



Small Farm News

Small Farm Program • Cooperative Extension • University of California



New regulations allow farmers to sell some processed products at their farm stands in addition to fresh fruits, vegetables and eggs.

Copyright Regents of the University of California

New farm stand regulations now in effect expand options

By Penny Leff, SFP Agritourism Coordinator

A farm stand piled high with fresh-picked peaches is a timeless picture of summer in California. Farmers have been selling their produce at roadside stands just about as long as there have been roads and customers to drive on them, but farm stands have changed over the last 50 years as lifestyles have changed. New rules for farm stands this year help today's farmers keep up with changing customer demands at their farm stands.

The new regulations are from Assembly Bill 2168, which became effective January 1, 2009 and created more allowances for modern farm stands throughout California.

Jams, pickles allowed at farm stands

AB 2168 establishes a new category for farm stands that are allowed to sell processed agricultural products, such as jams, preserves, pickles, juices, cured olives and other "value-added" products made with ingredients produced on or near the farm, in addition to fresh produce and eggs produced on the farm.

Local processed farm products sold at farm stands must all be:

- Shelf-stable, specifically "non-potentially hazardous." This generally means food products that can be safely held without temperature controls because the product would not support the rapid growth of infectious or toxic organisms.

— CONTINUED ON PAGE 10

First statewide agritourism survey yields early results

By Penny Leff, SFP Agritourism Coordinator

California farmers and ranchers hosted more than 2.4 million agricultural tourists in 2008, according to a survey conducted by University of California researchers.

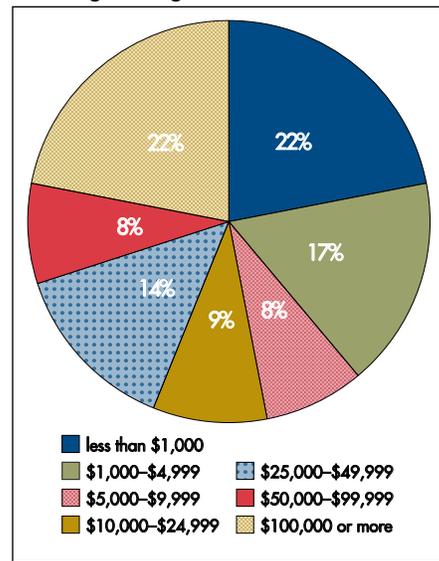
Preliminary results from the 2009 survey, believed to be California's first statewide economic survey of agritourism operators, support the long-held notion that agritourism can be a profitable supplement to a farm or ranch business. Most agritourism operators who responded to the survey reported their agritourism businesses generated some profit. A majority said they are planning to expand or diversify their agritourism offerings over the next five years.

Agritourism activities reported in the survey included shopping at farm stands, picking cherries, touring packing houses, staying at guest ranches, riding horses and wagons, attending weddings in vineyards, learning jam making, and playing in corn mazes. Agritourism operators overwhelmingly opened their farms and ranches for the dual goals of increasing profits and educating visitors about agriculture.

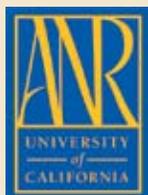
The survey was conducted by a group of researchers from

— CONTINUED ON PAGE 11

Figure 1. Businesses by 2008 gross agritourism revenues



IN THIS ISSUE



- 2 [Small farms & ANR's strategic plan](#)
- 3 [Program news & announcements](#)
- 4 [Planning for farm succession](#)

- 6 [Meeting demand for local meat](#)
- 8 [Blueberry field trials update](#)
- 12 [Website makeover](#)

How small farms address UC ANR's Strategic Vision for 2025

The University of California's Division of Agriculture and Natural Resources (ANR)—which includes the UC Small Farm Program—recently released its strategic planning vision document. Based on input from ANR members and external stakeholders, the broad-based vision



Shermain Hardesty

statement will guide ANR in developing research, education and service programs to meet the needs of California for the next 15 to 20 years. Although “small farms” are not mentioned anywhere in the text of the document, I am confident the UC Small Farm Program and California's small-scale farmers will play an important role in the realization of ANR's Strategic Vision.

