Turn Rows

January 2014

Volume 8: Issue 1

A Newsletter Covering the Southern Piedmont Region of North Carolina

Topics:

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Union County Center, 3230-D Presson Rd. Monroe NC 28112, 704-283-3801

Agents are Available..NOW

As we start the new year, we agents want to reinforce to our producers that we are here at their disposal. USE US! Our ability to be an asset to you, the grower, relies on your willingness to have us come out and work with you. Right now we can assist growers in tissue sampling of wheat for increased accuracy on nitrogen applications, grid sampling on soil samples for increased accuracy on nutrient enhancements, variety selection on spring commodities based off county and statewide research trials and by attending winter grower and production meetings to gain knowledge on the upcoming seasons crops. These are just a few things that your county agent can help you with during this down time of the year. This is meeting season and we hope that you will all come out and attend these to benefit your operations. Also, agents will be holding winter pesticide classes that you can go ahead and get out the way before planting/harvesting time. The 2014 Joint Commodity Conference is this month, and The Southern Farm Show is in February. These are both great events to take advantage of at this time to check out new equipment, attend educational classes and see old friends. Be sure not to miss out!

Jessica Morgan

Extension Agent, Agriculture

NC State University
A&T State University
COOPERATIVE EXTENSION
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ADA Accommodation Statement

For accommodations for persons with disabilities, contact Andrew Baucom at 704-283-3739, no later than five business days before the event.

Weed Management in Wheat

Keith Walters---Hoke County

Overview
As soon as soil conditions/air temperatures allow, please manage ryegrass (if present and you have not already done so) and broadleaf weeds. For best results, herbicide applications should be made when air temperatures are above 50 degrees F and nighttime temperatures are above freezing. Why spray now (using water as the carrier)? Note optimum ryegrass and broadleaf weed sizes for satisfactory herbicide results. Treatment while ryegrass and broadleaf weeds are small results in better herbicide performance. Treatment while the wheat is small allows for better herbicide weed coverage. The winter annuals (ryegrass and broadleaf weeds) that compete most emerged last Fall. Flat-fan nozzle sprayers will result in better weed control than flood nozzle sprayers.

***Weed Identification and Management* Video**
For a 12-minute video featuring Dr. Wes Everman, NCSU Extension Weed Specialist, and Dr. Randy Weisz, NCSU Extension Small Grains Specialist please visit the following website on-line at:
http://www.smallgrains.ncsu.edu/weeds-video.html

Annual (Italian) Ryegrass Control
Axial XL, Osprey, and PowerFlex are labeled for post-emergence ryegrass control in wheat.

Axial XL - Group 1 herbicide (ACCase inhibitor)*
Ryegrass size - 1 to 5-leaf stages on main stem and prior to the 3rd tiller
Wheat size - 2-leaf to pre-boot stages
Adjuvant - not required
Rainfastness - 30 minutes
Tankmix partner - can be tankmixed with Harmony Extra SG

Osprey - Group 2 herbicide (ALS inhibitor)*
Ryegrass size - 1-leaf to 2-tiller stages
Wheat size - emergence to jointing stages
Other common grasses/weeds - also controls annual bluegrass (1-leaf to 2-tiller), wild mustard (1-2 inches), and wild radish (1-2 inches)
Adjuvant - 1) methylated seed oil (1 1/2 pints/acre) **or** 2) nonionic surfactant (2 quarts per 100 gallons of spray solution) and 30% UAN (1-2 quarts/acre)
Rainfastness - 4 hours
Tankmix partner - can be tankmixed with Harmony Extra SG
Rotational crop restriction - grain sorghum (10 months)

PowerFlex - Group 2 herbicide (ALS inhibitor)*
Ryegrass size - 2-leaf to 2-tiller stages
Wheat size - 3-leaf to jointing stages
Other common weeds - also controls chickweed (1-2 inches) and wild mustard (1-2 inches)
Adjuvant - nonionic surfactant (1-2 quarts per 100 gallons of spray solution)
Rainfastness - 4 hours
Tankmix partner - can be tankmixed with Harmony Extra SG

****Rotating Osprey or PowerFlex with Axial XL is a suggested ryegrass resistance management strategy****

Management Continued..

