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SPECIAL REPORTS:

Value-Added Agriculture, Direct Marketing and Agritourism: Cultivating a Fruitful Enterprise

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Value-added, direct marketing and agritourism enterprises are opportunities for some fruit growers to generate revenue by removing middlemen from the supply chain, taking advantage of demand for fresh and local products, marketing small quantities of products or offering experiences on the farm. In many cases, industry data indicate growth in the number of farms participating in these enterprises. Not all farms that try value-added products, direct marketing or agritourism are successful, however. Farmers considering these operations may benefit from understanding the challenges these enterprises may face, factors observed in successful enterprises and where to begin.

Farmers interested in industry data related to the number of farms, and in some cases, the value of sales and average sales per farm participating in various value-added, direct marketing and agritourism activities, can find it in the USDA Census of Agriculture. Data are available for the United States, by state and by county online at

http://agcensus.usda.gov/Publications/2012/.

The most recent data is available for 2012, and farmers can compare recent data to previous censuses. Data is available for farms directly marketing products for human consumption to consumers, marketing products to retail outlets, offering CSAs, marketing value-added products and offering agritourism and recreational services.

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Just because operations exist, do not mean they are easy or profitable. Value-added, direct marketing and agritourism operations add another dimension to an already challenging production operation. Farmers producing fruit crops are already juggling input selection and purchase, soil fertility, planting, disease control, pest control, weed control, irrigation, harvesting, field sanitation, labor, records, certifications, marketing and more. When direct marketing, adding value or offering agritourism activities, a farmer has all of these production issues plus another entire set of activities needing skills, time and attention. That may include processing and packaging operations, storing and transporting ingredients and products, keeping customers safe on the farm, marketing in a new way, managing new or more labor, serving more individual customers, adopting new regulations and a variety of other activities.

Reasons that businesses fail can typically be classified in one of three main categories: money, management and marketing.¹ By understanding these reasons businesses fail, farmers can try to avoid them and increase their potential for success.

- Money It takes money to make money. Capital is needed on the front end to make initial investments in the enterprise and operate the enterprise until a significant customer base is built to generate revenues. Businesses often struggle when started without adequate capital to get them up and running and when they or do not have cash flowing in from sales at the right time to pay for outgoing expenses.
- Management Businesses require management skills and experience to successfully juggle all the aspects of the operation efficiently and effectively. Entrepreneurs who do not have the knowledge or experience to handle all the aspects of the business or who not develop a team of people who do are more likely to fail.
- Marketing Identifying a specific target audience or audiences for products and developing marketing strategies to access those potential customers is another key to business success. Often,

entrepreneurs think the product will sell itself and do not conduct marketing activities or haphazardly do some marketing without regard for who has a need or desire for the product, is willing to buy it and is able to buy it.

While these are the most commonly accepted reasons businesses fail, there is another M word to consider. Businesses that fail, including value-added, direct marketing and agritourism operations, are often missing that little bit of magic to make it all come together. A business without a champion or a leader with passion, perseverance, energy, drive and a "can do" attitude is not likely to succeed. Successful value-added, direct marketing and agritourism entrepreneurs:

- Start in a strong financial position and have capital to invest in the start-up and operation of the business.
- Have a long term commitment to the operation. They understand that success does not typically happen overnight. They start slow and grow smart.
- Possess management skills to efficiently and effectively manage time, labor, cost and all the aspects of the enterprise.
- Are able to produce a quality product consistently.
- Are able to seek out, understand and adopt appropriate regulations.
- Learn, possess or obtain (through team members) marketing savvy. They can identify target audiences and connect with them.
- Have people and customer service skills to win loyal employees and lifelong customers.

Farmers interested in developing a valueadded, direct marketing or agritourism operation should begin by assessing their resources. Do you have the skills, experience and magic needed to be a successful entrepreneur? Do you have capital available to launch a business? What strengths and weaknesses do

¹ Clark, Scott. *Reasons for business failure come in three broad groups*. Puget Sound Business Journal. July 21, 1997.

you or your farm location have for this type of enterprise?

If you think you have what it takes, the next step is to learn all you can and begin to generate ideas for your enterprise. What are needs and wants in the market that you can fulfill? What knowledge and skills do you need to develop? Read about and visit operations to learn what may be possible, how to overcome challenges and what you can do to increase your potential for success.

