

NC STATE

Mike Carroll <cmcarro2@ncsu.edu>

Agricultural News From Craven County Extension

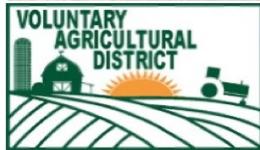
2 messages

Mike Carroll <mike_carroll@ncsu.edu>
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Thu, Apr 27, 2023 at 12:44 PM

NC STATE**EXTENSION**

NC Cooperative Extension, Craven Center

Agricultural Update

April 27, 2023

In this Newsletter.....**Upcoming Events****Season Progress & Outlook****Tobacco Greenhouse Diseases****Thrip Outlook & TSWV****Utrisha Nutrient Efficiency Trials?****PSI Agent Network****Free Pesticide Source Water Quality Testing****How to Easliy Reduce Profit on All Crops****Dealing with Poor Lime Supply: Are Liquid Calcium Products the Answer?**

CropSense Podcasts**It Never Hurts to Ask????**

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If you still need pesticide credits, then consider these classes!

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Season Progress & Outlook

To date, the long-term climate prediction have been true. It was predicted that we would have a milder March, warmer April, and increasing chances of frequent rainfall as we approached May. Initial forecast showed one last “cold” spell for early May but thereafter May was predicted to be warmer and drier than normal. June is predicted to have normal temperature and rainfall but late July and August have been predicted to be much hotter and drier than normal.

Time will tell whether we continue to follow the predicted forecast. However, the net result for us is that we are a bit behind normal in planting corn and transplanting tobacco. We indeed have the ability to rapidly catch up since most have large equipment. So timely planting is still feasible.

One notable item to mention is the observation that we do have resistant rye, pigweed and mare’s tail scattered around in fields after burndown. While nothing has been overwhelming, it merits to mention this so that you can observe this too. If a field has a green, thriving weed in only a few scattered places this year, then next year these weeds will be more abundant unless you prevent it from seeding. For those cultivating after a burndown, this is likely. For those that practice any reduced tillage, then you better find a way to manage this weed! Pull it up or treat with an alternative product. (Realize that in terms of herbicides, paraquat, often in multiple applications, is the only means to control some of these weeds).

Tobacco Greenhouse Diseases

This season of greenhouse transplant production has revealed more late season disease than typical. The NCSU PDIC has confirmed *Erwinia*, a bacterial disease, Black Root Rot (*Berkeleyomycete*

basicola), Target Spot (*Rhizoctonia sp.*) and *Pythium* species. We also suspect *Botrytis*, in one isolated bed. There are several key points to learn from this number of diseases.



The first is that while there are notable differences as the disease progresses, many of these remarkably resemble one another during early infestation. The truth be told, we probably have assumed that pythium was a problem in the past when it was not actually the major issue. The second is that these late season occurrences existed whether Terramaster, Quadris or Dithane was applied or not. Too, various media, fertilizers and even water quality parameters were different. So, no one thing was the common causal agent. Stuff just happened!

So what now? Well, for target spot and pythium, we have preventative products. Perhaps we should be more diligent in the future. For those with Black Root Rot, or Erwinia, there is no solution. In fact, the recommendation is to throw the trays infected with Black Root Rot away to prevent future problems.

Lastly, this has caused us to examine why this year seems so different. We could easily blame it on the fact that most still have really old trays in production but houses with brand new trays were noted with disease this year. Even plastic trays had at least a small amount of disease. So, this can't be the common denominator. Another possible cause is simply the warmer than normal April temperatures. This may be part of the problem. It is feasible. However, there is one other thing that was discussed with NCSU faculty that perhaps we should examine. We have hoses, pumps, circulating tubes and other items in the greenhouse that perhaps has never been cleaned. Too, we often do things like use a metal tool, piece of wood, or some other odd item to "hold down" a hose or pump. All of these items have bacterial and fungi on them. It is possible that we simply keep the potential spores or bacteria in the house year-round or bring in the disease with "odd tools" but this year the warmer than normal temperature provided the perfect growing conditions. Perhaps this is not the case, then again, it is something to consider.