The document begins by describing how ANR has been making a difference for California through its contributions related to healthy food systems, healthy environments, healthy communities and healthy Californians. Next, the Vision identifies nine multi-disciplinary initiatives that ANR must address to ensure a high quality of life, a healthy environment, and healthy economy for Californians. The Small Farm Program and California's small-scale farms will play critical roles in at least five of these initiatives.

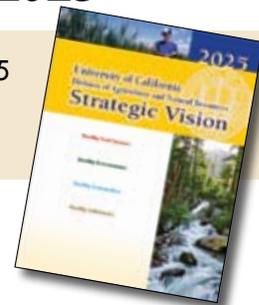
One of these initiatives is “to enhance competitive, sustainable food systems,” which the Small Farm Program will address by continuing its research and outreach efforts regarding specialty crops and direct marketing. These efforts expand the state's produce offerings and increase marketing outlets for small-scale farmers.

Maintaining sustainable natural ecosystems is another ANR initiative. The Small Farm Program's core advisors will continue working with small-scale growers to preserve healthy environments by promoting sustainable farming practices, such as using soil solarization to control weeds and pests, developing water quality plans and utilizing conservation practices such as hedgerows and filter strips. The Small Farm Program has also been supporting small-scale ranchers' conservation efforts through its research efforts related to processing and marketing meats from grass-finished livestock.

The Small Farm Program and many of California's small farms are dedicated to the initiative “to enhance the health of Californians and California's agricultural economy.” Many small-scale farmers are improving the diets of urban residents by marketing tree-ripened fruits and freshly picked vegetables through Community Supported Agriculture programs and farmers markets. Marketing produce directly to urban consumers is strengthening both the economic viability of the small-scale producers and the economies in their rural communities.

Numerous small-scale farmers are supporting the ANR initiative for food security by direct marketing their production in low-income communities. Recently, the

UC ANR Strategic Vision 2025 is available online at <http://ucanr.org/vision>



Small Farm Program began developing marketing programs to link small-scale ethnic farmers with low-income ethnic consumers.

Additionally, the Small Farm Program and many California small-scale farms are supporting the initiative “for managing endemic and invasive pests and diseases” through their commitment to organic agriculture. Innovative pest management practices that have been adopted include the use of biological controls, habitat manipulation and soil solarization.

The Small Farm Program began undertaking most of these efforts related to the ANR initiatives when it was founded 30 years ago. Recognizing that small-scale farmers could not compete on price, we have sought to enhance the viability of California's smaller producers by helping them differentiate themselves from most large-scale farming operations through the crops

they produce, their production methods and their marketing channels. By continuing with these efforts, the Small Farm Program and California's small-scale farms will contribute significantly to the achievement of initiatives in ANR's Strategic Vision for 2025: healthy food systems, healthy environments, healthy communities and healthy Californians.

Shermain D Hardesty

“Although ‘small farms’ are not mentioned ... I am confident the UC Small Farm Program and California's small-scale farmers will play an important role in the realization of ANR's Strategic Vision.”



SMALL FARM NEWS is published by the UC Small Farm Program. Our mailing address is Small Farm Program, University of California, One Shields Avenue, Davis, CA 95616-8699 • (530) 752-8136 • Fax: (530) 752-7716 • sfcenter@ucdavis.edu

Director: Shermain Hardesty, sfpdirector@ucdavis.edu
Office Manager: Linda Vieira, lmvieira@ucdavis.edu
Small Farm News Editor: Brenda Dawson, bdawson@ucdavis.edu
Agritourism Coordinator: Penny Leff, paleff@ucdavis.edu
Program Representative: Courtney Riggle, cmriggle@ucdavis.edu

Material in this publication may be reprinted with credit to the author and the UC Small Farm Program, except articles that have been reprinted here from other publications. Readers are encouraged to send us information and opinions, or to contact us for assistance. Mention of a specific product is intended for readers' information, not as a recommendation of that specific product.

