



Mike Carroll <cmcarro2@ncsu.edu>

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## Agricultural News From Craven County Extension

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Mike Carroll <mike\_carroll@ncsu.edu>  
To: cmcarro2@ncsu.edu

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# EXTENSION

NC Cooperative Extension, Craven Center

## Agricultural Update



March 7, 2023

### In this Newsletter.....

***Upcoming Events***

***NC Corn Growers Referendum***

***ThryvOn Cotton Insect Management***

***Online US Flue-Cured GAP Recertification***

***Drainage & Irrigation: What Does It Really Cost?***

***Soybean Response to Drainage***

***Wheat Management***

***In Case You Missed It (Recorded Zoom Session)***

***Important Note:*** Registration deadline for events listed below will vary from as few as 24 hours prior the event to as much as 3-4 days prior the event so please register as much in advance as possible. Also, while attendance is open to anyone, meals, when served, will only be provided for those that register in advance.

## UPCOMING EVENTS

**Auxin Trainings** – Auxin trainings will be available via Zoom provided by NC State faculty. All meetings will begin at 8:30 AM. One (1) NCDA & CS pesticide credit will be applied to the email and NC Pesticide license number used when registering. [Obtain the password by emailing a NC Cooperative Extension Agent working with field crop production after registration.](#) Click [HERE](#) to register: *(Please request the password in advance of the meetings. For security reasons, the password is stored within the office and we have many meetings and events during January -March away from our office. Waiting until the day before or the day of the meeting to obtain a password may result in the inability to obtain the password)*

*Remaining classes are: March 14 & 29*

If these dates are not convenient, manufacturers of the products will also provide self-learning modules, webinars and other sessions. Read more in the article, [2023 Auxin Training](#).

**Soybean Webinars:** Free webinars are being offered by Science for Success, a national team of soybean extension specialists led by Dr. Rachel Vann, NC State's Soybean Extension Specialist. The content will be focused on the new research and materials that we have recently released specifically for US soybean producers. Each virtual event will include a live Q&A session so that you can get answers straight from the source! Meetings are scheduled from 1 -2 pm. For more details on each event click on the registration links:

- March 17, 2023: **When Early Planting Doesn't Work Out – Do I Replant, Repair-Plant or Leave This Pitiful Stand?** Register: <https://go.ncsu.edu/replantregister>
- March 24, 2023: **What's New In Planter Technologies?** Register: <https://go.ncsu.edu/plantingregister>
- March 31, 2023: **N-Fixation and Sulfur Fertility In Soybeans** Register: <https://go.ncsu.edu/nitrogenregister>

### **Woodland Forestry Management Webinar - Establishing and Managing Open Pine-Hardwood Stands:**

This presentation will afford those with woodlands management guidelines and information. It will begin at 1pm and will last about an hour on March 14, 2023. For more information and to register, visit [HERE](#)

- If you desire other meetings or similar meetings in other counties, all meetings, field days, commodity events, etc. within the state are listed [HERE](#)
- If you would rather obtain NCDA & CS pesticide credits online, click [HERE](#)

## NC Corn Growers Referendum

The Corn Growers Association of North Carolina is holding a check-off referendum on Tuesday, March 14, 2023. This self-assessment has funded project such as:

- Research at NC State University
- Scholarship support at NC State
- Extension Grant program
- Small Farms Week at NC A&T University
- North Carolina FFA, 4-H, and Ag Awareness Week at NC State
- Corn Congress delegates

This year's referendum is different from years last in that it aims to increase the assessment. The current assessment is 1.25 cents per bushel, and the Association is proposing to change the assessment to .30% of settlement. This will bring the Association's assessment in line with other row crop assessments across North Carolina. Too, if approved, the increase will be applied to an endowed chair position at NC State University for the Extension Cropping Specialist-Corn position. This endowment will ensure the position will be filled with the highest qualified candidates in perpetuity.

Voting will occur at the Extension office in the Craven County Agricultural Building, 300 Industrial Drive, New Bern, NC from 8 am – 5 pm.

