CLEMSON UNIVERSITY
~ URBAN ENTOMOLOGY EXTENSION & RESEARCH ~
Palmetto Pestalk September 2000 Newsletter[1]

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In high school and college, I was on the track teams. I often ran the half-mile, but my main event was pole vaulting. I wasn't a great vaulter, but I could get over 13 to 14 feet on a good day. Back then skeptics, including me, said girls couldn't pole vault. Pole vaulting was a "macho" event, where speed and upper body strength were everything and something only a young man could do.

Welcome to the year 2000. Did you see the first pole vaulting competition for women at the Sydney Olympics? With all the speed and strength necessary, the female athletes were skying over 15 feet. Their performance was impressive and their accomplishments made me think, "Why was I so skeptical that women could ever be able to pole vault?"

My views are products of what I am taught and what I experience. And whether it is track and field or pest control, what I have experienced and learned may not always be the true view. Things change, people change and we must adapt to those changes.

Skepticism can be a good trait to a point. It will keep you from chasing rainbows. However, taken too far, being skeptical of every thing that doesn't fit your truth may cause you to make poor choices and miss opportunities. And many, many opportunities will be coming as the way we do pest control rapidly changes. Keep your mind open. The pest control business will see more changes in the next ten years than it did in the previous fifty. This is not your father's pest control business and girls *can* pole vault.

Yellowjackets
Jack-Up Activity

Had a picnic lately? If so, I bet you had a lot of uninvited guests. Yellowjackets are plentiful this fall in South Carolina. In natural settings, yellowjackets are beneficial. They feed their young many pest insects that damage shade trees and crops. However, they are serious stinging hazards to humans. This makes them a dangerous uninvited picnic guest as they scavenge for meats and sweets. It is not unusual for individuals to be stung many times, especially if they are near yellowjacket nests.

It is important to know that there are several yellowjacket species in South Carolina. Most of the yellowjackets in SC are yellow and black and about half an inch long. Queens are often twice as long.

It's no coincidence that we are most aware of yellowjackets as pests during the Indian summer days in September and October. This is the time when workers reach maximum size and colonies reach maximum population level. This is also the time when new males and queens mate.

After mating, the males die, and the inseminated yellowjacket queens seek shelter. Queens overwinter under loose tree bark, roof shakes, or other protected locations, emerging in spring to begin the cycle again.

A queen emerges during the first warm days of spring, selecting a nest site and building a small paper-like nest in which she lay her eggs. When the eggs hatch, the queen feeds the young larvae for about 18 to 29 days, after which the larvae pupate, then emerge later as small, infertile females called workers. Once the first five to seven workers appear, they begin rearing and feeding the brood. The queen is rarely seen outside the nest after this time. When colony populations peak in late summer, reproductive cells are built in the nest and new males and queens are produced.

To help your clients avoid problems with yellowjackets, tell them not to encourage their presence. Foraging yellowjackets are attracted to sweets and meat. Keep garbage cans and dumpsters covered, keep summertime sweets under wraps, and clean up food spills.

Keep an eye out for nests. We often think of yellowjackets nesting in the ground. However, they can also be found in trees, sheds, wall voids or in attic areas. Fortunately, nests are usually abandoned by the colony each year, and they usually disintegrate over the winter months, so removal is not always necessary. However, I have seen some huge yellowjacket nests, that I believe were built over a period of several years by subsequent yellowjacket colonies. Also, because old nests could serve as a winter home for other pests, it might be wise to remove nests in building voids after the yellowjackets are gone for the season.

There is an old standard trap of using fresh meat or fish hung over a basin of water with dishwashing liquid. Yellowjackets tend to strip off food too large for them to carry, causing them to fall into the water and detergent, causing them to drown. A drawback to meat-baited traps is the need to change the bait daily; yellowjackets are not

attracted to rotting meat, and vertebrate pests are. Also, this type of trap is quite cumbersome and less than attractive.

Synthetic lures are available as well. Most formulations attract a narrow range of species, but a new formulation patented July 2000, using acetic acid and isobutanol, seems attractive to a range of species. This new chemistry is expected to be commercially available within the next year.

