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INTRODUCTION – FIELD CROPS AGENT

Let me take this opportunity to introduce myself. My name is Kent Wooten, and I’ve been with Extension for over 20 years serving in various capacities. I was born and raised here in eastern North Carolina on a tobacco farm and attended North Carolina State University with degrees in Soils, Pest Control, and Agricultural Economics.

I am looking forward to working here in Robeson County as the Field Crops Agent. Please contact me here at the Extension Center at 671-3276 or E-mail me at Kent_Wooten@ncsu.edu. We will be using E-mail to communicate with you if you have access, especially on time-sensitive information. Please take a moment and send me your E-mail address, so I can develop a database to use to distribute future information. I look forward to meeting you, and please don’t hesitate to call on me.

NITROGEN MANAGEMENT – WHEAT

Nitrogen management is one of the most important keys to successful small grain production. If applied incorrectly, nitrogen can result in both environmental damage and yield reductions.

Growth Stage 5

Tiller density is the most important factor leading to high-yielding wheat. If you had a well-tillered stand at the start of February, you are on the way to a good wheat crop. The most important factor in obtaining a good stand is to plant at the optimum time. For our area, the optimum period is October 10 – November 8.

How many tillers are enough? You should have more than 50 tillers per square foot by early February. Hopefully, you have been able to apply some nitrogen early, especially if your wheat was not well tillered. Well-tillered fields will produce the highest yield if the bulk of the nitrogen is applied as late as possible, BUT before the plants “joint.”

If applied too early, high rates of nitrogen will promote too much tender growth and make the plants susceptible to freeze damage, and there will certainly be a freeze between early February and mid-March.

During stem elongation (just prior to jointing), which occurs during Growth Stage 5, small grain crops begin to take up large amounts of nitrogen. The future grain head is formed at this time, although still underground, and nitrogen stress at this growth stage will result in smaller heads. The small grain crop needs nitrogen now, and the bulk of spring nitrogen should be applied at this growth stage. This usually occurs in early to mid-March.

As always, fertilizer application rates should be based on soil test results. In the absence of a soil test, the suggested rate for topdressing is 120 pounds per acre of nitrogen (including nitrogen applied at
panting and any applied earlier in the spring). One way to take out the guesswork on how much nitrogen to apply (especially if you have already applied some earlier and may think some leaching has occurred) is to take a tissue sample. We can assist you with this and have your results in a few days.

If you are following peanuts or soybeans, you may reduce the amount of nitrogen topdressing due to residues from these crops supplying as much as 40 and 30 pounds per acre, respectively, to the small grain.

WHEAT YIELD CONTEST

You may want to consider entering this year’s North Carolina Wheat Yield Contest. The sponsor of the contest in cooperation with Cooperative Extension is the North Carolina Small Grain Grower’s Association, Inc. The purpose of the contest is to determine which production practices produce the highest wheat yields for a given location and to give recognition to those growers who do an outstanding job of producing wheat. Any person who produces wheat is eligible to enter. The entry form, which we will furnish, requires a record of all production practices. The harvested area must be from three or more continuous acres with four straight sides. All growers who harvest 100 or more bushels per acre will receive a plaque welcoming them into the 100-Acre Wheat Producers Club of North Carolina. All entries must be made by July 15. Please contact me if you are interested in entering this year’s contest.

INSECT PEST MANAGEMENT

Cereal Leaf Beetles can severely defoliate fields which will take on a white “frosted” cast when lots of green tissue is lost on the upper leaves. The adults (Fig. A) will feed on young small grain plants but do not affect the plant’s performance. However, larvae (Fig. B) eat long strips of green tissue from between leaf veins and may skeletonize entire leaves, leaving only the transparent lower leaf surface tissue.

Peak larval populations occur in mid-April to early May. Small larvae eat a very small amount but when full-grown, have a voracious appetite. Yield reductions of 10 – 20 percent are typical in infested fields.

Scout after peak laying and when up to 50 percent of eggs have hatched, which generally occurs during March and into April. If the population is mainly made up of eggs, then scout again at a later date when a minimum of 50 percent is small larvae. Take samples at a minimum of 10 random sites in the interior of the field. At each site, examine 10 tillers for eggs and larvae. This will result in 100 tillers per field being sampled. The economic threshold is 5 eggs and/or larvae per 100 tillers. Proper and timely scouting can reduce the risk of significant yield loss. Eggs and larvae are easy to locate on leaves in the spring.

One of the best control measures is to manage your wheat for a thick, well-tillered stand. If an insecticidal application is necessary, several insecticides at low rates can easily control Cereal Leaf Beetles. Since they have only one generation per year, one application of an insecticide applied correctly will give adequate control.

Other insects that may be a problem are Hessian fly and Armyworms. Armyworm infestations generally occur from late April to mid-May. They can cause serious defoliation of the flag leaf as well as head drop. Armyworm populations fluctuate greatly from year to year. Fields should be scouted for armyworms in May. Early May caterpillars are usually small. Thorough scouting should not be done until the caterpillars are at least 3/8 inch long, because populations of little worms are difficult to estimate and often die out. Once caterpillars reach 3/8 inch or more in length, take at least five samples per field by examining three square feet of area. Pay special attention to fields where birds are active. The economic threshold is two 3/8 inch or longer caterpillars per square foot (six per three-square-foot sample).

The Hessian fly is a sporadic but serious wheat pest. Management of Hessian fly must rely on cultural practices. Rotation, sanitation (tillage), and delayed planting can have significant effect on population levels of this pest. Foliar applied insecticides have not been adequately effective in controlling infestations.

If you have a problem, here are some suggestions for the following year.

1. Destroy volunteer wheat to eliminate early egg-laying sites in the fall.
2. Disk wheat stubble after harvest.
3. Rotate crops over a wide area (the Hessian fly is a weak flier).
4. Delay the planting of wheat, but this may not be that effective in our area due to multiple generations in the fall. However, planting after mid-November will usually eliminate economic infestations.
**WEED CONTROL**

**Italian ryegrass** is a widespread problem in wheat. Research has shown that wheat yields are reduced 0.4 percent for every ryegrass plant per square yard. Heavy infestations, if uncontrolled, can reduce yields by 75 percent or more.

**Hoelon** can be applied to wheat and barley to control Italian ryegrass. Hoelon applied to rye often causes unacceptable injury and Hoelon will kill oats. Hoelon can be applied postemergence to any variety of wheat anytime before the first node or joint develops. Read the label for application on certain barley varieties. Timely application of Hoelon is essential for good control. Best control is obtained when treating one- to three-leaf ryegrass (about two to three inches tall). Do not tank mix with broadleaf herbicides or use liquid nitrogen as the carrier.

Much of the ryegrass in North Carolina has become resistant to Hoelon. If you suspect you have resistant ryegrass, **Osprey** controls Hoelon-resistant ryegrass. Apply when ryegrass is in one-leaf to two-tiller stage. Add adjuvant as directed on the label. Osprey may be mixed with Harmony Extra but do not tank mix with 2,4-D or dicamba. Do not apply using liquid nitrogen as the carrier, and do not topdress wheat within 14 days of Osprey application.

Sincerely,

*Kent Wooten*

Kent D. Wooten  
Extension Agent  
Agriculture – Field Crops  
KDW/dp

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**Recommendations for the use of chemicals are included as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services does not imply endorsement by North Carolina State University, North Carolina A&T State University, or North Carolina Cooperative Extension Service nor discrimination against similar products or services not mentioned.**

Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact an agent of North Carolina Cooperative Extension.