May 1, 2007

**Commercial Horticulture:**
**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](http://jones.ces.ncsu.edu)

**Upcoming Workshops, Tours & Meetings**

May 3, 2007. *AgriCultural Tourism Spring Tour – Sampson County*. This tour will focus on the museum and agritourism businesses located in Sampson County. Contact the Sampson County Extension office at (910) 592-7161 or Lin Nichols at the Duplin County Extension office at (910) 296-2143 to register and for more information.

June 27, 2007. *Southeast Cooperative Extension Region 4-H District Activity Day*. Jones County High School. Volunteers are needed to help organize and move 400+ kids from room to room, as they give talks about projects they are working on. Call Erin Morgan at the Jones County Extension office (252) 448-

May 9, 2007. *Lettuce Field Day & Tour*. 9AM – 1PM. This tour is for growers interested in the latest commercial lettuce varieties should attend. Tour will begin at Tull Hill Farms in Lenoir County and finish at the Cunningham Research Farm Contact Mark Seitz at the Jones County Extension Center at (252) 448-9621 for more information.

June 9, 2007. *2nd Annual Onslow County Farmers Market Grand Opening*. Come to the Onslow County Farmers Market to see the NCDA ‘Big Cart’, meet the 2007 NC Watermelon Queen and participate in a number of activities for kids and adults alike. Call Larry Kent, Onslow County Farmers Market Manager at (910) 340-0009 for more information.


9621 or any other area Cooperative Extension office in southeast NC for more information.

August 14, 2007 (tentative date). *SE Region Strawberry Pre-Plant Meeting*. Call Mark Seitz at (252) 448-9621 or Howard Wallace at (910) 640-6605.

**Business Planning & Management**

**Mid-Atlantic Direct Marketing Conference**

In February 2007 I traveled to Solomons, Maryland, to attend the Mid-Atlantic Direct Marketing Conference. In the April 2007 newsletter I told you I attended two very good marketing sessions. Due to the amount of information I received and took notes on, I shared with you Mrs. Odomma Matthews comments last month. This month I want to follow up and share with you notes from Mr. John Berry, Pennsylvania State University Agricultural Marketing agent. I hope you find this information useful.

Here are Mr. Berry’s comments:

What expectations do you have of a new store when you enter for the first time?

- **Exterior appearance.** Take a minute and look at your operation from the perspective of a new or existing customer. What do you see when you first arrive? Is your farm entrance clean? Is it easy to access? Is it well lit? Is it open and spacious? Does it reflect a spirit of excitement? Fun? Entertainment? Is it colorful? Do you have products on display that are ‘in-season’?

- **If not what can you do or what do you need to do to fix this?**

- **Retail Counter/Store Entrance.** Does it face the parking lot? Is it well defined and identified? Is it wide and inviting? Does it look like your business is active or closed? Are your signs current and up to date? If you have a gravel driveway is it smooth? Does it need grading?

- **Store Windows.** Are they a ‘window’ to your business or are they covered with clutter, signs, posters and fliers? Can people see inside? Are they being utilized as part of the wall?

- **Revitalize the front 1/3.** Shipping boxes are a fact of life in the produce business but your customers don’t want to see them. Keep the front entrance to the store clean! Unpack the boxes and move them out.

- **Customer service.** Are your employees friendly all the time? Remember your customers don’t know and probably do not care that you have been up since 4 AM picking tomatoes or sweet corn. Leave them with a positive, enthusiastic impression, not the memory of a tired, grouchy staff person that did not pay attention to them. Remember, no matter how hot, tired, or worn out you are, your customers pay your bills!

- **Refocus the checkout.** This is the last impression your customers have of your business before they leave. Is the customer checkout counter clean? Uncluttered? Are you and your clerks attentive? Are you or your clerks responsive to customer questions? Do you have press releases, photos of your farm or photos of your family behind the register for your customers to see? What image of your farm will be in the minds of your customers as they leave? Will they relay the information they learned about your family to their friends and their neighbors? If not what can you do to spruce up your image to get them to do so?

Similar to marketing resources, there are countless methods available that you can use to get information from your customers and make their visit to your farm, roadside market or farmers market, a memorable one. The biggest challenge for you is to decide which method to use and understand what you are going to do with it when you get it.

**Sources:**

**Crop Production**

May 2007. Spring is finally here, right? You all know how severe the frost/freeze event on April 7-9, 2007 was to your crops, to your stress levels and to your sleep habits. It certainly will have an impact on NC and the southeast US that will be felt for years to come. In addition to that blast of cold air one week later, we had 1” – 4” of rain in the area on April 15, 2007, followed by 20 – 40 mph winds on the 16th and 17th.