When yellowjackets are present, chemical controls can be used including various insecticide dusts or the many pyrethroids based sprays formulated for wasps and hornets. If possible, spray into the entrance hole of either aerial or subterranean nests after dark, when most of the insects have returned to the nest, then saturate the nest. In most situations, do not plug the entrance hole, especially in wall voids. Use of pesticides does not negate the need to discourage yellowjackets from returning. *Source: Adapted from Washington State University Cooperative Extension Bulletin EB0643, Yellowjackets and Paper Wasps, by R. D. Akre and A. L. Antonelli.*

West Nile Virus

Mosquitoes and West Nile Virus have been frequent topics in this year's news. West Nile Virus was first found in the United States in September 1999, in New York City. Though West Nile Virus has not been found in South Carolina, the SC Department of Health and Environmental Control (DHEC) has been monitoring this disease closely.

West Nile Virus is usually found in Africa, West Asia, and the Middle East. It is closely related to St. Louis encephalitis virus, a disease that is naturally found in the United States. West Nile Virus is caught through the bite of a mosquito that has the virus. Mosquitoes get the virus by feeding on birds that have the virus. The mosquitoes then give the virus to humans and animals when they bite them.

Two common mosquito species, *Culex pipiens*, in the North, and *Culex quinquefasciatus*, in the South, are the main carriers of this disease. These mosquitoes are common around homes, breeding in stagnant water in rain barrels, tubs, catch basin, cesspools, ditches, ground pools, and other places where water stands for more than a week. The adults will enter homes and bite at night. These mosquitoes are higher in numbers in late summer.

Due to their breeding habitats, the best way to control *C. pipiens* or *C. quinquefasciatus* is to get rid of stagnant water. If you or your clients are having problems with mosquitos, remember to:

- Empty containers that hold water for any period of time.
- Keep ditches free of trash so that water will continue to flow.
- Keep septic tanks in good repair.
- Clean out leaves and other trash from gutters regularly.
- Have your clients stay indoors at dawn, dusk, and in the early evening. Make sure the screens on windows and doors are in good repair.

Studies done in New York after the 1999 epidemic showed that about three-fourths of the people with West Nile Virus did not become sick at all. About one-third had a mild illness with fever, headache, and body aches, sometimes also with swollen lymph glands and a skin rash. Only a few (1%) had the dangerous infection called encephalitis which causes headache, high fever, neck stiffness, confusion, coma, tremors, convulsions, paralysis, and, in some cases, death. The time between the mosquito's bite and a person becoming sick is usually 5 to 15 days. Anyone can get West Nile Virus if the virus is in the mosquitoes in the area, but persons over 50 years of age are most likely to get encephalitis. There is no vaccine to prevent the disease and there are no drugs to treat the disease.

West Nile Virus is not passed from person to person. You cannot get sick from touching or kissing a person who has West Nile Virus, or from a health care worker who has treated someone with the disease. No one has caught the virus from handling live or dead birds with the virus. However, avoid picking up any dead animal with your bare hands. Use gloves or double plastic bags to get rid of the dead animal. If you are doing work around homes with mosquito problems, consider the following to reduce your chance of being bitten:

- Wear long-sleeved shirts and long pants.
- Apply insect repellent sparingly to your exposed skin. A good repellent will contain 20% to 30% DEET. Avoid getting repellents in your eyes and mouth.
- Spray clothing with repellents containing Permethrin or DEET, because mosquitoes may bite through thin clothing. Remember, as with insecticides, be sure to read and follow the directions on how to use mosquito repellents you use.

Currently, DHEC is determining if West Nile Virus has spread to South Carolina. Their study includes catching mosquitoes and testing them for West Nile Virus, and looking into unusual wild bird deaths. If you have additional questions concerning West Nile Virus, contact your local mosquito control program, your county health department, or visit www.cdc.gov/ncidod/dvbid/arbor/West_Nile_AQ.htm. *Source: SCDHEC.*

Got Bugs Continues

This past summer, Cam Lay, Assistant Department Head for the Department of Pesticide Regulation, and I did a few live call-in shows on the South Carolina Educational Radio Network. The program, "Got Bugs?", covered a variety of topics including fire ants, termites, cockroaches, other household pests and their management and control. We also discussed pesticide applications, contracts, inspection reports and selecting a pest

control company.