Once you have an idea for the product(s) or service(s) you would like to consider offering, it is time to put a plan together. A written business plan will help you see and communicate the whole picture for your operation. It will help you determine if you really want to go into business and what to expect if you do. It will help you discover issues and challenges you would not have thought of otherwise and help you prevent some potential mistakes.

Several resources exist that may help farmers develop business plans for direct marketing, value-added or agritourism operations. AgPlan is an online business planning website providing templates, tips, sample plans and other resources. This free tool may be accessed online at <u>https://www.agplan.umn.edu/</u>. The Small Business Administration also has a free online business planning tool at <u>http://www.sba.gov/smallbusinessplanner/plan/</u> writeabusinessplan/SERV_ESSENTIAL.html.

Farmers may also visit the Center for Profitable website for publications related to a variety of direct marketing, value-added agriculture and agritourism topics. These resources are available online at <u>https://ag.tennesss.edu/cpa</u>.

Largest Berry Processing Facility In Southeast Opens

Note: First published online Growing Produce, July 23, 2014

Naturipe Farms/MBG Marketing held a grand opening ceremony for its new fresh and valueadded blueberry facility recently in Alma, GA.

There were over 250 in attendance between grower-members, business and community leaders, and local and state dignitaries including Peggy Murphy, Mayor of Alma, GA, and Georgia State House Representative Chad Nimmer, as well as MBG and Naturipe Staff. Naturipe Farms, formed in 2000, is a partnership between MBG Marketing, Hortifrut SA, Naturipe Berry Growers and Munger Farms. Headquartered in Salinas, CA, it has sales and customer service offices located throughout the U.S., including Grand Junction, MI; Estero, FL; Boston, MA; Wenatchee, WA; and Atlanta, GA.

Alma is home to the second Individually Quick Frozen (IQF) Value-Added processing and packing facility owned and operated by MBG. The first was opened in Bloomingdale, MI, in 2013, a facility that has provided benefits to all MBG members and customers by producing a high yield pack-out of superior quality blueberries for the Naturipe brand.

"The Alma Facility will enhance our ability to quickly process berries for our growers in Georgia and Florida and will serve as a back-up facility to our growers in our other regions," said Larry Ensfield, COO of MBG Marketing. "This new facility is over 73,000 square feet, with a capacity of 18,000 pounds per hour, making it the largest blueberry IQF facility in the Southeast USA. We are using the latest technologies to sort, wash and then freeze the berries in a state-of-the-art IQF tunnel.

"Here, the berries are individually frozen to -10°F degrees in less than 6 minutes to preserve the flavor, nutrients, color and integrity of the blueberries. Additional inspections and sorting takes place before they are packed into bulk containers for food-service and ingredient buyers or poly bags for retail consumers packs."

The facility also contains a large fresh blueberry distribution center, to service the Naturipe Farms customer base across North America. Current capacity is for more than 10 million pounds of fresh berries during the Southeast growing season, with room to expand to match the anticipated growth in production in the region.

In 2013 MBG celebrated its 30th anniversary in Georgia. Don Wade, a retired grower-member who was one of about a dozen growers in that initial co-op meeting in 1983, commented during the grand opening celebration that "we started with just a couple of acres and now there are over 22,000 acres of blueberries planted in the state."

Murphy thanked MBG for expanding its Georgia operations, supporting the community and continuing to invest in the city of Alma and Bacon County. In addition, Georgia Governor Nathan Deal sent his best wishes for success in a letter read by state Rep. Nimmer. Paraphrasing the governor, he highlighted the positive economic impact to the region as a result of the blueberry industry and in particular when grower organizations, such as MBG, make a long term investment and commitment such as this new facility.

Source: Naturipe Farms

Taste Tops Health Benefits For Blueberry Buyers



Note: First published online Growing Produce, August 6, 2014

Photo courtesy of UF/IFAS

New University of Florida

research shows taste trumps health benefits for blueberry buyers, sending a strong message that fruit consumers value flavor most.

About 61% of blueberry consumers buy the fruit for its flavor, while 39% do so for psychological reasons — they believe the fruit, which contains antioxidants, provides health benefits, according to two national online surveys.

