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Small Farm News

Small Farm Program • Cooperative Extension • University of California

Workshop highlights ways to share trucking, marketing

"We really all wanted to be farmers, not truckers," said farmer Dru Rivers, while discussing the motivations behind the 1981 founding of YoCal Produce Cooperative.

Now as then, the logistics of moving farm-fresh products from fields to markets—not only transportation, but also cold storage, marketing, sales and food safety coordination—can present a challenge for many small-scale farmers.

Collaboration as a way to meet these needs was the topic of the Collaborating to Access New Markets workshop, which brought together about 40 beginning farmers, experienced farmers, entrepreneurs, students and agricultural professionals June 29 in Woodland.

The group gathered to hear lessons learned from cooperative ventures, to learn ways farmers can pool resources to better supply wholesale markets, and to discuss opportunities to collaborate in the future. The workshop was organized by the UC Small Farm Program.

"Small-scale farmers can accomplish things as a group that sometimes they cannot do as individuals," said Shermain Hardesty, Small Farm Program director and former director of the Rural Cooperatives Center. "We're not trying to push the cooperative structure specifically, but just to look at ways that farmers might be able to work together in addressing marketing challenges."

The day included the first complete history of the pioneering YoCal Produce Cooperative and a featured speaker from Pennsylvania, Jim Crawford, who discussed the long-term success of the East Coast's largest organic produce cooperative.

Hardesty highlighted two critical lessons from collaborative ventures discussed that day, specifically: the importance of collaborative members investing financially in their joint operation and the importance of hiring the right staff, particularly managers.

Farmers Jeff Main of Good Humus Produce and Dru Rivers of Full Belly Farm discussed their experiences as founders of YoCal Produce Cooperative.

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At one of the first mock food safety audits organized by Richard Molinar, the farmer pulled out a shoebox of receipts when asked to show documentation.

Food safety: GAPs manual, mock audits prepare farmers

There was a surprise waiting for the food safety auditor when he looked around for signs of wildlife, though the farmer had told him his farm didn't have any rodent problems. Under a bin were some tunnels, one of which contained a dead mouse.

"You don't want an inspector to find a dead mouse 6 feet from your strawberries," said Richard Molinar, UC Cooperative Extension farm advisor, in recounting the story. "First you need to think about everything in the field, but then you also have to be aware of burrows in your neighbor's field."

Surprises like these could lose a farmer points—or even mean failure—in a food safety audit. But this was just a test, a mock audit to help farmers better prepare their own food safety plans.

Background

Focus on food safety—through education, market demand and legislation—has been ramping up since 2007, after E. coli contamination of spinach grown in Salinas. In January of this year, the Food Safety Modernization Act was signed into law, which includes an exemption for growers with annual sales of less than

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Highlights in this Issue

Director's message

Uncertainty, entrepreneurship and hope

When I sat down to write this column, I considered three potential themes related to the Small Farm Program: uncertainty, entrepreneurship and hope. Looking at them written down together, I realized that these themes are also relevant to California's small farms.

Uncertainty is a dominant force throughout agriculture. This year, the cool spring weather had small farmers wondering when they would have a harvest large enough to market through their farm stands, CSAs, or farmers markets. And we are still facing considerable uncertainty in the economy, so upscale restaurants continue to face reduced patronage and many consumers are often reluctant to spend extra to purchase organic produce or grassfed beef. There is also significant uncertainty in the regulatory world. The regulations for the Food Safety Modernization Act are due to be issued by the end of the year; many smaller California farmers do not qualify for the "small farm exemption" and will have to work through how to comply with the new regulations in a cost-effective manner.

Shermain Hardesty

Similarly, the Small Farm Program is facing considerable uncertainty. Since the closure of the Small Farm Center and the loss of our administrative support, we have been operating with minimal budgetary support from the University. Our remaining contracts and grants are expiring in the next 6-12 months, and some of our five core farm advisors are talking about retirement. None of the farm advisor positions that the University has approved for recruitment since I became director in 2007 has a focus on small farms.

Entrepreneurship is one way to take action and seize opportunities in times of uncertainty. Small farmers in particular have to master entrepreneurship in order to be financially viable. Since they typically cannot compete on price, they must continually innovate by seeking out new market opportunities and planting new crops or varieties. This type of entrepreneurship requires having a whole-farm perspective, with entrepreneurship across all aspects of farming. (Check out profiles of entrepreneurial small farmers in the newly published *Small Farm Handbook* and in Penny Leff's agritourism email newsletter at www.sfp.ucdavis.edu.)

Taking a whole-farm perspective is one thing that differentiates the Small Farm Program from other University agricultural programs that focus on individual specialties. The Small Farm Program's work must consider production, marketing, and management issues simultaneously—frequently incorporating at least one component of entrepreneurship. We often feature emerging crops: Farm Advisors Ramiro Lobo and Manuel Jimenez have workshops this month, respectively, on pitahaya (dragonfruit) and Rabbiteye blueberries. Farm Advisor Richard Molinar had a two-day conference on Hmong medicinal herbs in July, another niche opportunity. I gave a presentation at a Cooperative Extension workshop about how farmers can maximize their direct market appeal, and Penny Leff has held "Growing Agritourism" workshops in five regions since January.

Hope is the last concept that I was considering. Small farmers have to embrace hope as they encounter the challenges in their daily lives. During our Collaborating to Access New Markets workshop (see story, p.1), we heard about how Yolo County farmers formed an organic produce marketing cooperative—YoCal—in the 1980s so that they would not have to farm during the day and drive at night to deliver their crops. Hope is what makes a small farmer plant a dozen new crops or varieties in one season, or buy a bean harvester to have dried heirloom beans to market year-round.

For 2011-12, the University of California's Division of Agriculture and Natural Resources has to absorb $3.3 million of the $650 million cut in state funding to the University of California's budget. ANR has been re-organized to address five critical initiatives. We are part of the Sustainable Food Systems Initiative, but our efforts also contribute to the Healthy Families and Communities, Sustainable Natural Ecosystems, and Endemic and Invasive Pests and Diseases initiatives. We work to build stronger food systems, promote sustainable farming practices, and help provide flavorful, healthful fruits and vegetables to regional consumers.

