Field Crops Newsletter

Granville and Person County
Mikayla Graham

MAY 2022

Tobacco: Transplanting and Early Season Considerations

Here are some considerations to keep in mind as we move through transplanting season and into early season management of tobacco in the field:

TRANSPLANTING

- Dr. Matthew Vann recommends to clip plants in the greenhouse within 24 hours before transplanting if possible. This will allow your plants to go through the planter easier and can improve plant vigor early in the season
- Set your plants as deep as you can without covering the bud and without reaching the bottom of the furrow. This will improve root development and help avoid ground suckers.
- Consider your field history and current conditions when deciding what to put into your transplant water. If you did not use an insecticide in the week prior to transplanting, consider using a transplant water option. If you are planting into a field with black shank history, use a transplant water fungicide. There are many other considerations to take into account, this is just a few.

EARLY SEASON

- If you have issues in fields with Black Shank, you may consider doing an early season application of fungicides (at first cultivation) to start protection earlier in the season.
- Foliar leaf spot diseases like Target Spot and Frogeye Leaf Spot may be better controlled if a foliar fungicide is applied around 3-4 weeks after transplant. Consider this method if you have had a history of this disease in a field or see early signs and are still a while away from layby.
- Tomato Spotted Wilt Virus, which is vectored by thrips, can be managed based on the thrip flight timing and intensity in our area. There is a tool online that can help predict if a thrip spray is needed, and when the spray should occur. You can see more about this tool and access it at https://go.ncsu.edu/tobaccothriptoolinformation.

If you have questions or run into problems during this early season, please let me know!

Transplanting tobacco. *Photo by Mikayla Graham.*

INSIDE

This newsletter is designed to give you up to date information on crops from NC State University and other sources. For more information:

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Tips for Limited Grain Crop Herbicide Availability

What to do if RoundUp, Dicamba, 2,4-D, or Liberty is not available

It is no secret that this year, products are expensive and, in some cases, hard to come by. There may be a situation where you cannot get a hold of the herbicide products you were planning to put into your program this year. If this happens, what should you do?

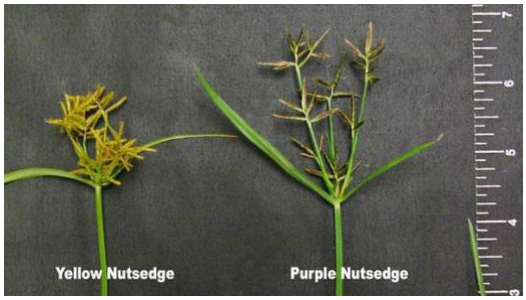
No matter what crop you are dealing with, the most important thing you can do is START CLEAN! The less weeds you have in your field at the beginning of the season, the better. Also make sure to include a good preemergence application! When it comes to post-emergence applications, the most important thing is to be TIMELY! Weeds should be less than 4 inches tall MAXIMUM when you are applying a herbicide, but the smaller the better. It is also important to know which weed you are trying to control. The chart below displays different preemergence and postemergence options for conventional (non-Roundup Ready, Xtend, Enlist, or Liberty) corn and soybeans.

Texas Panicum in Corn. *Photo from Dr. Charles Cahoon.*

Group	Trade Names	Weeds Controlled
Preemergence - CORN		
MOA 5	Atrazine	Broadleaves
MOA 15	Dual Magnum, Warrant, Outlook, Zidua	Grasses
MOA 27	Balance FLEXX, Callisto	Broadleaves
Preemergence - SOYBEAN		
MOA 14	Valor, Rowel	Broadleaves
MOA 15	Dual Magnum, Outlook, Zidua	Grasses
Postemergence - CORN		
MOA 2 – SPECIFICALLY nicosulfuron	Accent Q, Steadfast Q	Most annual grasses
MOA 3	Prowl	Texas Panicum
MOA 27	Callisto, Laudis, Impact, Armezon	Pigweed
MOA 4 - Safened Dicamba	DiFlexx, Status	Pigweed
MOA 5	Atrazine	Broadleaves*
Postemergence - SOYBEAN		
MOA 1	Assure II, Poast, Select	Grasses
MOA 6 OR MOA 2	Basagran Classic	YELLOW Nutsedge
MOA 2	Pursuit	PURPLE Nutsedge
MOA 2	Classic, FirstRate	Morningglories