Broadleaf Weed Control
Harmony Extra SG provides post-emergence broad-spectrum broadleaf weed control.

Harmony Extra SG - Group 2 herbicide (ALS inhibitor)
Weed size - chickweed (1-4 inches), henbit (1-4 inches), wild mustard (1-4 inches), and wild radish (1-4 inches)
Wheat size - 2-leaf to just prior to visible flag leaf stages
Adjuvant - nonionic surfactant (1 quart per 100 gallons of spray solution)
Rainfastness - label reads "rainfall immediately after treatment can wash Harmony Extra SG off of weed foliage, resulting in reduced weed control"
Additional comments - For henbit, apply 0.75 - 0.9 ounce/acre. For wild radish, apply 0.6 - 0.9 ounce/acre.

Organic Production of Small Grains

--Advantages, Resources for Growers

Paige Burns---Richmond County

In 2004, North Carolina State University undertook the NC Organic Grain Project. The project goal was to support organic small grain production for interested growers, a production area with many challenges and rewards but relatively little research-based information specific to NC. Through the support of this program, interested growers could successfully grow and market organic grains for an expanding market in the state.

According to the NC State organic grains website, there are five large buyers of organic grains in North Carolina, and the value of grain used by those buyers exceeds 9 million dollars, most of which is currently grown outside of NC. Organic grain production is a potential growth area for NC growers. The organic industry across the US continues to grow, at almost 8% annual rate, and from 1990 to 2010, the organic food industry grew from 1 billion to almost 29 billion dollars in value. According to AgMRC, agricultural marketing resource center, North Carolina ranks fourth in the nation for organic broiler production, poultry representing the largest volume of organic meat sales in the country. USDA-ERS data concluded that between 2002 and 2005, certified organic farmland acreage in the US increased about 152% in response to strong consumer demand, including an increase of about 112% in acreage for livestock, and 126% for poultry. Organic poultry production, egg, dairy, or organic meats of any kind require certified organic feed, thus there is an increasing demand for organic corn, soybeans, and wheat in North Carolina. Prices for organic grains are at a premium: for example, organic soybeans for feed stock is currently listed at $28/bushel, versus about $12.70/bushel for conventional beans.

Organic Continued..

The Organic Grain Project website (www.organicgrains.ncsu.edu) is the go-to website for growers, with many resources relevant to all aspects of production and marketing. There is the NC Organic Grain Production Guide (2013-2014), information sheets on tools to improve production in organic and no-till systems, variety information, including data from variety trials, as well as detailed support for converting to organic systems. As any farmer knows, growing a crop is one thing; selling it is the hard part, and the website offers information on marketing organic grains and forage, buyer lists, harvest and storage information, as well as pricing guidelines. There is information on cost-share opportunities through NRCS.

The Center for Environmental Farming Systems (CEFS) is an organic and sustainable research facility near Goldsboro, developed by partners NC State University, NC A&T and NCDA&CS, and is the site for much of the organic grains project research. At CEFS, much of the variety testing and no till, crop rotation, and new crop research is performed. In recent years, organic canola (for industrial rather than food uses) and spelt have been demonstrated. Other on-farm trials are held throughout the state, and field days are held for growers every year. This year the Sandhills Research Station in Jackson Springs will be the site of small plot demonstration with organic soybeans in no till, in an organically maintained project area developed by Extension Agents Taylor Williams and Paige Burns. The project will be led by Dr. Chris Reberg-Horton, Organic Cropping Specialist with NCSU.

Organic small grains has the potential to be a growth area for growers up for the challenge of learning a new production system. NC State and Cooperative Extension can help make the transition as successful as possible.

Tobacco Transplant Production

--Four Keys to Successful Transplant Production

Colby Lambert---Cumberland County

Consider the materials.

- Analyze the water source and manage alkalinity. Make sure you take a source water sample early before you fill the bays so you can make adjustments prior to floating trays. Water samples should be sent to the NCDA Lab. A clean 20 oz. bottle can be used for the sample. Informations sheets are available at your local Extension Office.
- Select a uniform, high-quality growing medium with a low and well-mixed nutrient charge. Many of you have used to the same media for years without problems, so make sure you can get what you want in advance so there won't be surprises a week or two before you start sowing.
- Check your trays when you fumigate or steam to be sure you have the number needed and they are good shape. Best to replace trays that are worn or could cause problems at time of sowing.
- Use seeds with high germination rates and acceptable pelleting materials. Place seed orders early to be certain to get the varieties you need. Some varieties may be limited or unavailable.