Uncertainty can cause people to be entrepreneurial, look at new opportunities and use hope to fuel the transition. I have hope that the Small Farm Program will continue to be funded. This will allow us to continue conducting our research on various small farm issues, sharing our research findings and advice, assisting farmers when they apply for government programs, organizing regional agritourism activities, and participating in planning the annual California Small Farm Conference. We have been exploring developing new funding sources, such as through foundations that share our goals, alliances with farmer-veteran organizations, and community groups working to strengthen their regional food systems. I am hopeful our contributions to supporting small-scale farmers, sustainable food systems and healthy communities will be recognized and funded accordingly.

Shermain D Hardesty

The Small Farm Program is a statewide research and outreach program that serves the needs of California's small-scale farmers.

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Workshop — From Page 1

"We needed to be able to say 'You need to pay us before we deliver to you again,'" Rivers said. "As one farmer, that doesn't work, but as 10 farmers that does work."

Besides strengthening the farmers' collective voice and sharing transportation, she also highlighted access to new markets and coordinated crop production as important reasons she and others started the cooperative.

Though no longer in operation, YoCal's decade of collaboration helped increase the viability of many Capay Valley farms and led to many of the group agricultural ventures currently in the region.

Rivers later shared with the audience insights into the current Capay Valley Farm Shop venture, which started as a brick-and-mortar store but has transitioned into a collaborative CSA that serves corporations in the Bay Area. The Capay Valley Farm Shop is not a cooperative, but does serve some marketing needs for participating farmers.

Jim Crawford shared his more than two decades' worth of experience leading a collaborative marketing service, Tuscarora Organic Growers. This cooperative is owned entirely by member farmers who share the costs of shipping and marketing to retail grocery stores, food co-ops and restaurants in the Washington, D.C., metro area. The cooperative currently works with more than 50 producers to distribute about 100,000 cases of fresh produce and flowers each year.

But when the cooperative held its first meeting in 1988, there were only five growers and they were unable to secure financing for their venture. They decided to try sharing marketing and sales with some extra capacity offered by Crawford's own New Morning Farm—including cooling space, trucking capacity, an office and a part-time employee.

"One of our strong points [is] our growth has been steady but slow. We never had one of those times of explosive growth," Crawford explained.

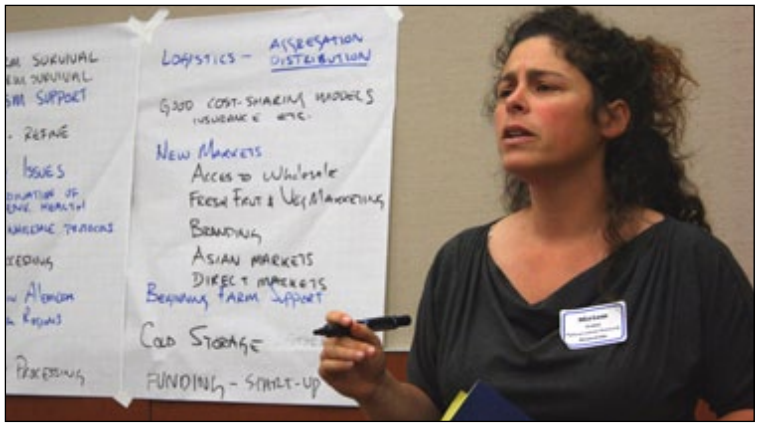
Crawford identified several other aspects of Tuscarora Organic Growers that he believes helped it succeed from its early days, including grower need, a clear and narrow definition, a strong manager, a founding farm that could spearhead support for the co-op, and diverse growers.

The event ended with a brainstorming session, with break-out groups for beginning farmers, experienced farmers and support professionals.

Participant Vonita Murray started her Mariposa Valley Farm this year, selling produce at the Woodland Farmers Market and working to start a CSA. She is still working a part-time job in addition to farming. "I honestly don't know how I'm going to survive" as a farmer, she said.

By the end of the workshop, Murray had met neighbors and found some new ideas.

"I know a lot of other small farmers with 3 acres or 4 acres, and I know my next step is to talk to them and see how we can share and collaborate," she said.



Miriam Volat, of Ag Innovations Network, facilitates discussion between workshop participants about marketing-related needs that could potentially be met through collaboration.

Major accomplishments of YoCal Produce Cooperative

• **Marketing and trucking:** Collaborating on these tasks allowed farmers the time to grow their farms, sell in the wider market, and be able to make a living. The farmers no longer had to farm all day and drive all night or have one partner support the farm with an off-farm job. "It gave us the confidence that we could make it as small farmers without having another job," said one member.

• **Market entry and increased impact:** The cooperative provided entry into the wholesale fresh produce market for some growers and increased market power in the wholesale fresh produce market for others. YoCal raised the visibility of smaller farms, increasing the impact of individual brands by co-marketing under the YoCal label. It eased the growth of several farmers who wanted to grow larger. It was a good transition strategy for them.

• **Planning to avoid competition:** Although not developed as fully as some members would have liked, the group was able to coordinate some multi-farm plantings and grow some crops recommended by distributor partners.

• **Grower education:** YoCal improved quality, pack and presentation of product at a time when the organic produce industry was in its formative years. Members learned much about cooperative decision making and how to most efficiently spend their time and energy.

• **A sense of community:** "We got to know farmers we might not have met otherwise," said one member. YoCal pulled a divergent group of farmers together and gave them a cohesiveness that they probably would never have developed without it. "Major accomplishments for us, as individuals, are that we, as a community of farmers, are still doing cooperative things together," said another.

• **A model:** YoCal was one of the first organic marketing cooperatives in modern times.

