

Field Crops Newsletter

Granville and Person County
Mikayla Graham

A note from your agent...

Some of you may have noticed that I was out of town a good bit in the month of July. That is the reason that this newsletter is getting to you so late in the month. So, I wanted to take a moment to explain where I have been and what I learned, because the majority of my traveling was work related!

My first trip was to Iowa and Wisconsin during the second week of July. If you made it out to the field day on August 9th, you heard a little bit about this trip during the soybean stop on the tour. I traveled with Dr. Rachel Vann, soybean extension specialist for NC State, Ryan Heiniger, grain crop official variety trial director, and other field crop agents from across North Carolina.

The point of this trip was to learn about statewide on-farm research programs taking place in Iowa and Wisconsin.

The group I traveled with is dedicated to developing a statewide on farm research program for soybeans in North Carolina. This will be different from the small plot research that Dr. Vann has

within her program by incorporating more environments and situations on a larger scale to get information that is even more applicable to your farm! There is such a trial in Person County this year looking at foliar fungicide application on soybeans. Keep an eye out for the results of this trial after the season is over in a special edition "Research Newsletter"!



The 3rd week in July started out in West Palm Beach, Florida for me! I was there for a National Agriculture Agents Association Annual Meeting.

Here, I got some great ideas for future programming in Person and Granville County, so be on the lookout for some workshops from me during the winter! I was also at this meeting

because I was a National Finalist for a communication award – for this newsletter! So, I came home with a little bit of prize money as well.



Finally, the last week in July was spent at the Plant Problem Diagnostics Short Course ran by the Plant, Disease, and Insect Clinic (PDIC) at NC State. You may have heard of this clinic if you have had disease issues in your tobacco. This is the lab that I send those samples to! The point of the course was to help educate extension agents on diagnosing plant problems in the field. This in turn will help you get results faster and more effectively when you call me out to your fields! I am looking forward to applying what I learned on your farms.

August 2022

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A note from your agent...

2022 Corn and Soybean Field Day

Upcoming Events

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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Oxford, NC 27565

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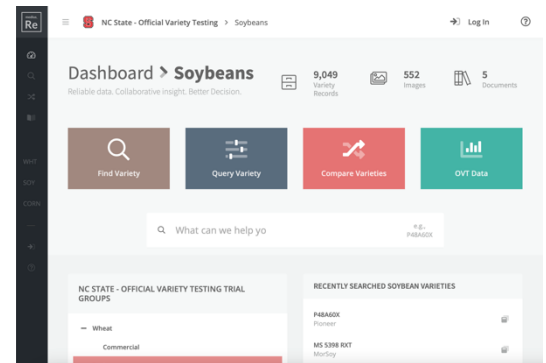
2022 Corn and Soybean Field Day

The Corn and Soybean Field Day was held at the Oxford Tobacco Research Station on August 9th, and had 3 main speakers – Grain Crop Official Variety Trial Director Ryan Heiniger, Corn Extension Specialist Ron Heiniger, and Soybean Extension Specialist Rachel Vann. Here are some highlights and resources for anyone who was unable to attend, or who attended and would like to review some of the resources the specialists discussed:

Ryan Heiniger – Variety Selection Tool

In addition to managing all the Official Variety Trials for corn, soybeans, wheat, sorghum, and rice across the state, Ryan has also worked to develop a website that allows producers to custom fit variety selection to their specific farms. Previously, the official variety testing program released only yield data from the most recent year, which is helpful, but does not tell the whole story. The tool has an abundance of information, including planting date, seeding rate, soil type the varieties were planted in, lodging ratings, total rainfall, disease traits, and more. By using this tool, you can select to look at yield and quality information for crops in environments specific to a single field on your operation.

You can access this tool by going to <https://ncovt.medius.re>. This tool can take some time to learn, so please reach out to me if you have issues with it or would like assistance going through a selection process. Also be on the lookout for a workshop during the winter on utilizing this tool.

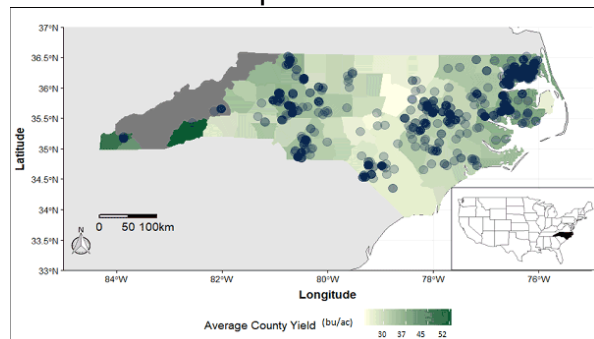


Another note I wanted to include about the OVT's is that this year, a location for the full season and doublecrop soybean test is in Person County this year! There will also be a wheat OVT location in the area this year!

