

Agricultural Update

February 2013

UPCOMING EVENTS

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The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by the NC Cooperative Extension Service nor discrimination against similar products or services not mentioned. Individuals who use agricultural chemicals are responsible for ensuring that the intended use complies with current regulations and conform to the product label. Be sure to examine a current product label before applying any product.

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Livestock Meeting - On Tuesday, February 26th from 6:00-8:00 pm, at the Craven County Agricultural Building, a meeting will be held to discuss the potential of a livestock association. Producers have expressed interest in order to receive updates, hear speakers, and networking opportunities. We have coupled this meeting with a cattle producer meeting, so our speaker will be Mr. Adam G. Ross of HRC Services, cattle consulting company. RSVP by Friday, February 22, 2013 by 5:00 PM to the Craven County Cooperative Extension Office at (252) 633.1477.

Planning for the Future of Your Farm and Forest- On Wednesday, February 20th beginning at 9:00 am at the Onslow County Extension Office, Richlands, NC, a meeting to discuss the value and enrollment of Present Use Value Taxation, Voluntary Agricultural Districts, estate planning goals, cost-share opportunities for conservation and other long-range planning ventures will be conducted. Interested individuals should contact Melissa Huffman by email at melissa_huffman@ncsu.edu or by phone at (910) 455-5873.

Regional Sorghum Production – On Wednesday, February 27th beginning at 9:00 am at the Onslow County Center, Richlands, NC, a meeting to discuss agronomic decisions, weed management, disease management, insect management, and harvest decisions will be presented for growers. Scheduled to speak are Drs. Ron Heiniger, Wes Everman, Dominic Reisig, and Ranjit, Rair; also on the agenda are Don Nichols and Mitchell Buck. A sponsored meal will be served at the conclusion. To register and reserve a meal, contact Melissa Huffman at (910) 455-5873 or email to melissa_huffman@ncsu.edu

Private Applicator Safety Training – On Monday, March 4th from 3-5 pm, a class offering 2.0 hours of Category V for private applicators will be held at the Craven County Agricultural Building, New Bern, NC. Registration is not required but appreciated. Call our office at (252) 633-1477 to register.

Pesticide Disposal Day – On Tuesday, March 5th from 10 am – 2 pm, individuals that wish to dispose of unwanted or unneeded pesticides may do so by bringing the pesticides in their original container (with labels) to the Craven County Agricultural Building, New Bern, NC. There is no charge for disposal. Individuals that wish to bring containers of 5.0 gallons or larger must call in advance to ensure adequate space availability. Other specific rules and regulations can be found at <http://craven.ces.ncsu.edu/2013/02/free-disposal-of-unwanted-or-damaged-pesticides/>.

Respirator Fit-Test – On Monday, February 25th, the Pitt County Cooperative Extension (403 Government Circle Greenville, NC) will offer annual respirator fit test required by the US Environmental Protection Agency (EPA) for individuals using soil fumigants (Methyl bromide, Chloropicrin, Vapam, Metam sodium/potassium, Dazomet). To register, obtain a mail-in registration card from Pitt County Cooperative Extension (252.902.1700) **OR** contact Barb Gallagher, RN, NC Agromedicine Institute at 252.744.1008 **OR** email Barb at gallagherb@ecu.edu. Once received, you will be contacted to schedule an appointment time. You will need: 1) Proof of current medical clearance required at time of fit testing; 2) To bring your clean respirator currently in use (or funds to purchase one); and, 3) To be clean-shaven. (This is required for any areas where respirator has to seal to face. Not sure? Bring razor with you!). Payment is expected at the time of service. (Check or cash payable to the EI Group for \$35.00 per person; cost share available to cover 50% cost of fit test, medical clearance, and equipment until funds are exhausted).

Soil Fumigant Rules & Regulations

Individuals that wish to apply soil fumigant materials must comply with the new regulations or Phase II. Part of this regulation requires training. There are two means of obtaining this training and certification. The first is to participate in a self-study via the web at the EPA website, www.epa.gov/fumigantraining. If using the web is not preferred, the NCDA & CS intends to offer regional training sessions to cover this material. If you attend one of these sessions, a written exam will be given. Individuals with a score of 70 or better will be provided certification. No dates or other information has been provided. Check the NCDA & CS Pesticide Division web site for new details (<http://www.ncagr.gov/SPCAP/pesticides/>).

