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College of Agricultural and Environmental Sciences
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Lee County Ag Newsletter

March 2022, Volume 22, Number 3

Using Pesticides Wisely Training (Doug Collins)

Every farmer and sprayer operator who applies auxin herbicides (2,4-D and dicamba) to auxin-tolerant cotton and soybeans is required to take the Using Pesticides Wisely (UPW) training (even if it was taken last year) and have a current restricted pesticide license.

The Lee County Extension Office will offer the UPW training Tuesday, March 22 at 10:00 a.m. in the meeting room next to our office.

Peanut Achievement Club (Doug Collins)

If you had a good peanut yield last year and you would like to enter it in the Peanut Achievement Club contest, please let me know in the next few days. Acreage categories are 1.0 100 to 299.9 acres, 2.) 300 to 699.9 acres, and 3.) 700 acres and up. I can provide you with a complete copy of the rules.

2022 Commercial Pecan Spray Guide (Doug Collins)

The 2022 Commercial Pecan Spray Guide is available at our office.

Georgia Grain News 3-2-22 (Rome Ethredge)

Corn planting getting going now although moisture is short in some areas and some preplant watering is having to happen.

Corn now being planted. Praying for a good harvest.

Lots of ways to do it but grower here using pop up fertilizer 2x2 (2 inches over and 2 inches below the seed) and Velum in furrow for nematode suppression.

Oat and rye mix cover crop was sprayed with glyphosate and atrazine a few days ago, would have been better done a few weeks ago but they got things together and soils warmed well, a little ahead of expectations. Killing cover crop early also helps with moisture retention as a growing cover will continue taking up water.

This is on a 30 inch row spacing with seed spaced about 5.8 inches apart in the row for a plant population of 36,000 seeds per acre. This chart from the UGA Corn Production Guide is useful for looking up plant pop.

Table 4. Approximate plant populations based on row-spacing and plant spacing within a row.

Within row Plant Spacing (in.)	Row Width (in.)				
	20	30	36	38	40
4.5			38,700	36,700	34,800
4.7			37,100	35,100	33,400
5.0		41,800	34,800	33,000	31,400
5.3		39,400	32,900	31,100	29,600
5.5		38,000	31,700	30,000	28,500
5.7		36,700	30,600	29,000	27,500
6.0		34,800	29,000	27,500	26,100
6.2		33,700	28,100	26,600	25,300
6.5		32,200	26,800	25,400	24,100
6.8		30,700	25,600	24,300	23,100
7.0		29,900	24,900	23,600	22,400
7.3		28,600	23,900	22,600	21,500
7.5		27,900	23,200	22,000	20,900
7.8	40,200	26,800	22,300	21,200	20,100
8.0	39,200	26,200	21,800	20,600	19,600
8.3	37,800	25,200	21,000	19,900	18,900
8.5	36,900	24,600	20,500	19,400	18,400
8.8	35,600	23,800	19,800	18,800	
9.0	34,800	23,200	19,400	18,300	
9.3	33,700	22,500	18,700	18,700	
9.5	33,000	22,000	18,300		
10.0	31,400	20,900			
10.3	30,500	20,300			
10.5	29,900	19,900			
10.7	29,300	19,500			
11.0	28,500	19,000			
11.5	27,300	18,200			
12.0	26,100				
12.5	25,100				
13.0	23,200				
13.5	23,200				
14.0					

It takes about 100 GDUs (Growing Degree Units, or Heat Units), for corn to emerge, so it will depend on how warm it is the next several days. Looks like it'll be warm so we should be able to ♫♫ "Watch my corn pop up in rows" ♫♫, pretty quickly. Apologies to Tim McGraw….

Oats and Wheat

Small Grains are looking better now but aphids are resurging. I spoke with Dr. Buntin, UGA Entomology, and he says that later in the season, we can stand more aphids, see excerpt below from UGA Pest Control Handbook showing the thresholds. Later infestations can cause later Barly Yellow Dwarf transmission but its not as bad an effect on yield this late. Most small grains are in Stem elongation now so we can stand up to an average of 2 aphids per stem at this point. I looked at some early planted grain oats yesterday which will shoot the flag leaf next week.

