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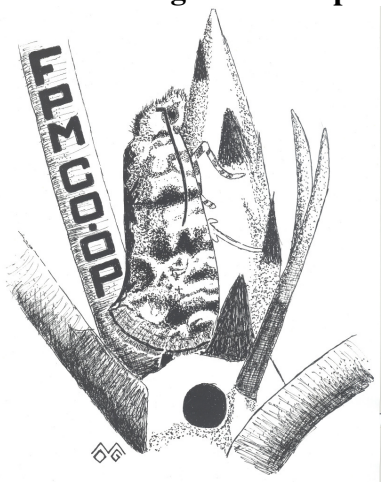
Quarterly Newsletter on Forest Pest Management Issues

Forest Pest Management Cooperative



Nantucket Pine Tip Moth, *Rhyacionia frustrana* (Comstock)

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

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 related to seed orchards and plantations. The newsletter focuses on, but is not limited to, issues occurring in the South (Texas to Florida to Virginia,).

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Announcements:

Three New FPMC Members – We would like to take this opportunity to welcome The Campbell Group, Rayonier and ArborGen into the FPMC.

The Campbell Group (TCG) is a timber investment management organization based in Portland, OR. TCG currently manages 2.4 million acres in the U.S., and, of that, about 2 million acres are managed in the Southeast (primarily in TX, LA, GA, AL, and NC). Mr. Bill Stansfield (bstansfield@campbellgroup.com), Biometrician out of Diboll, TX, will serve as their Executive Representative and Greg Garcia (ggarcia@campbellgroup.com), as their seed orchard contact.

Rayonier Inc. is a real estate investment trust (REIT) based in

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Summary of 2007 WGFPMC Research Projects

In 2007, three research project areas – tip moth, leaf-cutting ant, and systemic injection - were continued from 2006. Results from systemic injection studies were presented in the last *PEST* newsletter (May 2008). Summaries of the results from the leaf-cutting ant and tip moth control studies are presented below. Results from tip moth impact and hazard-rating studies will be presented in the next *PEST* newsletter (Sept. 2008).

Leaf-cutting Ant Control

Amdro® Ant Block bait is the only product currently labeled for control of the Texas leaf-cutting ant (TLCA). The results of trials in 2005 and 2006 were less than satisfactory (see *PEST* 11.2 & 12.2). DuPont offered us a pellet mill (acquired from Griffin) and an indoxacarb solution to develop new bait specifically design for TLCA. Several small trials were conducted in 2007 to evaluate the attractiveness and efficacy of new bait formulations against the TLCA.

An initial preference test evaluated whether TLCA was repelled by the presence of the active ingredient (indoxacarb). Later, tests determined if ants were more attracted to different carrier matrices (orange, grapefruit or corn) with and without indoxacarb. In these trials, 5 grams of each bait formulation were placed in petri dishes. The dishes were distributed within the central nest area of a TLCA colony. The dishes were retrieved when one dish was nearly empty. The remaining bait in each dish was weighed to determine the amount of bait retrieved by the ants. In past studies, TLCA had been found to be very attracted to citrus pulp (grapefruit, orange, etc.) and our initial test suggested that TLCA was attracted to grapefruit bait (Fig. 1). However, the ants apparently did not retrieve much bait in a subsequent efficacy trial as indicated by the relatively poor results, i.e., none of the treated colonies were complete

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Leaf-cutting Ant Control – Continued from Page 1

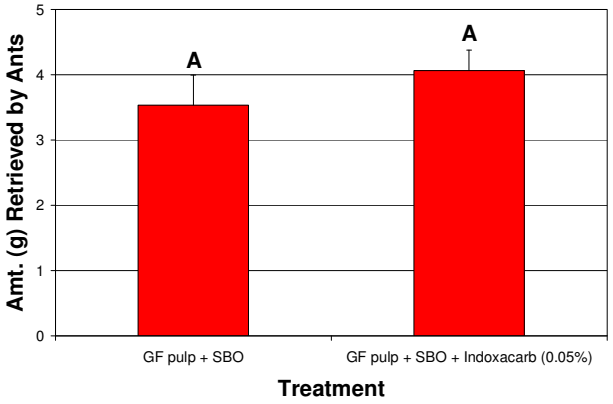

Figure 1. Attractiveness of the Texas leaf-cutting ant to grapefruit bait with and without indoxacarb, East Texas, Spring 2007. SBO = Soy bean oil.

shut down although activity was significantly reduced after 8 weeks (Table 1). Later preference trials indicated that TLCA was far more attracted to corn then to orange and grapefruit (Fig. 2) and again was not affected by the presence of indoxacarb in the bait or the addition of sugar (Fig. 3).