## ThryvOn Cotton

Drs. Reisig and Huseh, NCSU, have written a great summary of insect management on ThryvOn cotton, titled, [Insect Management in ThryvOn Cotton](#). Several key points to recall are:

- Do not use any in-furrow or foliar insect applications for thrips. Not only is this ineffective, it increases the probability of development of insecticide resistance.
- While this trait is very effective on nymphs of the tarnished plant bugs, it is not as effective on adults. Since adults can easily migrate into the field, we will still need to monitor for adult tarnished plants bugs.
- To manage the possibility of insect resistance as well as preserve profit, should tarnished plant bugs exceed the economic threshold aim to apply the insecticides as directed below.
  - o Centric – Early June
  - o Transform at 2.0 oz in early to mid-June
  - o Bifenthrin + Orthene + Diamond or Transform + Diamond – Late Season

## Online Tobacco GAP Recertification

(This article passed along courtesy for GAP Connections)

For those unable to attend any of the US Flue-Cured Tobacco GAP recertification meetings, the remaining option is to available online at [GAP Connections](#). Realize several key points as follows:

- This is not a sit down and watch a recorded training video approach
- There are 3 categories, and the grower must complete 3 courses in each of the 3 categories
  - Crop & Environmental (26 course choices)
  - Labor (19 course choices)
  - GAPC Overview (5 course choices)
- One must score 100% on the course quiz and may retake the quiz until scoring 100%
- 3 categories x 3 courses = a total of 9 videos and quizzes to complete 2023 Annual GAP Training Online
- 2023 Annual GAP Training must be completed by June 30, 2023.

## Drainage & Irrigation: What does it really cost?

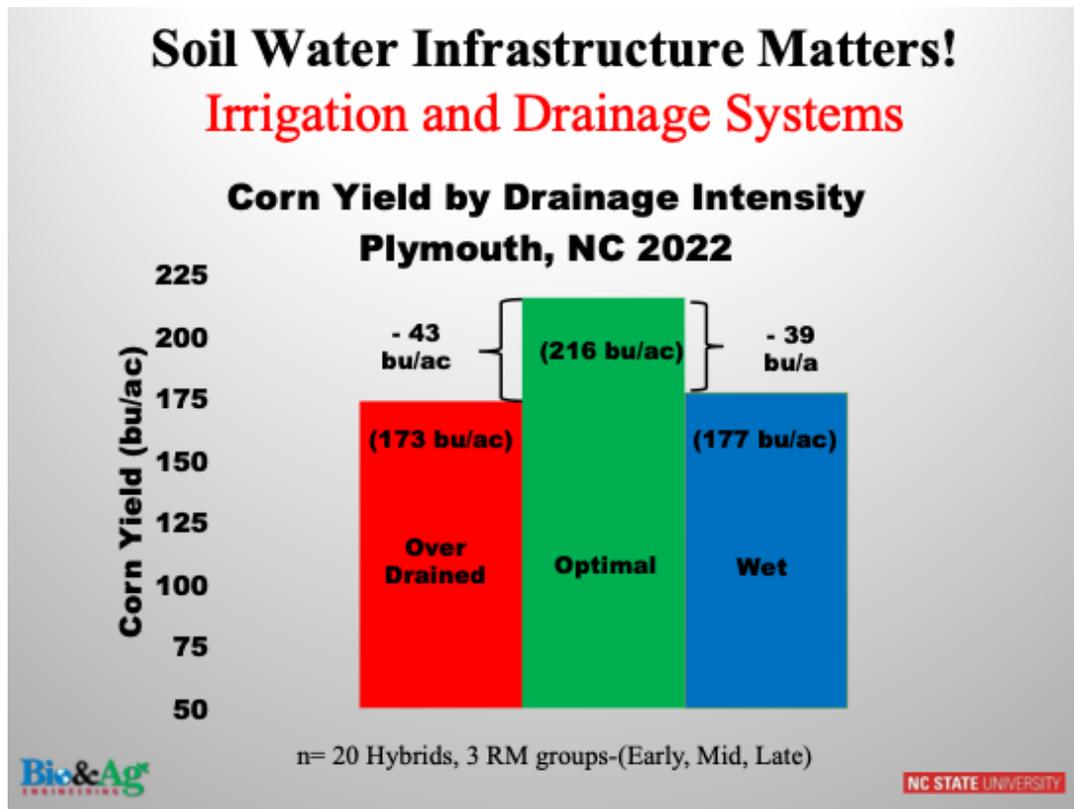
Consider the facts presented from recent research of Dr. Chad Poole, NCSU Ag & Bioengineering regarding the true cost of not having adequate drainage and irrigation.