<u>UF/IFAS</u> horticultural sciences assistant professor <u>Jim Olmstead</u> will use the data as he breeds new types of blueberries. Olmstead uses traditional breeding methods to create blueberry cultivars that have traits consumers want.

"What we're trying to determine is: What is the consumer's perception of the ideal blueberry? What should it look, taste, and feel like?" said Olmstead.

A company called Panel Direct Online recruited survey takers, using an online questionnaire to ensure participants bought blueberries in the 12 months before the survey and that they were evenly split between men and women.

Three hundred and six people answered the first survey, conducted in 2011. In 2013, the researchers surveyed another 300 blueberry buyers. Respondents in both surveys answered the same questions about six blueberry traits: firmness, texture, size, color, flavor and human nutrition. Researchers then divided traits into six more categories, so respondents revealed their preferences about 36 different blueberry traits. Consumers valued such factors as "so sweet...no sugar added" and "bold and intense blueberry flavor" the highest. Also high on their list were "full of juice" and "full of antioxidants." Olmstead said his ongoing research includes improving blueberry texture, but survey respondents did not rate texture high on their list of preferred traits.

Using a nine-point scale, respondents were asked to rate their blueberry experiences, both good and bad. Respondents were tested on what scientists call psychophysics, or how your brain reacts to stimuli such as taste, smell, and texture.

Recent surveys by online grocer **FreshDirect** showed only 48% of U.S. consumers bought blueberries in the past year, compared with 88% who bought the top-selling fruit, bananas. Historically, many blueberry traits have been selected with producers in mind, including climate adaptation, yield, harvest potential, and disease resistance, said Thomas Colquhoun, an environmental horticulture assistant professor and study co-author.

Developing a new blueberry variety can take more than 10 years, so before investing that time, scientists and growers need to know what consumers want, he said.

"There's not just one type of customer," Colquhoun said. "You have purchasers that work with the sensory side of the brain, and then you have purchasers that work with the psychological side."

Osage Blackberry – Some First-Year Grower Comments

John R. Clark University of Arkansas



Osage blackberry is the newest floricane-fruiting blackberry from the University of Arkansas. It was released in the summer of 2012, and hit the market in a limited amount in the spring of 2013. In 2014, the first berries were produced

by growers. I recently heard several growers comment on Osage, and I want to share a few first-crop impressions.

Grower Ervin Lineberger of Kildeer Farm, Kings Mountain, NC shared that his Osage plants were very healthy and established well – he said that his primocane growth at the end of the 2014 season was the best he has seen on any blackberry on his farm. He harvested a good crop of berries in 2014 and was very impressed with the flavor and quality. He further stated that this berry was very easy to pack, particularly in smaller clamshells. Many of you have heard me say that Osage is one of my favorites for flavor, and this was a key reason this was released – it is good to hear positive comments on flavor for this new blackberry option.

David Childers with Lewis Nursery and Farms in Rocky Point, NC commented that Osage performed very well in their eastern North Carolina location in its first fruiting year. It had a good yield, high quality berries, and was a good complement to Ouachita, ripening about 7 days earlier. Primocane growth on this variety was particularly good in 2014 so the 2015 crop potential is great. I have noticed very good plant health year after year in my evaluations of Osage, and it is exciting to hear this report in a grower planting.

Growers Paul and Peter Willems in Kingsburg, CA were very pleased with their first crop of Osage. They were most impressed with the flavor, productivity of the plants, ease of packing particularly in smaller clamshells, and the window when it ripened – just after Natchez. Primocane growth after harvest in summer of 2014 has been exceptional, setting the stage for a great crop in 2015.

Steve McMillan in Enigma, GA shared that Osage produced firm berries, and in the southern Georgia heat the berries held up well, particularly in firmness and maintaining black color; Osage overall performed in packing and handling as well as Ouachita or better. His second-year plants tended to overcrop to some extent and this reduced berry size in 2014 compared to the first crop in 2013, however.

Osage sold about 100,000 plants in 2014, which reflects it is getting a good start commercially. The first indications are that this variety is shaping up to be one to consider as new blackberry plantings are established.

