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North Carolina Pest News

Departments of Entomology and Plant Pathology

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CAUTION !

The information and recommendations in this newsletter are applicable to North Carolina and may not apply in other areas.

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In This Week's Issue . . .

See current and archived issues of the *North Carolina Pest News* on the Internet at: http://ipm.ncsu.edu/current_ipm/pest_news.html

FIELD AND FORAGE CROPS

From: Jack Bacheler, Extension Entomologist

Cotton Aphids on Cotton

Although things appear generally quiet on the cotton insect front for now, we have had several reports of cotton aphid infestations during the past week, thankfully not yet at treatable levels in these cases. With most reports, the brown to tan aphid mummies were present; in one case, ladybird beetles were also aiding in reducing the aphid population. To my knowledge, even with our more recent very hot dry weather, we do not yet have visible moisture stress on cotton. This more typically occurs when cotton begins to

set bolls and the combination of this stress along with significant cotton aphid feeding can sometimes add up to treatable situations. If treatment is needed, the nicotinoids and Carbine still provide adequate to good aphid control here in most situations. Only one chloronic resistant aphid outbreak (2011) has been brought to my attention in North Carolina in recent years. In this instance, 5 to 6 possible cotton aphid exposures to chloronics took place between the seed treatment, a plant bug spray, 2 combination stinkbug/bollworm sprays (with a chloronic as a component of the co-pac) and one to 2 unsuccessful sprays for cotton aphids. In most cases at this time of year we can afford to be patient, though the generally effective cotton aphid fungus *Neozygites fresenii* does typically show up on cotton aphids until the second or third week in July. Hopefully, this early year will bring on the fungus earlier. Treatment is advised when aphids are resent throughout most of the field, honeydew is readily found, the upper cotton leaves are cupping downward significantly and aphid mummies and the fungus is either absent or at very low levels. See our insecticide efficacy ratings (page 13 of 39) for a comparison of aphid insecticides (http://ipm.ncsu.edu/cotton/insectcorner/PDF/Survey%20Charts%202012.pdf).

Plant Bugs Coming?

Although we are only now getting into the "plant bug season", we would advise monitoring plants when squares begin to develop. Thankfully, it is very unusual here in the Southeast to get high enough plant bug levels to cause "crazy cotton" resulting in terminal loss in pre-squaring to cotton. If we get reports of plant bug damage and square loss, they should begin in the next few weeks.

For a description of scouting for plant bugs and suggested thresholds see pages 128, 129 and 144 at our *Cotton Insect Corner* web site for the insect management chapter of *Cotton Information* (http://ipm.ncsu.edu/cotton/insectcorner/PDF/Cotton%20Insects%202012a.pdf). We are presently experiencing significant "dry-down" conditions of plant bug host crops which can lead to adult plant bug migration into cotton, particularly in our far eastern counties. So pay attention to missing square positions discolored (all the way from yellow to blackened squares) upper small squares and live plant bugs (mostly adults at this time of year).

Twospotted Spider Mites in Cotton

The twospotted spider mite is a pest that seems to benefit from hot dry weather, so now would also be a good time to begin to look for mite outbreaks. We have had a few reports of low but building levels this past week. Although often more likely along field borders, mites can also develop from within cotton fields, particularly in reduced till fields, including fields in which the burn-down herbicide was applied late. Check out spider mite scouting recommendations and thresholds on-line on pages 141 and 144 of *Cotton Information* (http://ipm.ncsu.edu/cotton/insectcorner/PDF/Cotton%20Insects%202012a.pdf).

Kudzu Bugs in Soybeans

We again urge producers to monitor soybean fields prior to treating for kudzu bugs. While driving from Clayton to North Carolina State University, I looked at two kudzu bug patches. In both cases, while some sections of the vines had few if any kudzu bugs, other areas revealed hundreds of kudzu bug adults and nymphs of all instars. This means that at least some first generation kudzu bug adults may be flying

to soybean in the coming days and weeks in addition to the adult and nymph bugs already present on soybean. This also implies that we may encounter more of an early build-up on soybean that has been the case in 2010 and in 2011 in Georgia and South Carolina. Control is much more effective if only nymphs are present – they're easy to kill. With adults, nymphs, eggs masses all present, control is far more challenging as some nymphal survival from egg masses can be expected and additional adults migrating into soybean fields increase the possibility of additional sprays.

