

# Agronomy Notes

Volume 33:1

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### Calendar

Jan. 15

**Florida Cattleman's Institute and  
Allied Trade Show**  
Kissimmee, FL

Jan. 31 - Feb. 3

**SAAS and Southern Branch of ASA Meeting**  
Westin Peachtree Plaza Hotel, Atlanta, GA

April 4

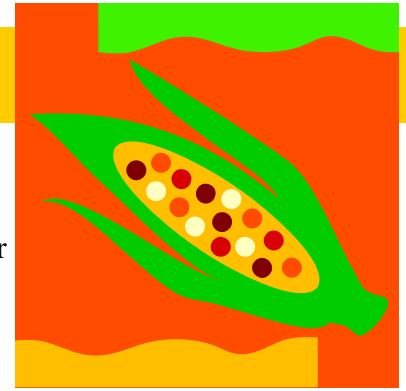
**Perennial Peanut Producer's Assoc. meeting**  
10am-Noon, Madison Cty Extension Office, FL

April 16

**Field Day, Ona Range Cattle REC**

## Corn for 2009

Seeds are costing more each year due to more technology involved for insect and herbicide resistance. Performance of corn varieties can be found on the [UGA website](#). There should be adequate seed of the better hybrids available for 2009. Disease has been one of the main limiting factors in silage production. If disease has been a limiting factor in either silage or grain production, consider planting earlier since disease epidemics increase on later plantings.



Study variety trial information carefully to determine what varieties fit best in your operation.

Dr. David Wright, Extension Agronomist

## Top Dressing Winter Grazing Crops and Grain

In most years growers will use liquid nitrogen to fertilize wheat and other winter annuals. If applied from mid January until mid February, herbicides may be mixed with fertilizer to control winter weeds. However, urea is cheaper this year than other N sources and the price is coming down along with the price of petroleum. Make sure that sulfur needs of the small grain are met when applying urea by adding ammonium sulfate. Most crops will need 25-30 lbs/A of sulfur and a total of 90-110 lbs N/A. If ryegrass is a part of the winter grazing program, additional N may be needed in late March since ryegrass will continue to grow until June.

Dr. David Wright, Extension Agronomist  
North Florida REC, Quincy, [wright@ufl.edu](mailto:wright@ufl.edu)

## Winter Hay Feeding and Hay Sampling

The decision whether to use hay (grazing versus haying) or how to select the best hay available should be based on forage quality. Knowing the quality of your hay will help in making the appropriate selection of hay and supplements that will match animal requirements and result in economically optimum livestock performance. How do I know the quality of my hay? If you put your hay up, you know with a relatively small error how good or how bad the bales are, mainly because you know how mature the forage was when harvested. But if having to buy hay the issue is not so simple. The sure way to know is to acquire the hay from a trust worthy grower, or to hay test. What are the steps? Identify your lot (representing a single cutting, a field, a variety, and a quantity of no more than 200 tons). Don't mix cuttings or fields. Next, use a probe (sharp cutting device 3/8 to 3/4 in) and try not to submit flakes or handfuls (grab samples). Sample at random to represent all areas of a stack and choose bales at random.

The proper sampling technique calls for sampling butt ends of bales between string or wires, inserting the probe at a 90° angle. If testing round bales, sample the middle. Place your sample in a zip-lock bag, make sure that is not exposed to heat, and mail to the lab. You can check a listing of labs at the Forages of Florida website:

<http://agronomy.ifas.ufl.edu/ForagesofFlorida/testinglabs.php>

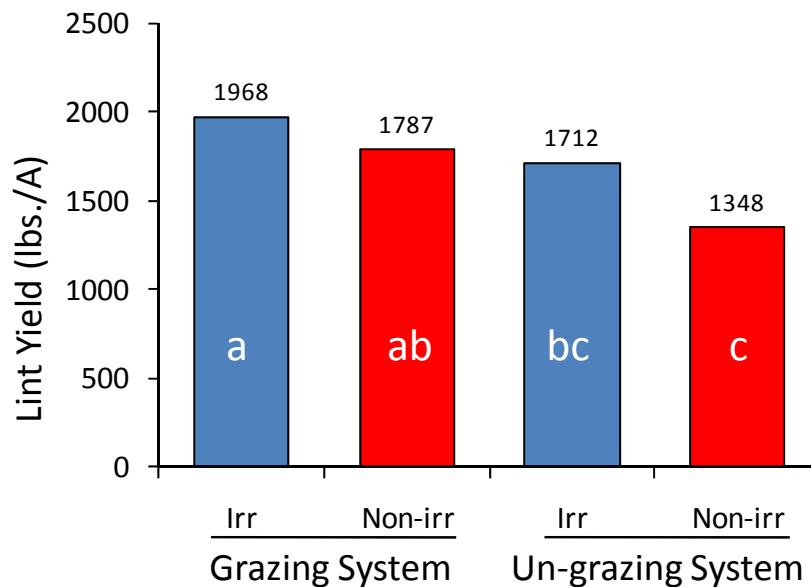
Dr. Yoana Newman, Extension Forage Specialist, [ycnew@ufl.edu](mailto:ycnew@ufl.edu)