Ron Heiniger – Corn Starter Fertilizer and Biologicals

There has always been a question of whether starter fertilizer should be applied to corn. Dr. Heiniger is in his 3rd year of looking at this question in a study that incorporates different combinations of in furrow starter fertilizers and a biological root stimulant (Radiate). According to past data, in years where the season starts off cool and wet, the starter fertilizers and the biological root stimulant aided in the crop germinating quicker and more evenly, resulting in a yield increase.

Another topic that was presented by Dr. Heiniger's graduate student Anne ____ was utilizing a biological root stimulant (Radiate) to increase nitrogen uptake. According to last year's data, a yield increase was seen when applying lower levels of nitrogen, presumably due to the increased nutrient uptake that was made possible by better root development.



North Carolina Soybean Yield Contest entry density by county overlaid on average soybean yield in those counties from 2002 to 2019.

Rachel Vann – Soybean Research Results

Rachel shared information on two of her recent research efforts:

Analysis of Soybean Yield Contest Entries

877 individual entries from the North Carolina Yield Contest were analyzed to evaluate the management practices that may influence soybean yield. These practices included maturity group, planting date, seeding rate, row spacing, fungicide seed treatment, seed applied inoculant, foliar fungicide use, herbicide use, foliar insecticide use, use of irrigation, and tillage. From this study, the three most significant predictors of yield in the **statewide** analysis were:

1. Maturity group – highest yields were associated with MG3 and MG4 soybeans
2. Foliar Fungicide use – the use of a foliar fungicide provided a 5.4 bu/A yield protection compared to acreage where foliar fungicides were not used

3. Planting date – there is a linear decline in soybean yield as planting is delayed

Specifically in the piedmont, the key management strategies to increase soybean yield are:

1. Maturity group – consistent with statewide analysis with MG less than or equal to 4 providing a 19 bu/A yield advantage over later maturing varieties
2. Foliar fungicide use
3. Irrigation – for earlier-maturing varieties, irrigation was key to reaching the highest yield levels in the piedmont
4. Herbicide use – only a significant yield predictor in the piedmont with later-maturing varieties that did not receive a foliar fungicide where using more than one herbicide application provided a 6 bu/A yield advantage compared to entries with 1 or less herbicide applications
5. Planting date – there was an advantage to planting prior to mid-May in the highest yielding situations

More detailed information can be found at <https://content.ces.ncsu.edu/north-carolina-soybean-production-guide/key-management-strategies-to-increase-north-carolina-soybean-yield>

Soybean Planting Date and Maturity Group Impact on NC Soybean Yield

Rachel also discussed a small plot research study that is in its 4th year looking at the relationship between planting date, maturity group, and population. The goal is to take the information from this study to develop a tool that can be used to allow grower to enter their planting date and the tool will predict the best maturity group and seeding rate combination to use at that date. A lot of the preliminary findings of this study are supported by the analysis of the yield contest entries above, but here some main take home messages:

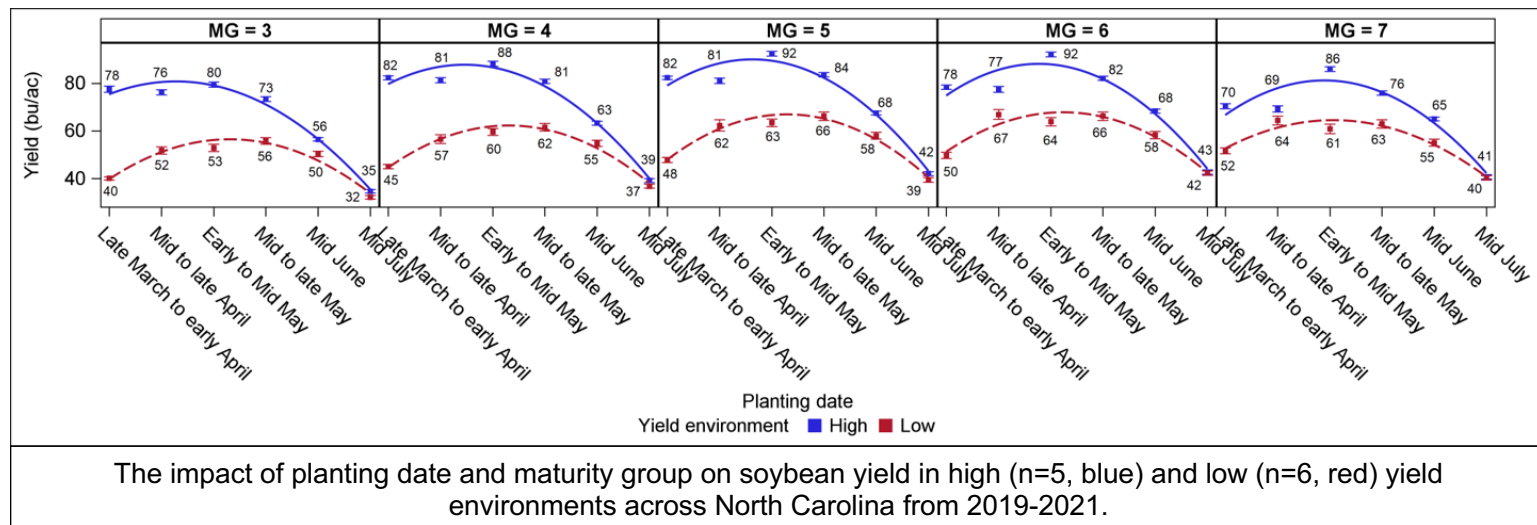
Planting Date

1. In high yield environments (>60 bu/A), yields were typically highest when planting early to mid May for all maturity groups (MGs).
2. In low yield environments (<60 bu/A), yields tended to decline when planting before mid April. Yields were highest for...
 - a. MG3-5 when planted mid to late May.
 - b. MG6-7 when planted late April to late May.
3. Yield declines at planting dates past may are expected.

Maturity Group

1. In high yield environments, MG4 and MG5 yielded highest when planted before May.
2. In low yield environments, MG6 yielded the highest when planted before May.
3. At full season planting dates in May, MG5 and MG6 tended to provide the highest yields regardless of environment.
4. At planting dates past May, growers have flexibility in using MG4-7 regardless of yield environments.

More detailed information can be found at <https://soybeans.ces.ncsu.edu/2022/02/research-update-soybean-planting-date-and-maturity-group-impact-on-nc-soybean-yield/>



UPCOMING EVENTS

V Pesticide Course (2 hours each)

September 8th @ 9AM

- IN PERSON at any of the three locations:
 - Granville County Extension Center (125 Oxford Outer Loop, Oxford)
 - Person County Extension Center(304 S. Morgan Street, Roxboro)
 - Vance County Regional Farmers Market (210 Southpark Drive, Henderson)
- Register at https://go.ncsu.edu/pesticide_training_v_9.8.22 or by calling 336.599.1195.

September 19th @ 6:30PM

- IN PERSON at any of the three locations:
 - Granville County Extension Center (125 Oxford Outer Loop, Oxford)
 - Person County Extension Center(304 S. Morgan Street, Roxboro)
 - Vance County Regional Farmers Market (210 Southpark Drive, Henderson)
- Register at https://go.ncsu.edu/pesticide_training_v_9.19.22 or by calling 336.599.1195.

Multi-Category Pesticide Course (2 hours each)

September 12th @ 9AM

- For Categories A, B, G, H, I, K, L, M, N, O, T, D, and X.
- IN PERSON at any of the three locations:
 - Granville County Extension Center (125 Oxford Outer Loop, Oxford)
 - Person County Extension Center(304 S. Morgan Street, Roxboro)
 - Vance County Regional Farmers Market (210 Southpark Drive, Henderson)
- Register at https://go.ncsu.edu/pesticide_training_multicategories_9.12.22 or by calling 336.599.1195.



*Thank you to all
who came out
for the Corn and
Soybean Field
Day!*



ABOUT N.C. COOPERATIVE EXTENSION

North Carolina Cooperative Extension is a strategic partnership of NC State Extension, The Cooperative Extension Program at N.C. A&T State University, USDA-NIFA, and 101 local governments statewide. Extension professionals in all 100 counties and the Eastern Band of Cherokee translate research-based education from our state's land-grant universities, NC State and N.C. A&T, into everyday solutions. Extension specializes in agriculture, youth, communities, food, health and the environment by responding to local needs.