesticide Announcements

Pesticide Label and MSDS Information

Many pesticide companies are now listing insecticide, herbicide, and fungicide labels, MSDS, and other information on the Web. Here are the internet addresses to most of the major companies (some are from Georgia Pest Management Newsletter, June 1999).

Abbott	www.abbott.com
AgrEvo USA	www.agrevo.com/Default
Agtrol	www.agtrol.com
American Cyanamid	www.cyanamid.com
	www.cyanamidspd.com
Arbico	www.arbico.com
BASF	www.basf.com
Bayer	www.usagri.bayer.com
Dow	www.dowagro.com
DuPont	www.dupont.com/ag/us
Elf Atochem	www.elf-atochem.com
FMC	www.ag.fmc.com
Gowan	www.gowanco.com
Griffin	www.griffinllc.com
Helena	www.helenachemical.com
Monsanto	www.monsanto.com
Mycotech	www.mycotech.com
Novartis	www.cp.us.novartis.com
Olympic	www.hortnet.com/olympic
PBI/Bordon	www.pbigordon.com
Prentiss	www.prentiss.com
Riverdale	www.riverdalecc.com
Rhone-Polenc	www.rhone-poulenc.com
Rohm & Haas	www.rohmhaas.com
Scotts	www.scottscompany.com
Terra	www.terraindustries.com
Thermo Trilogy	www.thermotrilogy.com
Uniroyal	www.uniroyalchemical.com
Valent	www.valent.com
Wilbur Ellis	www.wilburellis.com
Wilfarm	www.wilfarm.com
Zeneca	www.zenecaagproducts.com
	www.zenecaprofprod.com

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Pest Spotlight:

Pine Webworm (modified from TTFS Circular 239, 1979 by H.A. (Joe) Pase III)

The pine webworm, *Tetralopha robustella*, occurs throughout the eastern half of the United States wherever pines grow. This insect derives its common name from the habit of the larvae; they weave clusters of pine needles together into silken "nests." This webbing also protects the larvae from many natural enemies. In the Western Gulf region, pine webworm frequently feeds on loblolly, shortleaf, slash, and longleaf pines, often causing problems in young pine plantations. Seedlings may die from complete defoliation. Pine grown for Christmas trees have a lower market value and are sometimes difficult to sell when they contain unsightly webworm nests. Infestations on ornamental pines around homes detract from the beauty of the trees.

From one to three generations develop per year in the Western Gulf region. The moths appear in late spring, but are seldom noticed due to their small size (about 1 inch wingspan) and non-descript color pattern. After mating the female moth lays from 1 to 20 eggs in single rows along the length of pine needles.

Upon hatching, groups of up to 75 young larvae wander among the needles spinning silken threads. Each larva then bores into a needle and mines it. Once they have grown too large to feed inside individual needles, larvae feed in colonies among loosely webbed clumps of foliage, filling the webbing with brown, oblong fecal pellets. This mass of webbing and fecal pellets encloses the needles and may be 2 to 5 inches long. Full-grown larvae are 3/4 inch long. and are yellowish-brown with a dark brown longitudinal stripe on each side of the body. When fully-developed, larvae leave the tree and construct silk cocoons in the soil where they remain through the winter.

Natural enemies of the pine webworm help keep populations at tolerable levels. These include several wasp parasites, a fly parasite, and some birds that tear open the nests to feed on the larvae.

Often pine webworm larvae complete feeding and vacate their nests before the damage is noticed. It is too late to apply any type of control measure if this has happened. If a landowner finds webworm nests that contain larvae, the nests can be pruned from the tree and destroyed. If pruning is not feasible, effective control can be achieved by spraying the

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Webworm (Continued from Page 5)

foliage and nests with Biobit® or Foray® (Bt), Decathlon® (cyfluthrin),Dylox® (trichlorofon), D.z.n.® (diazinon), Orthene® OTTO (acephate), or Sevin® (carbaryl). If reinfestation occurs, a second application in mid- to late summer may be necessary.

Chemicals must be currently registered for use on pine webworms/webworms by the U.S. Environmental Protection Agency and/or the Department of Agriculture in the state in which the infestation occurs. Before using any pesticide, read and carefully follow all application directions, cautionary statements, and other information appearing on the label.

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Pest Alert

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

Bark lice, fall webworm, and variable oakleaf caterpillar are unusually abundant on trees this summer in various parts of Texas (generally the eastern half of the state).

The Texas Forest Service Forest Pest Management office has received numerous calls this summer about a strange webbing that covers part or all of the trunk of trees and may even cover some of the limbs. It has been described as looking like a lady's nylon stocking on the trunk and/or limbs of the tree. This silk webbing is caused by an insect called a BARK LOUSE or PSOCID. Bark lice live in groups as scavengers, feeding on lichens and other items they find on the bark of the tree. They cause absolutely no harm to the tree. The webbing serves as a defense against predators. Homeowners should do nothing to "control" these insects. Rather, just marvel at another unusual phenomenon of the insect world! The webbing will not stay around for long and the insects are actually performing a free service by cleaning the bark of the tree.