Highlights of these regulations include 1) Buffer zone compliance; 2) Restriction of use near “difficult to evacuate sites”; and, 3) monitoring and specific emergency preparedness/response. Details are too extensive to adequately cover within this newsletter but some general considerations and explanations are provided below. The ultimate source of information to comply with these regulations can be found from the EPA at the website previously listed, the NCDA & CS Pesticide Division (919) 733-3556 and the product label. Please note that the most recent communication received from the NCDA & CS states that a fine of \$2000 may be issued per violation (per field). Please take time to review these rules and comply.

Basic Buffer Zone Requirements – A buffer zone must be established for every fumigant application. The buffer zone extends outward from the edge of the application block equally in all directions. All non-handlers and bystanders must be excluded from the buffer zone. The buffer zone period begins at the start of the application and lasts for 48 hours after the application is complete. Buffer zone distances must be calculated using the application rate and the size of the application block. Buffer zone distances must be based on tables included in the soil fumigant label. There is no “standard” size to recommend so neither NCSU or the NCDA & CS can provide suggestions. Rather each buffer zone will depend upon a variety of variables.

Buffer Zone Credits – Credits for smaller buffer zones may apply. Buffer zones may be reduced according to soil moisture content, soil type, application systems, reduced application rates or utilization of qualifying tarps (found at www.tarpcredits.epa.gov).

Buffer Zone Posting - Buffer zones and the treated area must be posted. Specific details depend upon application variables found on the product label. Signage is available from manufacturers.

Difficult to Evacuate Sites – Soil fumigation is prohibited within a certain distance of sites that are considered “difficult to evacuate”. Such sites include schools, state licensed daycare centers, nursing homes, assisted living facilities, hospitals, in-patient clinics, and prisons. No fumigant applications are allowed where buffer zones are greater than 300 feet if there is an occupied difficult-to-evacuate site within ¼ mile (1,320 feet) of the application block during the application and for 36 hours afterward. No fumigant applications are allowed where buffer zones are less than 300 feet if

there is an occupied difficult-to-evacuate site within 1/8 mile (660 feet) of the application block during the application and for 36 hours afterward.

Emergency Preparedness and Response – If homes or business are near the buffer zone, the applicator in-charge has two options: 1) Monitor the buffer zone (with meters) during the required 48 hours- one hours before sunset, once during the night, one hour after sunrise and once during the day AND/OR 2) Provide response information to neighbors to include 1) Location of the application block; 2) Fumigant brand name, active ingredient and EPA registration number; 3) Contact information of the applicator(s); 4) Time period in which the application is to take place and 4) Early symptoms of exposure.

Market Based Conservation Initiative

The Market Based Conservation Initiative has begun in counties within the south central area of North Carolina. This program is a voluntary program aimed at specific portions of 18 counties to help in protecting rural lands and the military training airspace used directly over those lands. Essentially the program aims to provide financial incentive to property owners to maintain agriculture, forestry, wildlife, or other compatible conservation land uses for land under the military flight path. The program will be implemented by contracts between the landowner and the North Carolina Foundation for Soil & Water Conservation for 10-30 years. It is a competitive process with higher amounts awarded to lands that meet specific requirements. However, all participants must have a conservation or land management plan available through Soil & Water. If you do not have such a plan, one readily available option is to enroll lands into the Craven County Voluntary or Enhanced Agricultural Districts. Simply contact the Craven Soil & Water office at 637-3567 or download an application at <http://www.ces.ncsu.edu/vad/>. Cost of enrollment is \$76. This covers the application process, signage and recording at the office of the Register of Deeds.

Since this is a relatively new program, we can only provide limited details. We will post new information to our web page as we receive it.

Tobacco Barn Heat Exchanger Monitors

As part of the GAP tobacco requirements, heat exchangers are to be inspected/tested at least once every three years. This can be done by the grower or a company. One of the main criteria is to provide verification of the calibration of the equipment used. If you are interested in purchase of equipment to perform your own testing, refer to the information below provided by Dr. Grant Ellington, NCSU Bio & Ag Engineering. Extension has been authorized to provide training upon request.