- On average, we lose about 40 bu/ac of corn yield due to the inability to remove excessive water from wet soils or because we lack the ability to irrigate when water is needed. At a price of \$6.50/bu, that's \$260/ac we lose each year. It is also a great reason to invest in drainage or irrigation systems!
- When considering either too wet or too dry growing conditions, varietal performance of corn is extremely varied. Some do better with wet-stress while other perform better under dry stress. Thus, choosing the correct variety to match your most dominant soil type becomes a critical condition.
- Soybean performance is not quite as dramatic as corn variability under these three soil water conditions but differences do exist. When considering the average performance across all maturity

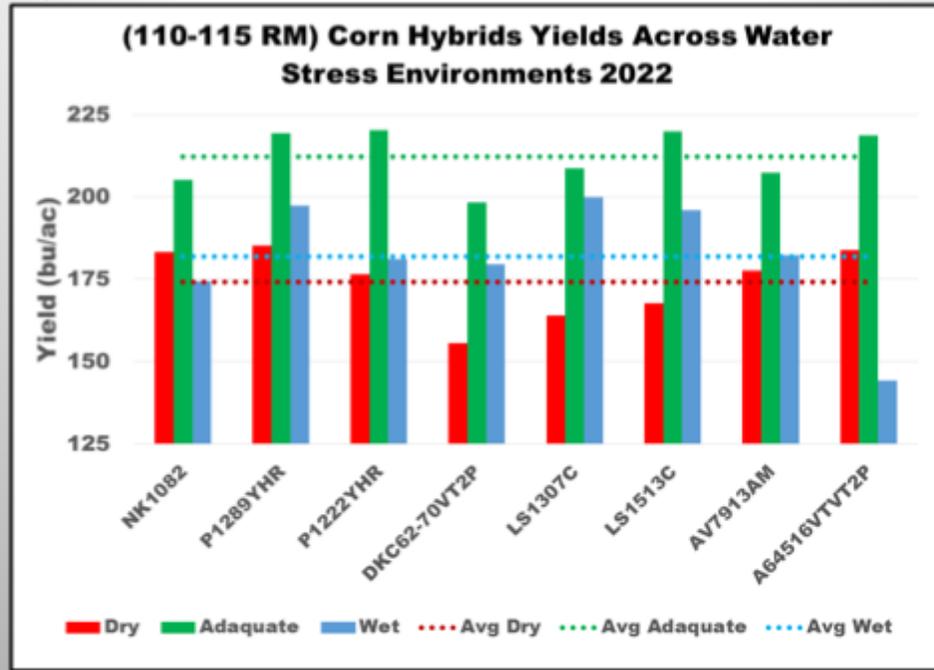
groups, dry, excessively drained soils limit yield far more than normal or wet soil conditions. However, when considering maturity group, Group V had only slight variation in yield due to varying soil water conditions compared to Group V & Group VI. Group V tended to yield less under excessively wet soil conditions while Group VI yield less under very dry soil conditions.

- There are a few difference among varieties but this needs to be studied further. Some performed excellent under wet conditions while others performed poorly. Similarly for dry soil conditions. As such, NCSU will continue testing to determine whether a pattern emerges by hybrid or maturity group.

A summary of data for corn and soybean varietal performance under excessive water conditions, optimal soil water conditions, and dry conditions is found [HERE](#)