Black Root Rot & Pythium on tobacco transplant



Erwinia on tobacco transplant

Thrip Outlook & TSWV

According to the [Tobacco Thrips Flight and TSWV Intensity Predictor](#), our 3rd generation migration of thrips from winter weeds to summer crops will begin April 28th in New Bern and May 1st near Cove City. Prediction much beyond this western portion will not yet reveal a date since the tool only predicts about 7-10 days in advance. This migration is much earlier than normal. This has two very significant facts that merit discussion.

First, we generally observe greater TSWV in tobacco when we transplant at or near the major thrip migration. Since this is likely to occur this year, expect greater incidence. Regrettably there is nothing we can do other than delay transplanting. Even then, there is no guarantee because with an earlier 3rd generation flight and warmer weather, we frequently have problems with the 4th generation flight too! All this to say that the tool is predicting about a 20% incidence, regardless of greenhouse treatments.

One step that we have taken in the past that may help will be to apply a foliar application of Actigard. However, for this application to work, the plant needs to be actively growing and we need to have the product applied at least a week in advance of the thrip flight. Neither will occur this year for those transplanting now or within the next week. We may need to monitor the thrip flight and apply at a later date. The predicted “window of risk” for TSWV is through early June. If the 4th generation of thrips is large, this could be extended. Monitor the tool for updates.

For other crops such as cotton and peanut, this means we may need to be more diligent about scouting emerging plants. Many in-furrow products will work but uptake of these products requires an actively growing plant. If thrips attack the plant as it emerges, this may not occur. We may need to treat multiple times.

All of these predictions assume favoring climatic conditions. We have no way to know whether this will occur. Rainfall, especially frequent showers, has shown to rapidly decrease thrip populations. If this occurs, it will reduce the chance of thrip injury. For now, all we can do is be aware of the increased threat potential and monitor the crops.

Utrisha™ N Nutrient Efficiency Optimizer as a Foliar Application as Yield Enhancement

Utrisha N is a Corteva product that can be applied to corn as a foliar application up to about the 8th leaf. It is a biological type product promoted as fixing nitrogen for corn. We tried this last season and it

did increase yield about 8-10 bu/ac. We'd like to try this again. Simply put, the cost is relatively inexpensive but generally, application of biological products may or may not provide great benefit, depending upon the climatic factors when applied . So, we'd like to continue examination of the product but we need cooperators willing to put it out. Too, if we conduct this trial, we need to place a request for the product donation now. If interested, we simply need a cooperator willing to put this out in strips across the field as a foliar application. (Simply spray a boom width and then skip a boom width or at least about 12 rows and repeat until the product is gone). We can harvest with your combine or harvest by hand, whichever is easier for you. If interested, please email, text or call me immediately. As stated, if we conduct this test, we need to request the product immediately.

PSI Agent Network

The Plant Science Building is an innovative, open design lab designed to:

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- Creates innovative partnerships among universities, industry and government
- Promotes the integration of research, teaching and outreach programs
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The goal is to join industry, government, all associated colleges at NCSU and other universities (biological, engineering, chemical, agronomist, molecular, etc.) to collaborate to solve a problem or produce a tool that offers an initial solution that can be delivered to growers for immediate testing. Feedback from the growers or agricultural industry will be incorporated into a new design and the process will be repeated until a final, acceptable solutions is produced. The Plant Science Initiative (PSI) has been the term for the efforts. This initiative actually includes NC Extension within the planning and evaluations stages by selection of a small group of Extension Agent to serve.

One of the responsibilities of those selected in the initial PSI Agent Network is to evaluate the process and procedure used to introduce new solutions to the farmers; test this solution/product with the farmer; listen to evaluation of the farmer regarding the product; and relay this information to the designers for improvement. We would then repeat the process until the design is correct and/or problem fixed. In addition the beta-testing products, these PSI Agents will participate in monthly planning sessions, provide tours to the Plant Science Building, and promote the PSI goals through events across the state.

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Following the initial cover crop tool evaluation will be the use of artificial intelligent cameras mounted on sprayers that will evaluate the type of cover crop, amount of cover crop (biomass produced) and other data. This data can be downloaded to be used with other equipment to vary the rate of nitrogen based upon the type and amount of cover residue. For those thinking about only one type of cover, think differently. If one planted legumes and grains in a mix, typically the legumes will do better on less sandy soils within the field and will supply nitrogen to the field. Conversely, grains may do well on the sandier portions of a field yet will not supply much, if any, additional nitrogen. This AI camera will identify what type of cover is growing at cover crop termination and estimate the amount, if any, of nitrogen available for the plant.

