UPCOMING EVENTS

Soybean/Corn/Wheat Meeting
Tuesday, February 5 – 6:00 pm
Duplin County Extension Center

Dr. Jim Dunphy, NCSU Extension Soybean Specialist, will be the guest speaker. Curtis Fountain will highlight corn and wheat production tips. NCDA&CS pesticide and CCA credits will be available. A sponsored meal will be served. Please call 910-296-2143 if you plan to attend.

Cotton Production Meeting
Wednesday, February 13 – 6:30 pm
Wilbur’s BBQ, Goldsboro

NCDA&CS pesticide credits will be available. A sponsored meal will be served. Please call 919-731-1521 if you plan to attend.

Peanut Production Meeting
Thursday, February 28 – 6:00 pm
Duplin County Extension Center

TOBACCO GREENHOUSES

NCDA&CS Solution Analysis Report

At this point, you likely have your water sample report. In some instances, recommendations note certain nutrients. The following may offer additional interpretation assistance.

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.

Calcium
The desirable calcium concentration is 40-100 ppm. If calcium concentration is less than 40 ppm, a calcium-containing tobacco greenhouse complete fertilizer or gypsum (landplaster) can be used to supply additional calcium. Do not add both. If gypsum is used, apply 3 ounces per 100 gallons of water in the waterbed.
Greenhouse Seeding & Germination

As a general rule, seeding should occur 50-55 days prior to the desired transplanting date. If April 10 were the desired transplanting date, February 20 (50 days) or February 15 (55 days) would represent the approximate seeding date. Early seeding increases production costs (fuel, labor, etc.) and the potential for disease and insect problems. Seeding during sunny periods promotes uniform emergence.

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. Fuel use decreases 15% for every 5-degree reduction in temperature. 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.

Salt Injury

High temperatures, low humidity, and excessive air movement promote water evaporation from the growing medium surface. This results in fertilizer salts accumulation in the medium at the top of the cell. High salt levels can injure (burn) young seedlings. This situation should be monitored from seedling emergence until plant roots grow into the waterbed. Consider overhead watering 14 days after seeding to reduce potential salt injury.

Disclaimer: The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by North Carolina State University nor discrimination against similar products or services not mentioned.

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