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

August pitahaya event in Irvine

The 2009 Pitahaya (or Dragon Fruit) Seminar and Field Day will be held August 29 at the UC South Coast Research and Extension Center, 7601 Irvine Blvd. in Irvine.

The event will include an overview of pitahaya/dragon fruit varieties, discussions related to pitahaya culture, information about trellis systems, and a tasting panel.

More information will be made available online at <http://ucanr.org/09/pitahaya>. For questions, contact Ramiro Lobo, relobo@ucdavis.edu or (760) 752-4716.



Free webinar examines managing 'Agriculture in Uncertain Times'

A webinar series examining aspects of managing agriculture in today's economy held its first episodes June 9, 10, 17, and 24 focused on "Operating in the face of uncertain credit."

Ag in Uncertain Times is an interactive webinar series from Cooperative Extension leaders in western states about the changing conditions in today's economy. The series is targeted towards providing information that helps producers make informed decisions and improves agricultural professionals' ability to work with farm and ranch customers/clients. Each session begins at 9 a.m. Pacific time, and is scheduled for 60 or 90 minutes with opportunity for participants to interact with the presenters.

The series will continue through December, with each major topic examined from the angles of "Where are we?" "Where do we want to go?" and "How do we get there?"

Additional information about topics and speakers is available online at <http://www.farmmanagement.org/aginuncertaintimes>.

To Participate: There is no pre-registration, but 500 "seats" are available, on a first-come basis. Necessary equipment is a computer with speakers and a high speed Internet connection (LAN, DSL/cable modem, high-speed wireless). To participate in one of the webinars, log in a few minutes ahead of time at <http://www.msueextensionconnect.org/aginuncertaintimes>.

Upcoming webinar topics

- Sept. 9, 16, 23:
Operating in the face of uncertain markets
- Oct. 7, 14, 21:
Families facing uncertainty in agriculture
- Nov. 4, 11, 18:
Operating in risky environments
- Dec. 2, 9, 16:
Pulling it all together:
Managing Ag Enterprises in Uncertain times

New online resources from California Agriculture journal, UC Master Gardeners

Two new websites from the University of California were recently launched to help keep gardeners, agricultural professionals, researchers and the general public better informed with agricultural research and gardening information.

The new website for *California Agriculture*, <http://californiaagriculture.ucanr.org>, now includes full text articles dating back to its first edition in December 1946. *California Agriculture* is the University of California's peer-reviewed journal of research in agricultural, human and natural resources. It is one of the oldest, continuously published, land-grant university research publications in the country, with one of the largest circulations among journals of its kind.

A new website for California gardeners was also recently launched by the UC Statewide Master Gardener Program at <http://cagardenweb.ucdavis.edu>. The new site focuses on sustainable gardening practices, with a question-and-answer format, weekly blog updates, and seasonal gardening highlights.

program news

New program representative Courtney Riggle has joined the Small Farm Program team to focus on grant writing and program evaluation. Riggle most recently worked for the World Affairs Council of Northern California and has previously worked for the USDA Foreign Agricultural Service's Cochran Fellowship Program. She can be reached at (530) 752-7819 or cmriggle@ucdavis.edu.

UC Small Farm Workgroup members met June 10-11 at UC Cooperative Extension Monterey County for their annual conference to discuss research updates, collaboration opportunities, and administrative information related to the University's work with small-scale farms. Presentations from the meeting are available to view online at <http://www.sfc.ucdavis.edu/events/09workgroup>.

Blueberry and Blackberry Field Day, held May 19-20 at UC Kearney Agricultural Center, included information about trellis systems for blackberries and the latest information about blueberry marketing trends. Select presentations from the event are available to view online at <http://www.sfc.ucdavis.edu/events/09blueberries>.

A workshop on pest management, solarization, accessing land and financing for small-scale and family farmers was held June 18 at UC Kearney Agricultural Center, in partnership with California FarmLink and UC Cooperative Extension Fresno County with SFP advisor **Richard Molinar**. The event was translated into Hmong for approximately 60 participants.