– excerpt from "YoCal Produce Cooperative—the Growers' Story and Impacts of the Cooperative Principles." Report and other event materials are available online at http://www.sfp.ucdavis.edu/events/11collaborating/.

Don't let the shadows deceive you: From this vantage point, you can see tomato plants receiving 25 percent (near left) and 75 percent (near right) of watering treatment at crop-specific evapotranspiration (ET). Plant vigor between the treatments is largely unchanged. Photos by Aziz Baameur.

Effects of water stress on tomato crops

By Aziz Baameur, UC Cooperative Extension farm advisor with Small Farm Program

Water stress has been reported to enhance the eating quality of certain fruits and vegetables. Dryland-grown tomatoes in particular are popular in some California coastal areas, and growers are interested in offering consumers high quality, flavorful tomatoes.

However, not all Central Coast counties enjoy climates mild enough for dryland tomatoes. Can growers who do not benefit from maritime influences apply some low-water practices? What management principles should interested growers follow when using a dryland or modified dryland tomato production system?

The challenge is to find a management system that will help:

- minimize the negative impact of the expected water stress,
- optimize the timing and degree of plant stress, and
- offer high quality fruit.

Our objectives:

- Quantify the impact of water stress on yield and fruit quality.
- Assess the feasibility of modified dryland production in non-coastal climate.
- Discern what irrigation level is practical for local growers to consider adopting.
- Correlate water savings to fruit's physical and chemical quality

Tomato response to water stress

Two varieties were selected and compared, Early Girl and Brandywine. All plots were adequately irrigated until the flowering stage before five irrigation treatments were imposed. The control treatment was based on 100 percent crop evapotranspiration (ET) as based on California Irrigation Management Information System. The other treatments were set at decreasing levels of ET (75, 50, 25, 12%).

Early Girl yields for 12 percent and 100 percent ET were not significantly different, while for the same 12 percent ET irrigation treatment, Brandywine had a 50 percent drop in economic yield.

Fruit size, however, showed more complicated trends. Across irrigation treatments, Brandywine produced 87–97 percent of its fruit in the extra large (XL) category and virtually its entire yield in the combined categories of large (L) to XL. At 12 percent ET treatment, Early Girl produced 20 percent XL fruit and 69 percent small fruit. The remaining water treatments resulted in 54–60 percent of the fruit produced in the combined categories L and XL.

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Generally there was good red color development in Brandywine fruit as indicated by low hue values. Red color development was slightly less in fruit from treatments 25 and 12 percent ET. In contrast, the external color of Early Girl fruit was similar in all irrigation treatments.

Results from the UC Davis postharvest laboratory indicated that Brandywine fruit dry matter content (percent of dry weight) was the same (5.3–5.4%) in fruit from the 50, 75 and 100 percent ET treatments. It was significantly higher as water input decreased to 25 and 12 percent ET (5.5 and 5.6%, respectively). Soluble solids followed a similar trend as dry weight, but differences among treatments were relatively small (4.5% at 100% ET, to 4.9% at 12% ET).

For Early Girl fruit, the percent dry weight in the 12, 25, and 50 percent ET treatments was significantly higher (6.0%) than in fruit from the well-watered plots (5.6%). Early Girl soluble solids

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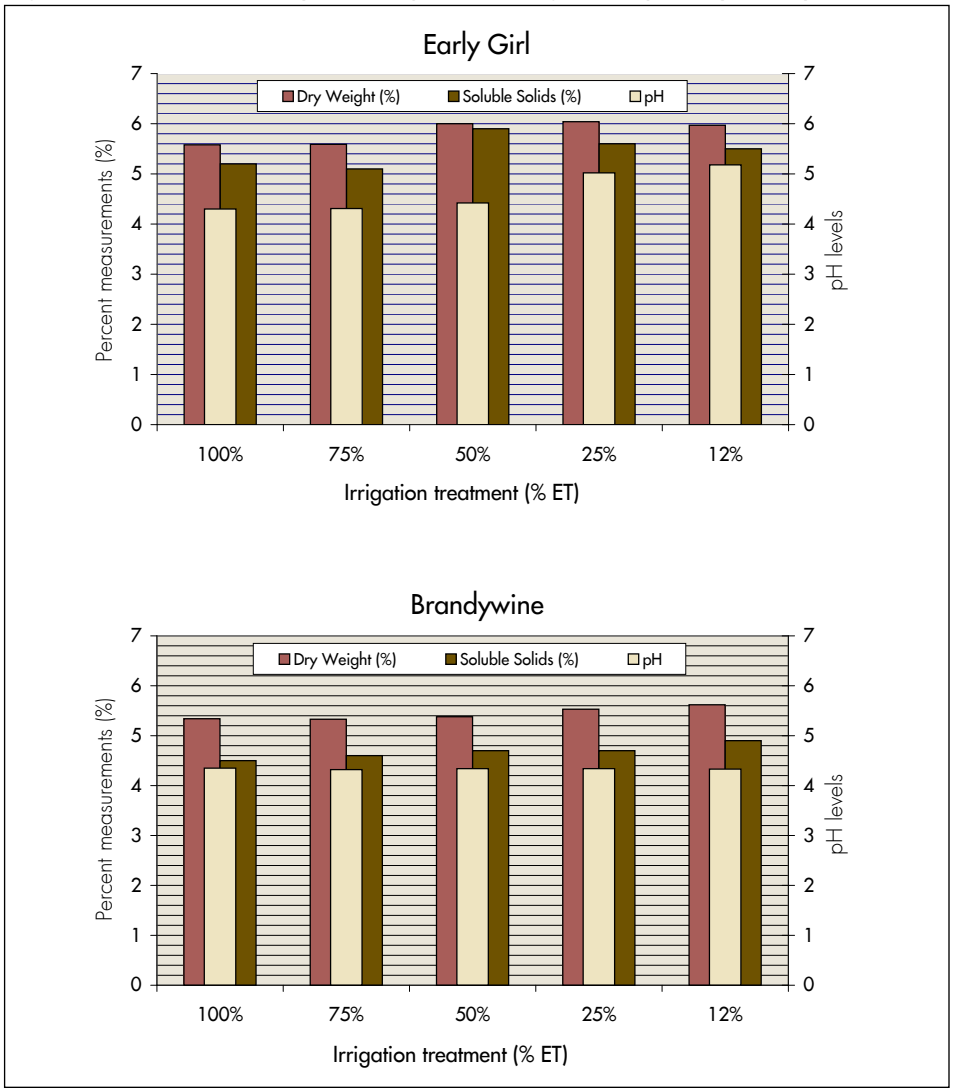
Figure 1. Tomato fruit analysis in response to irrigation inputs, by variety