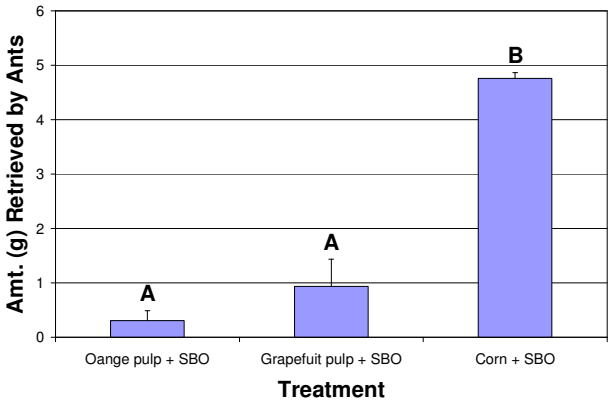

Figure 2. Attractiveness of the Texas leaf-cutting ant to different carriers, East Texas, Summer 2007. SBO = Soy bean oil.

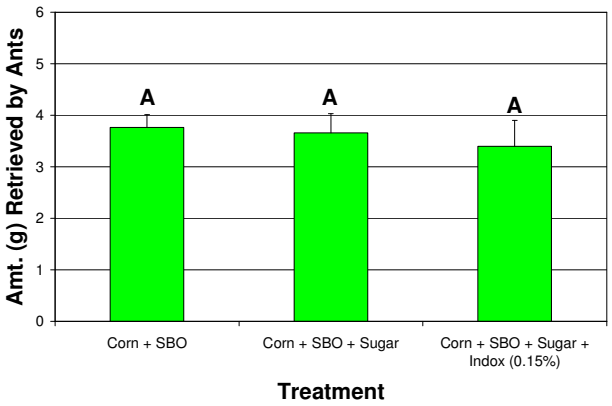

Figure 3. Attractiveness of the Texas leaf-cutting ant to bait made with and without sugar and indoxacarb, East Texas, Summer 2007. SBO = Soy bean oil.

Thirty-two ant colonies were selected in East Texas on land owned by Hancock, Campbell Group and private landowners for a second efficacy trial. Twenty-five colonies were treated with corn + indoxacarb (0.15%) bait at 10 grams per m^2 per colony, in October 2007. The remaining 7 colonies were monitored as untreated checks. All colonies were evaluated for ant activity at 0, 2, 4, 8 and 16 weeks post-treatment.

The corn + indoxacarb bait treatment was quickly retrieved by the ants and reduced ant activity (97%) on treated colonies compared to initial activity within 2 weeks after treatment (Table 2). It appeared that a number of treated colonies had become inactive (20 of 22 after 4 weeks). However, a reassessment 16 weeks post- treatment found that six of 22 treated colonies were still active, although at much reduced levels (5%) compared to initial levels.

The FPMC is continuing to work with DuPont to refine the new TLCA bait. Additional preference and efficacy trials are planned for later this year.

Table 1. Efficacy of indoxacarb baits applied to control the Texas leaf-cutting ant in East Texas (Summer 2007).