Sicklepod. *Photo by Abby Whitaker.*

* Use more Atrazine later in the season, i.e. 1 quart/acre pre, 1.5 quart/acre post



Purple and yellow nutsedge. *Photo from NC State.*

Keep in mind these are not all the options, and that there are many generic and other labeled names for these products. No matter what situation you are in trying to control weeds, be sure to know what weeds you are targeting, apply the labeled rates, and check the rotation restrictions. A document like the North Carolina Agricultural Chemical Manual will be a great resource when looking for alternative control options. You can access this document online at https://content.ces.ncsu.edu/north-carolina-agricultural-chemicals-manual or call the extension office if you are interested in purchasing a print version.

Spotty nature of Sulfur Deficiency in wheat field. *Photo by Mikayla Graham.*

Yellowing of younger (topmost) leaves, a symptom of sulfur deficiency. *Photo by Mikayla Graham.*

Stunted, yellow plants (left and middle) compared to healthy plant (right) from field with high N:S ratio (50:1). *Photo by Mikayla Graham.*

Nitrogen:Sulfur Ratio and its Impact

Recently in both Person and Granville Counties, I have been called out to wheat fields that display symptoms of stunted, yellowing wheat mixed with spots of dark green, healthy wheat (see photos to the left, all from wheat in Person or Granville County April 2022). Upon first look, this could look like nitrogen deficiency to most, and in a way it is. However, the guilty culprit for this problem is actually sulfur, not nitrogen.

Why is sulfur deficiency showing up when it hasn't been a problem in the past?

Many industrial processes burn fossil fuels, which in turn release sulfur into the atmosphere. Recent air pollution control has caused two things to occur: a reduction of the amount of fossil fuels burned and additional steps prior to the process to reduce the amount of air pollution released. This means that there is less sulfur in the atmosphere, leading to less sulfur in our rainwater. This has caused a decline in the sulfur available for crops in our soils.

What does sulfur have to do with nitrogen?

If a plant has access to too much nitrogen and not enough sulfur, it can become nitrogen deficient. Seems backwards, right? Well, plants need sulfur in their system in order to move nitrogen around to all the right places. You could think of sulfur as a car, and nitrogen as a passenger. If there are too many passengers and not enough cars, the system gets backed up. So, if there is too much nitrogen and not enough sulfur in a system, the plant cannot efficiently utilize the available nitrogen.

What crops does this have an impact on?

The N:S ratio can impact small grains, corn, tobacco, sorghum, and some forages.

How can I measure my N:S ratio?

The best way to measure your N:S ratio is by sending in a plant tissue analysis. This can be done through the NCDA or a private lab. On a NCDA analysis, the N:S ratio can be found at about the center of the page, under the headline "Nutrient Ratios." You want this value to be at 18:1 or less for most crops. Contact me if you would like assistance in taking tissue samples!

What products can I apply to increase sulfur in my soils?

One of the least expensive products that will add sulfur to your soil is gypsum (CaSO4) – though I make no promises on what the price point is this year. Other products to look into are Potassium Sulfate (0-0-51-18) or K-Mag, good options if you also need potassium in your system. Using UAN with added Triple Superphosphate (typically 28-0-0-5S though other formulations are available) is a good practice year to year to help with keeping the N:S ratio low.

What is the Best Maturity Group to Plant Behind Wheat?

By: Dr. Rachel Vann, NCSU Soybean Extension Specialist

April 11, 2022

In recent years, 15-35% of North Carolina soybean acres are planted behind a small grain. This typically results in soybean planting dates from the second week of June through early July. Historically growers have planted a later maturing soybean variety as planting date was delayed. However with the increasing interest in earlier maturing soybean varieties for the associated yield gains, we have been getting more questions about the optimum maturity group to use in double crop soybean planting in North Carolina.

