

Caswell County Center  
PO Box 220  
Yanceyville, NC 27379  
Phone: (336) 694-4158  
Fax: (336) 694-5930  
URL: <http://caswell.ces.state.nc.us>

## **CASWELL TOBACCO EXTENSION NOTES**

### **Spring 2015 Season**

Hello again,

Sitting here I am reflecting back on some of the things that growers have encountered this past year and are currently encountering with this year's crop. From what I have observed, it appears that everyone is trying to get land bedded between rains and clipping plants in greenhouses. Greenhouse plants that I have look at thus far look healthy and disease free. Feel free to continue contacting our office for research-based information at 336-694-4158 or on my cell phone at 434-728-5980. Hope this information will be of value to you in your decisions for planting this year's crop.

### **Greenhouse Management**

Just a reminder on greenhouse management on some of the things that I have seen this year so far and some points to remember:

- Warmer temperature (above 90 F) reduces total stand.
- Cooler temperatures only delay germination (Seen some of this in early March in tobacco seeded greenhouses.).
- Constant temperatures can reduce stand (Need difference in day/night temperatures for some varieties.).
- Can drop temperature at night to 55 F after you have a good stand to slow plants down.
- Remember these day temperature changes from cool some days to hot some days (Don't trust automatic curtains and remember 110 + F for extended period can kill larger plants.).
- Cold injury to plants looks similar to boron deficiency and warmer temperatures will correct the issue.
- Should be clipping every 3-5 days and start when total plant height is 2.5 inches above bud and clip no closer than 1-1.5 inches above the bud.
- Remember from the past two years of tobacco production in the fields that you may want to consider making more than two applications of nitrogen to the crop (50% at transplanting + 25% at layby + 25% two weeks after layby with liquid nitrogen if needed.).

## **Boron Management in Greenhouses**

Some questions came up this past year about boron management in greenhouse production of transplants. I tell folks if you have never had this problem, then continuing doing what you have been doing. Some of the following bullets on things to remember when regulating boron levels in water using the float system:

- Collect source water sample prior to seeding
  - <0.5 ppm B is considered low
- If B is low, select fertilizer with at least 0.01% B.
- Collect a diagnostic water sample from the float bed after fertilizer application to ensure that B levels are sufficient (1-2 ppm)
- If B is still in short supply consider adding a B fertilizer material
  - Borax @ 0.2 oz./100 gallons of water will add 1.5 ppm B to the float bed
- Keep air temperature as warm as possible (maximum 86°F)
  - Cool temperatures and cold shock promote B deficiency
  - B uptake ↓ by 50% when temperature is reduced from 79 to 57°F
- **REMEMBER- Boron is toxic to greenhouse plants when float bed concentration exceeds 2 ppm**
  - When determining B concentration it is critical that source water B and fertilizer B are totaled.

**Table 1.** Comparison of nutrient contents of several water-soluble fertilizer materials.

Material	Total N	NO <sub>3</sub> -N	NH <sub>4</sub> -N	Urea-N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Ca	Mg	S	B
	-----%-----									
15-5-15	15	11.75	1.20	2.05	5	15	5.00	2.00	0	0.0150
16-4-16	16	12.27	2.10	1.63	4	16	4.00	2.00	0	0.0100
16-5-16	16	10.00	6.00	0.00	5	16	0.00	3.00	4	0.0200
Carolina Partners	6.9	6.05	0.68	0.14	1.5	6.7	5.19	0.86	0.9	0.0009
21-5-20	21	12.60	6.51	1.89	5	20	0.00	0.00	0	0.0200
20-10-20 GP	20	12.24	7.76	0.00	10	20	0.00	0.05	0	0.0068
20-10-20 PL	20	12.23	7.77	0.00	10	20	0.00	0.15	0	0.0200
20-20-20 GP	20	6.11	3.89	10.00	20	20	0.00	0.05	0	0.0068
Gypsum	0	NA	NA	NA	0	0	22.00	0.00	17	NA
Epsom salt	0	NA	NA	NA	0	0	0.00	10.00	14	NA
13-2-13	13	11.90	0.30	0.80	2	13	6.00	3.00	0	0.0060
15-2-20	15	12.70	1.50	0.80	2	20	3.75	2.00	0	0.0300

Compiled from product information from Scott's Horticultural, Miller Chemical, Chilean Nitrate, and Carolina Greenhouse. Carolina Partners data based on label recommended mixture of blue and gold liquids.

High urea or phosphorus contents (numbers in red) are undesirable in the float system.

Note: several fertilizers have low boron (B) content (gold numbers) and should not be used with source water that does not contain boron, as is common in the burley region.

13-2-13 and 15-2-20 have not been tested with tobacco but may be useful for other crops.

## **Six Tips For Cost-Effective Weed Control**

Herbicides are most cost-effective when used correctly.

Six tips that I have recognized over the 27 years in extension are:

- Identify the weed problem.
- Use a calibrated sprayer (now is a good time to do this if you have not already done this; will be glad to help you with this if needed).
- Spray at the right time with the right rate.
- Recognize that drought stressed or mature weeds will be more difficult to control.
- Always follow label directions for application and mixing.
- Remember soil residual activity and plant residue.

## **Weed Suppression and Crop Yield Research**

Our NCSU Tobacco Extension Specialists did some research this past year on control Palmer Amaranth weeds in the fields. Palmer Amaranth weeds are beginning to cause a lot of problems here in North Carolina. Preliminary conclusions are as follows:

- **For Tobacco Production:**
  - Sulfentrazone had the largest impact to reduced Palmer pressure.
    - 91-100% control depending on treatment comparison and rating date
  - Deep tillage + sulfentrazone treatments were weed free
  - Tillage did not effect weed suppression.
  - Hand weeding increased production cost by \$9/acre
    - No impact to economic return
  - Deep tillage increased cost of production by \$35/acre
    - Increased economic return by ≈\$1,000/acre
      - Due to increased crop yield

## **Soybean Variety Trial Results**

Those folks planting soybeans this year can call our office for seed variety recommendations or go to the [www.soybeans.ncsu.edu](http://www.soybeans.ncsu.edu) link and click on the link "Publications and Related Information" and you will see the links to follow to get resources for raising soybeans this year. The biggest thing that I saw last year was folks were planting seeds at high rates per acre. Over several years and multiple locations in North Carolina, Dr. Jim Dunphy, Extension Soybean Specialist, has demonstrated that soybean yield does not significantly increase with plant densities exceeding 100,000 plants/acre.

For more in-depth information on your tobacco enterprise, you can go to the NCSU Tobacco Portal on your computer at [www.tobacco.ncsu.edu](http://www.tobacco.ncsu.edu). If you have questions concerning your tobacco or small grain production feel free to call me at the office (336-694-4158) or my cell phone (434-728-5980).

Sincerely,



Joey E. Knight, III  
Caswell County Extension Director

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Persons with disabilities and persons with limited English proficiency may request accommodations to participate by contacting Joey E. Knight, III County Extension Director at 336-694-4158 (phone) or [joey\\_knight@ncsu.edu](mailto:joey_knight@ncsu.edu) (email) or 336-694-5930 (fax), or in person at the Caswell County Extension office at least (5) days prior to the event. Employment and program opportunities are offered to all people regardless of race, color, national origin, sex, age, or disability. North Carolina State University, North Carolina A&T State University, U.S. Department of Agriculture, and local governments cooperating.