The severity of this weather leaves a lot of questions about what might have been done to minimize or possibly prevent the damage. While I try to share with you research-based information in this newsletter to help you make decisions, no true research is available to truly measure the economic impact of these weather events, until after harvest. In lieu of research-based data, I am going to share a mix of my views and observations on crops around the area.

**Fruits & Nuts & Bees:**

**Strawberries** – in most areas the strawberry crop fared the best. Overhead irrigation did the job it was supposed to do. Some growers experienced 5%-10% blossom loss. Considering the temperatures and duration of the cold weather, 5%-10% blossom loss using overhead irrigation for frost/freeze protection has to be viewed as a success.

**Blueberries** – NCDA reports 30% of the state’s blueberry crop was damaged. Dr. Bill Cline, NCSU Plant Pathologist, told me that in places where irrigation was available – damage was minimal. In places where it was not, growers experience a 100% loss! I read a report of growers in Pender and Columbus Counties who ran out of irrigation water due to the dry spring and the duration of the frost/freeze protection. If NC growers escaped with only 30% damage, this has to be considered a success.

**Peaches** – probably one of the hardest hit fruit crops. Most reports from NC, GA and SC indicate near 100% blossom loss! One report from Alabama indicated that despite using overhead irrigation, wind machines and heaters, one grower lost 100% of his crop.

**Pecans** – 100% loss. Most trees were in blossom and the freezing weather wiped out the crop.

**Blackberries** – Significant loss, especially in the Piedmont. The following is an excerpt from a note sent by Dr. Gina Fernandez, NCSU Bramble specialist on April 18, 2007.

“*Buds are at various stages of development, the largest (king) is at the tip of the lateral. Count the number of green buds/total buds and you will have an estimate of remaining crop. There are usually 5-8 flower buds/lateral.*

(Ph0to courtesy of Roger Galloway)

*Figure 1. Frost damaged blackberry leaves & buds. Slice each bud lengthwise and determine if center (receptacle) is black. Anthers can still be green, but they will not produce fruit.*”

I know there are only a couple growers in the area growing blackberries, but I didn’t want to leave you out of the discussion. I also wanted to include this discussion because the same method of determining damage can be used in blueberries. If you have black or discolored tissue in the bud, there is a good chance the damage is done.

*Figure 2. Internal flesh of blackberry bud with frost damage.*

**Muscadine Grapes** – Ouch! Most grapes in the area had set blossoms and first leaves and the damage to these buds was 100%. Vineyards with mature vines that I toured last week had damage to leaves but thankfully little or no
damage to the bark. Many young vines had bark damage which I will try to explain how to manage later in this section.

In regard to the leaf damage, muscadines will reset blossoms and buds, but the volume from the second flush will be reduced. The bigger concern is whether or not the cold penetrated the bark on the cordons (arms) or the trunk of the vines. This can be identified by checking for longitudinal cracks in the bark along the arms. If you see this gently peel back the bark and look for brown or discolored cell tissue in the interior of the vine. If this is evident it is likely that severe damage occurred in that cordon. See Figures 3 & 4.

![Figure 3. Longitudinal frost damage to cambium layer in young muscadine grape vines. (Photo courtesy of Connie Fisk, Extension Associate, NCSU Horticulture Department).](image1)

In a phone conversation with Dr. Bill Cline today, Dr. Cline said that if you see sprouts coming out of the trunk near ground level, chances are the entire vine was killed, and it will need to be pruned back to ground level and restarted.

If you had vinifera grape varieties, letting a new sprout re-grow is not an option like it is in muscadines. Vinifera grapes are grafted to disease resistant root stock, and a new sprout from this rootstock will not have the same genetic characteristics as what the plant had prior to the frost damage. Therefore the entire vine needs to be replanted.

Also if you see leaking or bleeding on the trunks in coming weeks, this could lead to secondary infections by fungi and bacteria, and ultimately cause the death of the vine.

