The Monthly “Beet”
Commercial Horticulture Newsletter for Southeast North Carolina

Future Cooperative Extension Programs, Business Planning and Crop Production Issues & Alternative Crops

This newsletter is intended for people interested in commercial fruit and vegetable production, business planning and North Carolina Cooperative Extension Service meetings throughout North Carolina. For back issues of this newsletter please go to the Jones County Extension website and click on the Commercial Horticulture, Nursery & Turf menu option on the left side of the website. The website address is: http://jones.ces.ncsu.edu

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UPCOMING WORKSHOPS, MEETINGS, TOURS

July 11, 2009. Jones County Heritage Day. Trenton, NC – 10 am-4 pm. Come to Trenton, NC to enjoy the sights, sounds and experiences of Jones County’s Heritage. Call the Jones County Extension office for more information.


Using Row Covers, Integrated Pest Management (IPM) and other topics as time, travel, speaker schedules allow.

October 20, 2009. Regional Farmers Market Meeting. Duplin County Extension Center, Kenansville, NC. 9 AM – 3 PM. Call Mark Seitz at the Jones County Extension Center, (252) 448-9621 for more information.

BUSINESS PLANNING

Marketing Info

Marketing is a never ending job in the produce business. The perishable nature of the products you grow require just as much time to market as they take to manage, produce and harvest. As harvest hits its peak, there never seems to be enough hours in a day to keep up with it all.

So what can you do and where can you get marketing help? There are multiple sources of information in today’s world. The Internet is the most obvious convenient place for information. All
of the information there is considered secondary information by marketing experts. It is quick and easy to get to but it does not necessarily apply specifically to your product or your farm.

Primary data – customer surveys – are the best way to get information from your customers but they take time to do. When you are busy with harvest you have to compare the value of the information you collect versus the time and expense it takes to collect it. Since many of you are swamped with harvest, where can you go to get primary market data or how do you get it?

In 2009 many of your local farmers markets are helping with a customer survey that will hopefully provide you with some information about local consumers that may be of some value to you. A customer survey with 17 quick, simple, circle the answer or short fill in the blank questions is being distributed at farmers markets around the state. These surveys are asking consumers questions about age, education, number of visits to the farmers markets or roadside markets, organic and local produce, food safety and others.

At least 8 farmers markets: Wilmington Riverfront, Shallotte, Poplar Grove, Rocky Mount, Onslow County, New Bern, Wautaga County and Elizabeth City, have contributed data so far. Data collection started in April and will run through September. It is being collected at the aforementioned farmers markets and other farmers markets in the state. A summary report will be compiled and the results will be shared at the October 20, 2009, Regional Farmers Market Managers workshop at the Duplin County Extension office. The results will also be posted online at the Jones County Extension website in November following this meeting.

With more than three months left to collect data, I am happy to say over 300 surveys have already been collected. At that pace we could reach 1,000 consumers by the end of the summer.

With so much feedback to date, I want to share a few of the preliminary findings with you. Here is a list of some of the preliminary feedback that people have shared to date:

- Word of mouth (47%) and drive by (27%) are the most common ways people find out about the produce market they visit
- 43% of consumers who visit a farmers market are between the age of 51 and 67
- 48% visit the market 1 to 2 times per month, 36% visit 3 to 4 times per month
- On a scale of 1-10 (10 = best) 90% of consumers gave the safety of the produce they get at farmers market a score of 8, 9 or 10.
- Consumers travel an average of 13.9 miles to get to a farmers market or roadside market
- 47% of consumers are looking for easy parking
- 95% of consumers are willing to pay extra for local produce
- 70% of consumers are willing to pay extra for organic produce
  - When asked how much more they were willing to pay (%), the breakdown for organic and local are nearly identical:
    - 0% - 3% = 33% 30%
    - 4% - 6% = 44% 46%
    - 7% - 12% = 18% 18%
    - > 13% = 5% 6%

Again, this is preliminary data with a lot of variation between markets and I hope there is some value to you in it. While it may not answer every question you might have at your roadside or farmers market, it might give you some knowledge about the customers in your area.