Tobacco Continued..

Promote uniform emergence.

- Sow seeds during sunny periods. Avoid cloudy and windy weather when sowing trays to prevent the top of the media from drying out. This could cause poor wicking and accumulation of salt in the top of media that can damage seeds as they begin to germinate.
- Fill trays uniformly.
- Place seeds uniformly (in the center of the dibble).
- Provide a warm temperature (68 to 70°F at night). Try to avoid large temperatures swings in the house as this can cause “cold injury”. Many cases of injury result from large swings in temps from day to night. Do not always rely on thermostats to keep the temperature where you need it.
- Control ants and mice. This is often overlooked, but can be big problem especially in colder weather when mice tend to migrate into warmer spaces. Mice can eat the seedlings when they emerge and damage electrical wiring in the house.

Promote uniform growth.

- Monitor fertilizer salts in the medium and leach with water from overhead when necessary. EC meters are inexpensive and easy to operate. If you don’t have your own, contact your Extension Agent. They will be happy to assist you with checking your houses on a regular basis.
- Continue to analyze water and manage alkalinity when necessary.
- Clip properly. Be sure to remove clippings as much as possible to avoid diseases such as botrytis and collar rot.
- Manage insects and diseases.

Prevent stand loss.

- Provide proper ventilation and airflow to prevent heat injury.
- Avoid early seeding, high nitrogen rates, and hot daytime temperatures that promote stem rot diseases. Add 100-150 ppm of N fertilizer 7 days after seeding and then add another 100 ppm of N four weeks later. Make sure to monitor salt levels in the water and also in the media in the tops of trays.
- Fumigate trays with methyl bromide or purchase new trays. Steam cleaning trays is also effective in providing disease control. Avoid using bleach to clean trays. This can cause injury to seedlings.

Adapted from NCSU Tobacco Portal Webpage: http://tobacco.ces.ncsu.edu/tobacco-transplant-production-four-keys/

Tiller Counts: *Split Application Nitrogen*

Jessica Morgan---Anson County

With split nitrogen application on wheat, the rate of the first application should be based on a tiller count. The first application in a split is made when the wheat crop breaks dormancy and begins active growth. This occurs around late January, early February and is also known as growth stage 25 (GS 25) or “spring green-up.” The purpose of this application is to produce additional tillers to achieve an increase in tiller density. Tillers are wheat stems that have three or more leaves and will eventually produce a head.

To measure tiller density:

-Take a yardstick and lay it down next to an average looking row.

- Dig up the plants in a 12’’ measure and count all tillers with three or more leaves that are found in the 12’’ length.
- Calculate Tiller Density using the following equation:

$$\text{Tiller/sq. ft} = \frac{\text{\# Tillers Counted} \times 12}{\text{Row Spacing in inches}}$$

Using the Tiller/sq. ft, use the graph below to get a rate recommendation. Typically, if tiller numbers are low, 50/ sq. ft or less, N fertilization at this time is critical for the crop. If tiller numbers are high, 100/sq. ft, no N application is needed at this time.