Both tomato varieties showed increases in dry matter and soluble solid contents, as a percentage of total fruit weight, as irrigation treatments decreased. Additionally, pH levels for Early Girl tomatoes increased (became less acidic) as irrigation levels (% ET) decreased, though Brandywine pH levels showed no significant difference. Top right photo shows Early Girl tomatoes, lower right shows Brandywine tomatoes—all harvested from this trial.

Water stress — *From Page 4*

followed a similar pattern (5.2% at 100% ET, to 5.7% average for 50, 25 and 12% ET).

Early Girl tomatoes were less acidic as irrigation ET decreased (0.44% versus 0.36% titratable acidity), while there were no differences in acidity of Brandywine tomatoes (0.37% average titratable acidity).

Conclusions

As expected, water input directly affected yield. Higher yield requires adequate irrigation levels, and lower yield resulted from low water input. This was true regardless of application level of other inputs. Fruit size responded positively to irrigation and fertilizer levels.

Further analyses of this data are being carried out, and a second year study is planned to verify the results.

Generally, tomato plants can be subjected to significant water stress without catastrophic impact on their survival and productivity. Tomato response will vary with varieties. Edible qualities of tomato fruit improved with water stress as indicated by tasting panels and fruit chemical analyses.

How do peppers respond to deficit irrigation?

We are in the second year of a field study underway to assess the impact of water and fertilizer stress on jalapeño fruit quality. One of the main fruit quality criteria of interest is pungency.

The study is designed to find out how jalapeño fruit would respond to water and nitrogen stress.

Stay tuned for future reports.

Research updates

Planting blueberries: Review of blueberry trial findings

By Manuel Jimenez, UC Cooperative Extension farm advisor with Small Farm Program

Blueberries are a perennial crop that, when well managed, can produce for up to 20 years in some locations. In the San Joaquin Valley, there are a few plantings that are nearly 20 years old.

We initiated blueberry observation trials at the UC Kearney Agricultural Research and Extension Center in Parlier in 1997. The first trial began with 16 blueberry varieties. As of 2011, more than 60 varieties had been planted.

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The observational plots provided insight to key characteristics of blueberry cultivars and helped identify varieties that warranted further evaluation. The results of these trials indicated that southern highbush blueberry cultivars are well adapted to the San Joaquin Valley. The trials also identified several key, early-season cultivars that formed the basis for the young industry that developed in the San Joaquin Valley and in the state. Initially, we were hoping to find one variety that would grow well in California; we identified several that grow well. Today we seek larger, firmer, sweeter, higher-yielding cultivars.

The first plantings indicated that Oneal, Misty, Georgia Gem and Star produced acceptable good quality fruit; plant growth appeared to be vigorous and there were no signs of disease or pests. Soon after Jewel and Emerald were planted and had superior vigor and higher yields. And most recently, Snowchaser and Springhigh, both earlier producing varieties, have been introduced. Southmoon and Reveille produce outstanding fruit quality and are well suited for direct sale to consumers. Although Reveille does not produce large fruit and both cultivars are less productive than others, their sweetness and firmness are distinct and may result in consumer preference and consistent return purchases for farmers who direct market (see Table 1).

Key: Plant type / Recommended use

- Southern Highbush / Local Market and Commerical
- Southern Highbush / Local Market
- Southern Highbush / Commercial
- Rabbiteye / Commercial
- Northern Highbush / Commercial

Blueberries grow best in acidic soils. Soil samples should be taken several months prior to planting to determine soil pH and soil nutrient levels. The target pH level is between 4.2 and 5.0. In the southern San Joaquin Valley, soil pH adjustment is usually necessary, since most soils have a pH between 6.9 and 7.2. Sulfuric acid is applied by a custom applicator, levees made, flood irrigated and then retested for pH level.

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Table 1. Observations by variety

Variety	Comments
Snowchaser	Very early (earliest) medium to small fruit
Primadonna	Very early
Springhigh	Very early
Rebel	Very early
Earlibue	Early, short season
Oneal	Early, slow grower, large plant after 7 years
Star	Early, uniform large fruit start to finish, susceptible to botrytis and thrips damage
Reveille	Early, Very sweet, small fruit, firm
Jewel	Early/mid, vigorous evergreen, upright plant, large fruit early, smaller fruit later, soft
Emerald	Early/mid, vigorous, large fruit early, smaller fruit later, firm, late fruit not harvested
Duke	Early/mid, sweet large fruit
Saphire	Mid season
Marimba	Mid season, good flavor
Misty	Mid-season, vigorous evergreen, sweet, medium/small fruit,
Southmoon	Mid-season, excellent berry flavor, medium to large fruit
Ozarkblue	Late, good quality
Biloxi	Late, med/small fruit, very lowchill, vigorous growth
Sunshineblue	Late, compact plant, fruitful
Legacy	Late, good postharvest
Aurora	Very late
Ono	Very late, short compact plant
Centurion	Very late, vigorous growth
Powderblue	Very late, vigorous growth
Whitu	Very late, vigorous growth
Rahi	Very late, vigorous growth
Vernon	Very late, vigorous growth
Ochlockonee	Very late, vigorous growth
Bluecrisp	Sweet, firm, low production
Brunswick	Lowbush
Burgundy	Lowbush
Capefear	Productive medium fruit, only variety to sunburn
Duplin	Sweet large fruit, soft
Georgia Gem	Med/small fruit
Gulfcoast	Small fruit
Jubilee	Small fruit
Nui	Large fruit, performed poorly at KAC but grew well in grower trials
Sharpblue	Vigorous, sweet, small fruit, evergreen
Sweetcrisp	Sweet, firm, low production

Additional commercial varieties planted with "no outstanding attributes" include **Southern Highbush:** Palmetto, Abundance, Camellia, Springwide, Millenia, Southernbell, Santa Fe, Sampson, Echota, Magnolia; **Rabbiteye:** Alapaha; **Northern Highbush:** Sierra, Reka, Blueray, Bluecrop.