It seems that the FALL WEBWORM is becoming abundant in some areas. These insects encase the leaves of branches (or parts of branches) of trees in silk webbing as they feed on the foliage. They are very fond of pecan, but can be found on several other trees including persimmon, black walnut, sweetgum, elm, hickory, maple, cherry, and others. They are usually more of a nuisance than a serious health problem to a tree. The webbing is unsightly and when the caterpillars mature, they will begin to wander in search of a suitable place to spin cocoons and pupate. Sometimes they wander into houses and other areas where they may not be welcome. For more information on the fall webworm, refer to the "Insects and Disease section of the Texas Forest Service web page (http://txforestservice.tamu.edu).

During the first week of August, oak defoliation was noticed between Zavalla and Jasper in Angelina and Jasper counties in East Texas. The VARIABLE OAKLEAF CATERPILLAR was feeding on the leaves of red oaks and water oaks. Some of the trees had most of their leaves consumed. By late August, oak defoliation also was noticed between Lufkin and Ratcliff in Houston County. Undoubtedly, defoliation is occurring in other areas, too. From time to time, this insect appears in the late summer or early fall in East Texas; however, this is a little earlier than usual. If a fall generation develops from the caterpillars that are feeding now, an outbreak could occur in September or October. Even if an outbreak does occur, defoliation late in the growing season does minimal harm to the trees. Like the fall webworm mentioned above, the caterpillars are mostly a nuisance. On the plus side, as they feed, the larvae convert the leaves to fecal pellets providing a free fertilizer and leaf-mulching service for homeowners. In addition, fewer leaves will need to be raked this winter.

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Insect Tidbits

- Cockroaches have inhabited the earth for more than 250 million years.
- The average roach-infested household contains more than 20,000 roaches.
- Roaches can live up to 20 days without food and 14 days without water.
- They can flatten their bodies and crawl through a crack thinner than a dime.
- They will eat anything, including food, leather, hair, and the glue in book bindings.
- They can survive radiation up to 12 times greater than can humans.
- Roaches are startled by the smallest of air movements and can run for cover in less than 0.05 seconds.

Thought You Might Be Interested to Know . . .

Treated Clothing May Detoxify Pesticides

(from American Chemical Society Press Release; March 23, 1999; AP; April 1, 1999; Chemically Speaking; July. 1999)

Past studies report that up to 97 percent of pesticides entering the body do so via the skin. Currently, workers exposed to pesticides must wear synthetic protective materials to block entry of pesticides. Because such clothing does not allow entry of air, they can create heat stress. Workers, therefore, can have problems between comfort and protection. Additionally, protective clothing must be discarded after use, which can be costly and create additional environmental concerns. Scientists at the University of California-Davis say they have made cotton fabrics with built-in pesticide detoxifiers. Clothes made with this new material could be cleaned and the detoxifying chemicals reactivated, simply by washing them with bleach.

The researchers grafted a chemical compound, called a hydantoin, to the surface of common cotton/polyester fabrics, rendering it breathable and comfortable, as well as giving field workers protection. When armed with a chlorine atom and exposed to carbamate-type pesticides, the chlorine is released, disinfecting the cloth. The activated compound breaks down the pesticide into smaller, harmless fragments. After a day's work, garments made by this process could be tossed in the wash with chlorine bleach. The small fragments will be washed away during the regular laundry process and, along with that, the active sites will be regenerated by the bleach.

In laboratory tests, treated textiles took less than five minutes to degrade certain carbamate pesticides by as much as 99 percent. This process, however, has not been tested against organophosphates. Additionally, the same chlorine-armed halamine compound that works against carbamate pesticide also seems to work as an antibacterial agent on the clothes.

New Chemical Registrations

(from Chemically Speaking; Sept. 1999)

Yes, the reverse situation does happen - there are actually a few new products being registered by EPA. Two recent products are of interest:

- Varsity Fire Ant Bait® is a new avermectin fire ant management product to be available for use on lawns, turf, and landscapes.
- Valent has introduced a new pelleted formulation of Orthene® (acephate) that reportedly is easier to mix, is low in odor, and reduces the potential of worker exposure.

Drift Retardants

(from AgAnswers; June 8, 1999 via Agnet; Chemically Speaking; July. 1999)

Money spent on pesticides will not do the applicator much good if wind blows the product from the intended site to a neighboring field or garden. Spray additives or "drift retardants" (spreaders, stickers) can help keep the pesticide on target. Drift retardants increase viscosity, which helps enlarge droplets to the larger range of the nozzle's spectrum while reducing the portion of the spray volume contained in small, drift-prone droplets. Larger droplets are less vulnerable to air currents and are more likely to stay on target. However, with 40 drift retardants on the market, choosing the right one can be a challenge. Tests using various products revealed that all drift retardants scrutinized had the desired effect on droplet size, but they were not equally effective due to differing amounts of active ingredients. To make the right choice, it is suggested that the user check the concentration of the active ingredients. If two products have the same price, buy the product with the highest concentration of active ingredient. Typically, the least effective product turns out to be the one with the lowest sale price by volume.

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