Treatment	No. of colonies treated	Mean central nest area (ft^2)	Mean % of initial activity[a] (% of colonies inactive after): 1 week		2 weeks		4 weeks		8 weeks	
Grapefruit + Indoxacarb Pellet										
0.05% AI	7	547	9.0 **a**	(43)	4.2 **a**	(57)	21.0 **a**	(0)	59.4 **a**	(0)
0.025% AI	7	563	25.8 **a**	(14)	32.6 **b**	(14)	71.7 **b**	(0)	70.5 **ab**	(0)
Grapefruit blank	3	505	80.2 **b**	(0)	77.6 **c**	(0)	71.8 **b**	(0)	83.4 **b**	(0)
Check (no treatment)	7	472	106.8 **b**	(0)	110.3 **c**	(0)	113.5 **b**	(0)	132.4 **b**	(0)

CNA = Central nest area; FM = Foraging mounds

[a] Means followed by the same letter within each column are not significantly different at the 5% level (Fisher's Protected LSD).

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Leaf-cutting Ant Control – Continued from Page 2

Table 2. Efficacy of indoxacarb baits applied to control the Texas leaf-cutting ant in East Texas (Winter 2007/2008).

Treatment	No. of colonies treated	Mean central nest area (ft^2)	Mean % of initial activity[a] (% of colonies inactive after): 2 weeks		4 weeks		8 weeks		16 weeks	
Corn + Indoxacarb Pellet 0.15% AI	22	593	2.6 **a**	(81)	2.0 **a**	(90)	3.5 **a**	(81)	5.4 **a**	(71)
Check (no treatment)	7	572	94.3 **b**	(0)	72.5 **b**	(0)	92.8 **b**	(0)	82.4 **b**	(0)

CNA = Central nest area; FM = Foraging mounds

[a] Means followed by the same letter within each column are not significantly different at the 5% level (Fisher's Protected LSD).

Pine Tip Moth Control

Fipronil Trials: Several trials conducted by the FPMC from 2002 to 2006 have shown that fipronil is consistently effective in reducing pine tip moth damage on treated seedlings. Due to concerns about worker exposure, the focus of recent research has been placed on the treatment of soil around seedlings after transplanting by hand or machine planter, or media in containers. Below is a brief overview of the results of trials established in 2007.

Fipronil Applied by Hand vs. Machine Trial:
A new trial was initiated in 2007 to evaluate fipronil applied by machine at planting or by hand after planting. Research plots were established in each of three first-year plantations in Texas (2) and Arkansas (1). At each site, 4 replicates of 3 – 0.5 acre plots (12 plots total) were established. On 4 preselected plots, the fitted machine planter injected fipronil solution (0.3% ai in 37 ml volume) into the soil as each seedling was placed in the planting furrow. In all other plots, seedlings were machine planted at the same spacing. Afterward, in 4 plots, seedlings were treated with fipronil by hand using a Kioritz soil injector. The treatments included:

1) MF = seedlings machine planted with fipronil applied at 0.1g active ingredient (in 37 ml water) per seedling as they were planted.
2) MHF = seedlings machine planted; afterwards fipronil applied at 0.1g ai (in 3 ml water) per seedling by Kioritz soil injector.
3) MC = seedlings machine planted; no additional treatment (Check).

Tip moth damage was evaluated after each tip moth generation (3-4 weeks after peak moth flight) by determining the percent of infested shoots in the top whorl. Each tree was measured for diameter and height in December following planting.

The fipronil treatments applied by machine provided good overall protection, reducing tip moth damage by 74% (Table 3). The hand treatment was generally less effective but both treatments resulted in significant gains (6 – 8 cm^3) in volume growth in 2007. Further evaluations are planned for 2008.

Table 3. Effect of fipronil application technique on tip moth damage to loblolly pine shoots (top whorl), volume growth and survival during the first growing season on two sites in East Texas - 2007.

Treatment §	N	Pct. Shoots Infested (**Pct reduction compared to check**)			Volume Growth (cm^3) (**Growth diff. (cm^3) compared to check**)		
Machine FIP	550	3.6	**74**	*	50.9	**5.8**	*
Machine + Hand FIP SI	550	7.9	**43**	*	53.5	**8.4**	*
Machine Check	550	13.8			45.1		

§ SI = Kioritz Soil Injection Method = treatment reduced damage by >75% compared to check

* Means followed by an asterik are significantly different from checks at the 5% level based on Fisher's Protected LSD.

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Tip Moth Control – Continued from Page 3

Fipronil Applied to Containerized Seedlings Trial: A trial was initiated in 2007 to evaluate the efficacy of different rates of fipronil applied to media in containerized seedling cells.