For those not familiar with Osage, it was released primarily as a very good-flavored variety to complement Ouachita. In Arkansas, it ripens between Natchez and Ouachita, but can fruit guite a long time through the Ouachita season. Berry size is on average about a half a gram less than Ouachita, a characteristic that concerned me when I was considering its release. However, growers have not had major concerns with size, partly due to the ease of packaging this berry - it is not too large and its round shape allows quick placement in the clamshell. It is consistently productive, equal to higher than Ouachita in Arkansas trials. I have always liked the plant health of Osage also, and it has very good vigor in all locations I have observed it. But, flavor is really what got my attention with Osage. As I have said in various presentations, I found it to taste good on "bad flavor days" in my years of evaluations of many many blackberry selections in the breeding program. Some days blackberries just are not as good as others - due to either the berries or me - and this one seems to get good comments time and time again. It is one I will take home! If you are planting blackberries this winter, consider Osage, and it is available from a number of propagators licensed by the University of Arkansas.

Indigocrisp Blueberry Promises To Deliver Plenty Of Pop

James Olmstead

Reprinted from the September issue of the American Fruit Grower



Photo by James Olmstead Indigocrisp is a new southern highbush variety released from the UF/IFAS blueberry breeding program. Indigocrisp resulted from a cross made in 1996 by Paul Lyrene between the unnamed selection FL96-27 and Windsor, and was tested as FL98-325. It was released in 2013, and a U.S. plant patent was applied for later that fall.

Indigocrisp is a vigorous, upright-growing bush with large, narrow dark green leaves. In trials, Indigocrisp has been susceptible to Botryosphaeria stem blight, which can cause stem dieback and whole plant death in severe cases. The estimated chill requirement for Indigocrisp is 300 hours below 45°F. This is based on inconsistent cropping and vegetative budbreak in areas south of Gainesville, FL, that receive less than an average of 300 chill hours in a season. Indigocrisp does respond favorably to hydrogen cyanamide application, with a condensed bloom period and earlier prolific leafing.



Photo by James Olmstead

The average bloom date of Indigocrisp in Gainesville is Feb. 13, similar to Farthing and Star, and approximately a week later than Emerald and Meadowlark. Like most southern highbush blueberries, planting additional varieties for cross pollination is recommended to achieve the best fruit set on Indigocrisp.

Indigocrisp ripens early to mid-season, starting just after Springhigh. It is the earliest ripening of the crisp-textured varieties released from UF/IFAS. Yields are acceptable for an earlyseason variety, but do not reach the levels of high-yielding varieties such as Emerald or Farthing. Indigocrisp berry size is large, with high soluble solids and consistently low titratable acidity in laboratory trials that results in a mild, very sweet flavor.

Consistency Is Key

The key attribute that differentiates Indigocrisp from many other southern highbush blueberries is its crisp fruit texture, similar to Bluecrisp and Sweetcrisp. This texture has been shown in trials conducted at the University of Florida and the University of Georgia to be important for machine harvest for fresh marketing potential of a variety. Indigocrisp has had among the highest packout percentages after machine harvest that we have recorded, and varieties with crisp fruit texture like Indigocrisp have been shown to have much longer postharvest potential.

Crisp fruit texture also allows fruit to be held on the bush longer between harvests before quality degrades, which is an important management tool to make machine harvest more efficient.

In a consumer taste panel conducted at UF/IFAS in 2013, the crisp texture of Indigocrisp was preferred to standard textures found in other common southern highbush blueberries.

Still Some Wood To Chop

The biggest difficulty with Indigocrisp has been lack of consistent propagation by standard softwood cuttings. Initial budwood distribution is limited, so licensed propagators are strongly encouraged to establish a mother block that can be maintained as a source of cutting material for future propagation. Indigocrisp is a protected variety and a license must be obtained for propagation and sale of plants.

License information can be obtained from Florida Foundation Seed Producers (FFSP) at 352-273-3656 or **FFSP.net**. A list of currently licensed propagators can be found on the **FFSP website** for growers wanting to purchase plants.

High Tunnels, Small Farms, And Strawberries

Richard Jones

Reprinted from the September issue of the American Fruit Grower



Saylor's Farm faces the same challenges most smaller growers do — finding affordable labor, grappling with the weather, and just making the

economics of a small farming operation work. But owner John Saylor is an experimenter, and he's turning that natural curiosity into a solution that produces highly marketable and profitable onions, lettuce, herbs and, especially, strawberries.