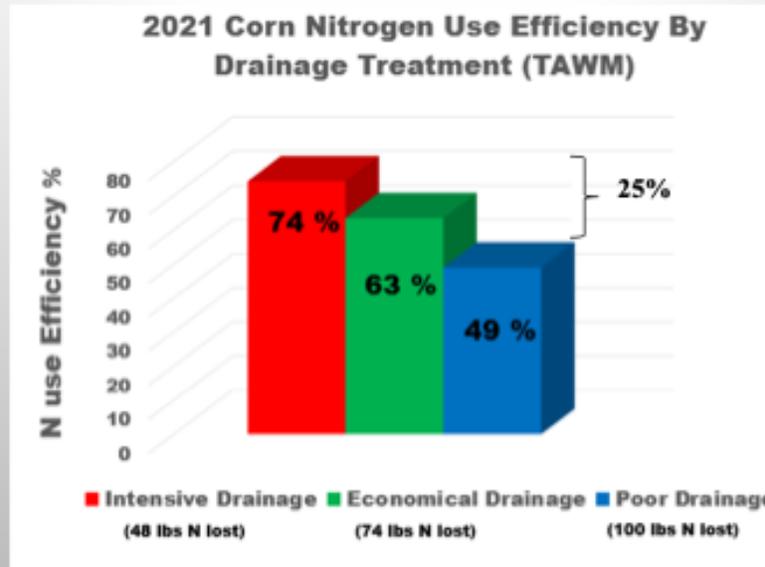


# Hybrid Placement



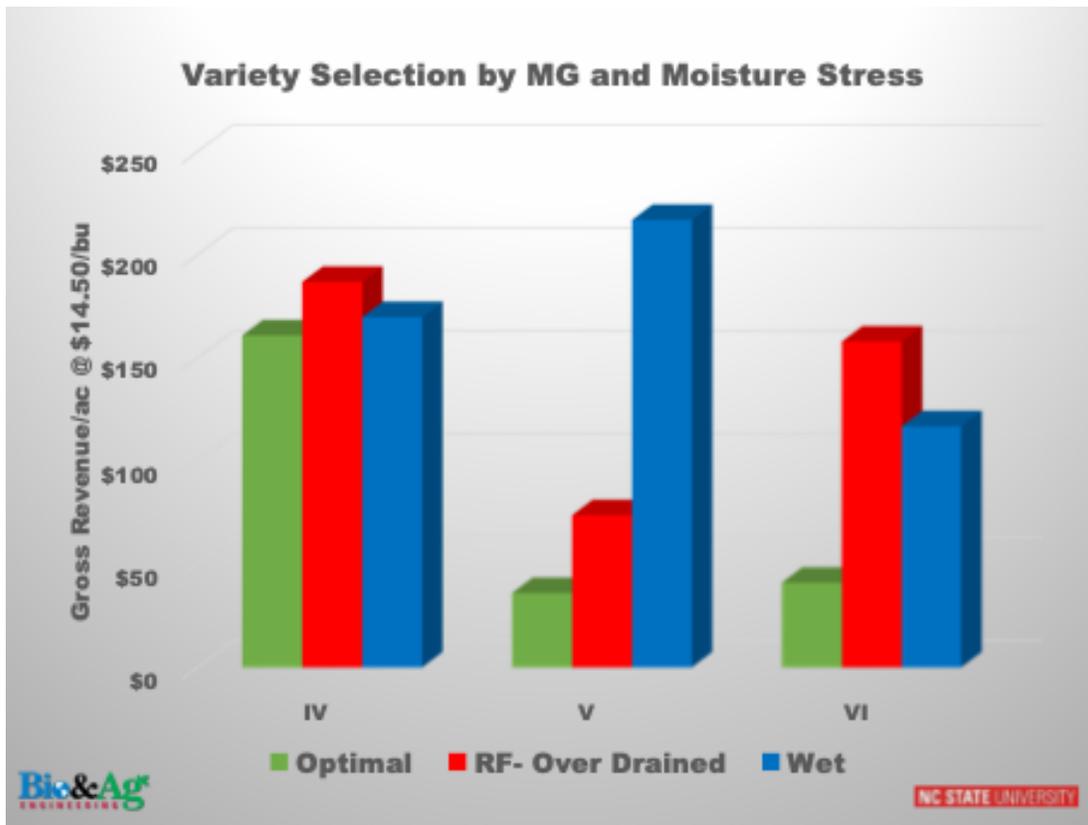
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## Soil Water Management Impacts Nitrogen Use



\*N= 15 hybrids  
\*Precipitation was 67% above Normal

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### Planting Corn by Predicted Climate

Aim to plant corn when the 4-5 day GDD accumulation is above 50 and no more than 2 inches of rainfall will occur within 7 days of planting. To increase the chance for successful corn yield, plant according to major climate pattern: El Nino or La Nina. Currently projections are for El Nina so plant to avoid tassel according to the chart below.