Blueberries — From Page 6

Alternatively, soil sulfur may be applied, but this method works slower than sulfuric acid. Continuous monitoring of the soil pH is necessary to maintain soil acidity and avoid reducing the pH too much.

Irrigation water also needs to be acidified to a pH of 5.0. Irrigation water in Tulare County is most often above a 7.0 pH. Water samples should be taken and tested to determine a specific acidification program for each irrigation system.

Blueberry establishment period begins with land preparation and is considered complete with the first mature harvest in the fourth year. Plants are in full production four to six years after planting. The soil is often fumigated specially on fields that have perennial weed such as nut sedge, field bindweed, and Bermuda grass.

A border disk is used for berm preparation. Berms are prepared 36 to 48 inches wide and 12 to 18 inches high. Typically, blueberries are planted in the fall (October) on 11-foot rows with between-plant spacing of 36 inches, resulting in 1,320 plants per acre. Our research, however, shows that once the plant canopy is fully developed, yield is the same for a range of plant spacings. Wider plant spacing should be considered for vigorous varieties. Traditionally, three-year-old plants 18 to 30 inches tall are purchased in one-gallon containers. Depending on costs and current marketing trends, one may consider planting younger, less expensive plants to establish a blueberry field. One of our research trials compared the yields of various size plants. The results showed that after the third year of harvest, yields were statistically the same for all the differently sized plants.

Several low-chill southern highbush-type varieties for early season production are available for planting in the region. When selecting varieties, one must choose high-yielding varieties that closely match in physiological growth habits because otherwise they will have different irrigation and nutritional requirements. A vigorous evergreen variety such as Jewel should be planted with another vigorous evergreen pollinator. Star, which is deciduous, should be planted with a similar variety.

Table 2. Mulch study: Yield (lbs.) per plant

	2010	2009	2008	2007	2006	2005	2004	2003
Pine Mulch	14.1	11.3	21.0	12.1	8.3	2.9	5.5	4.7
Black Plastic	13.5	11.8	23.7	12.5	9.6	2.5	5.8	6.4
Almond Shells	10.4	9.4	21.5	12.2	8.6	2.3	5.6	5.8
Pine Mulch after 4 years	13.2	14.4	26.7	14.6	6.9	2.1	4.9	4.0
Untreated Check	13.0	11.4	23.1	10.6	7.3	2.0	5.5	4.5

At left, blueberries were first planted at UC Kearney Agricultural Research and Extension Center as observational trials in 1997. More than 60 varieties have been planted since then.

Research has shown that the utilization of wood mulch, both pre-plant incorporated and topically applied, is critical to maintain long-term plant health. Mulch is used to minimize weed growth, increase soil aeration and increase soil humidity. In the San Joaquin Valley, growers use pine mulch, but also utilize other materials such as peach and plum woods with no indication of negative effects on plant health. Wood chips are broadcast over the field, then tilled into the soil. The berms are then formed. Immediately after planting, wood chips are then spread over a 3- to 5-foot width, depending on the berm shape, at a rate of 100 cubic yards per acre. Mulch material should be partially replenished every third year. Some growers use black plastic to cover the berms. The use of plastic demands more labor during planting and may result in increased weed problems around the crown of the bush. Additionally, plastic is extremely difficult to remove and to replace when plants are mature. We initiated a mulch study in 2001 to compare plantings with no mulch, wood chips, almond shells and black plastic applied at planting and wood chips applied four years after planting (see Table 2). With the exception of the first two years, yields have been statistically equal across all treatments.

Blueberries have a shallow root system, making irrigation management crucial for a successful crop. In most commercial fields two drip lines are laid down, one on each side of the plant row. Emitters on each line are 18 inches apart. The most critical period for irrigation goes from fruit expansion usually in April through harvest in June. The field is irrigated from April through September.

This blueberry research would not have been possible without encouragement and support from Fall Creek Farm and Nursery in Lowell, Ore.; Verdegaal Brothers Inc. in Hanford, Calif.; and Lagomarsino Farms in Tulare, Calif.; guidance from Bernadine Strik, Oregon State University; and hard work from our UC Cooperative Extension research collaborators Richard Molinar, Walter Martinez, Matthew Mills, Francis Carpenter and Kathryn Wright.

Agritourism update: Farm trails groups invited to statewide summit

By Penny Leff, Small Farm Program agritourism coordinator

Their pretty maps direct visitors to farm stands, pumpkin patches, wineries, guest ranches, and other opportunities for enjoyment and education on farms and ranches. California hosts more than 20 farm trails, wine trails and fruit trails, organized and promoted independently by regional agritourism associations. These independent growers associations form the backbone for California's fast-growing agritourism industry.

The UC Small Farm Program is inviting all of the farm trails groups, along with their sponsors and advisors, to a statewide agritourism summit, 8:30 a.m. – 4 p.m., Nov. 4 at the UC Cooperative Extension San Joaquin County office in Stockton, to share notes and discuss organizing better support for California agritourism.

While California agritourism has so far been primarily organized at the county and regional level, other states have organized statewide agritourism associations. At the November summit, experts will help participants explore the relationships and benefits involved in both statewide and local/regional agritourism programs. Speakers include Martha Glass, executive director of North Carolina's highly successful Agritourism Networking Association; representatives from the Apple Hill Growers Association and an agricultural communications professional to discuss social media tools. This conference is designed for professionals in agricultural, tourism and community development fields, county officials, and others involved in California agritourism.