Succession planning brings farming generations together

There are twice as many farmers and ranchers in America over 60 years old as those under 30 years old. Many farmers will retire in the next two decades, and younger people are needed to carry on these farm businesses. Young people face hurdles such as high land prices and securing start-up capital which can make entering farming difficult or impossible. What can be done to alleviate these challenges?



Deborah Giraud
UCCE Humboldt & Del Norte
(707)445-7351
ddgiraud@ucdavis.edu

Family farm succession

One opportunity is to help landowners pass on their farmland in a way that enables the next generation to be successful in farming. Farm succession is frequently defined as “preparation to ensure that the farm management and assets are transferred in such a way that it remains at least as viable an operation for the next generation operator as it is currently, while meeting needs of the retiring farmers.”

The term succession planning includes business/financial planning, retirement planning, transfer planning as well as estate planning. Succession is a process, and should have definitive goals and timelines. But it is also important to remember that each family is unique and the outcomes from succession planning are individual and personal.

Though many landowners are concerned about farm succession, a minority have prepared for the transfer of land and business ownership to the next generation. A survey I conducted of Humboldt County producers found that as many as 64 percent of landowners do not have succession plans. Surveys around the nation and world are finding similar results.

Careful planning is needed for families to provide retirement for senior members and farming opportunities for the next generation. Procrastination can be the biggest challenge in creating a succession



Farm and ranch transition planning is most successful if all members of a farm family are involved. Copyright Regents of the University of California.

Succession tools

- Estate plans are necessary to make owners' wishes about a farm's future known and legal. Tax consideration must be addressed. Wills, trusts and several other tools are used to successfully keep farms in business and, if desired, in the family. Professionals eventually should be consulted, including lawyers and tax accountants.
- Agricultural and conservation easements are tools that some landowners use to help young farmers enter farming. Easements keep land appraised for agricultural uses, as opposed to developable land. The lower value helps new farmers afford purchases and loans.

Resources online

- <http://riskcheck.familybusinessonline.org>: This online checklist can help evaluate what parts of farm succession to focus on and address further. The checklist was developed by Dr. Patricia Frishkoff for the Austin Family Business Program of Oregon State University. Also available by calling (800) 859-7609.
- <http://www.familybusinessonline.org>: The website for OSU's Austin Family Business Program addresses family business planning for farmers and foresters.
- <http://groups.ucanr.org/succession>: Website from the University of California that includes useful articles on succession planning (click on "Documents" and then "Articles") managed by Deborah Giraud.
- <http://www.agrisk.umn.edu>: The Ag Risk Education Library includes resources related to risk management topics including working with family members and farm planning.

plan. But estate taxes, protecting land stewarded for generations, and potential family break-ups compel many families to face this issue however difficult it is. Good risk management for any business

includes planning for the possible loss of a manager or owner, as well as for retirement and succession.

Business structure and family dynamics

— *CONTINUED ON PAGE 5*

Workshops help farmers, ranchers plan for transitions

Three years ago, I worked with California FarmLink to hold a statewide conference in Sacramento. Because succession planning is part of an overall risk management strategy for farm businesses, we were able to secure grant funding from the Western Region Risk Management Education Program. More than 100 people attended for four days, with their families.

From that experience, we found that one-day workshops can be overwhelming, due to the amount of information. And the results were: More procrastination! We now split the workshops up, with homework in between the sessions, and involve as many family members as possible. Evaluations have shown that real progress is made, communication between generations was opened up and plans drafted.

In January 2009, we again collaborated with California FarmLink on three two-day workshops. We included new topics, such as finding new business partners if there are no interested heirs, adding value to operations and understanding business structures.

The workshops were held in San Luis Obispo, Sonoma and Humboldt counties—areas with some of the West's

most pristine beef, timber, dairy and farm lands for intensive vegetable, vine and flower production. These coastal areas are experiencing development pressures with extremely high real estate values, which makes succession and estate planning essential for land to remain in continual production.

Tom O'Gorman, of Trinity River Farm near Willow Creek, said the workshop he attended this year came at an opportune time. His family began addressing related issues soon after his wife's retirement.

"We found out that our situation wasn't unique, and [it] gave us the confidence to move forward," he said.