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**Planting Dates and GDD to Silking to Avoid In 2023**

Planting Date	Hybrid Maturity – Growing Degree Days to Silking			
	1200	1300	1400	1500
	----- First Day of Silking -----			
April 5	June 17	June 21	June 25	June 29
April 10	June 18	June 22	June 27	June 30
April 15	June 21	June 25	June 29	July 3
April 20	June 23	June 28	July 2	July 6
April 25	June 26	June 30	July 3	July 8
April 30	June 29	July 3	July 7	July 11
May 5	July 2	July 6	July 10	July 14
May 10	July 5	July 9	July 13	July 18
May 15	July 8	July 12	July 16	July 20

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In addition, evaluate the inputs. Realize that any starter, in-furrow treatment or other product is more likely to be beneficial when growing conditions are poor. In contrast, if the weather is favorable for good growth, then the less the impact any of these inputs. Note the data below.

The data from the Camden area was planted when growing conditions were poor. In contrast, corn was planted when favorable conditions existed. As such, many products provided a positive response in Camden but not in Pamlico.

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### Camden County Testy ROI

Treatment	Yield +/- over check	Gross Return @ \$7.50/bu	Cost of Treatment	ROI over check	Yield Craven Site
	Bu/a	\$	\$	\$	Bu/a
<b>10-27-0 + Rotech @ 20 gpa</b>	+ 26.12	\$195.90	\$87.00	<b>\$108.90</b>	<b>242.1</b>
<b>Radiate @ 4 oz/acre</b>	+ 5.25	\$39.38	\$12.00	<b>\$27.38</b>	<b>221.2</b>
<b>6-22-6 @ 5 gal/a</b>	+ 20.67	\$155.03	\$26.00	<b>\$129.03</b>	<b>236.6</b>
<b>Heatshield @ 0.1 oz/acre</b>	+ 19.8	\$148.50	\$30.00	<b>\$118.50</b>	<b>235.7</b>
<b>Untreated Check</b>	0	0	0	<b>0</b>	<b>215.9</b>



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### Pamlico County Testy ROI

Treatment	Yield +/- over check	Gross Return @ \$7.50/bu	Cost of Treatment	ROI over check	Yield Craven Site
	Bu/a	\$	\$	\$	Bu/a
<b>10-27-0 + Rotech @ 20 gpa</b>	+ 6.67	\$50.03	\$87.00	<b>-\$36.98</b>	<b>240.2</b>
<b>Radiate @ 4 oz/acre</b>	+ 6.55	\$49.13	\$12.00	<b>\$37.13</b>	<b>240.1</b>
<b>6-22-6 @ 5 gal/a</b>	+ 2.61	\$19.58	\$26.00	<b>-\$6.42</b>	<b>236.1</b>
<b>Heatshield @ 0.1 oz/acre</b>	+ 6.83	\$51.23	\$30.00	<b>\$21.23</b>	<b>240.4</b>
<b>Untreated Check</b>	0	0	0	<b>0</b>	<b>233.5</b>

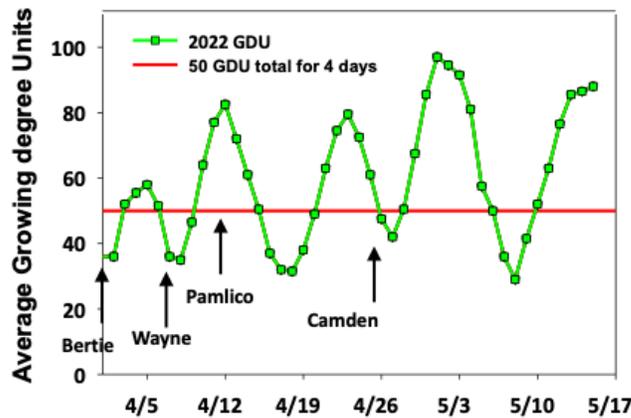


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Use the new [Climate Dashboard for Corn Growers](#) that predict GDD accumulation and alerts of anticipated drought based on planting dates. Too, one can use this tool to increase starter rate when planting conditions are poor and decrease the rate when growing conditions are favorable. Based on the data above, this will increase profit. Note in the image below, positive response to starter was realized when plots were planted in less than optimum planting conditions. Little to no response to starter or yield enhancement product was realized when planting conditions were favorable.

