

Field Crops Newsletter

Granville and Person County
Mikayla Graham

July 2023



Drowned tobacco. *Photo by RJ Reynolds Tobacco Company.*

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Managing Drowned Tobacco

We had an extreme amount of rain during the week of June 19th. I have seen some cases of drowned tobacco throughout both counties, so please take a look at this excerpt from the Tobacco Production Guide to aid you in managing these plants:

"In most drowning situations, adding 10 to 15 lb of extra nitrogen usually benefits the crop if it was not overfertilized with nitrogen before drowning. However, using the leaching adjustment procedure for a drowned crop often overestimates the amount of nitrogen to replace and may delay ripening and cause curing problems later in the season.

Heavy, frequent rains may cause drowning (root injury). Deep rooting is limited as long as the soil remains saturated, confining root development to the upper 6 to 10 in. Many growers make at least one application of dry or liquid fertilizer after drowning in an attempt to reduce losses in yield and quality. Experiments were conducted on research stations near Kinston and Clayton in 1995 to study the effects of soil-applied fertilizers on the yield and quality of partially drowned tobacco. (The term "partially drowned" is used because the tobacco remained wilted for only several days and then recovered.) ...The results are averages of two nitrogen rates at Kinston (15 and 30 lb per acre) and one nitrogen rate at Clayton (20 lb per acre). All fertilizer treatments, made in one application on June 20, improved yield and value per acre compared to the nonfertilized control. The 16-0-0 and 30% liquid nitrogen fertilizers increased yield and value about 10%, and the 15-0-14 and 8-0-11 fertilizers increased yield and value about 15%. This indicates that the potassium supplied by the 15-0-14 and 8-0-11 fertilizers may have improved yield more than the 16-0-0 and 30% liquid nitrogen fertilizers that supplied only nitrogen. None of the fertilizers improved grade index or average market price compared to the control."

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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Managing Drowned Tobacco

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There has also been discussion about the impact that the rain has made on the disease management of tobacco in the field. Foliar leaf diseases, like Target Spot and Brown Leaf Spot had been discovered in Granville County prior to our heavy rainfall. Since the rain, I have heard report in both counties of Target Spot spreading onto the crop. This means that growers should go ahead and begin preparing to determine their disease management. The fungicide product Quadris is very effective on Target Spot, can be sprayed every 7-14 days (no more than 30 fl. oz. per year), and can be used in rotation with a herbicide like Howler. Quadris has a 21 day harvest interval, so if late season control is needed, Howler is a good choice because there is no pre-harvest interval.



What's all this Smoke Doing to My Corn?

Corey Davis – Assistant State Climatologist

The recent smoky air, courtesy of wildfires burning in eastern Canada, and more recently from the wild fire in Brunswick County wasn't just hazardous to humans. It was also potentially impactful for crops, which breathe the same air and – unlike people – can't take shelter indoors to escape the smoke.

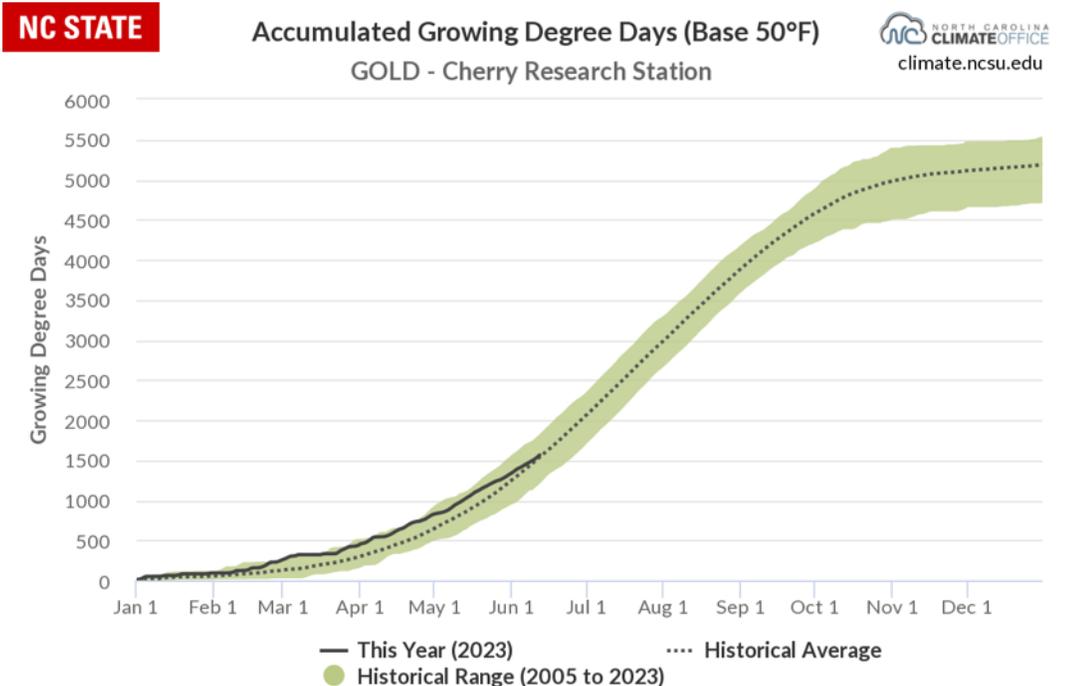
In extreme cases, where ash particles are falling directly onto leaves, it can clog their stomatal pores, which both slows the intake of carbon dioxide and increases the rate of water loss, according to Dr. Lew Feldman with the Botanical Garden at Berkeley.

