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Freeze damage on corn

Corn is relatively resistant to freezes while it is in the spike and 2-3 leaf stage. The growing point stays below the soil surface until corn gets to about 12 inches tall.

However, a freeze can lay plants over that are 8 -10 inches tall and the growing point cannot grow through the bent over plant. Young corn can take some light frosts without damage.

Young corn strip tilled into bahiagrass that had a frost on the morning of the picture

Photo by David Wright

Carinata as an oilseed crop

Brassica carinata, also known as Ethiopian mustard, is a drought and heat tolerant oilseed crop that has potential as a winter oilseed crop in the Southeast. Preliminary data from Florida shows that it can be planted in Oct.-early Dec. and produce a good yield leaving time to grow a summer crop of peanut, cotton, soybean, etc. Our research has focused on finding cultivars that mature in time for an April harvest allowing time for summer crop planting while producing a yield of 3000 lbs/A. While we have not produced that high of yield yet, we expect to find management techniques and varieties that fit these criteria.

Ongoing studies include treatments of N rate, planting date, fungicide treatments and evaluation of lines for seed yield, oil and vigor. Oil content (40-42%) is roughly twice that of soybean and can be grown in winter months on our off season row crop land which is usually the most fertile fields that are subject to leaching of nutrients into ground water.

Evaluation of carinata lines at NFREC in Quincy in late March 2013.

Photo by David Wright
Bahiagrass Seed Questions

Many factors affect the potential of the seed to produce a healthy and full stand. Certified seed production are labeled with tags that provide the needed information such as germination, purity, inert matter. These terms are described below.

Q: How is bahiagrass seed tested?

Officially this is done using Petri dishes (with bloat paper, same as kitchen towels) placed in seed germinators with: a) humidity set to greater than 90% and b) alternating conditions of temperature. What this translates to is the following: during 10 hrs. (and no light) the temperature is set to 68°F (20°C), then temperature is switch to a higher setting, 95°F (35°C) for 14 hrs. (with light). As you do your math, this adds to 24 hr. cycle of the alternating conditions. The test is conducted for 28 days for Pensacola bahiagrass, and only 21 days for Argentine.

Q: What is light seed?

Light seed refers to the inert (dead) material in your sample. That inert seed material is the part of the seed called ‘glumes’. In other words, it is the shell that encases the cariopsis (true seed in grasses). It is usually 3-5% for Pensacola, and higher for Argentine (20%).

Inert matter refers to percentage of sticks, stem, broken seed, sand, or other similar non-live material mixed with the seed.

Q: What is Germination and what is purity?

Germination is the percentage of the seed that has the potential to produce healthy plants when adequate growing conditions are provided. Purity is the percentage of the seed that is of the variety and specie indicated on the label.

Q: What is acceptable Purity and Germination for bahiagrass?

Purity: For Pensacola and Tifton 9, 95-98%; for Argentine, 80% with light seed making the rest

Germination: For Pensacola, 50-60%; for Tifton 9, 60-70%; for Argentine, 85-90%

Q: What is the Temperature and Humidity for storing grass seed?

Storage in Florida is difficult, mainly because of the high relative humidity and higher temperatures compared to most other southern states.

In terms of Humidity, you should not go higher than 50% relative humidity. In terms of Temperature, 50°F is the ideal, you don’t want the temperature to go much higher but 60°F is acceptable.
**Rye straw**

Rye is the most cold tolerant of the small grains, and in Florida it is used in pastures for winter grazing for cow/calf and stocker cattle operations, wildlife plots, cover crops, seed for fall planting, or wind barrier to protect vegetable crops like tomatoes.

As we enter the spring most fields overseeded to rye are given way to the perennial warm-seasons bahia and bermudagrass. If used for forage the season is almost over. If grown as cover crop or seed, rye can be harvested and threshed with a combine. At this point in the year the crop is likely at a mature stage and the straw typical nutrient composition is approx. 3% CP and 44% TDN. The straw is baled mainly for bedding or mulch, and preferred over oat bedding because the horses will not be inclined to eat as they will oat straw.

Forages

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**Fall panicum control in sugarcane**

Fall panicum has started actively growing in sugarcane following recent rainfall and rising temperatures in south Florida. Many growers have begun to make herbicide applications on plant and stubble cane mainly for control of fall panicum and some broadleaf weeds. Actively growing fall panicum must be controlled early before they negatively impact sugarcane growth and development. Metribuzin applied early postemergence at up to 1.3 pounds/acre will provide control of fall panicum less than 2 inches in height mainly in stubble cane. Broadcast or directed application of Asulox (Asulam) at 6 to 8 pints/acre in sugarcane at least 14 inches and actively growing fall panicum 6 to 8 inches tall will provide effective control. Envoke at 0.3 ounces/acre will provide control of fall panicum less than 6 inches tall. Addition of a non-ionic surfactant at 0.25% v/v is recommended for both herbicides. Larger fall panicum (<12 inches) can be controlled using a tank-mix of Asulox (up to 8 pints/acre) and Envoke (0.3 ounces/acre) along with non-ionic surfactant at 0.25% v/v. However, this tank-mix is typically “hot” and causes substantial injury to cane especially during drier periods with high temperatures. It is important to note that timely control of fall panicum must be adhered to minimize negative effect of fall panicum on cane and injury from hot herbicide tank-mixes. Growers should avoid waiting for fall panicum to be “big enough” before control measures. Always consider the cost of delayed fall panicum control. Fall panicum not controlled in a timely manner will compete with cane in addition to replenishing the soil seed bank with seeds which become a source of re-infestation in subsequent years. Broadleaf weeds present in cane fields can be controlled with 2,4-D at 1.5 to 2 pints/acre or with a tank-mix of Atrazine (1 pint/acre) and Callisto (3 fluid ounces/acre).
Apply the Correct Amount – Check Sprayer Calibration