I encourage you to share the Internet link to the survey with your customers. The Internet address to the NC Farmers Market Customer Survey – 2009 is: http://ceres.cals.ncsu.edu/surveybuilder/Form.cfm?testID=8049. The more feedback we get the better the results.

Food Safety: Water Quality

There are plenty of challenges in the produce industry. Crop production, storage and transportation, are some of the biggest battles you face, but monitoring your water quality is also very important. Water quality can make or break a crop year.
Most of us assume we have good water quality, however, that is not always the case. Water quality management tends to get overlooked because we pour a glass, look at it, see it is particle free and assume it is clean. In this day and age of food-borne illness, this assumption can no longer be made.

In today’s society traceback and traceforward have become the two buzzwords in the produce business. Brokers and producers have to make sure every aspect of the food safety chain is monitored, including water quality. Water quality does not just mean the water is free of debris or that you can ‘see’ that it has no bacteria or fungi in it. Water quality in today’s world means consumers expect clean water and to that end, producers have to go above and beyond normal efforts to ensure their public will agree.

E. coli in water is one of the biggest threats you face as a producer. E. coli lives naturally in fecal matter of deer and other wildlife as well as in people. Keeping animals out of large fields is a challenge because of the time and expense required to fence off fields and farmers to keep deer and other wildlife at bay. The challenge and expense may be simpler for small producers, but it can still be a problem.

All water sources, whether used for watering livestock, frost protection, drip irrigation or overhead irrigation, should be tested for total coliform, fecal coliform and the recommended generic E. coli test. According to Dr. Blake Brown’s Value-Added Website, “Total coliform bacteria are microbes found in the digestive systems of warm-blooded animals, in soil, on plants and in surface water. Fecal coliform bacteria are a kind of total coliform. The feces (or stool) and digestive systems of humans and warm-blooded animals contain millions of fecal coliforms. E. coli is part of the fecal coliform group and may be tested for by itself, such as with the recommended generic E. coli test.

Tests can indicate either a minimal reading of presence and/or absence or can quantify the amount of the pathogen’s presence. These quantitative tests are what you should be looking for with results measured in MPN (most probable number) or CFU (colony forming units). Additional information that might be helpful to know from the lab is: Water collection protocol, test results turnaround time and how test results are relayed to you.”

You should take a proactive approach to managing your water quality. Collect water samples in the manner the lab you choose to use, wants them collected and send them in for testing. In Jones County and counties surrounding Jones County there are a number of labs that are available to perform these water tests.

Here is a partial list from the Value-Added Agriculture website.

Environment 1, Inc.
John Melvin
PO Box 7085
Greenville NC 27835
252-756-6208
SJonesE1@aol.com
Generic E. coli test = $35.00
Total fecal coliform test = $35.00
www.environment1.com

Environment 1, Inc. - Mobile Laboratory
Chad Davis
P.O. Box 7085
Greenville, NC 27835
252-756-6208
jmelvine1@earthlink.net
Generic E. coli test = $35.00
Total Fecal coliform test = $35
www.environment1.com

Beacham Laboratory
Rod Reeves
1820 Wilmington Highway
Jacksonville, NC 28540
910-347-5843
beachamlab@live.com
Generic E. coli test = $40.00
Total fecal coliform test = $25.00
A more complete list of laboratories across the southeast US are available online at:


CROP PRODUCTION:

Agriculture Lime

I want to share with you some information I recently learned about, that may help you ‘buy local’ and at the same time reduce your cost for lime this fall.

In May 2009, a number of Agriculture Extension Agents from southeast North Carolina toured a limestone quarry in Pender County. Located on Hwy. 53 in Maple Hill, NC between Jacksonville and Burgaw, Shelter Creek Quarry is the only limestone quarry in North Carolina. They have calcitic agriculture lime available that is 35% elemental calcium (Ca) and 0.5% elemental magnesium (Mg). Their product has an 80% calcium carbonate equivalent.