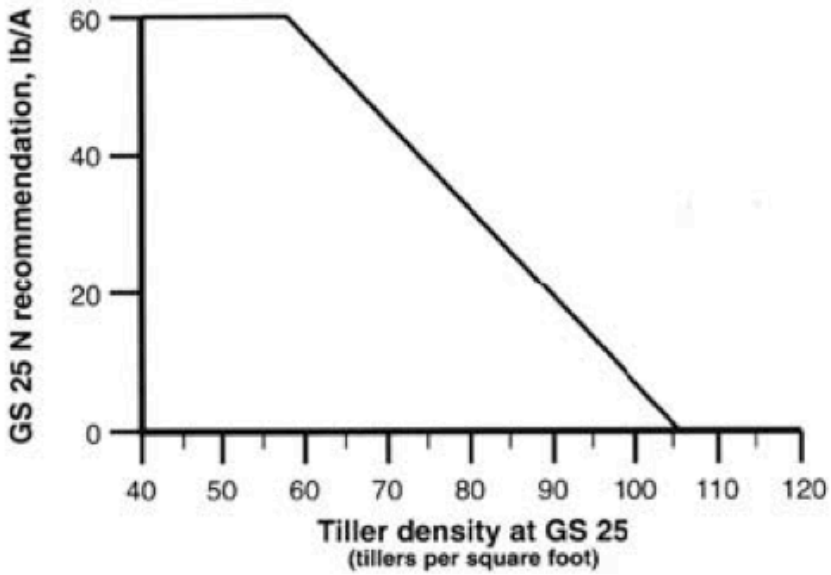

Figure 4. N rate recommendations for the first application in a split based on tiller density measurements.

For more information consult the Nitrogen Management section of the Small Grain Production Guide, NC State University or watch the tiller counting video at www.smallgrains.ncsu.edu/tiller-counting.html

Twin Row vs. Single Row Peanuts:

Things to Consider

Mac Malloy---Robeson County

As growers begin planning for the 2014 crop season, some may be exploring the idea of switching to a twin row planting system in peanuts. I thought I would share a few things to consider before making a final decision.

Previous studies conducted at North Carolina State University resulted in a 235-pound average increase in yield in twin row plantings versus single row. Results collected on 20 trials conducted over the last ten years revealed average single row yields of 3,760 pounds compared to 3,995 pounds from twin row. Neither increasing seed rates nor planting in narrow single rows increased yield over twin rows planted to achieve 5 plants per foot. One could expect a yield increase upwards of 300 pounds per acre with 4,000 - 5,000 pounds per acre yields achieved with varieties now available

Less Tomato Spotted Wilt Virus (TSMV) has been associated with twin row spacing in the southeast. Planting twin rows is one of many recommended cultural practices to manage TSMV. In-furrow insecticides used to manage thrips can only be legally applied based on a maximum per acre rate. Plants may be more at risk to thrips damage, since less insecticide will be available to be absorbed by the peanut in a high population twin row system. It is important to provide good management of thrips. North Carolina does not have as wide of a planting window or as long of a growing season as southern peanut regions that can afford more thrips injury.

Although a yield increase can be achieved with twin rows, it is important to consider the cost of production. A new twin row planter can cost upwards of $100,000. It will be important to consider what other crops in your operation can be used with a twin row planter to justify such a purchase.

Also, look at the increased input cost to achieve higher yields. For example, twin rows will require more seed, inoculant, maximum rate of in-furrow insecticide, and possibly growth regulators to manage vine growth or a guidance system to aid in digging. Twin rows tend to produce a greater tap root crop than limb crop. This can improve uniformity in harvested peanuts and higher yields in dry years when rows do not lap. One of the biggest challenges with twin rows is managing excessive vine growth, which can make digging more difficult. There are pros and cons to twin row plantings. Make sure you know the risks and be sure the added expense works for your operation.

Foliar Enhanced Soybeans: *Statewide Wrap-up*

Andrew Baucom---Union/Stanly County

Yield Results of:

Foliar Potential Yield Enhancements

On Farm Testing, North Carolina 2013

The results of Statewide testing compiled by NCSU Soybean Specialist Dr. Jim Dunphy is listed below. Four counties were involved in the testing: Bertie, Hertford, Pasquotank and Union. Testing was done on Fungicides as well as Foliar Applied Yield Enhancements. The data is listed below in two tables. One for Fungicides only with a check, and the other for Yield Enhancements only with a check. The Soybean Check-Off allowed this testing to be possible. Notes are listed at the bottom discussing planting date, variety and tillage method.

Fungicides: Yield-Bu/A

Treatment	Bertie	Hertford	Pasquotank	Union	Average
Headline	15.6 def	21.4 abcd	73.0 bcd	53.4 ab	40.9
Quadris	17.0 bcd	21.0 bcd	70.4 cdefg	52.0 abc	40.1
Domark	15.8 def	20.5 bcd	64.2 ij	52.0 abc	38.1
Top Guard	17.1 bcd	20.6 bcd	74.0 bc	52.6 ab	41.1
Stratego Yld	18.4 abc	21.7 abcd	68.9 defgi	50.0 abc	39.8
Quadris Top	19.1 ab	22.9 ab	77.8 ab	51.4 abc	42.8
Priaxor	18.6 abc	22.7 ab	79.5 a	51.4 abc	43.1
Check	16.4 cde	21.0 bcd	65.7 ghij	49.6 bc	38.2

Treatments whose yields are not followed by the same letter have less than a 5% chance of truly having the same yield. (LSD, P=0.05).