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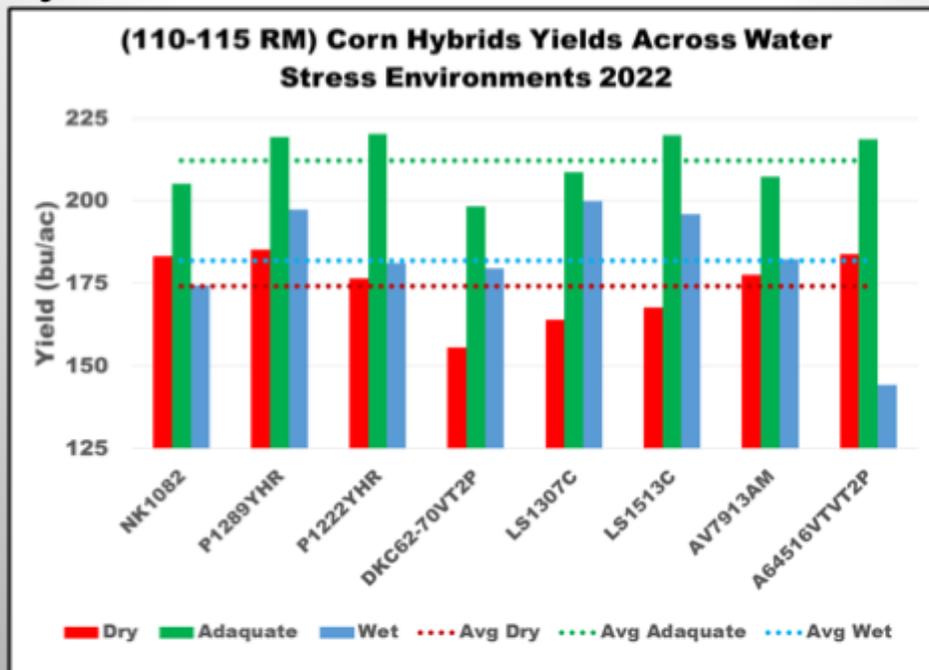
**Can Planting Environments Predict When Starter is Needed?**



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Lastly, realize that all varieties do not respond similarly under stress. The data is limited since it is impossible to test all varieties. However, the image below demonstrates that some varieties perform better under wet stress while others under dry stress. The dotted lines indicate the average yield of corn under the varying water stress or optimum conditions. Note the differences among common varieties.

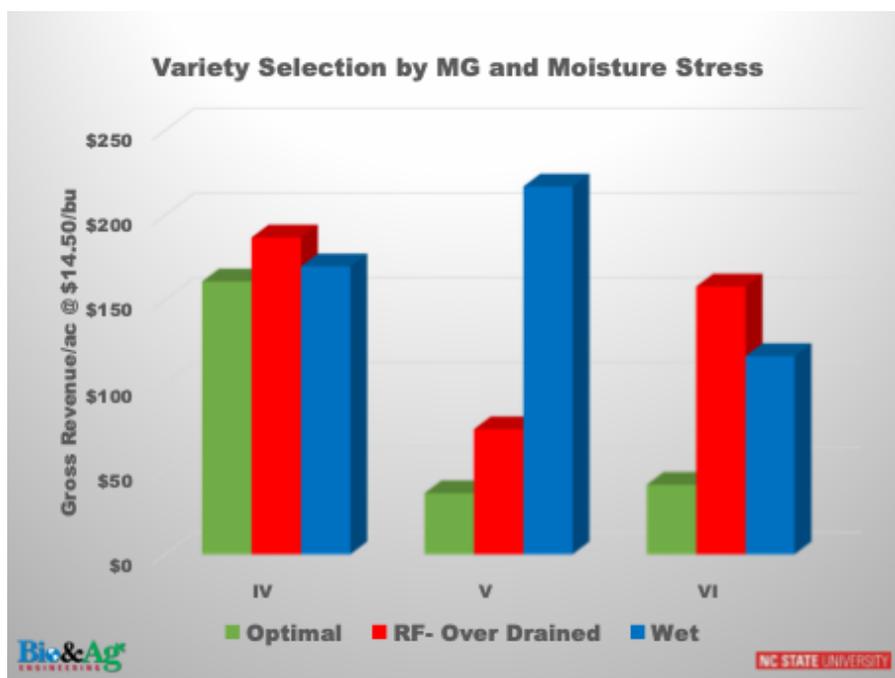
**Hybrid Placement**



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## Soybean Response to Irrigation and Drainage

In the drainage studies above, corn provided some critical results. Regrettably, soybean data suggest a greater variability. In part, this is due to the fact that soybean blooms for a longer period of time. Thus, they have the ability to withstand a few days or even weeks of stress yet still yield well if able to set pods when better growing conditions return. However, there was one trend that seemed interesting. It appears that Group IV soybean performed relatively the same under varying water stress. However, differences were noted among Group V -VI due to water stress. Given limited data, it does not seem feasible to make drastic changes, but it merits examination.