This summit is made possible through a grant from Western SARE.

Statewide Agritourism Summit

Who: Everyone involved in California agritourism

When: Nov. 4, 8:30 a.m – 4 p.m.

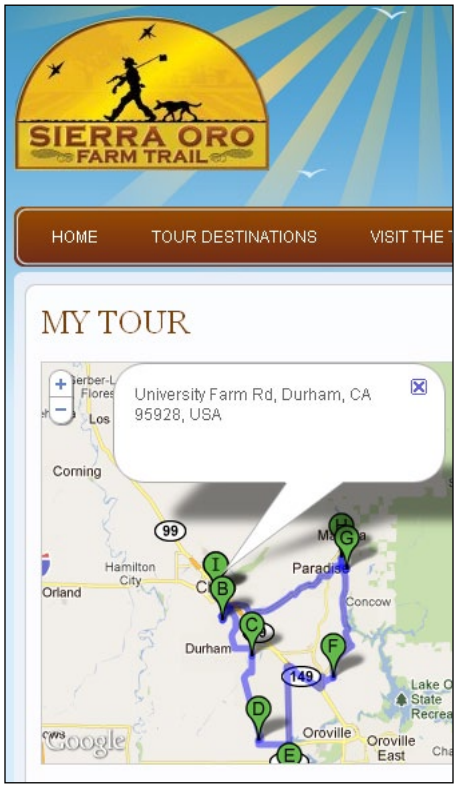
Where: UC Cooperative Extension San Joaquin County office 2101 Earhart Ave., Stockton

How much: $20 before Oct. 28

Register: Online at http://ucanr.org/agtoursummit.2011

Overview of farm trails organizations

Each association's website links visitors to the individual farms and ranches, with most of the maps available online for download. The Sierra Oro Farm Trails website allows users to map an itinerary for a customized tour of its Butte County farms. Country Ventures of Merced County offers downloadable audio tours explaining agriculture for travelers to listen to as they drive along Highway 140, from Merced to Mariposa. Many associations organize self-guided tours that give families a chance to visit smaller operations not usually open to the public in addition to those open regular hours, bringing these growers a steady stream of customers for a day or a weekend. Other associations regularly promote events organized by individual members, organize large festivals that raise funds for the associations, and provide marketing opportunities for their members.



Above, Country Ventures provides a map and audio downloads for visitors through Merced County. At left, website visitors to Sierra Oro Farm Trails can map their own personalizaed tour of particpating Butte County farms.

The oldest farm trail map is published by the Apple Hill Growers Association, a model for many of the newer groups. This association consists of 56 active ranches in the Camino region of El Dorado County; there is no hill called Apple Hill on any map. Sacramento and Bay Area families have driven up to the Camino/Apple Hill region every fall for almost 50 years for U-pick apples, apple pies, apple cider, pumpkins, fudge, berries, fruit stands, wine tasting, craft fairs, music and other activities. The association is funded and controlled entirely by the members; it accepts no government subsidies except for a matching grant for a shuttle bus to help mitigate traffic congestion on the busiest four weekends of the year.

Sonoma County Farm Trails Association started in 1973, making it the next oldest group to Apple Hill. The group's popular map is funded by its annual Gravenstein Apple Festival and by members' fees. Newly elected board member Christine Cole is excited to see younger farmers joining the established growers in the association and to see the group renewing its grassroots focus on smaller family farms. She is also pleased that the new board includes members who bring organizational expertise and connections with other local organizations complementary to the farm trails association.

Most of California's newer farm trails associations are nurtured by larger agricultural organizations. Farm Bureaus in Santa Cruz, San Benito and Santa Clara counties work together to support the Country Crossroads Association, including hosting the group's website, soliciting sponsors, and printing and distributing a map of U-pick farms and farm stands in

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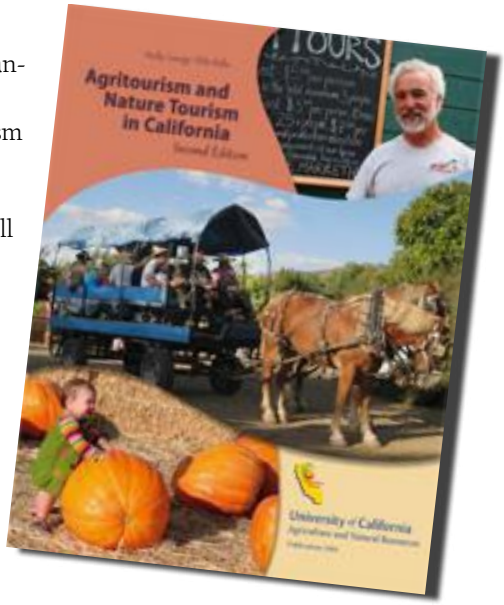
Second edition of agritourism handbook fresh off the press

Since the publication of the first edition of *Agritourism and Nature Tourism*, the landscape has changed as counties and local governments incorporate agritourism into their local plans. This new edition builds on the concepts of the first, and adds updated information on regulations, risk management, and new marketing trends.

The new edition can be ordered from the UC ANR Catalog for $25, plus applicable tax, shipping and handling, online at http://anrcatalog.ucdavis.edu/SmallFarms/3484.aspx.

New in the second edition:

- Coverage of policies that impact agritourism
- Expanded marketing chapter including social media
- An extensive listing of California agricultural marketing organizations
- An expanded chapter on risk management
- New agritourism contacts and links



As with the first edition, readers will find worksheets and activities that walk through steps to determine if agritourism is a good fit. It will help readers create business and marketing plans that can aid in success.

Pilot project considers farm-to-WIC

A team of agriculture, nutrition and postharvest researchers are exploring ways to increase low-income consumers' access to locally produced fruits and vegetables, while connecting small-scale farmers to a potential new market outlet.