CO₂ Meter Equipment Recommendations: - There are multiple commercially available low concentration CO₂ meters that could be utilized for this procedure: *Vaisala* CARBOCAP GM70 or GMT 222, *Testo* 535 and *Extech* EA80. However, the EA80 does not include a remote sensing probe and as a result direct observation of the reading during the procedure is not possible. The minimum specification are 1) Resolution - 1 ppm CO₂; 2) Accuracy-+/- 50 ppm CO₂; 3) Measurement Range - 0 – 6000 ppm CO₂ (or less if available); and, 4) CO₂ sensor calibration certificate renewal. Companies that sale units that meet these requirements are:

Yani Bettencourt
Vaisala, Inc.
10-D Gill St.
Woburn, MA 01801
781-537-1058

Testo, Inc
40 White Lake Road
Sparta, NJ 07871
(800) 227-0729
www.testo.com

Extech Instrument Corporation
9 Townsend West
Nashua, NH 03063
877-439-8324
www.extech.com/instruments/

Seed Treatments

We have received many phone calls regarding seed treatments. In part, this may be due to the lack of rotation and continued high commodity prices. However, it appears to be some confusion regarding the actual products available and potential value of these products.

To begin discussion, consider that essentially all commercially available crop seeds are sold with some type of fungicide treatment(s) that have somewhat become a “standard” treatment. The cost of this treatment is normally included as part of the purchase. In addition to this treatment, we now have the option to include additional seed treatments such as insecticides, nematicides and fungicides. As example, many growers have relied upon Poncho seed treatments for insect control in corn. However, this product has two levels of active ingredient. The lower level provides good insect control but the higher level is strongly recommended when known billbug problems exists or the field is planted in continuous corn. To complicate matters, many seed companies may include multiple seed treatments types with varying levels of active ingredients. Thus, using “seed treatment” is no longer a valid term to define potential seed products. Rather, one must examine whether the treatment is an insecticide, nematicide, fungicide or combination of these. Too, the amount of the active ingredient(s) used is critical.

In terms of nematicide seed treatments, most include some bacterial component. Added to this are additional pesticide treatments. Avicta includes Ivermectin, Aeris includes Thiodacarb, Nhibit includes a Harpin protein and Actigard includes plant stimulants. There are others. The point is that the value of these seed treatments depends upon the crop, nematode type and the nematode population. As example, consider the chart below (Figure 1, *Soybean Nematicide Seed Treatment Response*). This data was taken from a test conducted within Craven County within a field with a high root knot nematode population. Since many of the products were experimental at the time, the labels are simply listed as 1-5. One of the values is the yield of a soybean with resistance to root knot nematode. Can you tell which one? Statistically speaking, all the treatments are equal. Any noticeable yield difference is simply by chance, not the treatment.

Figure 1. Soybean Nematicide Seed Treatment Response

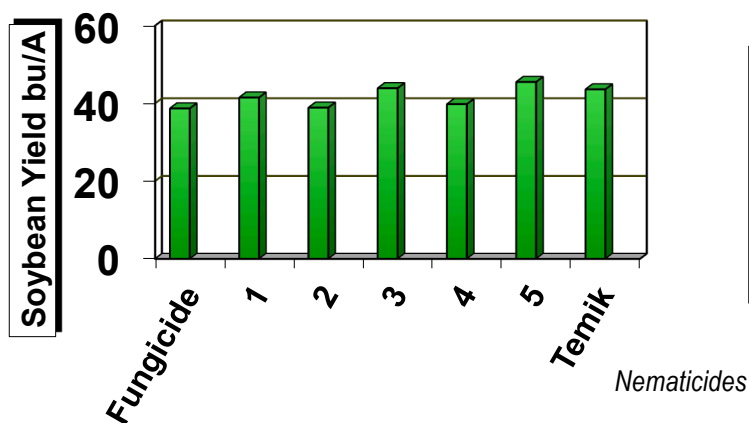
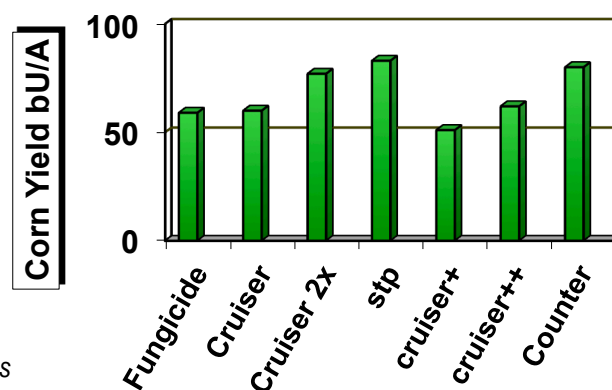


Figure 2. Corn Response to



In contrast, sometimes nematicide seed treatments may offer an advantage. Examine the data in Figure 2, *Corn Response to Nematicides*. This data is also from Craven County. Notice that Counter and several of the seed treatments did result in some yield increases. Also note that product performance heavily depended upon the rate.