"I've always had an interest in hydroponics and one of the main crops I was interested in was strawberries," he says. "We've been researching strawberry production in tunnels for about 10 years, and I started getting serious about it the last couple of years."

The Sligo, PA, operation shifted 30 acres of outdoor strawberry production to three 80-by-18-foot high tunnels with 3,000 plants per structure. The result is a great-tasting, much earlier, longer-season crop that's commanding excellent prices. In fact, Saylor's Farm sells out of strawberries every day from May through November at \$7 a quart.

How Saylor's Farm Does It

Saylor knew little about hydroponics, so he started small and learned by trial and error along the way. For those of you who are less do-it-yourselfers, affordable high tunnels and growing systems are readily available from industry suppliers, but Saylor chose to build his structures and hydroponic set up himself. "We're just using off-the-shelf plumbing." he says. "We have 4-inch PVC pipe, and drill 3inch holes with roughly 1.5-inch spacing between the holes. Through our research we discovered we had to get the berries up out of the water so we plant them in a 10-inch perlite bag. That gets the strawberries well above the water level. Water wicks up through cut slits at the bottom of the bag. That makes a pretty good atmosphere for the roots."

Saylor feeds the crop with a combination of nutrient-rich pond water, a hydroponic fertilizer mix, calcium nitrate and Epsom salts.

"Our farm pond has a lot of fish in it, so the water has nutrients before we add anything to it.

We feed at one end and the water flows to the other end and back to a 0.1-horsepower circulating pump. When that's depleted we add to the tank and put in a fertilizer mix at about 1.5 ppm and watch that we don't get it too rich." Saylor has done some experimenting to find the right strawberries for his growing conditions. Daylight-neutral varieties have been the most successful so far. He purchases most of his plants from Nourse Farms.

"San Andreas was the last one we planted and it started coming into bearing in early August. That's shown promise. Albion has been a good one for us, and another one bred in Spain, Amandine, has very good promise. It sets fruit up very high — the blossoms are 10 to 12 inches above the base. They pollinate quite easily and they don't monkey face as much," he says.

Production costs are always a concern, so Saylor keeps energy expenses to a minimum. A single small gas space heater in one house helps get plants started early in the season and sets the pace for the next houses.

"It's just big enough to maintain frost-free temperatures. Strawberries do quite well at 32°F or 34°F," he says.

Most cooling is passive, with just one fan in the first house. The other houses have double doors at each end and the sides pull up for ventilation.

Early Start, Longer Season

The benefits of the system have been clear, Saylor says, beginning with an early crop much earlier than he normally would be starting strawberries in Western Pennsylvania.

"We start the crop around February. Outside we wouldn't plant until the last part of April to the middle of May," he says. "We usually start picking a month to six weeks earlier than outside. In the past, if we didn't plant until the first of May we weren't picking until the middle of July."

In-season production costs have been significantly reduced with the new system. Once the high tunnel hydroponic system is set up, Saylor says the labor required is much less than for a crop in the field.

"In the greenhouse we haven't had to go to any spray systems to eliminate insect problems, mildew, or leaf diseases," he says. "In a wet year like this you can plant and farm while it's raining and still maintain the crop."

Saylor says he'd like to add more tunnels as revenues grow. At three houses and 9,000 plants, he's selling all the strawberries he can harvest.

"We're sold out by dinnertime every day. We sell most of them at our own market, and we have to really scramble to get enough to take to the farmers' market on Saturdays," he says.

And those sales are at a premium. "We have no trouble getting double what we were getting for strawberries in the field. The size is not as good as what you'll see out of California but the flavor is much better. For daylight-neutral varieties, the size is as good as what we were seeing in the field."

Advice For Other Growers

Saylor has gotten some help along the way from Pennsylvania State University and the University of Arkansas, but he's done most of the development work for this system on his own. Here's his advice for other small growers thinking about trying high tunnel hydroponic strawberries:

Find the right varieties for your situation.

"Our biggest thing is hunting for varieties that will stand the heat; the high tunnels get quite warm. Everbearing and daylight-neutral plants don't hold over as well as the June bearing, so you basically have to replace them every year," he says. **Find the best medium.** "Perlite has been the best rooting base for us so far," he says. "We tried coconut fiber and found if you don't work with a company that washes all of the salt out, your plants won't do well in it."