Fortunately, we didn't see those sorts of impacts in North Carolina from the Canadian fire during our smoky start to June, although earlier this spring, the Great Lake Fire burning in the Croatan National Forest briefly sent a thick smoke plume across eastern North Carolina, with reports of ash falling from the sky in New Bern. The more likely – and certainly more widespread, given the broad swath of the eastern United States covered by the smoky air mass – impact on crops such as corn is a reduction in solar radiation due to the smoke and haze overhead.

Among the North Carolina ECONet, the 44 weather stations operated by the State Climate Office, many measured lower incoming solar radiation levels compared to what we'd expect on clear days at this point in the summer.

When the smoke first moved in from the north, the solar radiation as measured by the station at NC A&T State University in Greensboro was 10 to 40% lower than the "clear sky" estimates for that day. As we approach the longest day of the year with the most available sunlight, crops have effectively been shortchanged by the recent conditions.

And it's not just the smoke to blame. May was cooler than normal across the state in part because of northerly upper-level winds – the same ones that eventually pulled in the smoke -- and ample cloud cover. In Raleigh, it was mostly cloudy or overcast for 533 hours last month, or 72% of the time. Locally, it was the second-cloudiest May there since 1973, trailing only 2009.



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What's all this Smoke Doing to My Corn - Continued

Our early warm-up, beginning with those 80-degree days in late February, has growing degree day accumulations on par with the historical average at this point in the year, but rate of accumulation has certainly slowed over the past several weeks, reflecting the cooler weather at hand since early May.

Dr. Mark Jeschke with Pioneer Agronomy has previously noted that along with hindering crops' ability to perform photosynthesis, decreases in solar radiation can affect stalk quality since the plants use more of their carbohydrates for grain filling. During prolonged periods with low solar radiation, this can create issues with stalk rots and lodging.

Past research has shown that light reductions of 50% or more during the grain fill period can reduce corn yields by more than half. However, some good news for North Carolina's corn growers could be the timing this recent cool, cloudy, and smoky weather. Reductions in solar radiation prior to silking were found to have less of an impact on corn yields than when they occurred during the silking and grain fill periods.

Now that the upper-level winds have shifted to warmer westerlies, the smoke is out of our skies and the summer sun is returning. That should favor clearer weather during the days, but we'll also look for evening showers and thunderstorms to meet the moisture demands of corn at this critical time of the growing season. The 8 to 14-day outlooks from the Climate Prediction Center show increased chances for above-normal precipitation across North Carolina later this month.

While we don't expect the smoke to return, we also can't completely rule it out, especially as wildfire season kicks off in the western US and other areas. Two summers ago, we saw a few days of hazy weather and elevated fine particulate matter concentrations in July 2021 as smoke from central Canada was carried in by the upper-level winds.

For now, the extent of the Canadian wildfires has thankfully decreased. As of June 13, the Quebec government reported 113 active forest fires – down from more than 160 at the peak last week – with 36 out of control.

That news, and the clearer weather that returned this week, should help us breathe a little easier, among people and plants alike.

FSA UPDATES

The Granville County FSA Office is seeking nominees for the 2023 County Committee Election. Elections will be held in Local Administrative Area (LAA) 3 this year. This area includes Oak Hill, Sassafras Fork, and Salem Townships. June 15 through August 1, 2023 is the period for nominating farmers and ranchers as candidates for the local COC election. FSA encourages all eligible producers to nominate themselves, or another eligible producer, to run for office.

County committee members are a critical component of day-to-day operations of FSA. Farmers who serve on the committee help decide the kind of programs their counties will have and how they will be administered. Committee members apply their judgment and knowledge to make local decisions; however, they operate within official regulations designed to carry out federal laws.

A fact sheet detailing County Committee Elections is attached for your convenience. Nomination form (FSA-669A's) is also attached and also available at www.fsa.usda.gov/elections. Interested parties may also pick FSA-669A at your local FSA office or call your local office and request FSA-669A be sent to you.

Feel free to share this email. Please contact our office at 919-693-7345 ext. 2 if you need assistance or have questions.

REMINDER – FSA Crop Reporting Cutoff Date for Soybeans and Tobacco is JULY 15th

UPCOMING EVENTS

2023 Oxford Soybean Field Day

Tuesday, July 11th, 2023 @ 9:00 AM

- In-person at the Oxford Research Station – Currin Farm (2511 US-158, Oxford, NC 27565)
- Speakers: Drs. Rachel Vann, Luke Gatiboni, and Wesley Everman
- 2 hours N, O, D, and X NCDA&CS pesticide credit offered
- Breakfast will be provided
- Register at <https://go.ncsu.edu/2023oxfordsoybeanfieldday>



2023 NC State Organic Commodities Field

Tuesday, July 18th, 2023 @ 8:30 AM

- In-person at the Cherry Research Farm (604 Farm Road, Goldsboro, NC 27530)
- Register at <https://www.eventbrite.com/e/2023-organic-commodities-field-day-tickets-637386178217>

2023 NC State Tobacco Field Day

Wednesday, July 19th, 2023 @ 9:00 AM

- In-person at the Upper Coastal Plain Research Station (2811 Nobles Mill Pond Rd, Rocky Mount, NC 27801)
- Register at <https://www.eventbrite.com/e/2023-nc-state-tobacco-field-day-tickets-662982678037>



Cover Crops Workshop

Friday, July 28th, 2023 @ 11:30 AM

- In-person at the Granville County Expo Center
- Speakers: Drs. Chris Reberg-Horton and Rodrick Rejesus
- Lunch will be provided!
- Registration: <https://go.ncsu.edu/covercrop2023>

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.

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In compliance with the Americans with Disabilities act, N.C. Cooperative Extension or NC State University will honor requests for reasonable accommodations made by individuals with disabilities. Please direct accommodation requests to Mikayla Graham, Mikayla_graham@ncsu.edu, 9195031350 or 336-599-1195. Requests can be served mor effectively if notice is provided at least 10 days before the event.