> Inspect fields 25–35 days after planting, full tiller, and heading. Yield-reducing transmission of Barley Yellow Dwarf virus can occur during first two periods; transmission at heading is too late to reduce yield.
>
> Aphid treatment thresholds are:
> - Seedlings (2/row ft)
> - 6–10 inch plants (6/row ft)
> - Stem elongation (2/stem)
> - Flag leaf (5/flag)
> - Heading (10/head to include flag)
> - Soft/Hard Dough stages (Do not treat)

Consultant Scott Brown in Colquitt County saw just a little Rust disease in Oats yesterday. We need to be on the lookout but delay fungicide sprays until at least the flagleaf is out as it's the most important to protect, if possible.

Here's an old photo of Oat Rust.

Georgia Grain News 3-10 (Rome Ethredge)

Cold Coming

Looks like we will have a few cold mornings that may affect our small grains and any corn that's up. Hopefully the time it stays cold will be short and with warm soils we won't be hurt much. And we aren't in the most susceptible timeframe in very much of our grain, between Heading and Flowering. Moist soil holds heat better so if you can irrigate and your soil is dry ,do that a day of so ahead of cold.

1) For corn or small grains there is no point in trying to diagnose cold injury severity until at least 4 days after the cold weather. It will take this long for plants to return to

normal growth and then be able to differentiate between slight damage that will recover and severe damage that will not recover.

2) The severity of damage will depend on the growth stage, how low the temperature actually gets, and **how long** it stays at that temperature. A light frost that occurs at temperatures above 32 degrees does not worry us. These plants did not actually freeze and should resume normal growth once weather warms at the first of the week. Research has indicated that yield effects from freeze can be moderate to severe if temperatures drop to **24-28 degrees for two or more hours**. However, temperatures of 31 degrees for several hours (4-6) could be just as damaging as 28 degrees for two hours, we will just have to wait and see.
3) The **most susceptible period is between heading and flowering**. Wheat that is still in the **boot stage will be provided some protection by the leaf sheaths** that are wrapped around the head. Once these heads are exposed, though, they will become more susceptible to environmental conditions.
4) Some **symptoms to look for** when called to look at fields are leaf discoloration:
    a. Leaf discoloration – twisted and light green or yellow with necrosis of the leaf tip. If the flag leaf is still emerging and appears yellow or necrotic this indicates that the growing point has been damaged or killed. If the growing point is killed that stem will not produce a grain head.
    b. Stem damage – twisted and yellowing or darkening areas of the lower stem. This damage may not directly cause yield loss but can lead to increased lodging that can increase yield loss. If this is the case then a timely harvest is the only option.
    c. Head damage – bent heads, bleached heads, and light green florets. Bent heads occur by rapid growth during warm weather followed by a sudden decrease in growth rate caused by quick changes in temperature. Bleached heads will be light yellow to white in appearance and are symptom of sterility and a lack of grain in the head, this may affect the entire head or only portions of the head. Light green florets were damaged by the freeze and will most likely become sterile and not produce any grain.
5) Whatever happens with the cold weather there is nothing we can do to reverse or prevent any of this damage. The good news is that wheat and other small grains are winter plants in Georgia and can generally withstand slight freezing temperatures for a short period of time with a full recovery.

Here's a photo I took this week of some oats grown for grain that the cold may affect, they are in the boot stage , just beginning to head out.

Here’s some corn this Thursday morning, March 10th that was planted March 1 in Seminole County, coming up good and cold may burn back the top but the growing point is in the warm soil so it will bounce back quickly.

Row Crop Disease 3-7 (Bob Kemerait)

I've talked a lot about La Niña this winter. During a La Niña winter, conditions are predicted to be warmer and drier than on average and this has been the case, at least warmer, along the Coastal Plain. (For once I got it right.) Warm soil temperatures now could make nematodes more of a problem going into 2022, especially if there is a food source. Root-knot nematodes can feed on wheat, legume cover crops, some weed species, and cotton stubble/roots that survived the winter. Growers should be especially prepared to fight nematodes this season on all crops. You get one chance...

Though current temperatures may have growers thinking about putting seed in the ground, especially corn seed, they have got to be careful and anticipate the possibility for unfavorable conditions ahead, as is exactly the case later this week when we are predicted to receive much needed rain, but also much colder temperatures. Cold rain + cold soils = perfect conditions for seed rot and seedlings diseases. Growers must choose planting dates carefully.