# Cattle Impacts on Top-soil Used for Cotton Crop

“What impact do cattle have on the following crop”, this is a question often asked on farms where year round utilization of land resources are used. Our data indicate that cattle do compact the top 4-6” of the topsoil with little impact below that. However, when most cotton is planted in strip-till with little soil disturbance, growers become concerned. Our data shows that cattle increase final yield of cotton due mostly to N cycling. Plants have higher nitrate content throughout the season when cattle is allowed to graze the area prior to cotton planting as opposed to not allowing them to graze (even though there may be other factors involved). The figure below shows the impacts of cattle and grazing, with and without irrigation. Cattle had a more favorable impact on cotton yield in both 2007 and 2008 than irrigation did and should be considered if cattle are part of the farm.

Dr. David Wright, Extension Agronomist  
North Florida REC, Quincy, wright@ufl.edu

## Cotton Yield Response to Irrigation and Grazing (2008 Marianna)



“Agronomy Notes” is prepared by: J.M. Bennett, Chairman and Yoana Newman, Extension Forage Specialist (ycnew@ufl.edu); J. Ferrell, Extension Weed Specialist (jferrell@ufl.edu); F.M. Fishel, Pesticide Coordinator (weeddr@ifas.ufl.edu); and D. Wright, Extension Agronomist (wright@ufl.edu). Designed by Cynthia Hight (chight@ufl.edu.) The use of trade names does not constitute a guarantee or warrant of products named and does not signify approval to the exclusion of similar products.

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# Should I Consider Conventional Cotton?

With the increasing price of fertilizer and new “trait” fees, some cotton producers are wondering if conventional cotton can be worthwhile. Here are some things to consider if you are thinking about conventional cotton.

## *Book your seed early.*

Roundup Ready (RR) cotton is currently being planted on nearly 100% of the acres in Florida and few seed dealers will carry non-RR seed. Generally speaking, cotton producers will generally request non-RR varieties, but about 90% of it is finally declined at the local stores and is shipped back to the company at their expense. Therefore, little has been offered in recent years. Regardless, there are some good non-RR varieties out there, but you will have to find them. Start now to ensure that you have an adequate supply of seed.

## *Two preemergence herbicides are essential.*

We recommend using a yellow herbicide (Prowl or Treflan) for grass and Cotoran for broadleaf weeds at planting. These herbicides are not essential in most Roundup Ready fields, but their benefit will become very clear if Roundup is not an option.

## *Target small weeds.*

Roundup has given us the unique ability to completely control large weeds. All other herbicides will fail if we spray large weeds. It is essential that we target weeds in the 2 to 4 inch range. If we target small weeds, you will get outstanding control from almost all postemergence herbicides.

## *A directed application of MSMA + Direx will probably be essential.*

Directed applications have slowly disappeared with the wide acceptance of DPL 555. DPL 555 grows so fast that the second Roundup application at 5-leaf is often sufficient to carry the crop until canopy closure. Most other cotton varieties do not have this same growth pattern and a mid-season herbicide application will likely be required. Since the yellow herbicides have faded away by this time, annual grasses will be likely. MSMA+ Direx will be the least expensive and most effective means of controlling grass and broadleaf weeds.

## *What about Bt?*

Bt and RR traits have been coupled for so long, we consider them as one in the same. But, if you opt for a conventional variety with no Bt, be prepared for all the insecticide sprays that will be required. I would suggest that if you choose a non-RR variety, that you find one that has Bt.

Using a non-RR cotton can be highly successful and profitable. However, it is essential that preplanning take place. There are several good herbicides for use in cotton, but none offer the flexibility of Roundup. Therefore, having a good plan and being proactive with respect to weed management is the recipe for success with non-RR cotton varieties.

Dr. Jason Ferrell, Extension Weed Specialist  
jferrell@ufl.edu

Dr. David Wright, Extension Agronomist  
North Florida REC, Quincy, wright@ufl.edu

# Sprayer Cleanout to Avoid Crop Injury

When the sprayer is going to be put away for the offseason, take time to properly clean it out to avoid injury to the following crop. Postemergence weed control and use of herbicides that are active at low application rates, places a premium on proper cleaning and maintenance of sprayers to avoid injury to nontarget crop species. The issue has taken on added importance as broad-spectrum herbicides such as glyphosate use has become a standard practice. Postemergence applications sprayed directly on the crop foliage will generally have greater potential for crop injury than will soil applications. Serious crop injury can result from small amounts of herbicides remaining in the sprayer system. Crop injury from sprayer contamination can occur up to several months after using the sprayer if it has not been cleaned properly. Injury from sprayer contamination can affect crop growth and development for several weeks after application and in severe cases can reduce crop yields.