Studies have shown that pesticides are often applied at rates the pesticide applicator does not intend. If, however, too little pesticide is applied, the pest may not be controlled as intended. Sometimes it's possible to repeat the application. In other cases, a repeat application may cause an overdose. Using more product than label directions recommend is illegal and will not control pests more effectively, but will potentially leave harmful residues. Either scenario is expensive.

There is more than one method to calibrate a sprayer – it doesn’t matter which, as long as the applicator chooses one with which they’re comfortable. One of the most straightforward is the 1/128th of an acre method. Sprayer output is most commonly referred to in terms of gallons-per-acre (GPA). Determining GPA consists of two basic principles – amount of area covered by the sprayer in a given amount of time and amount of output from an average nozzle on the sprayer's boom. The following steps describe how a broadcast boom sprayer can be calibrated by collecting the liquid delivered from the average nozzle that is applying to 1/128th of an acre. Using this method, the number of ounces of liquid collected from the average nozzle will be equal to the number of gallons the sprayer's boom will apply to one acre; thus, the name “1/128th of an acre method.”

The steps you can take for the process:

1. Check the uniformity of output from the nozzles along the boom by operating the sprayer and collecting the liquid with graduated measuring containers for a pre-determined time. A general rule-of-thumb is that any nozzle that varies by ±10% be cleaned and/or replaced.

2. Determine swath-width-per-nozzle (in feet) as follows:
   Nozzle spacing in inches ÷ 12 = swath width in feet

3. Since 1/128th of an acre = 340 ft², calculate the distance needed by your boom's nozzle spacing to make a test run that will treat 1/128th of an acre. For the example, let’s use a nozzle spacing of 18 inches (1.5 feet).
   
   340 ft² ÷ 1.5 ft = 227 ft

4. Select a place with enough room for your equipment to make a “rolling-start” approach at operating speed. Based on the calculation in the previous step, measure a distance of 227 ft. Use flags, stakes, or some markers to clearly mark the beginning and end of the test-run area.

5. Choose a gear setting, engine speed and pump pressure. Record these values for future reference.

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6. Fill the sprayer's tank with clean water, then approach the test-run area at operating speed with the boom shut-off valve open (sprayer putting out clean water).

7. Using a stopwatch or a watch with a second hand, begin timing the moment you enter the test-run area. As precisely as possible, stop timing when you pass the end flag of the test-run area. It's easier to have a second person conduct the timing.

8. Record the number of seconds elapsed during the test run. If there is any doubt about the time, repeat until you are confident of an accurate time.

9. Park the sprayer and set the brake, but keep the engine rpm at the same setting used on the test course. Continue to run the pump and keep the boom shut-off valve open, so the sprayer is still putting out clean water.

10. From the nozzle-uniformity check, select a nozzle whose output closely represents the average calculated for all nozzles on the boom. This calibration nozzle will serve as a good indicator of overall boom performance.

11. For the same amount of time as it took to drive the test course, collect the spray output (water) from the calibration nozzle with a graduated container marked in fluid ounces. Record the number of fluid ounces collected from the calibration nozzle during the test time.

12. Interpret the results of your calibration nozzle's output based on the number of fluid ounces of water collected from the calibration nozzle during the test time. This number indicates the GPA being applied by the boom sprayer. For example if you caught 20 fluid ounces, then operating the sprayer at the selected settings will apply 20 GPA. Likewise, collecting 47.2 ounces would mean an equivalent GPA of 47.2.

Calendar of Events

To follow the link, press “Ctrl” and put cursor over link, and “click.”

Apr 17 Certified Crop Advisor Workshop, Lake Alfred, FL (available by video conference) http://www.crec.ifas.ufl.edu/crec_websites/cca/

Apr 22-24 Southern Pasture and Forage Crop Improvement Conference Annual Meeting, Overton, TX http://agrilife.org/spfcic/

June 2-5 National Association of Plant Breeders Annual Meeting, Tampa, FL http://www.plantbreeding.org/napb/Meetings/pbccmeeting2013.html

June 12 – 14 43rd Annual Joint Meeting of the Florida and Louisiana Divisions of the American Society of Sugar Cane Technologists, Wyndham Bay Point Resort, Panama City, FL. http://www.asset.org/