Two newly site-prepared tracts were selected in East Texas. A randomized block design (with sites as blocks) was established at each site in February. Each treatment was randomly selected for placement in an area plot. Two families of loblolly pine were selected at The Campbell Group (formerly Temple Inland) nursery. The treatments included:

1) Containerized fipronil (FIP) (1X - 3 ml) – containerized seedlings treated in July 2006
2) Containerized FIP (5X - 15 ml) - seedlings treated in July 2006
3) Containerized check (untreated)
4) Bare root fipronil (12 ml/seedling) - Soil injection next to transplant in March 2007
5) Bare root Mimic® foliar - Mimic® applied 5X /year
6) Bare root check (untreated)

Tip moth damage was evaluated on 50 internal seedlings within each plot after each of five tip moth generations in the same manner as in other control studies. Each tree was measured for diameter and height in the fall (December).

The fipronil treatments on containerized seedlings provided outstanding protection from tip moth throughout the first year. In fact, no damage was found on seedlings treated at the 5X rate (Table 4). The hand treatment of bare root seedling was somewhat less effective, reducing tip moth damage by 75% (range 54 – 79%) over the 5-generation period. All fipronil treatments resulted in remarkable gains in volume growth (73 – 114%) compared to the checks (Table 4).

EPA approved the registration of PTM Insecticide in June 2007 (see *PEST* 12.2 and 12.4). A new trial also was established in fall of 2007 and winter of 2007 to further evaluate the operational application of fipronil by machine equipment. Results will be presented in the next spring issue of the *PEST* newsletter.

Table 4. Effect of fipronil (FIP) application technique and rate on tip moth damage to containerized and bare root loblolly pine shoots (top whorl) and volume growth during the first growing season on two sites in east Texas - 2007.

Treatment §	N	Pct. Shoots Infested	**(Pct reduction compared to check)**		Volume Growth (cm^3)	**(Growth diff. (cm^3) compared to check)**	
Containerized FIP (3ml)	200	0.2	**99**	*	207	**87**	*
Containerized FIP (15ml)	200	0.0	**100**	*	250	**130**	*
Containerized Check	200	16.3			120		
BR FIP SI (12ml)	100	3.4	**75**	*	302	**161**	*
BR Mimic spray	100	4.7	**65**	*	237	**96**	*
BR Check	100	13.4			141		

§ Fipronil Inj = Fipronil soil injection = treatment reduced damage by >75% compared to check

* Means followed by an asterik are significantly different from checks at the 5% level based on Fisher's Protected LSD.

Imidacloprid Tablet Trial: Bayer Environmental Science also has developed a new product (SilvaShield™ Forestry Tablets) to protect young seedlings against insects. A new trial was established in 2007 to evaluate this product at several sites using two different application techniques.

Five one-year-old plantations were selected; three in AR and two in TX. Resident seedlings were removed and replaced with study trees. A randomized block design (with rows as blocks) was established at each site in February. Ten seedlings from each treatment were planted on each of five beds. Tip moth damage was evaluated and trees were measured as described before. The treatments included:

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Tip Moth Control – Continued from Page 4

1) 20% SilvaShield (SS) tablet - 1 tablet in plant hole
2) 20% SS tablet - 1 tablet in soil next to transplant
3) Mimic® Foliar -Mimic® (0.6 ml/L water) spray 5X / season
4) Bare Root Check (untreated)

Tip moth populations were quite variable across the five sites with mean percent shoots infested on checks ranging from 0% after the first generation on one TX site to 45% and 55% at the end of the year on two AR sites. The tablet treatment placed in the plant hole was highly effective in reducing tip moth damage throughout the year. Overall, damage was reduced by an average of 81% (Table 5). Tablets pushed into the soil after the seedlings were planted and foliar sprays were less effective; reducing damage by 52% and 49%, respectively. Tablet treatments significantly improved volume growth compared to checks on four of five sites, with gains of 73% for the plant hole treatment and 44% for the soil treatment (Table 5).