Considering these two examples, whether or not one decides to purchase a nematicide seed treatments depends upon whether or not you have a nematode population above threshold and whether resistant varieties are available. If nematodes are not a problem, then the purchase of additional nematicide seed treatment is not warranted. Too, under normal circumstances, varietal resistance is sufficient. However, if no nematode assay was taken and potential threat of nematode damage is unknown, well, then one simply has to guess as to whether or not the purchase is warranted. (Your guess is just as good, if not better, than mine).

Evaluating insecticide seed treatments is a bit more confusing. There is no means to group these treatments into one category for discussion. As mentioned earlier, the Poncho seed treatments in corn have proven to be a wise economic choice if the correct rate is utilized. Likewise, many of the insecticide seed treatments for cotton have shown to be beneficial in early season thrip control. Conversely, early season thrip control in soybeans has shown no merit. So again, we evaluate these treatments assuming they will work, but must evaluate whether the added protection is warranted. For some crops, the answer is yes. For others crops, the answer is no.

Fungicide seed treatment evaluation should begin with identification of the problem pathogen or at least the potential ones. (As with nematodes, if one does not really know what pathogens are within a field, then one has to guess. Sometimes we guess correctly, other times we are wrong.). Fungicides are targeted primarily to control two fungal pathogens, *Rhizoctonia* and *Pythium*. However, *Fusarium* is often included as part of the treatment. It should be noted that evaluation of fungicide products is extremely difficult. Typically, whether or not *Rhizoctina* or *Pythium* is a problem is weather dependent. Too, isolating fields with known levels of pathogen for study is impossible. Lab studies offer precise data but these studies control many variables that we can not control within the fields so interpretation of results may or may not apply within a field of production. The point is, fungicide seed treatments are very difficult to rank and evaluate. Thus the recommendation is that seed treatments include at least one product from the following three components (partial listing of products).

Control of Rhizoctonia - Pyraclostrobin, Trifloxystrobin, Azoxystrobin, Ipconazole, Fluxapyroxad,

Control of Pythium - Mefenoxam, Metalaxyl

Systemic Fungicide - Iprodione, Ipiconazole, Flutriafole, TCMBT, Fluxapyroxad, or Myclobutanil

Discussion so far has included the separate components of seed treatments. Now consider some of the premium seed treatments provided with combination of products. The examples below are simply for discussion.

Company	Targeted Type of Seed Treatment or Pest				
	Systemic	Rhizoctina	Pythium	Insects/Nematodes	Other
Syngenta	Azoxystrobin	Mefenoxam	*	Avicta/Cruiser	
Bayer	Trifloxystrobin	Metalaxl	*	Guacho/Votivo	May add Aeri
Monsanto	Pyraclostrobin	Metalaxl	*	Gaucho or Cruiser /Abermectin	Aceleron/NHibit

Note that when you compare the treatments by category, all include a product effective for *Rhizoctonia*, none target *Pythium* other than the inclusion of a systemic fungicide, all include some form of imidicloprid or thiamethoxam for insect control, and all include a product for nematode control. The real difference among products is the added elements and the amount of active ingredient of each product. Again, it should be noted that the chart above is simply for discussion. These companies offer a variety of other product selections and new products are introduced constantly. Regrettably, data to support or refute claims is not easily addressed. Thus, prior to simply accepting premium seed treatments, it is wise to evaluate the products and your management. The additional seed treatment purchased, if any, should include the correct product and rate to control the targeted pest(s).

If we an offer any assistance, please do not hesitate to contact our office!

Mike Carroll
Extension Agent
Agriculture

Accommodations for individuals with disabilities or special needs: Individuals with disabilities or special needs desiring accommodations to participate in these activities should contact Tom Glasgow at 633-1477 at least two weeks prior the event. NC Cooperative Extension takes seriously its obligation to accommodate the known disabilities of its faculty, staff and guests