With the rising cost of fertilizer, corn growers could be tempted to cut corners on nematode and disease management in 2022. "Bob sure likes to tell us how to spend our money. I'm not sure he knows what he is talking about. Sometimes I'm sure he doesn't, other times I'm just pretty sure.." Failure to protect against nematodes attacking corn in my trials has cost growers up to 60 by/A, maybe more. In a bad rust year, failure to use a fungicide has cost growers 90 bu/A. Yes, these are extreme examples and the yield protected by some growers may be more modest. But the opportunity is there. And then it is gone.

Row Crop Disease 3-9 (Bob Kemerait)

Caution is the Better Part of Valor

After several weeks of unseasonably warm and often dry weather, the rains and cold weather are back for the rest of the week. From a disease management standpoint, the "teachable moment" you have now with growers, at least some growers, is that they should be careful about getting in too big a hurry to plant. The kind of weather we have had has corn growers having to fight the urge to put seed in the ground; I know some already have. And I know at least one peanut farmer who has already planted a few acres for his green-peanut market. The cold in wet that is in the forecast will certainly be PERFECT for onset of seedling diseases and other problems.

Despite the weather over the next few days, the La Nina winter (warm and direr) has certainly set the stage for increased problems with nematodes in our corn, cotton, peanuts, and soybeans, at least on the Coastal Plain. Growers need to anticipate this and recognize that variety selection, crop rotation, and use of nematicides at the beginning of the season are their only tools for what can make for a very long cropping season.

With cost of fertilizer and diesel and everything else, growers may hesitate to put a nematicide under their field corn. This could be a tactical error. Our field corn is attacked by root-knot, sting, and stubby-root nematodes in Georgia and we do not have resistant varieties to manage them with. Growers CAN use Counter 20G (5-6 lb/A and DO NOT use ALS herbicides with Counter), Propulse (8 fl oz/A) and Velum (3.0 fl oz/A). DO not mix a starter fertilizer with Velum or Propulse. Growers can also use Telone II (3 gal/A) if they wanted to. From my research, protecting corn against nematodes with these nematicides increases yields from not treating by 10 to 60 bu/A, depending on type of nematode and choice of nematicide.

There is a "nematicide" product called "Overland" from the company Vive out of Canada. Overalnd is a liquid formulation with abamectin as the active ingredient. It is being marketed to our corn growers as 1) an answer to managing nematodes and 2) that it can be mixed with starter fertilizers. I have one year of data on the product. Yes, we were able to mix it successfully with fertilizers, to include Riser, and in one test (one test...) it did improve yield over the untreated. But the yield increase was not what the yields were for Velum or Counter 20G. Bottom line- growers can use Overland as it is labeled, but my recommendation is that if a grower needs to fight nematodes in a corn crop, go with a product we know is likely to protect roots and yield.

Xyway LRF fungicide (flutriafol) is marketed by FMC is a "fungicide applied at planting time that provides season-long control of diseases like northern and southern corn leaf blights and grey leaf spot". NOTE a BIG difference in application methodology in 2022 from 2021. Xyway LRF is NOT to be placed in-furrow in contact with the seed; rather it to be placed in a 2 X 2 pattern beside the furrow. Direct contact with the seed by Xyway can slow emergence. the 2 X 2 pattern fixes this issue.

I have no doubt the fungicide flutriafol in the Xyway is a good fungicide. My question is simply "Do our corn growers need flutriafol at-plant?" Yes, it is convenient. But does it really last season long? Maybe. And how many growers ever spray for northern or southern corn leaf blights or gray leaf spot? Granted, some growers do, or at least need to. Could these growers wait to apply a fungicide at V8 to V10 with a ground rig if they NEED it?

Bottom line on Xyway LRF- could be a good option, could be but the research continues, for growers who a) plant susceptible varieties, and/or growers planting corn behind corn. Could be...