## Wheat Management

Wheat across the county is highly variable. Varying conditions and timing of planting have resulted in some wheat that has exceptionally high yield potential yet others with poor, sporadic plant population. The decision to manage the high yielding wheat potential is easy. Evaluating fields with poor to fair yield potential can be a bit more difficult.

For fields with high yield potential, we simply need to wait to apply spring N. Weather is warmer and soil moisture is good so we still have time to develop spring tillers to produce a seed head. Simply aim to scout as the season progresses for disease and potential insect problems. For these fields, nothing needs to be done now.

Fields with marginal stands should be evaluated based upon the average tiller counts within the field. Randomly select areas and count the number of tillers per square foot. Watch a very short video, [Counting Tillers To Optimize Spring Nitrogen Rates & Timing](#). Generally fields with 20-30 tillers per square foot need 60-70 lbs/ac of N now. Fields with 30-50 tillers per square foot need 40-50 lbs/a of N now. Fields with 50+ tillers per square foot do not need N now. All fields will need the remaining N applied by end of February or early March.

The formula to convert a linear foot to square foot area is:  
(number of tillers in 1.0 linear foot X 12) / Row width in inches

### **In Case You Missed It!**

**Corn, Soybean, and Wheat Update" from December 9th** with Dr. Ron Heiniger, Dr. Rachel Vann, and Dr. Angela Post providing general research data and considerations for grain production in 2023.

**Focus on Soils** featuring Dr. Ekrum Ozlu, Dr. Mallory Choudoir, and Dr. Luke Gatibon presents information on general soil health, soil microbiome and roles of calcium, potassium and magnesium (i.e. application of gypsum, lime and fertilizers on plant-soil health)

**Maximizing Crop Input Efficiency in 2023:** Featuring Dr. Stephanie Keluza, Dr. Rachel Vann, Dr. Ron Heinger, Dr. Luke Gatiboni, and Dr. Chad Poole presenting information on poultry litter and waste applications, plant populations research for soybean, impacts of poor, excessive and optimum irrigation/drainage on yield, keys to corn production, and the impacts of higher fertilizer prices on production (role of N, P & K on yield and optimum use of nutrients).

**The Endangered Species Act; What Farmers Should Know** features Dr. Don Parker of the National Cotton Council, Rebecca Haynie from Syngenta, Dr. Charlie Cahoon, NC State Weed Specialist, Carroll Moseley of CropLife of America discussing the current EPA policy and procedures for pesticide evaluations, impacts this had upon agriculture and historical use of pesticides as it relates to endangered species.

### **Coming Soon:**

Sesame Seed Production

Disclaimer:

*Recommendations for the use of agricultural chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by the NC Cooperative Extension Service nor discrimination against similar products or services not mentioned.*

*Individuals who use agricultural 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 product.*

*Graphs and charts used in this newsletter courtesy of Dr. Ron Heiniger and Dr. Chad Poole, NCSU.*

**NC Cooperative Extension, Craven Center**

**Dr. Tom Glasgow, Director and Consumer Horticulture**

[tom\\_glasgow@ncsu.edu](mailto:tom_glasgow@ncsu.edu)

**Ashley Brook, 4-H & Youth Development**

[albrook4@ncsu.edu](mailto:albrook4@ncsu.edu)

**Stephanie Stephenson, Family & Consumer Sciences**

[stephanie\\_stevenson@ncsu.edu](mailto:stephanie_stevenson@ncsu.edu)

**Mike Carroll, Field Crop Production, Pesticide Coordinator**

[mike\\_carroll@ncsu.edu](mailto:mike_carroll@ncsu.edu)

**Brooke Zeleny, Livestock**

[bzeleny@ncsu.edu](mailto:bzeleny@ncsu.edu)

**Lisa Rayburn, Specialty Crops & Markets**

[lisa\\_rayburn@ncsu.edu](mailto:lisa_rayburn@ncsu.edu)

**Cynthia Mainor**

[cyndi\\_mainor@ncsu.edu](mailto:cyndi_mainor@ncsu.edu)

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