From 2019-2021, research (https://go.ncsu.edu/plantingdateandmaturityupdate) was conducted across 11 NC locations to determine the best maturity group to use across diverse planting dates. More details about the methods used in this study can be obtained in this scientific publication (https://go.ncsu.edu/soybeanscientificpublication).

If you look at the mid-June planting dates, whether you were in a low or higher yielding environment, the MG4-7 varieties cut within 5 bu/A (Figure 1). Using varieties earlier than a MG4 should be avoided in double crop planting situations because those varieties will not get enough vegetative growth prior to flowering to drive photosynthesis because of the shorter night length needed to trigger flowering in earlier maturing varieties. At mid-July planting dates, the MG5-7 varieties were the highest yielding (Figure 1).

This data indicates that growers have some flexibility in which maturity group is used at later planting dates (MG4-7). So for those asking if using a MG4 variety will provide yield advantages when planting behind wheat; so far our data indicates there is not much of advantage or disadvantage of using an indeterminate MG4 compared to later maturing variety at this planting date. The SoyStage tool (https://soystage.uark.edu) developed by the University of Arkansas is an excellent way to predict when soybeans will reach physiological maturity based on planting date and relative maturity. Growers should be making MG selection behind wheat based on desired harvest dates and needed disease resistance packages, as recent research across the United States (https://go.ncsu.edu/coolbeanresearch) indicates that foliar diseases are more problematic at lower latitudes when planting dates are delayed.

Article from https://soybeans.ces.ncsu.edu/2022/03/what-is-the-best-soybean-maturity-group-to-plant-behind-wheat/

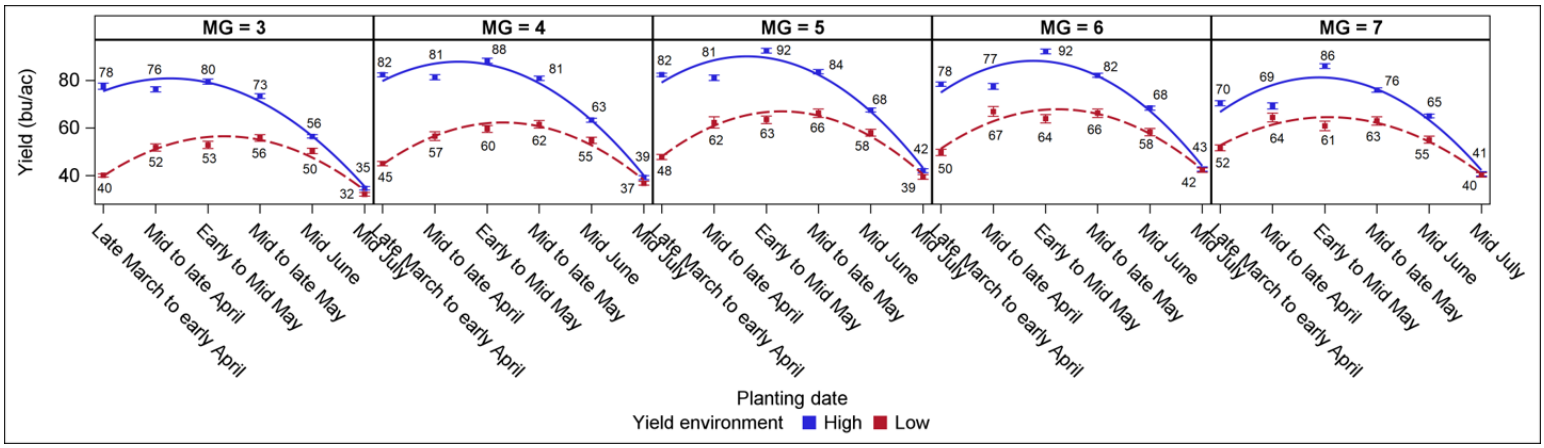


Figure 1. The impact of planting date and maturity group on soybean yield in high (n=5, blue) and low (n=6, red) yield environments across North Carolina from 2019-2021.