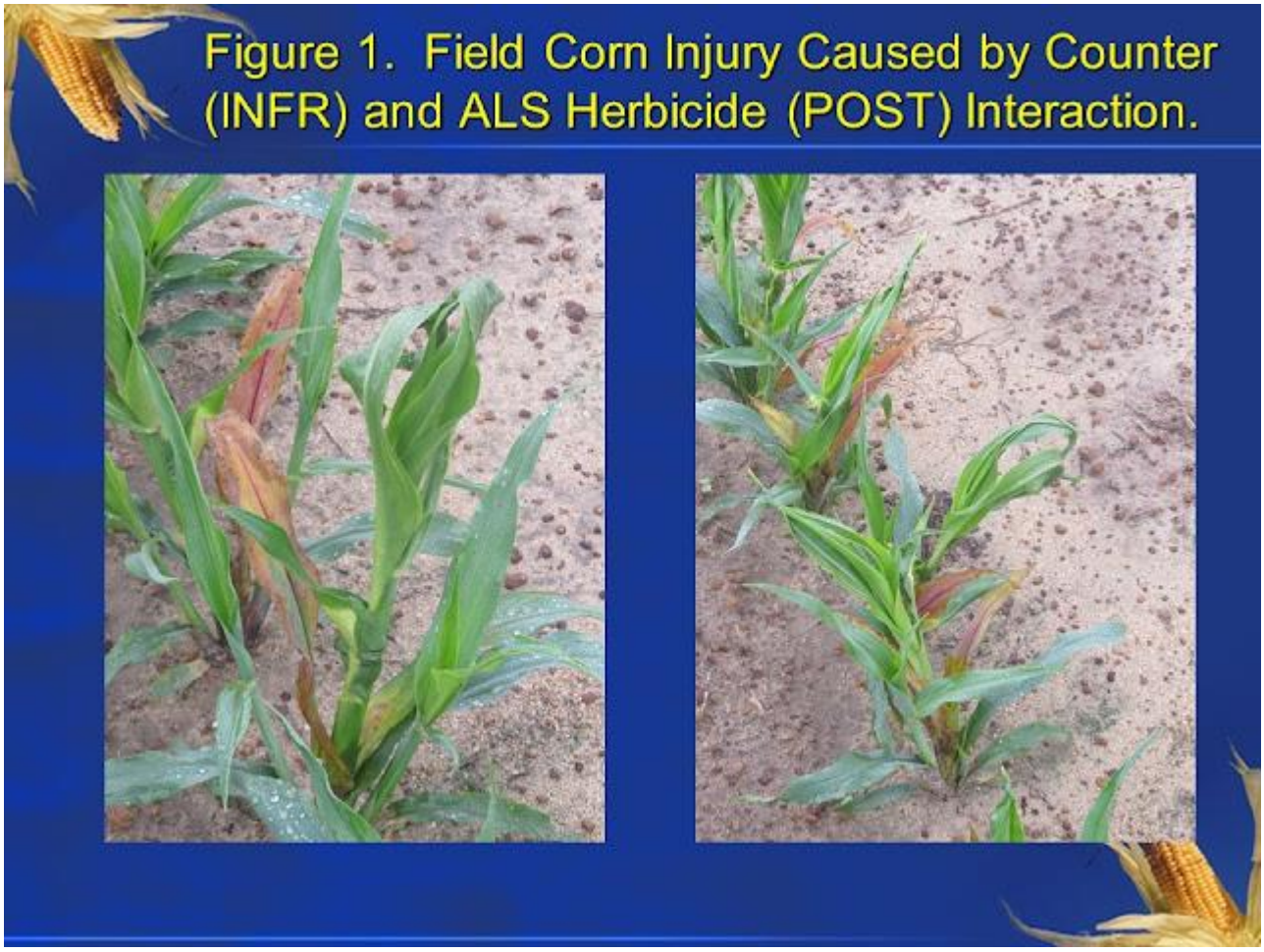
Counter (terbufos) and Herbicide Reminders (Prostko)

Since we have so many new folks on our UGA Extension team, here is a quick follow-up to Dr. Bob K's earlier e-mail about the use (*or not*) of Counter with certain herbicides in field corn:

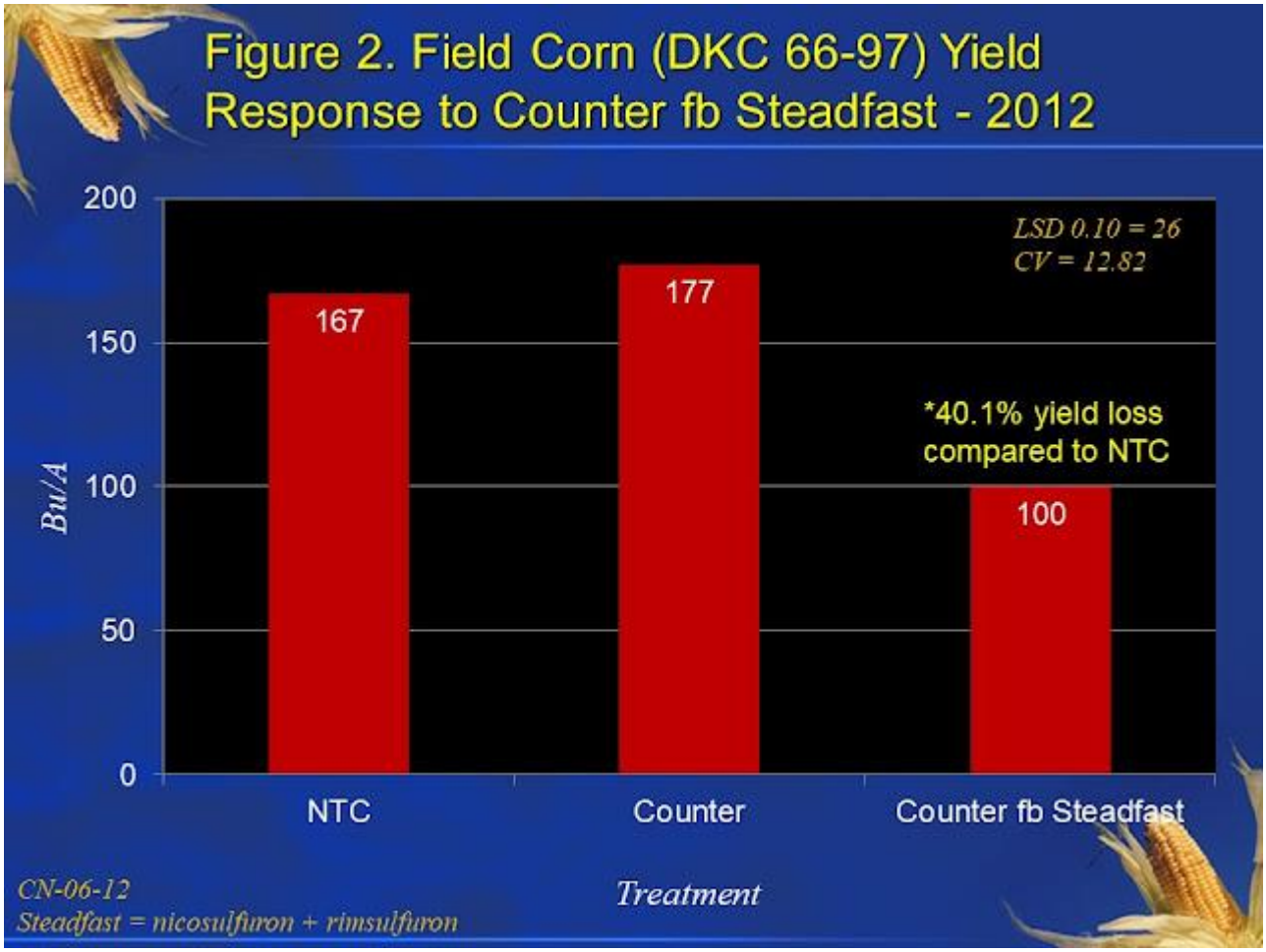
1) Why is it a bad idea to apply certain herbicides, particularly ALS herbicides and some HPPD herbicides, following an in-furrow (INFR) application of Counter in field corn?

Both the insecticide and the herbicide are metabolized (i.e. broken down into non-lethal compounds) by the mixed function oxidase enzyme (MFO) system. Simply put then, the use of both products overloads the field corn plant's ability to metabolize the chemicals.

2) What does corn injury from this negative interaction look like?



3) How much can corn yields be reduced?



4) Where can I get more info about herbicides that can or cannot be used following an INFR application of Counter?

a) Check out the the following information from AMVAC:

https://www.amvac.com/sites/default/files/_media/product/document/2022_Counter_Tech_Sheet.pdf

b) You should also be able find this information in 2022 Georgia Pest Control Handbook:

https://extension.uga.edu/content/dam/extension/programs-and-services/integrated-pest-management/documents/handbooks/2022-comm-chapters/Corn.pdf

2022 Pecan Spray Guides and County meeting presentations now available on UGA Pecan Website (Lenny Wells)

The 2022 Pecan spray guides are available on the UGA Pecan website or directly at: https://secure.caes.uga.edu/extension/publications/files/pdf/B%20841_11.PDF

Presentations given by Andrew, Jason, and myself at the 2022 county production meetings are available here:

https://pecans.uga.edu/resources/presentations/county-meetings.html

Freezing Temperatures On The Way: What does this mean for pecans? (Lenny Wells)

After a couple of weeks of 80 degree temperatures we are facing low temperatures in the mid 20s this weekend. Forecasts call for temps anywhere from 25 degrees to 28 degrees from middle Georgia down to Valdosta. Temps further north in the Athens area may get down to 23 degrees. What does this mean for pecan trees?