The registration of the "SilvaShield" Forestry Tablet was approved by EPA in the fall of 2006 (see *PEST* 12.1). It is now approved for use in all states, except CA. New trials also were established in fall of 2007 and winter of 2007 to further evaluate the operational application of tablets and area-wide effect on tip moth populations. Results will be presented in the next spring issue of the *PEST* newsletter.

Table 5. Effect of SilvaShield (SS) tablets application techniques on tip moth damage to loblolly pine shoots (top whorl) and volume growth during the first growing season on five sites in AR & TX - 2007.

Treatment §	N	Pct. Shoots Infested **(Pct reduction compared to check)**			Volume Growth (cm^3) **(Growth diff. (cm^3) compared to check)**		
20% SS tablet in plant hole	250	3.0	**81**	*	44.2	**18.7**	*
20% SS tablet in soil adjacent to seedling	250	7.6	**52**	*	36.8	**11.3**	*
Mimic spray	250	8.1	**49**	*	34.1	**8.6**	*
Check	250	15.9			25.5		

= treatment reduced damage by >75% compared to check

* Means followed by an asterik are significantly different from checks at the 5% level based on Fisher's Protected LSD.

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Announcements – Continued from Page 1

Jacksonville, FL. Rayonier currently manages 2.6 million acres in the U.S. and New Zealand, and, of that, about 2.2 million acres are managed in nine U.S. states (primarily GA, AL, and FL). Mr. Josh Sherrill (josh.sherrill@rayonier.com), Research Forester out of Yulee, FL, will serve as their Executive Representative, and Ben Cazell (ben.cazell@rayonier.com) and Todd Leeson (todd.leeson@rayonier.com), as their plantation contact and seed orchard contact, respectively.

ArborGen is a global leader in the research, development and commercialization of applications and solutions in tree genetics, including varietal forestry that improves wood growth and quality for the forest products industry. They are based in Summerville, SC. Mr. Shannon Stewart (smstewa@arborgen.com), Orchard/Nursery Manager out of Livingston, TX, will serve as their Executive Representative.

New Resource Specialist and Staff Assistant– We would like to welcome Nikolas "Niko" Battise (left) and Thomas "Kyle" Harrell (right) to the FPMC/Texas Forest Service as our new resource specialist and staff assistant, respectively. Niko and Kyle were hired May 15th and June 17th by the FPMC and Texas Forest Service to assist us with the many FPMC research and FPM survey projects. Niko and Kyle can be contacted by phone: (936)-639-8170 or by e-mail: nbattise@tfs.tamu.edu or kharrell@tfs.tamu.edu.

Southern Pine Beetle South-wide Trend Predictions for 2008

by Ronald F. Billings (with data contributed by southern forest pest specialists)
(See http://txforestservice.tamu.edu/main/article.aspx?id=1171)

2008 is shaping up to be a year of natural disasters, with increased numbers of tornados, hurricanes and wildfires expected in many regions. But, recent surveys suggest that a severe outbreak of the southern pine beetle is not likely to be among Nature's contributions this year.

The southern pine beetle, *Dendroctonus frontalis*, has a well-deserved reputation as the most destructive forest pest of pine forests in the South. In 2000, nearly 60,000 multiple-tree infestations were detected on federal, state and private forest lands throughout the South, resulting in the loss of millions of dollars of resources. By 2006, the number of SPB infestations had declined to 3,669 for all southern states combined. SPB activity remained low in 2007, with a total of 3,511 spots detected in 16 states, with most spots occurring in Georgia, Alabama and South Carolina. The Texas Forest Service (TFS) has developed a reliable system for predicting infestation trends (increasing, static, declining) and levels (low, moderate, high, outbreak) that has been implemented across the South since 1986. This information provides forest managers with valuable insight for better anticipating SPB outbreaks and more lead time for scheduling detection flights and preparing suppression programs.

Each spring, traps baited with the SPB attractant (frontalin) and host compounds (alpha-pinene and beta-pinene) are set out in pine forests when dogwoods begin to bloom. Dogwood blooms mark the primary dispersal season for populations of the destructive SPB as well as certain beneficial insects. The traps are monitored weekly for a 4-6 week period by federal and state cooperators. Of particular value for forecasting purposes are catches of clerids (also called checkered beetles), known predators of SPB. Using data on the average number of SPB captured per trap per day and the relative proportion of SPB to checkered beetles, infestation trends for the current year can be forecasted.