The family members were comforted to hear from a banker at the workshop that their recordkeeping habits are sound. After the workshop, the family investigated the potential for a conservation easement with a local land trust, and planned to talk to an estate planner.

"We are very happy that we attended and are confident our farm will be passed to the next generation intact," O'Gorman said.

—Deborah Giraud

"We found out that our situation wasn't unique, and [it] gave us the confidence to move forward."

—Tom O'Gorman,
of Trinity River Farm,
after attending one of the workshops

Farm succession planning — FROM PAGE 4

will influence how a farm or ranch transitions to the next generation. For farmers and ranchers, it is important to remember that managing a business can be distinct from owning the land. It is often the management issue that families struggle with.

Who will run the farm or ranch business? What are the roles of each person? Should actions be delayed to see whether grandchildren are interested, before making firm decisions? These are very tough questions to answer, and it is best to have the whole family involved in discussions, including daughters and sons-in-law.

Professional guidance is important to help create necessary documents, but landowners can save money by having a plan discussed and ready to go before hiring professionals. The outcome will be most successful if all are involved in the discussion. Ultimately, however, it is the owners who must embrace the challenge and responsibility to finalize plans and documents.

Common challenges to planning revolve

Questions to ask

- Do you hold regular family and business meetings?
- Is there a written succession plan for the farm or ranch?
- Are younger members given some decision making authority? How are conflicts handled? Is mentoring occurring?

around issues of on-farm heirs and off-farm heirs. If one heir wants to farm and siblings do not, the farming heir may be forced to sell to settle the estate. This can be avoided with careful planning and arrangements such as family trusts, pre-death sales, buy-sell agreements, lease-to-own and other options that ease the transition and start-up challenges of a new farmer. What is fair may not be what is equal. A thorough article on this topic is available at <http://ucanr.org/succession/fair-equal.doc>.

Alternatives to family succession

One challenge to the continuation of many farms and ranches is the fact that not all farm children desire to remain in farming once they are grown. Aspiring farmers who are not able to inherit farmland through family members are actively seeking ways to enter farming and ranching. Matching a landowner with no willing heirs to an aspiring farmer, so they may work together in new business arrangements is an avenue worth exploring.

An organization that can help with alternative arrangements is California FarmLink, a non-profit whose mission is to build family farms and conserve farmland by linking aspiring and retiring farmers and disseminating information that facilitate intergenerational farm transitions. If family members are not interested in farming, FarmLink can help find matches for business partnerships to keep land in production. More information is available at <http://www.californiafarmlink.org> or (707) 829-1691.

Advisor Updates

Increased demand for local meat challenges supply

Supply and demand related to marketing local meat has come into sharper focus recently through my work developing and coordinating the Sierra Nevada Meat Buyers Club. Demand can increase at a far faster rate than supply in a short period of time for some products.



Roger Ingram
UCCE Placer & Nevada
(530) 889-7385
rsingram@ucdavis.edu

Due to some processing hiccups, the Sierra Nevada Meat Buyers Club has lost approximately \$1,000 in sales with two recent monthly deliveries. The impacts of lost sales include:

- Less revenue for the participating producers.
- Less revenue for the meat buyers club.
- Frustrated customers. Customers are hanging in there, but I know patience is wearing thin.
- Delayed expansion plans for the meat buyers club.

One possible solution might be having a back-up producer if one is short of product. Unfortunately, there are not very many local producers marketing meat.

This led me to wonder: What holds people back from entering the local meat market? Information has been provided. I have been the planning chairman for the Niche Meat Marketing Conference, which has been held annually since 2003. Conference participants have implemented what they learned. But most operations are still in a start-up phase, and many others are not even aware of what is possible. Even if aware, potential producers face high risks and hard work to market meat locally.

