TOBACCO

Greenhouse Water Quality

The first step in a successful tobacco greenhouse fertilization program is a NCDA water sample. NCDA provides water analysis for $5.00 per sample. A clean, 16-20 ounce nonreturnable plastic drink bottle with a screw-on cap is an excellent water sample bottle. The bottle should be rinsed several times with the water to be tested before collecting the sample. The water should flow several minutes before securing the sample. When completing the NCDA solution analysis information sheet, specify ST in the solution code. ST represents transplant production solution source water. In the sample description/comments area, please state tobacco float greenhouse.

Water quality is typically the starting point when solving a potential greenhouse nutrient deficiency. If a preseason water sample has been taken, this speeds the corrective measure process.

Total Alkalinity
The desirable total alkalinity concentration is less than 100 ppm. At concentrations less than 100 ppm, source water alkalinity adjustment is not necessary and should not be made. If the total alkalinity concentration is 100 ppm or more, add battery acid based on the AR (acid requirement). The AR value indicates the number of ounces of battery acid (9.19N sulfuric acid) to apply to each 100 gallons of water for alkalinity adjustment.

Boron
The desirable boron concentration is 1-2 ppm. If boron concentration is less than 1 ppm, use a tobacco greenhouse complete fertilizer that guarantees a trace of boron.

Greenhouse Seeding & Germination

As a general rule, seeding should occur 50-55 days prior to the desired transplanting date. If April 10 is the desired transplanting date, February 19 (50 days) or February 14 (55 days) would represent the approximate seeding date. Early seeding increases production costs (fuel, labor, etc.) and the potential for disease and insect problems.

The ideal germination temperature (tray level temperature) for tobacco seeds is 68 degrees F at night and 86 degrees F during the day. Burning fuel to maintain nighttime temperature above 68 degrees F and reducing ventilation to maintain daytime temperature above 86 degrees F is not necessary for fast, uniform germination. Germination usually requires 7-10 days.
After maximum seedling emergence, nighttime tray level temperature can be reduced to 55-60 degrees F. A daytime tray level temperature of 80-85 degrees F is adequate for normal growth. Plant injury due to heat can occur if tray level temperature exceeds 100 degrees F.

Greenhouse Fertilization

Common tobacco greenhouse complete fertilizers (2-1-2, 3-1-3, or 4-1-4 ratios) should perform similarly. As a result, I will not mention fertilizer analyses below. The point of emphasis is to apply appropriate concentrations at appropriate times.

For growers utilizing fertilizer injection systems, a constant application of 125 ppm nitrogen from a tobacco greenhouse complete fertilizer is recommended.

For growers without injection systems, the tobacco greenhouse complete fertilizer should be added to the waterbed in two steps. Step 1 is: 100-150 ppm nitrogen should be applied to the waterbed within 7 days after seeding. Step 2 is: 4 weeks after the initial fertilizer application, an additional 100 ppm nitrogen should be applied to the waterbed. The additional 100 ppm nitrogen application is based on the total waterbed volume (as is the case for the initial application).

The amount of water per waterbed can be calculated by using the following: length (ft) x width (ft) x depth (ft) x 7.48 gallons/cubic foot. Remember the depth figure must be expressed in feet, not inches. Also note there are 16 ounces in 1 pound.

UPCOMING EVENTS

Cotton Production Meeting
Tuesday, February 20 – 5:00 pm
Wilbur’s BBQ – Goldsboro

Dr. Alan York, NCSU Extension Weed Science Specialist, and Dr. John Van Duyn, NCSU Extension Entomology Specialist, will be guest speakers. Glyphosate-resistant palmer amaranth, plant bugs, stinkbugs, and seed treatments include topics to be discussed. A sponsored meal will be served. Please call the Wayne County Extension Center 919-731-1520 to preregister.

Tobacco Curing Efficiency Meeting
Wednesday, February 28 – 9:00 am
Wilson County Extension Center

The program will include Robert Boyette, a Wilson County tobacco farmer, sharing his experience with curing barn automatic controllers and a computer monitoring system. Three automatic controller manufacturers (Cureco, MarCo, and Gas Fired Products) will discuss product features. The meeting will end with a sponsored meal. Please call the Wilson County Extension Center 252-237-0111 to preregister by Monday, February 26.

Peanut Production Meeting
Wednesday, February 28 – 6:00 pm
Lenoir County Extension Center

Dr. David Jordan, NCSU Extension Peanut Specialist, and Dr. Barbara Shew, NCSU Extension Plant Pathology Specialist, will be guest speakers. A sponsored meal will be served.
Labor Issues Facing Agricultural Industries Meeting
Tuesday, March 6 – 6:00 pm
Johnston County Extension Center

Representatives from the US Department of Labor, NC Department of Labor, NCDA&CS, NC Farm Bureau, NC Growers Association, and NCSU will speak. A question-answer session is planned. A meal will not be served at this meeting.

Pesticide Disposal Day
Wednesday, March 7 – 10 am – 2 pm
Duplin County Landfill

This day is scheduled to manage the safe collection and lawful disposal of banned, outdated, or unwanted pesticides. Disposal is free and North Carolina farmers/homeowners are encouraged to participate. Pesticides should be in sound containers with enough label for identification purposes. For additional information, contact Whit Jones, Duplin County Extension Pesticide Coordinator, at 910-296-2143.

Curtis D. Fountain
Extension Agent
Agriculture – Field Crops

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