*Organo-auxin herbicide injury to cotton and peanut.*  
Photo: F. Fishel



Ideally, sprayers used to apply herbicides, especially glyphosate and organo-auxins, should not be used for applications to sensitive crops. For various reasons, however, that's not always possible. To clean a sprayer that was used to apply non-organo-auxin herbicides unless the label specifies a different cleanout procedure:

- 1 Add one-half tank of fresh water and flush tanks, lines, booms and nozzles for at least 5 minutes using a combination of agitation and spraying. Rinsate (or pesticide-containing water) sprayed through the booms is best sprayed onto a labeled site to avoid accumulation of pesticide-contaminated rinsate. Thoroughly rinse the inside surfaces of the tank, paying particular attention to the surfaces around the tank fill access, baffles and tank plumbing fixtures. The use of a 360-degree nozzle, such as the TeeJet Model 55270 tank rinsing nozzle, thoroughly cleans the tops and sides of tanks. Several nozzles may need to be carefully positioned to clean tanks with baffles. Pressure sprayers are useful for removing caked on internal and external residues. Hot water can increase penetration of dried residues, but the addition of hot water rinsing may cause unacceptable health hazards due to the vapors produced. Carefully review labeled safety precautions for the agrichemicals and cleaning products used.

2. Fill the tank with fresh water and add a cleaning solution and agitate the mix for 15 minutes. Add one of the following to each 50 gallons of water to make a cleaning solution:

- ⇒ 2 quarts of household ammonia. Let stand in sprayer overnight for organo-auxin herbicides
- ⇒ 4 pounds of trisodium phosphate cleaner detergent.

Operate the spray booms long enough to ensure that all nozzles and boom lines are filled with the cleaning solution. Let the solution stand in the system for several hours, preferably overnight. Agitate and spray the solution onto an area suitable for the rinsate solution.

3. Add more water and rinse the system again by using a combination of agitation and spraying. Remove nozzles, screens, and strainers and clean separately in a bucket of cleaning agent and water.
4. Rinse and flush the system once again with clean water.

To clean a sprayer that was used to apply organo-auxin herbicides (includes 2,4-D, dicamba, and triclopyr) unless the label specifies a different cleanout procedure:

Thoroughly hose down the inside and outside surfaces of equipment while filling the tank half full of water. Flush by operating sprayer until all rinse water is removed from the system.

Fill tank with water while adding 1 quart of household ammonia for every 25 gallons of water. Operate the pump to circulate the ammonia solution through the sprayer system for 15 to 20 minutes and discharge a small amount of the ammonia through the boom and nozzles. Let the solution stand for several hours, preferably overnight.

Flush the solution out of the spray tank through the boom.

Remove the nozzles and screens and flush the system with two full tanks of water.

### *Special Notes:*

- Chlorine bleach should never be added to ammonia or liquid fertilizers containing ammonia because the two materials react to form toxic chlorine gas, which can cause eye, nose, throat, and lung irritation.
- Fuel oil or kerosene is effective for removing oil-soluble herbicides such as esters and emulsifiable concentrates. The fuel oil or kerosene should be followed by a detergent rinse to remove the oily residue.

Dr. Fred Fishel, Pesticide Information Officer  
weeddr@ufl.edu

## *Fertilizer Placement*

For many years most fertilizer has been spread with a spreader truck in order to cover as many acres in a short period of time. Soil test recommendations are based on broadcast applications of fertilizer. With crops like wheat, which are often followed by soybean or peanut, all of the P and K may be broadcast prior to planting and the residual fertilizer is available for soybean or peanut. However, for crops like corn or cotton that often require high rates of P and K, it may pay to band fertilizer material. There may not be a yield increase vs. a broadcast application but P levels may be decreased as much as 50% and K levels by 33% without yield loss. Nitrogen rates should follow what is recommended since it is not based on soil tests. If large acreages of corn and cotton are planted, banding equipment can be paid for several times over in the first year. If growers try banding of P and K, they should split fields where part of the field follows conventional methods of fertilization to compare on their soil type and management. There is an advantage of applying minor elements near the row at planting so that these nutrients are exposed to less soil and remain available to the crop for a longer period of time.

Dr. David Wright, Extension Agronomist  
North Florida REC, Quincy  
wright@ufl.edu