Processing remains a huge barrier

For ranchers in Placer and Nevada counties, the closest USDA-inspected harvest and process facilities for beef are Johansen's Quality Meats in Orland and Cutting Edge Meat in Newman, each a drive of about two-and-a-half hours. Lamb and goat can be harvested and processed under USDA inspection at the above mentioned sites as well as at Superior Farms in Dixon. Pork can be done at Olson Meat Co. and possibly Johansen's,



From left, Karin Sinclair of Sinclair Family Farm; Jenny Brown of High Sierra Beef; customer Joel Keinsmith; and Dan Macon of Flying Mule Farm at the first meat buyers club delivery.

Meat buying club follows Salatin's model

The Sierra Nevada Meat Buying Club made its first delivery of local meat cuts in 2008, and is continuing to grow slowly with the coordination of UC Cooperative Extension in Placer County.

According to Roger Ingram, the club's structure is based on advice from Joel Salatin, who visited Placer County in 2006 and operates "metropolitan buying clubs" featured in the popular book *Omnivore's Dilemma*. Members place orders each month for frozen cuts of beef, pork, lamb and goat, as well as chickens and pastured eggs. Delivery sites are designated with a minimum of \$1,000 in combined orders, coordinated by a member who receives a discount.

Current producers include Flying Mule Farm, High Sierra Beef, Coffee Pot Ranch, Sinclair Family Farm, CC Family Farm and Chaffin Orchards from Placer, Butte and Yuba counties. The club currently has delivery sites at the end of each month in Auburn, Penryn and Lincoln.

For more information, visit http://ceplacer.ucdavis.edu/Meat_Buyers_Club.



Customer Phil Mitchell receives the meat club's first delivery in August 2008.

both in Orland. Islamic Meat and Poultry in Stockton can do sheep and goat along with limited beef. For Placer ranchers, that's the whole list!

In the rest of California, locating a USDA-inspected harvesting and processing facility can also be a challenge—especially for multiple species. What happens if just one of these facilities goes out of business?

Marketing meat directly is not an add-on

This is another barrier. Most people will prefer to keep doing what they are doing. Raising animals to a finished stage ready for processing takes more time and more

resources in comparison to selling on the commodity market—though the potential reward is much greater. The problem is that most businesses are still so small that they have limited need for extra animals, although that is changing as demand grows.

Meeting the demand for local meats can also mean adhering to additional production protocol; a likely minimum is no added hormones, no antibiotics. Grass-fed and/or organic add more complexity. These complexities can be managed and overcome—but it takes planning and learning.

— CONTINUED ON PAGE 7

Local meat — FROM PAGE 6

Cash flow is challenging

When selling on the commodity market, producers generally get paid in a short amount of time. Marketing meat directly to consumers can mean a delay in cash returns. Ranchers have considerable up-front costs in order to have product to market. These include harvest, processing, transportation, meat storage, and marketing. As with most things, harvest and processing costs continue to increase.

Let's take an example to understand the magnitude of the costs, using the midpoint of possible costs for three head grass-finished steer from Auburn:

1. Harvest: Beef might run anywhere from \$70-90 for harvesting, so \$80 per animal.
2. Calculate for dressing: Let's say we had a 1,100-pound grass-finished steer that had a 58 percent dressing percentage. This yields a 638-pound hot carcass weight.
3. Processing: Cut and wrap costs \$0.70-0.90 a pound on the hot carcass weight. So 638 lbs at \$0.80/lb is \$510.40.
4. Transportation: One-way mileage from Auburn to Johansen's is 106 miles; from Auburn to Cutting Edge is 139 miles. There needs to be two round trips—one to deliver live animals, the other to pick up the meat.

The average mileage of two round trips to either Johansen's or Cutting Edge would be 490 miles. The IRS mileage rate is 55 cents a mile. So our average transportation cost would be \$269.50.

Let's say we hauled three head for processing. We would owe \$240 (3 X \$80)

Figure 1. Example costs

		Payment due	
Harvest:	\$80/head	x3 head	\$240.00 on delivery
Process:	\$0.80/lb (1100 lbs x 58% dressing)		\$1,531.20 at pickup
Transport:	\$0.55/mile (490 miles)		\$269.50 in transit
Combined Total:			\$2,040.70 before sales

Example of costs incurred after raising three head cattle, but before having meat to sell

for harvest when we delivered the live animal. Let's say we aged the meat two weeks. We come back in two weeks to pick up the meat. We now owe the processor \$1,531.20. We have also incurred about \$270 in transportation cost.