In 2009, policy for the federal Supplemental Nutrition Program for Women, Infants and Children (WIC) changed, and the program began distributing cash vouchers to low-income consumers to purchase fresh fruits and vegetables.

Seasonal produce poster developed for the project.

The UC team is studying the feasibility of linking small-scale growers to WIC-only stores and to low-income WIC customers through marketing and nutrition education.

The pilot project focuses on Alameda, Tulare and Riverside counties and is funded by a three-year specialty crop block grant from the California Department of Food and Agriculture.

In its first year, the team surveyed WIC clientele about their shopping decisions and interest in locally produced foods. Based on survey results, they have developed fact sheets about nutrition and produce handling for 16 different crops, and a poster about seasonal produce. A postharvest researcher examined produce handling at WIC stores and held three trainings for WIC store employees.

The project continues to work to integrate small-scale growers into the produce distribution system that is already supplying most WIC-only stores at low prices.

Agritourism — *From Page 8*

the Central Coast region. Farm Bureaus in Butte, Glenn, Tehama and Sacramento help the agritourism associations in their regions with similar services. In Tuolumne, Mariposa, Merced, Calaveras, Amador, Placer, Nevada, Trinity and other counties, UC Cooperative Extension advisors guide groups of farmers and ranchers in their agritourism efforts. The county governments of Placer, Lake and Fresno provide staff support. The City of Brentwood funds the "Harvest Time in Brentwood" map of U-pick farms and farm stands. The UC Small Farm Program helps agritourism organizations connect through an email newsletter, Facebook page and listserv; maintains a statewide directory of agritourism locations for visitors (CalAgTour.org); and provides a website with resources for agritourism operators.

More established agritourism associations are also helping newcomers get started. Michael McClure, one of the three founding members of the fledgling Sacramento River Delta Agritourism Association, appreciates the assistance from both Apple Hill and Sonoma County Farm Trails, as well as fiscal sponsorship and organizational assistance from Farm Bureau leaders.

In addition to helping urban and suburban people find rural adventures, farm trail organizations connect and support their members by providing a community of similar interests and needs. Some groups organize educational workshops for the members, such as the annual Placer-GROWN Food and Farm Conference. The organized voice of agritourism associations also influence county planning and permitting regulations relating to agritourism, as association leaders participate in advisory committees and represent the group at commission and board of supervisor hearings.

"You have to go to all the meetings, be part of the community, [and] be on a first-name basis with the supervisors, Chamber of Commerce leaders and the planning commission" said Christa Campbell, Apple Hill Board president and owner of Rainbow Orchards.

Food safety — From Page 1

$500,000, if the majority of sales are made directly to local consumers, restaurants or stores. And in late April, USDA formally proposed a national leafy greens marketing agreement similar to the California LGMA already in place.

Though some small farms are exempt from food safety legislation or major marketing agreements, their buyers may still require they adopt and adhere to a food safety plan.

In September 2010 Molinar heard a local packinghouse that contracts with many small-scale growers in Fresno County was requiring all their farmers have a food safety manual.

"And it's not just [this grower-packer-shipper] and their buyers. It's many other retailers, wholesalers and processors too," Molinar said. "It's really buyer- and consumer-driven, so [for now] it doesn't matter what FDA or USDA comes up with. If the consumer or the buyer wants to see a food safety program, the farmers and the packers have to come up with it."

Developing a manual

Since 2007, Molinar has held meetings to educate growers abut food safety, and in 2009 he began working with Jennifer Sowerwine and Christy Getz, both of UC Berkeley, to develop a food safety manual that could help farmers get started.

The manual provides a framework for a food safety plan, with information about standard operating procedures, worker training and recordkeeping. The manual must be personalized to the farm, implemented and documented.

"We wanted something really basic that we could use for small-scale farmers," Molinar said. "Larger, corporate farms can afford to hire a person to do this for them and have a more complex document. We're trying to come up with something very simple, but even this one still requires some paperwork and filing documents in the correct part of a binder with envelopes and receipts."

The manual also requires some decision-making on the part of the farmer, most likely informed by demands of potential buyers.

"Right now it's so new that for most of the crops—except for leafy greens or fresh-market tomatoes—there aren't specific guidelines or standards," he said. But having a basic food safety manual in place for the farm is fairly easy and keeps the farm competitive.

Mock audits

Certain buyers or groups may require that farmers have their food safety practices audited. Third-party food safety audits can attest to whether the farm is adhering to its food safety manual and can identify when the plan, related actions or documentation fall short of good agricultural practices (GAPs).

Though private firms can conduct these audits, the California Department of Food and Agriculture also performs verification audits in relation to food safety.

To help educate the region's farmers, CDFA agreed to do some mock audits on Fresno area farms to help prepare farmers. A handful of mock audits have been conducted with small groups attending to observe.

"Farmers right now do not have to be audited by a third party—that's up to the buyer—but they should at least have some sort of food safety manual," Molinar said. "Even though third-party audits aren't required, we thought it was a good way for farmers to start learning about food safety and look at some of the questions that would be asked."

Lessons learned from the mock audits can save time, money and embarrassment down the road.

"In the first audit we did, the farmer pulled out a shoebox of receipts, and they weren't organized. So the auditor is thumbing through the box to look for the receipt," Molinar said. "You need to be organized because you're paying the auditor by the hour."

Increasing market competitiveness

Having a food safety plan in place can certainly improve safety and reduce risk, but it can also make it easier to sell to new buyers who are interested in food safety documentation.

"The main goal is to have our farmers in Fresno—and statewide—ahead of the game in food safety, so that buyers and consumers can be assured that their food is safe," Molinar said. "It will give our farmers a marketing advantage if they have a food safety program in place because that's what buyers and consumers want to see."