Hosted by Charlotte Holt, the program has become a weekly show. The program airs every Tuesday from 12:30 to 1:00 PM. We hope we are providing good information and putting a "good face" on pest control in the Palmetto State. So if you are out there listening, feel free to call in, but don't make the questions too hard! We answer everything on the fly (pun intended).

Termidor Question

A new termiticide, Termidor, is now available in South Carolina. Made by Adventis, the active ingredient in Termidor is fipronil. Those of you who are using Termidor should have noticed that the label requires hollow-void walls to be treated at intervals of no more than 12 inches. The South Carolina state standards require drilling hollow-void walls at intervals of no more than 16 inches.

I asked Cam Lay, Assistant Department Head for the Department of Pesticide Regulation (DPR), their department's view of the differences between the Termidor label and the state standards. The following is the response I received from the DPR:

As is the case with the state standards setting the minimum acceptable way to perform a termite treatment, the Federal pesticide law sets the minimum acceptable level of regulation for pesticides in the United States. In this case, those regulations do not allow the states to require performance that is less than that prescribed by the labeling. Since the label put out by Adventis, the people that make Termidor, says that they want it to be applied at 12-inch intervals, that's what applicators using Termidor must do. ***Voids treated with Termidor must be drilled and treated at intervals of no more than 12 inches****, rather than the 16-inch intervals required by the South Carolina standards. The 12-inch drilling will, obviously, meet the SC standards. Failure to do so would be a violation of the product label and of the SC Pesticide Control Act (Section 46-13-90 1 B).*

Termite Technician Schools Full

Our Apprentice (ATT) and Master (MTT) Termite Technician Schools are full and there is a waiting list for both programs. This coming spring we will set the dates for our 2001 schools. To ensure that you get into one of the 2001 schools, make sure you enroll early to next year. If you have any questions, please contact Jackie Ellis at 864/656-5048, email jells@clemson.edu.

2000 MPCT Underway

The first Master Pest Control Course (MPCT) of the new century is underway. Though enrollment is low with only 11 students, the participants are great. Later this year, we will assess the need and format of the MPCT to determine the level of interest in this course and ways to increase enrollment. If you have any questions or suggestions, please contact me or Jackie Ellis. We want to hear your ideas!

First Dursban
Now Diazinon

Some consumer groups are urging the Environmental Protection Agency (EPA) to phase out all uses of the insecticide diazinon within four years. Like Dursban (chlorpyrifos) diazinon is an organophosphate insecticide with a wide range of agricultural, and urban applications. Groups opposed to diazinon claim that the insecticide poses significant risks to children, farm workers, and the environment. The EPA is currently reviewing diazinon under the Food Quality Protection Act (FQPA); the same Act that lead to the phase-out of most uses of Dursban. *Source: National Association of State Departments of Agriculture, August, 2000.*

Did You Know?

Did you know that, ounce for ounce, a giant water beetle has 72 % of the protein of lean ground beef and a better balance of fat and carbohydrate? Why am I telling you this? Pat Zungoli, Jackie Ellis and Terry Pizzuto are making a display for our entomology department on Edible Insects Around the World. Yum!

Actually, the practice of eating insects dates from prehistoric times and is well-documented in the early writings of most cultures. Even now, insects are viewed as both a staple and a delicacy by many. For example, in regions where drought makes raising livestock or crops difficult, eating insects makes sense. Many cultures who use insects as a dietary staple would find decayed-milk products such as cheese, or bottom-feeders such as clams and oysters quite unappetizing. Grasshoppers and termites are most commonly consumed, but crickets, cockroaches, dragonflies, sucking lice, cicadas, ants and beetle, bee and wasp grubs are also specialties around the world. In fact, only the western world avoids eating insects. Interested in expanding your culinary experiences? Give me a call. Pat gave me a dung beetle souffle recipe that is to die for!

[1]Note: This column is a regular submission to Palmetto Pestalk. For information concerning this publication contact:

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