After incurring more than \$2,000 in costs, we finally get to sell some product! Ever wonder why local products seem more expensive? This is why.

Retail meat yield on the three head would be approximately 350 lbs/head or 1,050 pounds total. We have an out-of-pocket expense of \$2,040.70. There would be additional costs for marketing and meat storage. The key questions are: Have we managed and planned for the flow of money out of the business, and how long will it take for money to flow back into the business in the form of sales?

Too often, I am finding producers are maintaining a just-in-time approach to inventory, only processing and harvesting what can be sold in a short period of time. This leaves no back-up plan if something goes wrong—missing a processing date,

family emergency, or scheduling problems.

The result is a rancher telling customers "We are out of this cut, but how about we substitute that? We should have more product soon." Loyal customers will persist. Others may want to buy, but will get so frustrated that they move on.

Final Thoughts

In the my recent experience, there is definitely more demand for locally produced meat than there is supply. There is opportunity out there for people who want to do the production and marketing. There is increasing opportunities for those who want to produce the product and sell to someone else to do the marketing. We will be doing more outreach and education in the coming months to help more people get involved in local meat markets.

Editor's Note: A version of this article originally appeared in the Summer 2009 edition of Foothill Rancher, a newsletter produced by Roger Ingram and UC Cooperative Extension Placer County. More information can be found online at <http://ceplacer.ucdavis.edu/livestock>.

What about starting a new livestock processing facility?

In 2007-2008, University of California researchers asked livestock producers about their needs for harvesting and processing facilities via a series of surveys. One survey found 56 percent of those interested in using a small-scale processing facility said the largest barrier to entering alternative niche markets was access to slaughter and processing services.

The next step for researchers was an economic feasibility study commissioned by the Economic Development and Financing Corporation of Mendocino County. The study examined the potential for a facility in the North Bay region for processing 20,000 head per year. The study, lead by livestock

advisor John Harper and Small Farm Program director Shermain Hardesty, is expected to be made available to the public in coming months.

Part of the feasibility study focuses on the demand for niche meats from professional meat buyers. On average, the buyers rated "taste" as the most important attribute for purchasing meat, followed by "no hormones/antibiotics." The attribute "local" was consistently rated above both "grass-fed" and "certified organic."

More information is available at <http://ucanr.org/sarep/doran.pdf>.

Advisor Updates

Blueberry field trials yield some answers, more questions

We have finished harvesting and collecting final data for a series of blueberry field trials started at UC Kearney Agricultural Center in 2001.

The replicated trials examined blueberry varieties, plant size, plant spacing, mulch treatments, and irrigation practices to determine the most productive field practices for establishing and growing blueberries in California's South San Joaquin Valley. Though final data were collected for many of the replicated trials mentioned in this article in 2008 or in 2009, we are currently planting and planning new trials to find more specific information related to mulches, irrigation practices and new varieties.

Data from these trials have been shared each year at the Blueberry Field Day and in earlier reports.



Manuel Jimenez
UCCE Tulare
(559) 685-3309, ext. 216
mjjimenez@ucdavis.edu

Many growers have already made up their minds about which blueberry cultivars to plant, after seeing earlier results from these trials.

Our focus is to develop critical information that will be unbiased and will show a fair comparison of the varieties. Each of the replicated trials is completed four times simultaneously, and analyzed together.

The tables and data are just one type of information; a very important tool for making decisions is to visit commercial fields and see them under production.

Varieties

Everyone wants to know which blueberry cultivar to plant. The one thing that will change yields more than any field practice is the variety planted.

Cultivars we evaluated in this replicated trial were Jewel, Emerald, Legacy, Jubilee, Star, Southmoon, Misty, Sharpblue and O'Neal.

Plants were spaced at 3-foot intervals in 21-foot plots. Harvest started during the second week of May and continued once a week for four or five harvests.