Shelter Creek Quarry has a brand new limestone grading and crushing facility and is worth a look as a source of lime for this fall. If you have time, and are in the area, I would recommend a visit. Call ahead to make an appointment. Along with their rock mining business they are doing some very innovative things environmentally and have a very interesting story to share.

You can contact them for a price sheet at (910) 259-0601 or email them at:

sheltercreekquarry@hughes.net

Pesticide Application Record Keeping Changes

In this section last month I gave you some information about the changes in the pesticide application record keeping rules. I want to remind you that while NCDA does not have funding to print the new forms in book format, the form is available online at:

www.ncagr.gov/SPCAP/pesticides/Cmfo.htm#RecordKeeping.

We have also printed a few copies the ‘book’ at the Jones County Extension center. If you need a copy, call me and let me know and I will either deliver it or mail it to you.

Downy Mildew in Cucurbits

This disease was a serious problem for cucumber growers a few years ago and is showing up earlier this year than normal. I am including comments from a general announcement from Dr. Frank Louws for anyone who is growing cucumbers or any other cucurbit crop. It can be a difficult disease to contain and requires some diligence to keep it in check. Please read and or keep on file the recommendations Dr. Louws made on this subject for future reference. If you cannot find it in the future, I will have it in my files – and hopefully my memory bank for future use.

Downy Mildew of Cucurbits Diagnosed in Franklin County North Carolina


On June 4 2009, a field in Franklin County was positively diagnosed with Downy Mildew in a pickling cucumber field. Samples were positively diagnosed in the NCSU Plant Disease Insect Clinic. A follow up visit early Friday morning June 5 reconfirmed the presence of the disease, diagnostic signs of the pathogen on the leaves (using a mobile light microscope) and extent of the problem. The
affected field with advanced stages of mildew (14-21 days post infection) is about a 4-5 acre block with a hot spot on a knoll (~ 200 m in diameter) with near 100% incidence and 25-30% severity. Approximately 65 acres of cucumbers surrounded the hot-spot. The crop was in an advanced stage of fruit set and adjacent fields are at first harvest. It is difficult to ascertain the source of the inoculum. To our knowledge there are no sources of greenhouse grown cucumbers in the county.

Therefore, growers in Franklin County and surrounding counties would be considered under high risk for downy mildew of cucumbers. In our experience, this early in the season squash, pumpkins and watermelons may be at low risk but cantaloupes will be higher risk. This may be due to the presence of different pathotypes (see: http://www.ces.ncsu.edu/depts/pp/cucurbit/thedisease.php).

Growers in high-risk areas should consider the following in developing a spray program to manage the disease:

Ranking of efficacy for fungicides to control downy mildew (5 = excellent, 1 = low activity). Presidio = 4.5; Ranman = 4.5; Previcur Flex = 3.5; Curzate = 3; Gavel and mancozeb = 2.5; Bravo = 2. Presidio, Ranman and Previcur Flex are best tank mixed with a protectant such as mancozeb or chlorothalonil (e.g. Bravo or other similar product). Highly effective products tend to be expensive and the price of mancozeb is more expensive this year than in years past.

Examples of effective combinations are:

1. Presidio 4SC, 3 fl oz + Manzate Pro Stick 75DG, 3 lb
2. Ranman 400SC, 2.2 fl oz + Manzate Pro Stick 75DG, 3 lb.
3. Gavel 75 DF 1.5 to 2.0 lb + Previcur Flex 6F 1.2 pt
4. Curzate 60DF 3.2 oz + Manzate Pro Stick 75DG, 3 lb.

PROBLEM: Presidio and Ranman may be in short supply locally. I have contacted the companies and there is product available but it may not be distributed to your local area.

Examples of effective spray programs are:

The most effective program is to begin with combination #1 and alternate with combination #2. If Presidio and Ranman are not available then begin with combination #3 and alternate with #4. Alternating with any of the above combinations is a viable approach. Other products labeled for downy mildew have not proven as efficacious or resistant populations are present.