Keep plants above the water. "We used to try to get them down where the water was quite high on the root system and we would have quite a few failures. We went to the plastic bags with perlite and that eliminated the problem," Saylor says.

Watch your costs. "We can plant one house in one day with two people, and we're learning how to find the shortcuts," he says. "The initial cost is your biggest problem. Expect about three years to bring it out of the red. Any extra costs you put in you have to try and get those back somehow. We're thinking about using solar panels to run our pumps."

Go slow. "Things work differently for everybody," he says. "Figure out what works for you."

Southern Region Small Fruits Consortium Inservice Training Value Added Agriculture

David Lockwood University of Tennessee

September 3 & 4, 2014

Value-added concepts have become an increasingly important way for growers and marketers to recognize greater returns for their products. Value-added can take numerous forms including processing the fruits and/or vegetables to make juices and ciders, dried fruits, pies, etc. Value-added can also be applied to marketing techniques such as pickyour-own. Agritourism is on the rise with people wanting to see where their food is being raised (the present emphasis on locally grown fits well here), wanting their children to understand more about where their food comes from and for those wanting to get out into the country for a refreshing change of pace.

With the trends toward on-farm processing and selling, growers and marketers assume more food safety responsibilities than ever before. Good agricultural practices in the production and handling of food crops and proper processing techniques to assure customers that the food they purchase is safe are essential parts of having a successful market. Extension agents play a vital role in their counties with the development and dissemination of information to aid their clientele. Awareness of basic food safety procedures and marketing trends will further enable them to work effectively with their clientele. Direct marketing and value-added products are very common with small fruit crops. Therefore, this inservice was developed as a way to further acquaint extension agents with opportunities that exist for growers with value added products and of the need to provide a safe, quality product for consumers.



Hillside Orchards – Cold Storage

Sept. 3, 2014:

The inservice training at Hillside Orchards, 18 Sorghum Mill Rd., Lakemont, GA 30552 had 25 participants with 19 of them being agents from the six member institutions . Value-Added Agriculture is alive and well here. The Mitcham family, owners and operators of Hillside Orchards, raise apples, blackberries, muscadines and a multitude of other crops on their 100 acre farm in the North Georgia mountains. What started out as a small cannery in 1983 has grown to a processing facility making over 700 products and marketing in numerous ways – fresh and processed, wholesale and retail.



Hillside Orchard, Lakemont, GA

Hillside Orchards is a co-packer and will process fruit and vegetable crops for others as well as for themselves. They have an acidified processing plant and make jams, jellies, pickles, relishes, ciders and sauces. With their own truck fleet, they distribute products from New Jersey to Miami and as far west as Colorado.

Their farm market offers a multitude of things to see and do ranging from corn mazes, playgrounds, a farm museum, gem mine, moonshine still, petting zoo and school tours. The market is filled with fresh and processed fruit and vegetable items, breads and other baked products, ice cream and novelty items.



Hillside Orchards-playground

Hillside Orchards is a popular attraction for tourist and locals. Their "Fall Farm Days" brings in several thousand people to enjoy the farm experience and taste the many products made there.



Hillside Orchards – custom processing for other growers

Sept. 4, 2014:

The training continued at the Georgia Mountain Research and Education Center in Blairsville, GA. Dr. Faith Critzer, assistant professor in the Department of Food Science and Technology at the University of Tennessee discussed food safety regulations and compliance in the member states. She pointed out the pitfalls in certain types of food processing and the importance of following proper food manufacturing processes.

Following Dr. Critzer's presentation, Ms. Megan Leffew of the UT Center for Profitable Agriculture, discussed effective marketing strategies and the impact of agritourism for farm markets. She had numerous handouts to illustrate marketing ideas.

Following this, the group traveled to Mercier Orchards, 8660 Blue Ridge Dr., Blue Ridge, GA 30513 for lunch and the afternoon session.

Bill and Adele Mercier stated Mercier Orchards in 1943 growing apples and marketing primarily through wholesale outlets. Now with the 4th generation becoming active in the business, Mercier Orchards has expanded production to include strawberries, peaches, nectarines, plums, blackberries, blueberries and cherries. Retail marketing has largely replaced wholesale and value-added products and practices are widely used.