A few fields have been treated this past week for what appeared to be very low sub-economic levels of this new pest. This is not recommended. It's not difficult to find decent levels of kudzu bugs on the stems of plants in perimeter rows and even within soybean fields, and still not come up with 15 adult bugs per 15 sweeps in the field interiors. In our early-planted (mid-April and mid-May) maturity group tests in both Scotland County and at the Sandhills Research Station, although some overwintered adult kudzu bug mortality has been observed in the untreated plots (no seed treatment and no foliar insecticides), additional adults are still migrating into these fields, probably both the overwintering generation in addition to the initial few first generation adults from both soybean and kudzu. Earlier planted and earlier maturity group soybeans appear to be preferred. We can only hope that kudzu bugs will give beans planted behind wheat a break, at least until the expected upcoming "later" flight when the more thoroughly researched nymphal threshold of 15 nymphs per 15 sweeps is recommended. On the plus side, most soybean fields in North Carolina do not presently have treatable levels of kudzu bugs. However, this is expected to change in the next few weeks.

Cotton/Soybean Scouting Schools

July 18: Bertie County at the Cashie Convention Center (*note location change*), Windsor, beginning at 9:00 a.m. Indoor and outdoor components and lunch provided. Contact Richard Rhodes (richard_rhodes@ncsu.edu or 252-794-5317) for details.

July 20: Perquimans, Gates, and Chowan Scouting School. Contact Tim Smith (tasmith4@ncsu.edu) for details.

We'll post additional schools at this site in the coming weeks. Scouting schools are planned, but not yet scheduled, for Northampton and Halifax counties. Dr. Reisig has also posted several field days and tours (http://www.nccrops.com/2012/06/01/upcoming-scouting-schools-and-field-days/) in coming months.

From: Steve Koenning, Extension Plant Pathologist, and Ron Heiniger, Extension Corn Specialist, Crop Science

Southern Corn Rust

It was announced that Southern corn rust is wide spread in the Coastal Plain of Georgia at this time. This is very early in the year for an outbreak.

Spraying a fungicide to prevent Southern rust may be a little premature at this time, but consider the amount of acreage you may have to cover. You may be need to start early to be timely. Please consult the *North Carolina Agricultural Chemicals Manual* for rates and fungicides. We have a good crop at this point that needs to be protected from Southern rust. So at the very least check your equipment and be prepared to make a fungicide application.

Southern corn rust.

The current status of Southern rust in the U.S. can found at http://sbr.ipmpipe.org/cgi-bin/sbr/public.cgi. Consult the *North Carolina Agrichemical Chemicals Manual* for fungicides and rates (http://ipm.ncsu.edu/agchem/agchem.html).

More information is available at:
http://www.ces.ncsu.edu/depts/pp/notes/Corn/corn002.html

Domark 230 ME is not listed at this time but is labeled at a rate of 4 to 6 ounces per acre.

When deciding to spray a fungicide, consider these factors in decision making:

1. When will the corn reach maturity – early maturing corn may escape infection and you might want to concentrate on the late maturing hybrids.

2. Strobilurins provide excellent control of rust in general but their residual is fairly short and they have limited systemic movement in plants, Triazoles such as Domark, Proline (Proline is a component in Stratego Yld) are more systemic thus more forgiving of less than perfect application.

3. Application costs may actually greater than fungicide costs in many instances, so consider using the higher fungicide rate which will provide more residual protection and try to get by with one application.

FRUIT AND VEGETABLES

From: Emma Lookabaugh, Plant Disease and Insect Clinic

Phytophthora Crown Rot of Squash

Last week we received a yellow squash sample from a commercial field operation in the foothills of North Carolina. As soon as we ripped open the package and the smell hit our noses, we knew we would find something rotten inside! Expecting the worst, we dug in to diagnose the sample. Luckily, the symptoms were classic for Phytophthora crown rot and easily diagnosed by plating out infected tissue on semi-selective media.

Crown rot. Photo: E. Lookabaugh.