Benny Bloodworth, Dr. Bill Cline’s Research Technician at the NCSU Castle Hayne Horticulture Research Station, provided information on how to manage damage to the cordons on young vines and possibly give you a chance to trick the vine into giving you a crop in 2nd or 3rd year vines, without missing a year of production. To do this he recommends the following:

1. Get your pruning shears ready to go ASAP!
2. Start at the tip of the cordon and look at the cordons damage - lateral splits in the bark. Follow this damage back to the last point in the cordon that shows damage and prune the cordon at this point.
3. Pruning the cordons will basically make the vine mad and trigger a wild spurt of vegetative growth. This growth will be rapid and will require regular attention to keep it trained properly.
4. This vegetative growth should occur fast enough this year to re-grow the cordon to its original length this summer. This growth will come from the root energy that was stored this winter to feed the entire cordon.
5. If pruning dead cordons is done right away, it will prevent the vine from shutting down. At this point the cellular damage is preventing the flow of water and nutrients to the cordons and if this shut down lasts too long, the plant may shut down and or reduce the amount of growth it regenerates.
6. Once the cordons have re-grown to the length you want them and you have re-tied them to the trellis wire (July/early August?) cut the tip. This will trigger spur development comparable to what you would normally see in the spring. This spur growth will be just like the wood that you would have had in the spring and should allow the vine to produce fruit next year.
7. All this is based on the premise that there is no trunk damage. If damage did occur to the trunk you will have to prune it back to ground level and restart the entire vine as Dr. Cline discussed earlier.

If you tried frost protection methods or had areas in your vineyard where the buds somehow survived the frost/freeze you could face additional problems this fall beyond a delayed harvest date.

Frost/freeze protection efforts I saw in muscadine vineyards were basically ineffective. This was due in part to the amount of early, tender growth on the vines and the severity of the cold. I know it is hard to sit back and watch weather like this coming your way because your instincts naturally lead you to try something, anything you can, to protect your investment. I would feel the same way in your situation and I too would have tried anything I could to save my crop.

In retrospect (this comment comes from my experiences in the vegetable canning industry with mechanical harvesting operations and the heartburn fields with mixed maturities at harvest left me with) frost protection or any natural conditions that saved the initial flush of buds may have created more problems than it solved.

If you face a situation where 10%-15% of the initial crop was preserved, you face a situation of now having mixed maturity in the field at harvest. This creates a dilemma for you, the custom harvest crew and the processor. With 10%-15% of the crop two to three weeks ahead of a second set of buds when do you harvest? Do you harvest when those first grapes are mature? Do you delay until the 85% are ready and hope that the first 15% of the fruit do not get over ripe and rot, which might cause other quality problems?

Regardless of what perspective your buyer takes, start having this discussion with them now about how they are going to deal with this. Try to work out a plan in advance that meets the contract specs and that works for both of you. If your buyer is honest about the situation, they will understand they are facing a short crop in 2007 and hopefully they will want to preserve as much of the remaining crop volume as they can. Just remember, they have to produce a quality product for the consumer. This most likely means quality will win out over quantity and that is going to be harvest challenge for everyone involved.

**Vegetable crops:**

For the most part what I’ve seen in the area, vegetable crops endured the weather but they were set back 2-3 weeks in their development.

**Irish potatoes** – initial flush of foliage = 100% loss. Thankfully potatoes can and will recover, but harvest will be delayed 2-3 weeks.

**Cabbage** – most survived, but was damaged by the weather. In most cases in eastern NC the cabbage will recover, but like potatoes, harvest will be delayed.

**Lettuce** – surprisingly it fared OK. It showed signs of frost damage, but it appears to have done better than cabbage.

**Sweet corn** – if leaf growth was above ground, the damage was severe. Theoretically the growing point is below ground until the 4th leaf stage, but the damage will depend on your location, whether it was growing on plastic or bare ground, and what the temperatures were in your area.

**Garden peas** – again, slowed by the cold weather, but damage from the frost is minimal.

**Beets** – fared OK. They are a cold weather crop with a base temperature of 39°F, and will usually tolerate frosty weather.

**Onions** – OK. Onions are like beets and the cold weather did not seem to affect them.

Having said that about vegetables and the cold weather, the heavy rain and high winds one week later probably did more damage to vegetable crops than they suffered from the cold. I saw watermelon transplants, set out a few days after the cold weather that were destroyed by the 20-30 mph winds. In other
areas the heavy rains washed out transplants that were set out earlier in the week.

Bottom line, it has been a long, tough spring. Watch out for secondary infections on blueberries, grapes and some vegetable crops. Keep your fungicide spray recommendations handy and keep scouting your fields. Letting your guard down now because the cold weather is out of here could lead to additional losses that no one can afford.

If you have questions about any of the 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.

Mark Seitz
Extension Area Specialized Agent
Agriculture – Commercial Horticulture