The good news is that we have not seen much bud break yet. We only see a very small percentage of buds even swelling at this point. I have had a few photos sent my way of some buds just beginning to break. The first sign that pecan buds are beginning to expand is a bud stage that is termed outer scale split. This stage is characterized by the outer covering (or scale) that surrounds a dormant bud splitting open when the bud inside starts to expand. Eventually the outer scale is pushed off the end of the bud to reveal a tight green bud underneath. ***Dormant pecan buds can easily handle 24 degrees but green pecan tissues freeze at around 26 degrees.*** On most trees, pecan bud development has not yet advanced to a stage that I would be overly concerned about.

If you have buds that have started to elongate, especially if they have pushed the outer scale off completely, even if the green buds are still somewhat compressed tightly, they could still be at risk of damage if temps get down to 26 degrees. But we haven't seen many trees at this stage yet.

The only trees I have seen with foliage expansion to date are trees in nurseries. Usually these are the first to break bud. Seedlings usually start first and then some early grafted varieties begin.

Whether its in the orchard or nursery, any foliage that has expanded will likely take a hit if we see temps in the 26-28 degree range for a few hours. Fortunately as I said, we havent seen much expanded foliage yet and much of what we have seen has been on nursery trees or newly planted trees. Even if you have foliage expanding in this situation and it gets killed by the freeze, that foliage will regrow as long as the wood is not damaged.

Damage to the pecan wood is of some concern for nursery trees and moreso for newly planted orchard trees and those in the 1-3 yr old range. The most common injury on such trees occurs when the sun
warms tree bark during the day and then the bark rapidly cools after sunset. These abrupt fluctuations
are most common on south or southwest sides of trunks and branches, and they may kill the inner bark
in those areas. Young and/or thin-barked trees are most susceptible to this type of injury especially as the sap begins to flow. Injury may not be visible initially and often shows up a few days to weeks later and will be detected by a browning of the cambium layer as you cut into the bark of the tree. Healthy cambium tissue will appear green. Sometimes the injured area of the trunk takes on a sunken or water soaked appearance. Trunk protectors will help minimize this type of injury on young orchard trees.

Rapid expansion and contraction of water within the wood and bark, particularly under falling night temperatures, can also sometimes result in cracks that may appear on trunks of young trees and also on the branches of older trees. These may be a few inches long and are often found on the southwest side of the tree. These cracks may heal over a little in the summer and can re-open again in winter.

When we have freeze injury to young trees, it sometimes is not detected for a considerable length of time, sometimes 2-3 years, as there is often enough healthy cambium to keep the trees going to a point and then they outgrow the cambium they have left, which can no longer support them, causing the trees to collapse. When this occurs the foliage usually turns brown and the tree may die suddenly. This usually shows up in May or June as the heat and water demand ramp up.

Overall, I expect damage to be minimal , if any to mature pecan trees. We will likely see some injury to young (newly planted-3 yr) trees in some areas if temperatures drop as low as we see forecast and they remain there for several hours.

Ambrosia Beetle Update

Feb 25, 2022 | Written by Andrew Sawyer

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I've talked to growers from Fort Valley, Hancock County to South Georgia who have identified Ambrosia beetles being very active this wee. Once we have consistent warm days, the adults start flying. **If you have had problems with this pest before OR if you have newly planted trees, it is likely a good idea to begin spraying the trunks of young (1-3 yr old) trees with a pyrethroid like Bifenthrin.** Due to the number of beetles captured inside trunk protectors, **make sure to remove the protectors before spraying OR spray down into the tube**, being sure to coat the trunk as best you can.

Control

The last two years, former entomologist Dr. Angel Acebes organized research on ambrosia beetle control. Initially, we were looking at painting the trunks of trees compared to spraying a pyrethroid. I managed one of the locations in 2020, and that year we found the best control was both 1) spraying pyrethroid right after painting the trunk with white latex paint and/or 2) spraying pyrethroid onto the trunk once a week. This experiment was conducted again in 2021 where spraying pyrethroid was better than everything else.

