

**NC STATE**

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**Agricultural News From Craven County Extension**

5 messages

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Wed, Feb 8, 2023 at 3:46 PM

**NC STATE** EXTENSION

## NC Cooperative Extension, Craven Center

**Agricultural Update**

February 8, 2023

**In this Newsletter.....****Upcoming Events****Private Applicator Safety Trainings****More on Evaluation of Inputs****Can One Reduce Production Inputs****Herbicide & Insecticide Update****Choosing Cotton Varieties****Tobacco Media Problem????****Wheat Management****Eventbrite Registration****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: February 14 & 22      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](#).

**Private Applicator Safety, Soil Fumigant, Specialty Training & MORE** - On February 21, 2023, Walter Adams will provide classes providing credits for NCDA & CS categories, N, D, X, S, SF (1.0 hour) , V (2 hours) and A, B, G, H, I, K, L, M, N, O, T, D, X, (2 hours) at the Lenoir County Extension office, [1791 NC-11, Kinston, NC 28504](#) as follows:

12:00 - 1:00 PM - N, X, D, S & SF  
 1:00 - 3:00 PM - Safety Training, Category V  
 3:00 - 5:00 PM - A, B, G, H, I, K, L, M, N, O, T, D, X,

To register, email: [walter\\_adams@ncsu.edu](mailto:walter_adams@ncsu.edu) or call (252) 527-2191

**Area Corn & Soybean Production** – On February 15, 2023, beginning at 10 AM, various NC State faculty will present agronomic and pest management updates for corn and soybean production as outlined below. NCDA & CS pesticide credits of 2.0 hours for N, O, D & X have been applied. Registration is via Eventbrite [HERE](#)  
 Tentative Schedule:

10 am-12 pm	Dr. Chad Poole (Water Resiliency Specialist), Dr. Rachel Vann (Soybean Specialist), Dr. Charlie Cahoon (Weed Specialist Corn)
12 - 1 pm	Meal and Sponsor Comments
1 - 3 pm	Dr. Ron Heiniger (Corn Specialist), Ryan Heiniger (OVT Coordinator), Insect Management TBD

**Cotton Production Updates** - On February 14, 2023 beginning with a noon meal, NC State faculty will provide updates on cotton management at the Jones County Civic Center [832 North Carolina Highway 58 Trenton, NC 28585](#). Two hours of pesticide credits will apply. Click [HERE](#) to register.

**NC Cooperative Extension Communication & Cash** – Immediately following the cotton meeting on February 14, 2023 (aiming for 3 pm), help us improve Extension communication and win up to \$150 cash! Dr. Dominic Reisig, NC State Entomology will provide an hour presentation and interactive activity. Participants will win prizes. One is eligible if you: 1) help in farm financial planning, 2) select corn seed for the farm, 3) farm in areas with historical drainage issues. Call our office at 252-633-1477 to register.

**Cucurbit Disease Update and Seedling Production Considerations** – On February 24, 2023 from 10:00 am – 12:00 noon at the Lenoir County Extension Office ([1791 North Carolina 11 Kinston, NC](#)) learn of diseases of cucurbits and their control. Discussion will also include developing a disease spray program. A short update on pumpkin variety performance as well as management for seedling greenhouse transplant production will be included. Pesticide credits: 2 hours of N, O, D, X  
[Click here for registration](#)

- 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](#)

## Private Applicator Safety Training

For those whose Private Applicator license expires in 2023 that need the two-hour Safety Training, (Category V) credits, plan to attend one of the classes below. Those within Craven will be held in the auditorium of the Craven County Agricultural Building, 300 Industrial Drive, New Bern, NC and those within Carteret will be held on the 3rd floor of the CMAST Building, ([303 College Circle, Morehead City, NC](#)). In the event of changes due to adverse weather, information will be posted to NC Extension websites.