The results from the 2008 prediction survey, based on 234 trapping locations within 16 states, indicate declining or low SPB activity in all southern states, with the exception of a few counties in South Carolina, Virginia and Georgia where moderate SPB activity may occur. Of those locations surveyed, only Abbeville, Edgefield, McCormick, Newberry and Union counties in South Carolina, the Air Force Bombing Range (Dare County) in North Carolina, Chesterfield County in Virginia, Baldwin and Coweta counties in Georgia and Cape May County in New Jersey are predicted to have moderate SPB activity. SPB activity is expected to decline from the moderate levels experienced in 2007 in other counties within Georgia, Alabama, and Mississippi. Overall, beetle activity is predicted to remain low in most areas surveyed in other states. Very few or no SPB infestations are expected again this year in Texas, Arkansas, Oklahoma, Louisiana, Kentucky, Tennessee, Virginia, Florida, North Carolina or Delaware. A state-by-state summary of trap catches for SPB and clerids for 2007 and 2008, together with SPB predictions for 2008, are listed in Table 6.

Annual predictions of infestation trends have proven to be 75-85% accurate. Collectively, trend predictions from numerous specific locations provide insight into SPB population shifts within a given state as well as across the South. Also, comparison of trapping results for the current year with those from the previous year for the same localities provides additional insight into SPB population changes.

In general, average trap catches that exceed 30 SPB per day, especially those in which SPB make up more than 35% of the total catch (of SPB and clerids), are indicative of increasing or continued high SPB infestation levels in the current year. Conversely, when catches of predators far outnumber those of SPB and fewer than 20 SPB adults are caught per day, infestation trends are likely to decline or remain at low levels. It is uncertain whether the predator population is directly responsible for declines in SPB outbreaks. Most likely, predators are just one of many contributing factors. It is interesting to note, however, that average trap catches of clerid beetles remained about the same as last year across the South (Average = 4.7 clerids/trap/day in 2008 versus 5.2 in 2007), down from a high of 16.8 clerids per trap in 2004.

Appreciation is expressed to the many state and federal cooperators who provide the data for this annual survey. For additional information, contact Dr. Ronald Billings, Texas Forest Service, at (979) 458-6650 or by e-mail at rbillings@tfs.tamu.edu.

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SPB Prediction – Continued from Page 6

Table 6: Summary of Southwide Southern Pine Beetle Trend Predictions for 2008.

State	No. of Infestations in 2007	2007 % SPB	2007 SPB/ trap/day	2007 Clerids/ trap/day	2008 No. of Locations Trapped	2008 % SPB	2008 SPB/ trap/day	2008 Clerids/ trap/day	2008 Prediction Trend / Level	Most Likely Locations of SPB Activity
Oklahoma	0	0%	0.0	4.5	11	0%	0.0	2.1	Static/Low	----------
Texas	0	0%	0.0	8.7	16	0%	0.0	7.1	Static/Low	----------
Arkansas	0	0%	0.0	1.8	8	0%	0.0	4.1	Static/Low	----------
Louisiana	7	0%	0.0	1.3	24	0%	0.0	1.1	Static/Low	----------
Mississippi	50	36%	19.8	17.0	31	4%	0.4	5.3	Declining/Low	----------
Alabama	692	78%	74.4	19.6	6	29%	3.9	11.5	Declining/Low	----------
Georgia	1,810	37%	7.4	9.0	24	27%	3.2	10.3	Declining/Low	Baldwin Co., Coweta Co.
Florida	43	33%	0.3	1.1	26	27%	0.4	1.8	Static/Low	----------
South Carolina	734	25%	5.7	4.8	34	21%	3.0	3.8	Declining/Low to Moderate	Enoree R.D., Long Cane R.D., Abbeville Co., Edgefield Co., McCormick Co., Newberry Co.
North Carolina	15	14%	0.4	2.9	18	20%	2.0	3.3	Declining/Low	Croatan N.F.
Virginia	64	41%	5.8	4.1	6	35%	5.3	10.4	Static/Low - Moderate	Chesterfield Co.
Tennessee	39	11%	0.7	1.6	6	7%	1.0	5.7	Declining/Low	Chester Co.
Kentucky	0	35%	2.0	0.8	2	33%	1.7	1.3	Static/Low	----------
Maryland	0	3%	0.1	1.3	12	10%	0.2	5.2	Static/Low	----------
Delaware	0	0%	0.0	1.6	4	2%	0.0	1.3	Static/Low	----------
New Jersey	64	29%	1.0	3.0	6	39%	1.7	2.6	Static/Low	Cape May Co.
Southern States	3,518	21%	7.4	5.2	234	20%	1.5	5.1	Declining/Low	Declining or static, low levels in most southern states, except in certain counties and Ranger Districts in SC, NC and VA, and possibly in NJ.