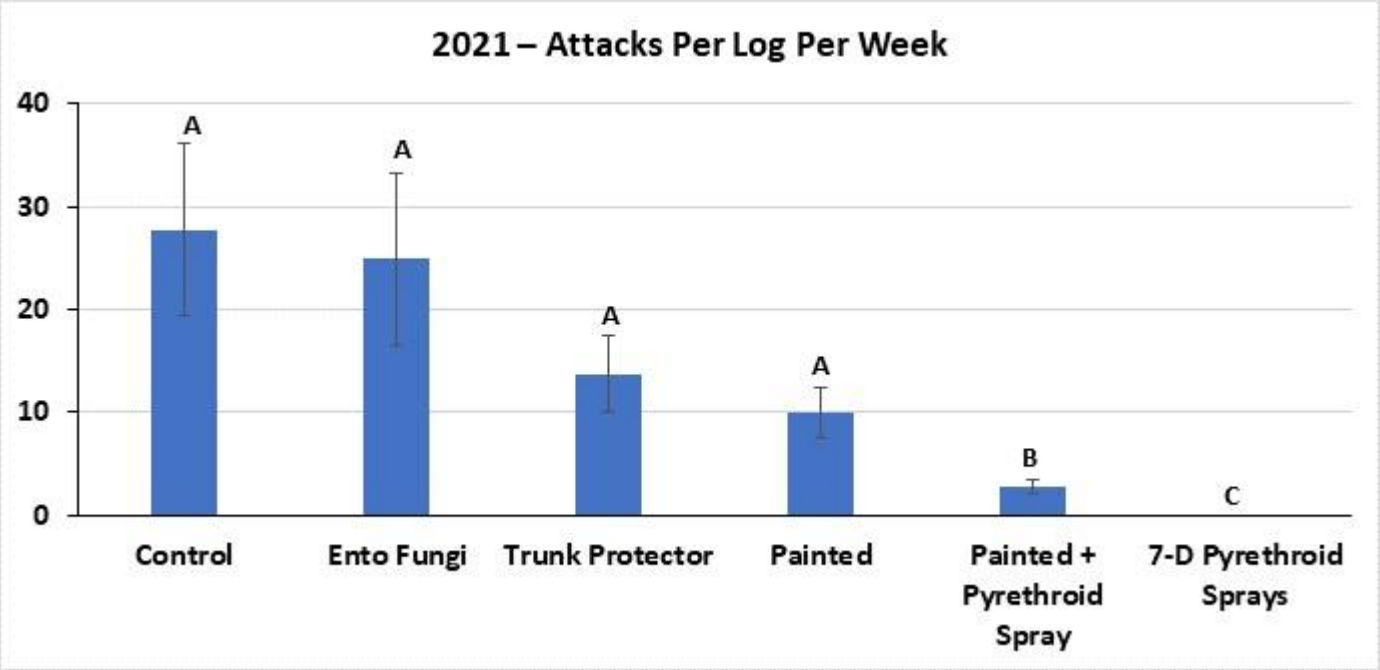

Table 1

Table 1: The control logs, Entomopathogenic fungi, trunk protectors and painted only logs were statistically all the same. Spraying pyrethroid every week was better than the paint with the pyrethroid together.

Considerations and Plan for Management

- Pay close attention to newly planted trees through 3 years of age.
- Trees closest to the wooded areas (maybe three rows in).
- Set Ambrosia Beetle traps. Even though beetles are now flying does not mean your orchard will have high numbers. It also allows you to concentrate on the area of the orchard beetles are active
- Scout for small holes or 'toothpicks' / sawdust from the logs. There are many species of ambrosia beetles and other small beetles, but this species leaves behind the sawdust. If you spray following beetle attacks on your trees, you can save your trees. Tree death is associated with how many beetles attack the tree versus the tree size.
- Hand sprayer and/or shotgun approach is the best method of control. Once beetle activity is confirmed, scout your trees. 1 oz of a pyrethroid in 10 gallons of water is sufficient. Because attacks occur down in the tree guards, you must spray into the tree guards.
- Spray every 10 days to 2 weeks. A pyrethroid has residual for a short time. If it rains following an application, consider the insecticide no longer active.
- Monitor traps now through May (below). This species of ambrosia beetle is not very active once we reach summer.