### 2023 Private Applicator Safety Classes (Category V)

<u>DATE</u>	<u>TIME</u>	<u>Location*</u>	<u>Registration Limit &amp;</u>	<u>Deadline</u>
Thurs. February 23	2 pm – 4 pm	Craven	40	Feb 21st
<b>Registration Link:</b> <a href="https://www.eventbrite.com/e/490058366767">https://www.eventbrite.com/e/490058366767</a>				

Friday, March 3      3 pm – 5 pm      Craven      40      March  
2nd

**Registration Link:** <https://www.eventbrite.com/e/490058567367>

*Updates, registration links, inclement weather announcements, or other information will be posted at both [Craven](#) and [Carteret](#) Extension webpages. **Soil Fumigation credit for 1.0 hours is available with advance notice.***

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## More on Evaluation of Production Inputs

In previous newsletters, we addressed a few production items that need to be included for all production. Now let's examine a few items that should be avoided as well as some that will depend upon the situation

### Inputs that Depend

- **Seed treatments.** Standard seed treatments are adequate when climatic factors favor early seedling development. Adding additional fungicide or insecticide seed treatments may be warranted should you know of an existing insect problem or disease problem. If one does not know a specific, historical problem, then these added treatments are nor normally required. Too, this year they may be expensive! Similarly views should be taken for nematicide seed treatments. The main consideration is that most seed treatments will not supply the same length of control as an in-furrow treatment. So, unless you have a known problem, why pay for expensive seed treatments? (One critical exception would be to include such treatments for very early planted soybean or cotton)
- **Potassium (K) and Phosphorous:** As noted in previous newsletter, excess P is not profitable. Neither is excessive K. If soil K- index values are very high, this indicates that K occupies many sites on the soil CEC. If so, then calcium and magnesium is not occupying these soil sites and thus may be limited. The point is, excessively high K soil levels do not increase yield. If soil K-indexes are high, avoid application of K.
- **Nematicides:** If known nematodes exists that may cause potential damage, then a resistant variety and other cultural methods (tillage, planting date, etc.) is often sufficient. If the nematode population is very high, a nematicide or alternative crop is warranted. Simply follow the NCDA & CS recommendations. These recommendations work! If you don't have a nematode sample, then you have to make a decision. You have a 50-50 chance your decision is correct.
- **Litter/Waste:** Application of poultry litter or some type of waste seems a great idea. However, depending upon the soil P-index and a crop's nitrogen need, the waste product may or may not be beneficial. Seems contrary to what has been told over years but consider that studies continually show litter to be high in P, low in N, and high in organic matter. The value of other nutrients will vary by the waste source. Given this to be true, waste extremely high In P but very low in N essentially only adds the benefit of more organic matter added to soil if the soil P-index is already high. As another example, waste products with a high N content are beneficial to corn but may be too high for soybean and cotton crops if applied at rates more than just a few tons/acre. So, prior to simply applying waste to a field because you think it is beneficial, determine the nutrient content of the waste and base application on nutrient needs as required by law. If evaluated in this manner, one may determine whether application is beneficial or not.

### Items to AVOID

- **Untested biological products** - . Yes, there are indeed some promising new biological products but testimonial type data should not be used as evidence of success of a product. A biological product's success will not only depend upon the product, but also how it was stored,

transported, and applied. Too, conditions at planting such as soil moisture and temperature or even soil type usually greatly impacts where products are successful. Avoid these until proven effective.

- **Hormonal or bio-stimulant materials to enhance yield** - Many of the "new" products are simply older products that did not work now combined into a new jug with some foliar fertilizer product added. Yes, they often do stimulate rapid growth but seldom does this result in added yield. So, it seems feasible to avoid these type products given potential profit margins are small.
- **Foliar fertilizer to enhance yield or stimulate growth** - This particular topic often stirs some intense conversation. However, just as hormonal or other stimulants, foliar fertilization rarely, if ever, provides additional yield unless one did not fertilize appropriately in the first place. As example, the button below will download studies across the US evaluating multiple foliar products for soybean. None, again, none provided added yield. Additional data supporting this is found at: <https://ipm.missouri.edu/MPG/2019/4/foliarFeeding/>, [https://www.pioneer.com/us/agronomy/foliar\\_feeding.html](https://www.pioneer.com/us/agronomy/foliar_feeding.html), (As always, exceptions do occur. Remedial treatment for micronutrients such as manganese as foliar application has been proven to be highly successful).
- **Gypsum** (other than for peanuts) - Unless the product and application are completely free, avoid paying for gypsum other than for peanuts.