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Some Tidbits

• A South American fly has the unusual habit of decapitating living fire ants and then using the ant's empty head capsule as its pupal case.

• African swarms of desert locusts may contain as many as 28 billion individuals. Although each individual locust only weighs about 2.5 grams, added together this comes to 70,000 tons of locust.

• The mousetrap is the most invented machine in American history. Over 4,400 mousetrap patents have been granted since 1838 and 40 are granted annually today. Despite this, no one has devised a better way to catch a mouse than the familiar "snap trap" patented in 1903 by John Mast.

• A paper in *Nature* reported that female Asian elephants use the same sex pheromone that is shared by at least 126 species of insects, including the cabbage looper. (**Editor's Note**: The mass aggregation of Asian elephants on cabbage plants tends to adversely impact the crop).



Thought You Might Be Interested to Know . . .

"Tree Cattle" Are Spinning Webs This Summer

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

(**Editor's Note:** We've received numerous calls this past month about "spider" or "webworm" webbing observed on the bark surface of different hardwoods in East Texas and Louisiana. I thought you might like to know what the true cause is.)

In May, June, and July, hardwood trees along the Texas coast from Houston to Beaumont and about 75 miles inland may occasionally be covered with a mat of cobweb-like material. Homeowners often express concern when they see the trunk and major limbs of their trees encased in a giant silken web (see photo above). This webbing is produced by the immature stage of small insects called barklice or psocids (pronounced sokids) and is completely harmless to the tree. The webs are believed to protect the barklice from predators. The insects, sometimes referred to as "tree cattle," are probably common during most years but are only noticed when population levels are high and the amount of webbing becomes more apparent. Because barklice cause no damage to the trees, no control is recommended. The webbing, which never extends into the foliage, is quite thin and fragile and will usually disappear in a few weeks. Heavy infestations of barklice seem to be associated with relatively long periods of high humidity, which may account for the fact that most reports in Texas are from the upper coastal area.

Barklice are small, soft-bodied insects with long antennae; they resemble aphids. Even though these insects are called barklice, they are not lice. They are not parasitic on anything, they are not pests of humans or animals, they do not infest pines, and they do not harm the trees they infest. The barklice that produce the webbing on trees in Texas belong to the insect order Psocoptera and have the scientific name *Archipsocus nomas.* They can be found along the Gulf coast from Texas to Florida and along the Atlantic coast north to South Carolina.

The adults are about 1/8th-inch long and possess two pairs of membranous wings that are held roof-like over the body when at rest (see photo on left). Barklice have simple metamorphosis and go through three stages -- egg, nymph, and adult. The nymphs resemble adults except they are smaller and lack wings. Barklice have chewing mouthparts and are considered a beneficial insect since they feed on "stuff," including fungi, spores, pollen, lichens, and other debris on the surface of a tree's bark. I like to tell people "They clean the bark of your tree for free!"

Reference:

Webbing barklouse - *Archipsocus noma.* Featured Creatures. *http://creatures.ifas.ufl.edu/trees/barklouse.htm*.