Other research is ongoing at the Plant Science Building. Too, the building is considered an “open building’. If not familiar with this concept, then imagine a \$200 million dollar lab space and floors with no offices assigned to any individual. Too, even the few office spaces available offer little, if any privacy since all have glass walls. Common work space is open to anyone working on a project. Too, board rooms with advance electronics are open to all crop commodity boards and meetings. So, if you are in the area and need a place to work for a while, check out this building!

If you have a chance please discover additional information at the [NC Plant Science Initiative website](#). Lastly, as one of the initial agents serving to guide this process, I welcome your comments on what works and what might not be working. Realize too that virtually all grower crop commodity associations have heavily invested in these efforts so stay involved with these groups.

Water Quality Impacts Pesticide Application: A NCSU Survey of Water Quality

Improper water pH, high carbonates, or hard water can rapidly degrade pesticides, especially most fungicides and some herbicides. As such, NCSU is conducting a survey across the state to evaluate the quality of source water used in pesticide application. Samples collected will be sent to the NCDA & CS Agronomic Solutions lab and fees paid by NCSU.

If interested, please contact our office at 252-633-1477 or email me at mike_carroll@ncsu.edu. Samples can be collected in any triple rinsed plastic bottle 20-30 oz. Ideally, the source water should run for at least 10 minutes prior to collecting the sample. Once collected, the water sample needs to be refrigerated until mailed.

We will be glad to take these sample for you as you fill up tanks or you can take the sample and we will come by to pick it up. If multiple sources are used, then make sure to label each sample with a unique label that you will remember.

How to Easily Reduce Profit for All Crops

This year's NCSU Corn Enterprise Budget includes an interactive Excel worksheet with low, medium and high corn yield of 120, 140 and 170 bu/ac, respectively. Rates of total nitrogen range from 110, 130, and 160, respectively. Profit per acre at these nitrogen rates and yields is virtually the same for

the 120 and 140 bu/ac yield. Since only the 170 bu/ac yield with 160 lbs./ac of nitrogen increases profit per acre, then one must carefully examine the impact of producing 120 bu/ac of corn when fertilizing for 140 bu/ac or higher. The difference can result in over \$30/ac of loss profit! If one applies nitrogen at 160 lbs./ac yet only produces 120 bu/ac, then profit is reduced by \$75/ac compared to when applying this much and obtaining 170+ bu/ac. The point is to carefully evaluate corn yield potential and avoid excessive rates of nitrogen. Similarly, other inputs should be examined. Potassium, phosphorous, fungicides, insecticides, etc. should be evaluated for realistic yield. Review the [**NCSU Grain Budgets**](#) and examine how easily profit is reduced when excessive inputs are applied.

Similarly, soybean production should be examined to reduce excessive inputs. Seed treatments are one area that NCSU faculty recommend careful consideration. As example, the current NCSU recommendation for problem fields with known disease is to use an in-furrow fungicide at planting. Seed treatments will offer limited, if any, value when known problems exists. Similarly, starter fertilizer, foliar fertilizers, and foliar yield enhancement products have not been shown to increase yield so application only reduces profit. Read more in the article published in a nationwide study, [**Foliar Fertilizers Rarely Increase Yield In US Soybean**](#). Additional information on production, soybean growth myths, disease management and more is found at the [**Soybean Research Information Network**](#).

Dealing with Poor Lime Supply

Many growers have relayed continual lack of ability to obtain agricultural lime. Some have sought to remedy this by use of liquid calcium products. Be cautious of this. There are essentially two types of products. One product is indeed fine lime particles suspended in solution. This product will rapidly change soil pH in the limited area applied but will last less than about 3 months before the soil will resort back to a low soil pH. Because of the limited area impacted, the rapid response, and high cost, this type of product is not recommended.