More Info:

- Small Farm Food Safety Manual: http://sfp.ucdavis.edu/docs/foodsafety.html
- Food Safety at Farmers Markets and Agritourism Venues: http://sfp.ucdavis.edu/docs/publications.asp?view=11
- CDFA Inspection Services: http://cdfa.ca.gov/is/

Farmer checklist

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1. Decide whether you can get by with just a food safety Good Agricultural Practices manual (GAPs), or if you need a third-party audit.
2. Have a lab test done of all irrigation water sources for generic E. coli and/or total coliforms.
3. Organize the manual in sequence according to the USDA AMS audit checklist at http://www.ams.usda.gov/gapghp.
4. Have a farm history and water assessment documented in the manual.
5. Have all documentation organized and easy to find—including fertilizer, pesticide and drinking water receipts, water tests, etc.
6. Make sure the wash water stations are labeled with proper signage and conform to all OSHA regulations.
7. Have the policies in the manual apply to employees and visitors alike—inform employees and visitors.

– Richard Molinar

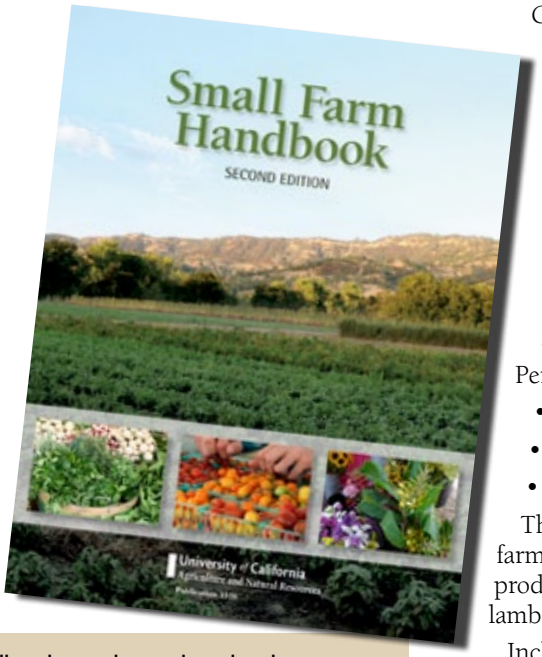
Small Farm Handbook, now revised

A brand-new, revised edition of the *Small Farm Handbook* is now available from the University of California Agriculture and Natural Resources.

The 2011 edition is a collection of expertise from 31 University of California authors, including farm advisors and specialists. This 188-page book has 11 chapters covering both the business side and the farming side of operating a small-scale farm.

"One thing that's different about this edition is that we really tried to focus on the business aspects of farming," said Laura Tourte, one of the book's two technical editors and director of UC Cooperative Extension Santa Cruz.

"In California we know that a wide diversity of crops can be grown, and the business aspects of it—from managing your finances to marketing your products—are absolutely critical if you want to stay viable and sustainable over the long term," she said.



The Small Farm Handbook can be ordered online at http://anrcatalog.ucdavis.edu/SmallFarms/3526.aspx.

Chapters include:

- Requirements for Successful Farming
- The Basics
- Enterprise Selection
- Farm and Financial Management
- Marketing and Product Sales
- Labor Management
- Growing Crops
- Postharvest Handling and Safety of Perishable Crops
- Raising Animals
- The Vitality and Viability of Small Farms
- California's Small Farms: An Overview

The book also includes six profiles of farmers from throughout the state, who produce everything from apples to coffee, lamb to ong choi.

Included among the authors are the UC Small Farm Program's Shermain Hardesty, Richard Molinar, Michael Yang, Aziz Baameur, Mark Gaskell, Desmond Jolly (retired) and Brenda Dawson. Many of the 31 authors are also members of the Small Farm Workgroup.

The 2011 edition of the Small Farm Handbook can be ordered from the UC ANR Catalog for $25, plus applicable tax, shipping and handling.

Farm advisors join the Great Veggie Adventure

The Small Farm Program has embarked on a search for potentially profitable vegetable varieties not commonly found in grocery stores—and this time are sharing the adventure with elementary school students.

The "Great Veggie Adventure" is an effort launched by the makers of Hidden Valley Salad Dressings to identify a vegetable that few people have heard of, but that children might love. The campaign tapped insights gleaned from a poll of more than a thousand elementary school students in order to identify possible candidates for the next beloved vegetable.

As a partnering organization, the UC Small Farm Program is helping identify vegetable candidates that meet the survey's criteria.

"We're looking for vegetables that are not on everyone's radar yet," explained Mark Gaskell, UC Cooperative Extension farm advisor. "In some cases, a new crop is one that's been grown by another culture for hundreds of years and is just 'new' to us."

The program's five farm advisors have been testing varieties of rainbow carrots, watermelon radishes, party cauliflower and Romanesco broccoli in demonstration plots in Santa Clara, San Luis Obispo, Fresno, Tulare and San Diego counties.

To share the experience with elementary school students throughout the United States, the farm advisors are sharing occasional blog posts and videos from their field test plots.

Subscribe to our blog at http://ucanr.org/blogs/smallfarm.

During its 30-year history, the Small Farm Program has tested an assortment of specialty crops including varieties of miniature melon, annual artichoke, daikon, edamame, caper, pitahaya, lychee, longan, coffee, tea, jujube, lemongrass, tomato, sweet and chili pepper, guava, papaya, squash, gailan, sinqua and moqua.

Photo by Manuel Jimenez.

University of California
Agriculture and Natural Resources

Small Farm Program

Making a Difference for California

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First Hmong crops conference honors farm advisor with Hmong name

*Traditional string-tying was part of the ceremony that honored Richard Molinar, right, with a Hmong name (*Vam Meej*, which refers to prosperity) at the Hmong Specialty Crops and Medicinal Herbs Conference, July 19-20 in Fresno. The conference, hosted by Fresno Hmong Farmers, UC Cooperative Extension Fresno County and the Small Farm Program, was presented in Hmong and English, with information about plant identification, herb uses and farmer issues.*

More information about the conference, including a blog post, is available at http://ucanr.org/hmong/conference.

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Miss the conference this year? Catch up with presentations from UC speakers: http://sfp.ucdavis.edu/events/11conference/