Ticks and Tick-borne Diseases

(Source: North Carolina Pest News, June 8, 2007)

It's summer, it's hot across the South. That means ticks are abundant in many areas and there is an equally abundant concern about tick-borne illnesses. In North Carolina alone, they had more the 466 confirmed cases of Rocky Mountain Spotted Fever and at least 14 confirmed cases of Lyme Disease in 2006.

What we also know is that there are no magic fixes to tick problems, but there are measures (both chemical and non-chemical) that people can use to reduce tick infestations around their property and to protect themselves and their family.

Habitat Modification. Ticks will be more abundant in areas frequented by wild animals. These areas are typically overgrown and weedy or covered with leaf litter and, particularly during those hot summer months, there are often well-shaded places where the

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Ticks – Continued from Page 8

animal rests. Try to keep the ground cover in these areas trimmed back as much as possible. Keep leaf litter and other debris out from under and around picnic tables.

Personal Protection. Whenever possible, avoid likely tick-inhabited areas (i.e., those tall weedy areas mentioned previously). Apply repellents to your clothing, particularly shoes, socks and pants. If you're wearing shorts you can also spray your ankles and calves. Be careful about using (or overusing) repellents on small children. We have information about repellents at: http://insects.ncsu.edu/Urban/repellents.htm. If you wear long pants while working or hiking outdoors (not many people hike indoors), tuck the pants' legs into your socks. When your kids come inside from playing outdoors check them over carefully for ticks. Likewise, if you've spent time working in your garden or taking a hike, spend some additional valuable time checking yourself thoroughly for any hitchhiking ticks. You can also have someone else check you over carefully.

If You Find a Tick on Yourself, Child or Pet, remove the tick carefully by grasping it firmly with tweezers or with a tissue (not with your bare fingers). Pull until it dislodges. This is generally considered to be the best method to tick removal as opposed to using lit matches, oil (motor or mineral), detergent or some other chemical to try to dislodge the tick. Wash the bite area with soap and water and then apply an antiseptic such as alcohol. Record the date of the tick bite on a calendar. Then, watch for any symptoms within the next 10 to 14 days and contact your doctor if necessary. Tick-borne disease symptoms are described in *Residential, Structural and Community Pests Insect Note AG-426* on the web at http://insects.ncsu.edu/Urban/ticks.htm.

Test Your Tick? One of the questions frequently asked is whether there are labs that can test ticks for the pathogens that cause Lyme Disease, Rocky Mountain Spotted Fever, Erhlichiosis, etc. The following web page at the Rhode Island Department of Health lists **PRIVATE** labs that will perform fee-based tests for the Lyme Disease pathogen only: http://www.health.ri.gov/disease/communicable/lyme/ticktesting.php. There is at least one lab that will perform tests for several tick-borne disease pathogens. It can be found on the web at http://www.igenex.com/ticktest.pdf.

Anyone interested in this information must read the specific instructions given by the labs about the testing procedures. Some of the labs may perform tests only on particular tick species which goes back to the basic point of why identifying the tick is important (and that's where you can help provide valuable assistance to your clients). Now . . . all of that said, there are some important facts to pass along to your clients before they rush to spend $60 to $100 for these tick tests.

Note the disclaimer posted at the bottom of the Rhode Island website. It's important to bear in mind that the results of these tests are **NOT** a diagnosis of tick-borne illness in the person who **MAY** have been bitten by the suspect tick. In other words, just because the tick tests positive for a pathogen or even multiple organisms, it does not mean that they transmitted the organisms while feeding (assuming that the tick had indeed fed before it was discovered). Typically, pathogen transmission requires 6 to 36 hours of feeding by the tick (depending on tick species and the particular pathogen). The results of such tests may alert the person's doctor to specific tick-borne diseases, the symptoms to watch for and the potential health risks to that patient. In some cases, this may be helpful by reducing unnecessary prescription of preventive antibiotic treatments. **BUT**, we need to emphasize to people that common sense and the tick-prevention steps outlined above are far more important than relying on some analytical test to determine if a tick might be carrying disease organisms.

You can find additional information about ticks and tick-borne diseases at the following "tick-infested" sites (which also have additional links):

http://insects.ncsu.edu/Urban/ticks.htm

http://www.deh.enr.state.nc.us/phpm/index.htm

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