Fresh fruit apples are supplemented by a raft of value-added products such as pies and other baked goods, a restaurant and winery, cider (both sweet and hard) and a fully stocked farm market carrying processed products such as jams and jellies and other items made or supplied by local individuals. Pick-your-own has become an important way to attract people wanting an on- farm experience. Rides on the tractor-drawn wagons through the orchards are a must for many customers.

The most recent addition to the market has been the farm winery where hard cider and wines are produced. The tasting bar features these products as well as wines from other wineries in the vicinity.



Mercier Orchards – Joe Foster discusses the wine & hard cider tasting bar

Entertainment is an important part of the onfarm experience. Everything from children's cooking classes and school tours to fishing contests and wagon tours through the orchards during bloom brings large crowds to the farm.

As a result of the focus on direct marketing, Mercier Orchards has grown the to be the third largest employer in the county, adding much to the local economy.

Blackberry and Raspberry Seasonal Checklist Fall 2014

Gina Fernandez, Small Fruit Specialist, North Carolina State University

FALL

Plant growth and development

- Primocanes continue to grow but growth rate is slower
- Flower buds start to form in leaf axils on summer-fruiting types
- Carbohydrates and nutrients in canes begin to move into the roots
- Primocane fruiting types begin to flower in late summer/early fall and fruit matures until frost in fall

✓ Primocane leaves senesce late fall Harvest

- ✓ Primocane-fruiting raspberry harvest
- ✓ Primocane-fruiting blackberry harvest Pruning, trellising and tunnels

- Spent floricanes should be removed as soon as possible
- Optimal time to prune is after the coldest part of the season is over. However pruning can start in late fall if plantings are large (late winter for smaller plantings).
- Start trellis repairs after plants have defoliated

✓ Remove covers on three-season tunnels Weed management

Many summer weed problems can be best managed in the fall and winter using preemergent herbicides. Determine what weeds have been or could be a problem in your area. Check with your states agricultural chemical manual and local extension agent for the best-labeled chemicals to control these weeds.

Insect and disease scouting

- ✓ Continue scouting for insects and diseases.
- Remove damaged canes as soon as possible to lessen the impact of the pest.
- Check the Southern Regional Bramble integrated Management Guide for recommendations.

http://www.smallfruits.org

Planting

- Growers in warmer areas (e.g. extreme southeastern NC) can plant into early December. Preparations for winter planting should have already been made. If you have questions about winter planting please contact your local county extension agent
- In cooler areas, prepare list of -cultivars for next spring's new plantings. Find a commercial small fruit nursery list at http://www.fruit.cornell.edu/berry/nurseries/

Fertilizer

- Take soil tests to determine fertility needs for spring plantings.
- Non-nitrogenous fertilizers are best applied in the fall to established plantings.
- If soil is bare, plant an overwintering cover crop (e.g. rye) to build organic matter and slow soil erosion.

Marketing and miscellaneous

- ✓ Order containers for next season
- ✓ Make contacts for selling fruit next season

Make plans to attend Grower meetings! Blackberries and raspberries are part or all of these programs.

- The 2015 North American Raspberry & Blackberry Conference will be held in Fayetteville, Arkansas, on February 24-27, 2015. For more information and an sneak peek at the program: http://www.raspberryblackberry.com/local .cfm?doc=webdocs/2015Conference Overview.htm
- Southeast Regional Conference and Tradeshow, with sessions on blackberry January 8-9, 2015, at the Savannah International Trade and Convention Center

http://www.seregionalconference.com/ed ucational-sessions/

Key Resources:

Southern Region Integrated Bramble Management Guide and the Southeast Regional Bramble Production Guide:

http://www.smallfruits.org/SmallFruitsRegGuide/ index.htm

Blackberry and Raspberry Grower Information Portal:

http://rubus.ces.ncsu.edu

Social Media links:

Twitter: @NCTeamRubus Facebook : Team Rubus Blogs: http://teamrubus.blogspot.com/

Strawberry Seasonal Checklist

October Growers Checklist

E. Barclay Poling, Professor Emeritus, NC State University

 Overhead irrigation is still the favored approach for plug establishment. Irrigate plugs 5 hours the first day, 3 hours the second and 2 hours the third day. (More may be needed if it is hot and sunny). It is a good idea to check several plug plants 2-3 days after planting to make sure soil moisture is adequate — you should see new white roots within a couple days of transplanting.