NOTES: Pioneer's 95Y70 was planted on June 14, clean till, in 7-inch rows in Bertie County. Asgrow's AG6732 was planted on July 10, clean till, in 7-inch rows in Hertford County. Asgrow's AG5605 was planted on June 3, clean till, in 20-inch rows in Pasquotank County. Asgrow's AG4730 was planted on June 19, no till, in 15-inch rows in Union County.

Foliar Enhancements: Yield-Bu/A

Treatment	Bertie	Hertford	Pasquotank	Union	Average
Sugar 2 lb./100 @ 3-4 Trifoliate	14.9 defg	19.3 d	70.5 cdefg	50.1 abc	38.7
Nutran 3-4 Trifoliate W/Sugar	14.1 efg	21.0 bcd	70.5 cdefg	48.8 bc	38.6
Nutran 3-4 Trifoliate NO Sugar	14.8 defg	19.7 cd	67.1 fghij	47.6 c	37.3
Nutran W/Sugar + 25 days	14.7 defg	21.0 bcd	66.6 ghij	49.7 bc	38.0
Nutran NO Sugar + 25 days	14.2 efg	20.7 bcd	65.0 hij	49.6 bc	37.4
Nutran Both Times W/Sugar	15.7 def	20.5 bcd	65.9 ghij	54.7 a	39.2
Nutran Both Times NO Sugar	13.1 g	21.3 abcd	67.5 fghij	50.9 abc	38.2
Bio-Forge R2 W/Sugar	13.7 fg	21.4 abcd	63.4 j	52.6 ab	37.8
Bio-Forge R2 NO Sugar	14.0 efg	20.1 cd	71.9 j	51.4 abc	39.4
Photon @ 3-4 Trifoliate & R2	14.4 efg	20.6 bcd	67.9 efghij	52.6 ab	38.9
Soar I Series Trts	19.1 ab	22.0 abc	72.5 cde	51.7 abc	41.3
Soar II Series Trts	19.6 a	23.7 a	69.1 defgh	51.6 abc	41.0
Check	16.4 cde	21.0 bcd	65.7 ghij	49.6 bc	38.2

Treatments whose yields are not followed by the same letter have less than a 5% chance of truly having the same yield. (LSD, P=0.05).

NOTES: Pioneer's 95Y70 was planted on June 14, clean till, in 7-inch rows in Bertie County. Asgrow's AG6732 was planted on July 10, clean till, in 7-inch rows in Hertford County. Asgrow's AG5605 was planted on June 3, clean till, in 20-inch rows in Pasquotank County. Asgrow's AG4730 was planted on June 19, no till, in 15-inch rows in Union County.

Upcoming Events

Piedmont Cotton Production Meeting ..... February 5, 2014
10 AM—12 PM, Lunch Provided, 2X Credits Available — Stanly County Agri-Civic Center
2 V Credits Available After from 1PM—3PM

Corn/Soybean Production Meeting ..... February 24, 2014
5:30 PM—Supper Provided — Union County Ag Center
Featuring Dr. David Holshouser, Professor, Virginia Tech, Tidewater Research Center

2 V Pesticide Credits ..... February 25, 2014
10 AM—12 PM — Union County Ag Center

2 V Pesticide Credits ..... March 6, 2014
6PM—8 PM — Stanly County Agri-Civic Center

2 V Pesticide Credits ..... March 11, 2014
6PM—8 PM — Union County Ag Center

2 V Pesticide Credits ..... March 18, 2014
6PM—8 PM — Anson County Extension Office

Persons with disability or persons with limited English proficiency can request accommodations by contacting Jessica Morgan, Extension Agent, 704.694,2415 Fax 704.694,2248 or e-mail Jessica_morgan@ncsu.edu at least

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