The other type of product is promoted as a cheaper product and promotes the same interactions as lime yet falls short of actually labeling the product as lime. This is because it is NOT a liming product. NC law requires all agricultural liming products to list the size particles and calcium carbonate equivalent on the label. This category of product usually has neither. The reality is that it is simply a liquid calcium. There is no agronomic justification to add a few more pounds of a liquid calcium to a soil that already has 10,000-100,000 pounds of calcium per acre. Useless.

If you are finding it slow or difficult to find lime, you are not alone. Realize that even the application of lime the day of planting has shown to increase yield within soybean. Similarly for peanut. So, keep looking for actual lime, not substitutes.

It Never Hurts to Ask????

We have obtained seed to plant a very limited amount of sesame seed to evaluate. It appears to be a great rotational crops, requires little fertility, is not liked by deer, and is not impacted by

root not nematodes. Too, profit per acre has fallen between soybean and corn.

We have cooperators willing to plant but we prefer to plant on 20-36 inch rows. However, to do so, we need planter plates similar to canoloa. If you have such and would be willing to let us use them or would plant sesame for us, please call me at 252-633-1477.

CropSense Podcast

Jacob Morgan, Director of Jones County Extension, produces weekly podcast with NCSU faculty and industry. His recent podcast included Drs. Rachel Vann, Guy Collins and Matthew Vann to discuss soybean planting, cotton planting and tobacco transplant consideration. If you would like to listen to these podcast, visit, <https://www.buzzsprout.com/1780395/12734496>

In Case You Missed It!

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.

Sesame Seed Production -This video provides information from Dr. David Suchoff, NCSU regarding research data for production of sesame. Industry representative also provide insight into current contracts.

Applying foliar fertilizers in soybeans, Dr. Rachel Vann and Jenny Carleo

Monitoring soil moisture levels - Dr. Chad Poole

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

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NC State University and N.C. A&T State University work in tandem, along with federal, state and local governments, to form a strategic partnership called N.C. Cooperative Extension.

This institution is an equal opportunity provider.

N.C. Cooperative Extension - Craven County Center, 300 Industrial Dr, New Bern, NC 28562, United States

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Thomas Glasgow <teglasgo@ncsu.edu>
 To: Mike Carroll <mike_carroll@ncsu.edu>

Fri, Apr 28, 2023 at 9:00 AM

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Black Root Rot & Pythium on tobacco transplant



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Following the initial cover crop tool evaluation will be the use of artificial intelligent cameras mounted on sprayers that will evaluate the type of cover crop, amount of cover crop (biomass produced) and other data. This data can be downloaded to be used with other equipment to vary the rate of nitrogen based upon the type and amount of cover residue. For those thinking about only one type of cover, think differently. If one planted legumes and grains in a mix, typically the legumes will do better on less sandy soils within the field and will supply nitrogen to the field. Conversely, grains may do well on the sandier portions of a field yet will not supply much, if any, additional nitrogen. This AI camera will identify what type of cover is growing at cover crop termination and estimate the amount, if any, of nitrogen available for the plant.

Other research is ongoing at the Plant Science Building. Too, the building is considered an “open building’. If not familiar with this concept, then imagine a \$200 million dollar lab space and floors with no offices assigned to any individual. Too, even the few office spaces available offer little, if any privacy since all have glass walls. Common work space is open to anyone working on a project. Too, board rooms with advance electronics are open to all crop commodity boards and meetings. So, if you are in the area and need a place to work for a while, check out this building!

If you have a chance please discover additional information at the [NC Plant Science Initiative website](#). Lastly, as one of the initial agents serving to guide this process, I welcome your comments on what works and what might not be working. Realize too that virtually all grower crop commodity associations have heavily invested in these efforts so stay involved with these groups.

Water Quality Impacts Pesticide Application: A NCSU Survey of Water Quality

Improper water pH, high carbonates, or hard water can rapidly degrade pesticides, especially most fungicides and some herbicides. As such, NCSU is conducting a survey across the state to evaluate the quality of source water used in pesticide application. Samples collected will be sent to the NCDA & CS Agronomic Solutions lab and fees paid by NCSU.

If interested, please contact our office at 252-633-1477 or email me at mike_carroll@ncsu.edu. Samples can be collected in any triple rinsed plastic bottle 20-30 oz. Ideally, the source water should run for at least 10 minutes prior to collecting the sample. Once collected, the water sample needs to be refrigerated until mailed.