- You can also establish plugs with drip irrigation, but be sure to hook up the system before planting. Drip irrigate often enough after transplanting to keep beds near field capacity during the first 4 weeks. Don't over irrigate (avoid standing water in the aisles).
- Irrigate fresh dug plants from 9 am to 5 pm for 7-12 days. Don't start irrigation in the morning until you see fresh dugs beginning to wilt down slightly (on rainy days like today, 10.1.12, you are getting a nice break!)
- 4. Check for dead plants and reset ASAP. A good rule of thumb is to have at least 5% extra plugs for re-planting. Plugs are also the ideal transplant for re-setting in fresh dug plantings, as they do not require constant watering each day for the first 7-12 days, as do fresh dugs! Cut-off plants may be an option for growers who cannot locate additional plug plants for re-planting.
- Send suspicious-looking plants to the Disease & Insect Clinic for positive ID; notify plant seller of any problems. Be on the lookout for deer damage soon after planting.



Figure 1: Deer damage to a month old Chandler planting 6. Watch plants for disease problems, including angular leaf spot. The earlier you diagnose a problem with ALS, the better! Development and spread of ALS is favored by wet weather and overhead irrigation.



Figure 2: Angular leaf spot (Xanthomonas fragariae) can be introduced on nursery plants, and is a more serious disease in cool-wet weather in fall and winter. It first appears on the undersides of leaves as small light green, water-soaked spots. If your transplants are infected with ALS, the sooner you can stop overhead irrigations for transplant establishment in fresh dugs, the better!

- Scout for weeds. Hand weed emerging winter weeds established in the row near the strawberry plants. Winter weed pressures may be more serious on sites where fumigation had to be omitted due to wetter than normal field conditions in late August and September.
- Occasionally, strawberry plants form runners in the fall after planting. These runners should be cut off – hand scissors do an excellent job. Do runner pruning in late October and again in early to mid-November. Do not "pull off" the runners – you will possibly damage the plant's newly developing root system!
- 8. Runner removal may be combined with hand weeding operations
- Depending on your planting site, you may need to inject Ridomil Gold soon after transplanting if there has been a history in the soil of Phytophthora Crown Rot – see 2014 NC Ag. Chem Manual or SRSFC IPM Guide for recommendations

- 10. Place order for row covers NOW; these will help to greatly conserve irrigation water for frost protection next spring.
- 11. A row cover applied in the first 2 weeks of November may enhance flower bud development in the crowns and improve spring yields – this may be especially helpful for later plantings of Chandler. Row cover research in the Mountains, Piedmont and Coastal Plain, has shown that Camarosa yields are optimized with 800 Growing Degree Day units in the fall (Oct-Nov-Dec), and Chandler needs about 650 GDD units.
- 12. Growers should consult seasonal climate data and predicted long range forecasts before they install row covers. Dr. Ryan
- 13. Boyles, Director, State Climate Office (NC) suggests that growers look for guidance from the Climate Prediction Center's 6-10 and 8-14 day outlooks: <u>http://www.cpc.ncep.noaa.gov/products/pred</u> ictions/610day/interactive/index.php <u>http://www.cpc.ncep.noaa.gov/products/pred</u> ictions/814day/interactive/index.php
- 14. If unseasonably warm temperatures during rowcover treatment were followed by unseasonably cold temperatures, plants may not acclimate and tissues could have a reduced cold tolerance. One way to improve winter cold hardiness of Albion (day-neutral) is to de-blossom in the fall season (this may be needed on plug plants of Albion, but not cut-offs). Do not "pull off" the blooms – you could damage root system (use small scissors). Also, be mindful that Albion is very susceptible to cold injury in the fall, and row covers must be applied in October if there is threat of any temperature below mid-20s.

15. Consider removing dead leaves from plants in Nov–Dec to minimize grey mold. Don't hand prune if anthracnose is know to be present. According to Clemson researcher, Dr. Guido Schnabel, good products for anthracnose control in grower fields are Captan, captan plus TopsinM (C.glo only), captan plus Switch, Cabrio, Pristine and Merivon.

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