CASWELL TOBACCO EXTENSION NOTES
Winter-December 2014 Season

Hello again,

Sitting here and reflecting back on some of the things that growers encounter this year as well as some research information that I have learned from the tobacco meetings with our North Carolina State University Extension Specialist; I would like to share with each of you. Overall, we a good crop this year and was able to beat the frost in getting the entire crop harvested. 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 planning next year's crop.

GAP Program for 2015

The GAP Program will remain unchanged in 2015 with production updates by our NCSU Tobacco Extension Specialists and labor training by the Department of Labor. We have planned this annual tobacco meeting at the Caswell County Civic Center on January 29, 2015 starting in the morning around 8:30 a.m. We will have biscuits and coffee that morning and lunch will be provided. I will send another notice out before the meeting to each of you so we can get a head count in order to help us better prepare for the meal. You will need to bring your GAP Connections Membership cards because NCSU will provide scanners, which will help, eliminate on-site registration and eliminate giving out certificates. GAP training like this is required each year in order for you to obtain a contract with the companies buying your tobacco. Also you need to bring your NCDA Pesticide License card so we can scan those for continuing education pesticide re-certification credits. We will give out materials for you to include in your GAP notebooks.

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_3-N	NH_4-N	Urea-N	P_2O_5	K_2O	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

Complied 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.

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 + sufentrazone treatments were weed free until layby
  - 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

Methyl Bromide Fumigant For Tray Sanitation

Just a note that packaging of Methyl Bromide fumigant packaging ends December 31, 2014, which means available inventory for 2015 but not 2016. Some of you that use this fumigant for sanitation of tobacco trays used in the float system will have to switch to another fumigant. I still like the steaming of trays for adequate sanitation before seeding in the greenhouses.

New Presidion Fungicide For Black Shank and Blue Mold Control

Presidio fungicide will be label for tobacco and should be sold in 2015 for growers. Let me give some proposed label information about this upcoming product:

- Presidion (Group 43)
- Active against oomycetes (black shank & blue mold)
- Bayer chemistry (marketed in the USA by Valent)
- NO cross resistance to other commercial oomycete fungicides – Ridomil (4), Forum (40), Quadris (11)
- Fluopicolide (novel mode of action)

Presidio – Proposed Tobacco Label For Black Shank:

Use rate of 0.125 lb ai/A (4 fl oz/A)
Maximum of 2 applications
0.25 lb ai/A/season or 8 fl oz/A/season
No tank mix requirement

Alternate with another fungicide that has a different mode of action on the target pathogen
Use with tobacco varieties that have moderate-to-high resistance to the black shank pathogen

- **At-planting program**
  - Apply at transplanting in the transplant water (setter water)
  - Make follow-up treatment at layby (soil-directed)*****
  - Soil-directed treatment must be incorporated
- **Post-transplant program**
  - If a different fungicide is used at transplanting, apply Presidio 4SC once at either 1st cultivation or layby (soil directed)*

Presidio – Proposed Tobacco Label For Blue Mold:

- Use rate of 0.125 lb ai/A (4 fl oz/A)
- Maximum of 2 foliar applications
  - 0.25 lb ai/A/season or 8 fl oz/A/season
- Apply before disease onset or at 1st indication of blue mold in the area
- Minimum interval of 7 days between applications
- Must be tank mixed with another blue mold fungicide having a different mode of action

For more in-depth information for your tobacco enterprise, you can go to the NCSU Tobacco Portal on your computer at www.tobacco.ces.ncsu.edu. Also I have included the research this past year on tobacco varieties and their disease resistance rankings conducted by Dr. Asimina Mila, NCSU Extension Specialists. If you have questions concerning your tobacco production feel free to call me at the office (336-694-4158) or my cell phone (434-728-5980).

Sincerely,

Joey E. Knight, III

Joey E. Knight, III
Caswell County Extension Director