Phytophthora crown rot, also known as Phytophthora blight, is one the most destructive diseases of vegetables in North Carolina. The crown rot pathogen, *Phytophthora capsici*, attacks peppers, tomatoes, eggplant, squash, pumpkin, cucumbers, watermelons, and muskmelons. Symptoms vary depending on the crop and the part of the plant affected. On squash and pumpkins, a watery crown and fruit rot are common symptoms. Wilting and death soon follow. Fruit that comes in contact with contaminated soil develop dark lesions with concentric rings.

Fruit symptoms. Photo: North Carolina State University Plant Pathology.

Phytophthora is a soil borne water mold that produces swimming spores, called zoospores. Because the zoospores swim through soil water or are splashed onto susceptible tissue, Phytophthora crown rot is favored by heavy rainfall or irrigation. Excess water accumulates in the crown of squash and pumpkins, making these two hosts particularly vulnerable to crown infection.

Crown rot. Photo: E. Lookabaugh.

Controlling crown rot can be difficult because the pathogen survives in soil for many years. Alternative crops for infested fields include tobacco, potatoes, and sweetpotatoes, which are not susceptible to *Phytophthora capsici*. Rotating with corn and small grains for 2 to 4 years is highly recommended. Crucifers like cabbage or broccoli also are good rotation crops. Avoid planting in poorly drained or low areas, and avoid excess irrigation. Some peppers cultivars have good to moderate crown rot resistance. Farms with a history of Phytophthora blight may benefit from the use of chemical sprays.

For more information:
http://www.cals.ncsu.edu/plantpath/extension/fact_sheets/Pepper_-_Phytophthora_blight.htm

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Twospotted Spider Mites Abound!

Things are heating up and the twospotted spider mite, *Tetranychus urticae*, thrives in hot dry weather. I have found many spider mites in the landscape on roses and many other plants. It is important to scout for twospotted spider mites now because they reproduce most rapidly in hot dry weather. Under these conditions they can mature from egg to reproducing adult in 5 days! Nursery crops are especially susceptible because they may be exposed to more sun than landscape plants and receive more pesticides. Twospotted spider mites feed on over 100 plant species sucking the fluid out of leaf cells. This 'stippling' damage can rapidly cause entire plants to take on a bronzed appearance. Look on the underside of leaves on susceptible hosts or beat foliage on a white piece of paper to scout for spider mites. If you notice mites or damage a range of control options are available the best of which are several new miticides that provide long residuals and efficacy against all mite life stages. Broad spectrum insecticide will make mite populations worse by killing natural enemies. For more information and product suggestions visit the newly revised insect note at:
http://www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/note25/note25.html

Twospotted spider mites. Photo: David Cappaert, Michigan State University.

Where Have All the Japanese Beetles Gone?

Japanese beetle on roses. Photo: S. D. Frank.

It is late June and so far I have not seen any Japanese beetles. I have a couple reports from around North Carolina and even reports that they are emerging in Maryland. So I guess they are trickling out but populations seem to have gotten lower and lower in the past several years. For three years in a row we have had severe droughts during the time Japanese beetles are ovipositing. They need moist soil so their eggs do not dehydrate and so tiny young larvae can borrow into the soil. Droughts have restricted successful reproduction to only well irrigated areas.

So keep an eye out and remember a few key things. Japanese beetle traps do not offer any protection to landscape plants and may actually attract more beetles on to your property so hang them in your neighbor's yard. Likewise, treating a lawn for Japanese beetles grubs will not reduce defoliation of plants on that property since beetles fly in from great distances. Long-term protection for landscape and nursery plants can be achieved a neonicotinoid insecticide such as imidacloprid (e.g., Merit, Marathon II) or

acetamiprid (Tri-Star). A new product with extremely low vertebrate toxicity but good efficacy for a number of pests including Japanese beetles is Acelepryn (chlorantraniliprole). For more information on the biology and management of adult Japanese beetles in nurseries and landscapes consult the insect note at http:// www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/note147/note147.html.

Ugly Nest Caterpillars

Ugly nest caterpillars, *Archips cerasivorana*, are small green caterpillars that build webbed nests in cherry trees and a range of other plants. They are not particularly damaging to trees but attract a lot of negative attention with their ugly nests. The best option for these guys is to just prune out the nest. Even if you spray them you will still have to prune out the nest so it doesn't look ugly so it is best to save a step.

***Archips cerasivorana*. Photo: Whitney Cranshaw, University of Colorado.**