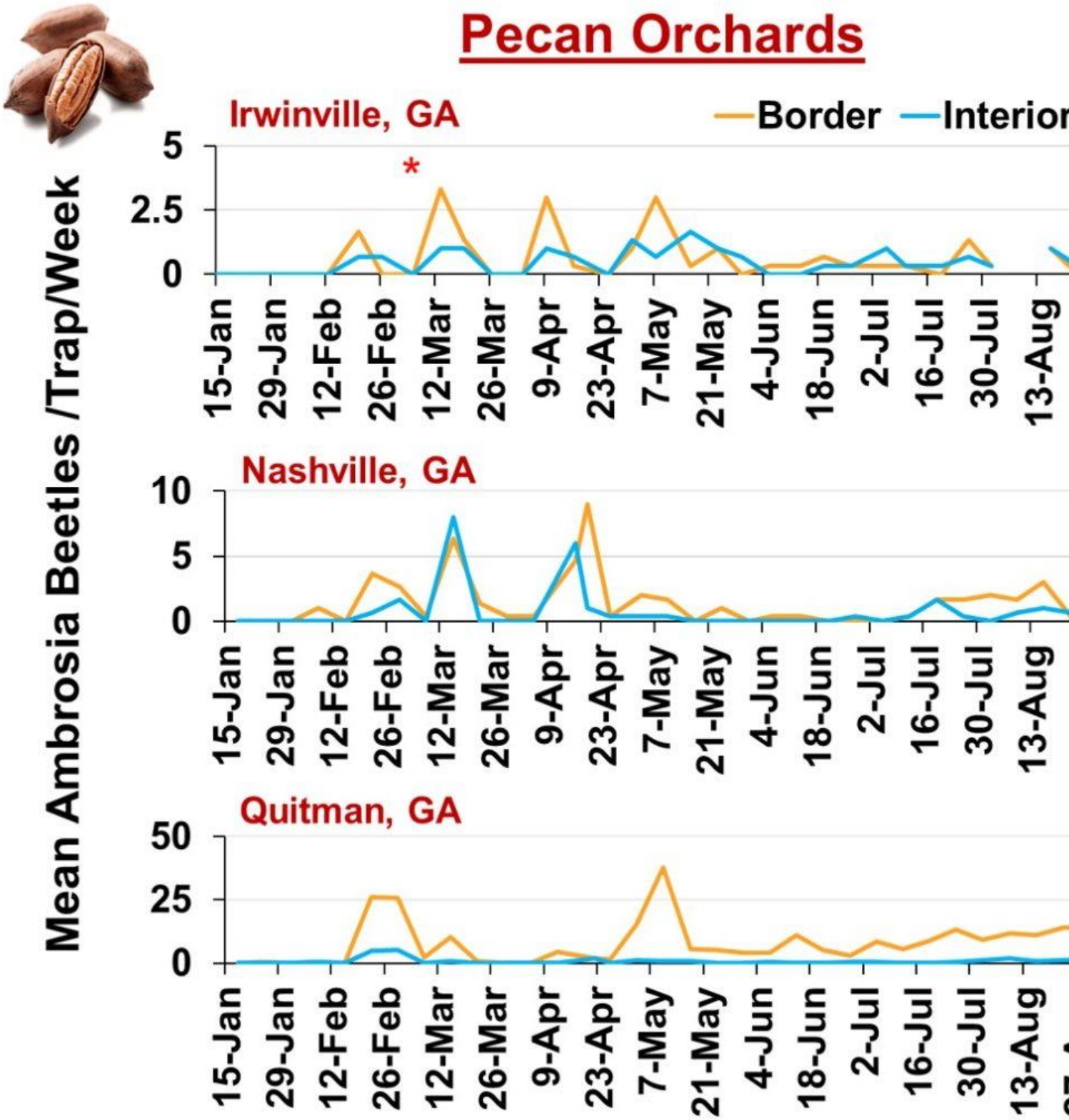

Table 2

Table 2. Trapping reveals flights of adult beetles beginning early spring, generally followed by a flight in late spring before they cease.

Figure 1. ‘Toothpicks’ from ambrosia beetle on pecan tree on March 3rd in Ware County. This tree is three years old. At this location, beetles have attacked 5-year-old trees. Locations vary.

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