We will be glad to take these sample for you as you fill up tanks or you can take the sample and we will come by to pick it up. If multiple sources are used, then make sure to label each sample with a unique label that you will remember.

How to Easily Reduce Profit for All Crops

This year's NCSU Corn Enterprise Budget includes an interactive Excel worksheet with low, medium and high corn yield of 120, 140 and 170 bu/ac, respectively. Rates of total nitrogen range from 110, 130, and 160, respectively. Profit per acre at these nitrogen rates and yields is virtually the same for

the 120 and 140 bu/ac yield. Since only the 170 bu/ac yield with 160 lbs./ac of nitrogen increases profit per acre, then one must carefully examine the impact of producing 120 bu/ac of corn when fertilizing for 140 bu/ac or higher. The difference can result in over \$30/ac of loss profit! If one applies nitrogen at 160 lbs./ac yet only produces 120 bu/ac, then profit is reduced by \$75/ac compared to when applying this much and obtaining 170+ bu/ac. The point is to carefully evaluate corn yield potential and avoid excessive rates of nitrogen. Similarly, other inputs should be examined. Potassium, phosphorous, fungicides, insecticides, etc. should be evaluated for realistic yield. Review the [**NCSU Grain Budgets**](#) and examine how easily profit is reduced when excessive inputs are applied.

Similarly, soybean production should be examined to reduce excessive inputs. Seed treatments are one area that NCSU faculty recommend careful consideration. As example, the current NCSU recommendation for problem fields with known disease is to use an in-furrow fungicide at planting. Seed treatments will offer limited, if any, value when known problems exists. Similarly, starter fertilizer, foliar fertilizers, and foliar yield enhancement products have not been shown to increase yield so application only reduces profit. Read more in the article published in a nationwide study, [**Foliar Fertilizers Rarely Increase Yield In US Soybean**](#). Additional information on production, soybean growth myths, disease management and more is found at the [**Soybean Research Information Network**](#).

Dealing with Poor Lime Supply

Many growers have relayed continual lack of ability to obtain agricultural lime. Some have sought to remedy this by use of liquid calcium products. Be cautious of this. There are essentially two types of products. One product is indeed fine lime particles suspended in solution. This product will rapidly change soil pH in the limited area applied but will last less than about 3 months before the soil will resort back to a low soil pH. Because of the limited area impacted, the rapid response, and high cost, this type of product is not recommended.

The other type of product is promoted as a cheaper product and promotes the same interactions as lime yet falls short of actually labeling the product as lime. This is because it is NOT a liming product. NC law requires all agricultural liming products to list the size particles and calcium carbonate equivalent on the label. This category of product usually has neither. The reality is that it is simply a liquid calcium. There is no agronomic justification to add a few more pounds of a liquid calcium to a soil that already has 10,000-100,000 pounds of calcium per acre. Useless.

If you are finding it slow or difficult to find lime, you are not alone. Realize that even the application of lime the day of planting has shown to increase yield within soybean. Similarly for peanut. So, keep looking for actual lime, not substitutes.

It Never Hurts to Ask????

We have obtained seed to plant a very limited amount of sesame seed to evaluate. It appears to be a great rotational crops, requires little fertility, is not liked by deer, and is not impacted by

root not nematodes. Too, profit per acre has fallen between soybean and corn.

We have cooperators willing to plant but we prefer to plant on 20-36 inch rows. However, to do so, we need planter plates similar to canola. If you have such and would be willing to let us use them or would plant sesame for us, please call me at 252-633-1477.

CropSense Podcast

Jacob Morgan, Director of Jones County Extension, produces weekly podcast with NCSU faculty and industry. His recent podcast included Drs. Rachel Vann, Guy Collins and Matthew Vann to discuss soybean planting, cotton planting and tobacco transplant consideration. If you would like to listen to these podcast, visit, <https://www.buzzsprout.com/1780395/12734496>

In Case You Missed It!

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.

Sesame Seed Production -This video provides information from Dr. David Suchoff, NCSU regarding research data for production of sesame. Industry representative also provide insight into current contracts.

Applying foliar fertilizers in soybeans, Dr. Rachel Vann and Jenny Carleo

Monitoring soil moisture levels - Dr. Chad Poole

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.

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