Download, "Foliar Fertilizers Rarely Increase Yield in U.S. Soybean"

## Herbicide & Insecticide Update

According to Dr. Charlie Cahoon, NCSU Weed Specialist, several products are scheduled for elimination of labels for some or all crops. Too, he advised us during a training session that herbicide applications in the very near future are going to become much more complex as the EPA is evaluating products as "potential risks" rather than just the scientific data. For immediate consideration as you plan, realize the products below are at risk of sale in the future:

**Diuron** (Direx and similar products) – The label for cotton for this product may be removed. Other field crops may follow.

**Cotoran** – Cotoran applications may remain for cotton but will be limited to soils with high organic matter only.

**Atrazine** – Atrazine labels will change dramatically. Use will be different for different regions and soil types, soil water conditions and climatic factors. Rate of use will depend upon the crop, timing of application, region, and other factors of herbicide management. Referring to the label will be the only means to ensure proper application. Four changes include

- To prohibit application when soils are saturated or above field capacity
- To prohibit application during rain or when a storm event, likely to produce runoff from the treated area, is forecast to occur within 48 hours following application.
- Prohibit aerial applications of all formulations.
- To restrict annual application rates to 2 pounds of active ingredient or less per acre per year or less for applications to sorghum, field corn and sweet corn.

In addition, Dr. Matthew Vann, NCSU Tobacco Specialist, relayed to tobacco growers during our recent meeting that **imidacloprid** products will be very limited in 2023. This active ingredient is found in products such as Admire Pro (and similar generics), Leverage, and Aeris. Too, it is often included as a seed treatment. The points is that should you normally apply to tobacco within a greenhouse, in-furrow as an insecticide treatment, or as a foliar for other pests, you should begin searching and pricing the

product now. Alternative products may be necessary. We'll keep monitoring the situation, especially as we approach time when soybean and cotton crops are susceptible to caterpillar and stinkbug pest.

## Dicamba Resistance

One great concern is that parts of the US has confirmed pigweed resistance to dicamba. In part, this is due to the fact that many of these area have routinely combined glyphosate + dicamba as a burndown over the past years. This is a good practice but when followed by over the top treatments of the same products, the multiple, sequential applications of dicamba increased the probability of resistance developing.....and it did.

What this means for us is that we need to be careful to include multiple mode of actions within our burndown. We also need to follow this burndown with a pre-emergent herbicide at a planting. Too, whenever possible, we need to use alternative modes of action rather than relying just upon the auxin products. To put this in perspective, some research in these area have dicamba resistant pigweed that is not controlled with four times the highest labeled rate! We don't need this in our area. Dr. Cahoon will be at our production meeting on February 15, 2023. Join us to discuss this and other topics.

## Choosing Cotton Varieties

In 2022, many areas of NC cotton production had severe heat and drought. In contrast, in 2021 we have a much cooler summer with adequate rainfall. The point is that the two distinctly different growing conditions provide opportunity to examine how varieties respond under these two differing climatic seasons. Simply keep this in mind as you review OVT or large-scale farming data.

Another advantage to having such years back to back is that any variety that has consistently performed within the top producing varieties for both years is a well-adapted variety to plant. Fortunately, this is clear when examining data at the [Cotton Variety Selection Tool](#). Considering ONLY yield, the top yielding varieties (below) for three different yielding environments are provided.

