February 3, 2006

TOBACCO

Variety Selection

While disease resistance, yield, quality, and holding ability continue to be important variety selection factors, please do not overlook value. Value considers yield and quality.

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.

NCDA solution analysis information sheets are available at the Duplin County Extension Center.

Water quality is typically the starting point when solving a potential greenhouse nutrient deficiency. If a preseason water sample has not been taken, this slows 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.

Calcium

If your NCDA Solution Analysis Report recommendations contain the following statement, calcium adjustment is needed.

You may have to apply gypsum or another calcium source occasionally to address excess sodium accumulation in the soil.

A calcium-containing tobacco greenhouse complete fertilizer (2-1-2, 3-1-3, or 4-1-4 ratio) 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 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 temperatures above 68 degrees F and reducing ventilation to maintain daytime temperatures above 86 degrees F is not necessary for fast, uniform germination. Germination usually requires 7-10 days.

After maximum seedling emergence, nighttime tray level temperatures can be reduced to 55-60 degrees F. Daytime tray level temperatures of 80-85 degrees F are adequate for normal growth. Plant injury due to heat can occur if tray level temperatures exceed 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.

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**CROP INFORMATION**

As of February 8, 2006 *Flue-Cured Tobacco Information, 2006 Cotton Information, 2005 NCSU Corn Measured Crop Performance,* and *2005 NCSU Cotton/Soybean Measured Crop Performance* books are available at the following locations: Dixie (Beulaville), Dixie (Pin Hook), Dixie (Warsaw), Royster-Clark (Pink Hill), and Southern States (Wallace). As of February 8, 2006 *Cotton Information* books are also available at Tri-County Cotton Gin. This newsletter contains some 2005 NCSU soybean data.

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**PEANUTS**

**WHAT:** Area Peanut Production Meeting

**WHEN:** Monday, February 20 - 6:00 pm

**WHERE:** Lenoir Co. Extension Center

**COMMENTS:** 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.

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Curtis D. Fountain
Extension Agent
Agriculture - Field Crops