ADDITIONAL NOTES: The lower use rates are effective when tank mixed with a protectant. Under high pressure or high disease risk, growers should adopt higher use rates (e.g. up to 4 oz for Presidio and 2.75 fl oz for Ranman). Mancozeb can be used at 2 lb/A with good efficacy but dose responses have been observed in field trials so the 3 lb rate is preferred; various formulations are available. With the higher price of mancozeb, growers may decide to use Bravo (or similar chlorothalonil product) e.g. Bravo Weather Stik 6SC 2pt.

Extension agents should be on the alert for the disease in their area and report any occurrences at: http://www.ces.ncsu.edu/depts/pp/cucurbit/reportform/report.php. For more information about the diagnosing the disease and current forecasts see: cdm.ipmPIPE.org.

Formerly a part of the North American Plant Disease Forecast Center, the Cucurbit Downy Mildew (CDM) forecasting has grown into the Cucurbit Downy Mildew ipmPIPE. Begun in 2008, the CDM ipmPIPE is a joint effort of academia, the USDA, and industry, with the headquarters in the Plant Pathology Department at North Carolina State University.

The CDM ipmPIPE provides opportunities not previously available to the disease forecasting system. A network of carefully monitored sentinel plots throughout the country now exists to aid the tracking of epidemic spread. Collaboration with the NC State Climate Office is yielding improvements in
the website (including the new automated Epidemic Status Map), increased efficiencies in the reporting and presentation of outbreaks, and additional tools for analysis and evaluation of the forecasts. Progress continues, and the result is a better Decision Support system for growers, extension personnel, and many others.

Forecasts are ongoing and will continue throughout the growing season and take into consideration the recent reports in North Carolina. Interested parties can learn about the disease and keep track of the spread of Cucurbit Downy Mildew by consulting our website at cdm.ipmpipe.org. While there, we encourage everyone to take our survey so that we can serve you better.

Sweet Potato

Wireworm control is one of the toughest challenges sweet potato growers face. Adult ‘click’ beetles are active in late May and June as the temperatures rise and the beetles lay eggs very shallowly in the soil.

There are numerous species to contend with, but the most common is the Conoderus species, which has a one year life span. There are other less common species in the southeast US, which have a life cycle of more than one year, but regardless of the species controlling click beetles in sweet potato is a challenge.

Some species prefer grassy areas for egg laying and some prefer moist soils. For sweet potato growers, moist soils are necessary for good crop production, making these areas prime egg-laying targets for the beetles. The reason for this is the wireworms are very moisture sensitive. Newly hatched wireworms invade the roots of sweet potato, making unsightly bore holes and marks in the roots making them unmarketable.

I spoke to Dr. Mark Abney, NCSU Vegetable Entomologist, to get the latest research-based information available for controlling wireworm. Dr. Abney recommends applying bifenthrin (sold under numerous trade names) over the row at the rate of 9.6 ounces per acre with a maximum of 19.2 ounces per acre (2 applications) per growing season. Since egg laying occurs in June, insecticide sprays for wireworm need to be applied in June before the wireworm hatch begins. This hatch usually occurs in early July and it is important that a ‘blanket’ of bifenthrin insecticide at 9.6 ounce per acre recommended rate is in place as the wireworms begin feeding.

As with any insecticide, pay attention to the mode of action (MOA) of the product being applied. Bifenthrin has a MOA 3. It is important to pay attention to this and rotate the MOA’s of the product you use to keep resistance to these products in insect populations from building up. Thankfully the chemical companies are now indicating this information right on the product label – especially for newer products - so you do not have guess about the differences in MOA between products.

If you have questions about this program please contact me at the Jones County Extension Center. If you have questions about any of the information, upcoming meetings, business strategies, or crop production management issues, please call me at the Jones County Extension Center at (252) 448-9621. I can also be reached by email at: Mark_Seitz@ncsu.edu.

The use of brand names in this publication does not imply endorsement by the North Carolina Cooperative Extension Service of the products or services named nor discrimination against similar products or services not mentioned.