Years	Yield	Varieties
2020-2022	1000 lbs/ac or less	DynaGro 3456 (no others listed)
	1000-1500 lbs/ac	NextGen 3195, Stoneville 5091, Delta Pine 2127, Phytogen 400, Stoneviell 4595
	1500+ lbs/ac	Stoneville 4595, DynaGro 3456, Stoneville 5091, DeltaPine 2127, NextGen 3195
2013-2022	1000 lbs/ac or less	Armor 9371, NextGen 3195, CroPLan Genetics 3885, Phytogen 390, DynaGro 3511
	1000-1500 lbs/ac	Armor 9371, Delta Pine 19R125, Phytogen 411, Stoneville 5091, NextGen 3195
	1500+ lbs/ac	Armor 9371, Delta Pine 2038, DynaGro 3519, Phytogen 415, Armor 9831

Even when considering just the yield, note that patterns appear since some varieties are found in multiple lists. This in a good indicator of a good performing variety. Now use the tool to examine lint quality, maturity, plant height, response to plant growth regulators, etc. to make your final decision. Planting the wrong variety on the wrong soil type can be costly.

## Tobacco Media Problem?????

Due to slight changes in soilless media content due to shortage of certain components, all media in 2022 was not equal. Some of these changes resulted in tobacco seedlings that grew more slowly and required additional fertilizer rates applied earlier than normal. Fortunately, this was not a widespread issue. Nonetheless, we are still face the possibility that substitution and changes may be made for media in 2023. Since we don't know manufacturer changes until we purchase, it is advised that we take several steps in 2023 to ensure transplant production.

First, as always, make sure to check the lot number of every bag of media. It is also a good idea to set aside and store one bag from each lot number for sampling should problems arise. Secondly, submit a sample of the media to the NCDA & CS Agronomic Division. Soilless media samples can be submitted for analysis for \$5/sample. Analysis provides nitrate-nitrogen, ammonium-nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, zinc, manganese, copper, boron, sodium, chloride, aluminum, pH, electrical conductivity/soluble salts. The NCDA & CS Agronomic Division's web page provides additional information as well as [forms](#) for media analysis. Next, test the water source. Poor water quality will only make matters far, far worse. The NCDA & CS Agronomic Division's Solution Lab will also provide analysis of water for a fee of \$5. The NCDA & CS Agronomic Division's web page provides additional information as well as [forms](#) to submit for water sample analysis.

Should media be differing from years past, it will be necessary to alter fertility and water management. First, if greater vermiculite was used, this addition will cause cells to retain greater water but also require fertilization a bit earlier than normal (Apply about 7 days after seeding rather than 14 days after seeding). It may also be necessary to slightly increase the fertility rate. Secondly, each time water is added, then make sure to add appropriate acid to correct for carbonate concerns.

Perhaps the worst decision one can make is to assume that some type of changes have been made to the media and to automatically adjust to adding fertilizer earlier. If we do so and no changes have been made to the media, then we greatly, greatly increase the chance of seedling loss due to excessive salt accumulation within the cell. The second worse choice would be to do nothing. In this case, most problems can be corrected after seeding with minimal loss to plants. However, plant growth will be behind schedule and in some cases, we may salvage less than our target goal of 80% of the plants.

As stated earlier, the number of providers making changes last season was small and not widespread. We hope the issues has been resolved but we do not know, nor will we know until growers begin seeding. As such, consider this information as an alert. We respect whatever decision you make. And, as always, if you need assistance with sampling or interpreting data, please do not hesitate to contact us.



## 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

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## Eventbrite & Registration

As noted in prior newsletters, NC Extension is now using Eventbrite for registration of events. Eventbrite is not part of NC State. It is a separate company used for event promotion and registration. This registration method requires the use of your email to register. As such, we cannot register for others. If you have one email for the farm or a family, one can still use this email to sign into registration, just make sure to make more than one reservation/ticket.

If you choose not to register via Eventbrite, you are still welcome to attend meetings and events. There are three limitations to this method that need to be considered.

1. We use the Eventbrite registration as the official list of those attending. If you do not register in advance, then your name will not show on our roster. This may have implications should the meeting provide pesticide credits and your name is not on the roster.
2. We use this registration to decide whether or not to cancel meetings. We respect your time as well as that of our NC faculty and sponsors. If early registration shows that very few have registered, we will cancel and reschedule the event. Cancellation and/or changes in schedules will be sent via Eventbrite to those that registered.
3. We use the registration details to aid us in setting up the room, plan meals, and prepare any hand-out materials that we or sponsors will provide. This is especially important for meals.

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## 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.*

## NC Cooperative Extension, Craven Center

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