For this trial, we focused on including cultivars we considered potentially the most productive for commercial production. But taste, texture and harvest timing



Field assistants Walter Martinez-Casarez and Chiengseng Cha help maintain blueberry trials at UC Kearney Agricultural Center.

can also be important in choosing which blueberry varieties to plant—especially for small-scale farmers.

Based on the cumulative data from 2003 to 2008, Jewel was the most productive variety—followed by Legacy and Emerald (see Table 1).

It is important to note that for varieties Emerald and Misty, which have harvest periods longer than the trial's four to five weeks, an estimated 20-25 percent of fruit remained on the plant by the end of the trial's harvest time.

Some extremely productive varieties like Jewel, Emerald and Legacy taste fairly good when ripe, but are generally picked as soon as they reach full color and before fully ripe. Reveille (a variety not included in this trial) and Misty are widely considered two of the best eating varieties. Southmoon was not the most productive variety in this trial, but is something to consider for direct marketing because the fruit quality is very good.

As for timing, Star was almost entirely picked during the first 14 days of the trial's harvest each year, even though it does not have the highest cumulative yield.

We have also planted some newer cultivars that we anticipate to harvest early, such as Spring High and Snow Chaser, in observational trials.

Establishment trials: Plant size, spacing

Examining plant size and plant spacing has the potential to lower growers' costs

Table 1. 2003-2008 Cumulative yields by variety

Variety	6-year combined yield (lbs./plot)
Jewel	589.19
Legacy	452.08
Emerald	450.65*
Star	388.93
Southmoon	330.47
Misty	298.30*
Jubilee	262.01
Sharpblue	235.24
O'Neal	205.00

*Approximately 20-25% of fruit remained on plants of these varieties.

at the time of establishment. Purchasing fewer plants and/or smaller, younger plants can mean both lower establishment costs as well as initially lower yields. The variety used for both plant size and plant spacing trials was O'Neal.

The plant spacing trial was designed to evaluate spacing from 18 to 48 inches at 6-inch increments. Plant populations range from 990 plants per acre at 48-inch spacing to 2,640 plants per acre at 18-inch spacing.

The purpose of the study is to determine the most cost effective plant spacing for blueberry cultivars with similar plant stature and growth characteristics. The number of plants roughly correlates to cost, including the plants purchased and

— CONTINUED ON PAGE 9

Table 2. Annual yields by initial size of plant (lbs/plot)*

Initial plant size	2003	2004	2005	2006	2007	Cumulative
1-gallon	7.69	28.61	24.10	27.30	79.00	166.70
1-liter	5.37	30.30	25.29	42.51	81.36	184.83
2-inch cell	0	25.80	24.04	38.50	73.94	162.28
3.5-inch pot	0	29.61	25.81	37.65	76.46	169.53
2x5-inch field liner	0	17.89	25.15	36.89	76.05	145.53
Rooted cutting	0	23.43	26.50	41.10	85.88	176.91

*Yields within each year (except 2003) were found to be not statistically significant from each other.

Blueberry field trials — FROM PAGE 8

pruning. Some fixed costs, including mulch and water, will remain the same based on the size of the plot, no matter the number of plants.

The plant spacing trial showed differences in yield for only the first year's harvest. Beginning in 2004, yields were not significantly different between any of the spacing options. It seems that once the plants' canopy covered the whole plot, the blueberry yield had more to do with total energy capture than with the initial number of plants and spacing.

Based on this data, I would not recommend planting in less than 36-inch increments.

In the plant size trial, we evaluated the yield differences between plots started from 1-gallon grow bags, 1-liter pots, 3.5-inch cells, 2-by-5-inch field liners, 2-inch cells, and bare rooted cuttings. The purpose of this trial is to determine whether purchasing smaller plants is cost effective over the first eight years of crop establishment.

Plants were spaced at 36-inch intervals in 25-foot plots, with 4-foot spaces between plots.

At the time of planting, the 1-gallon and 1-liter plants had been growing in a greenhouse for two years, and the smaller plants had been in greenhouses for one year.

The first harvest in 2003 only yielded fruit from the more mature 1-gallon and 1-liter plants (see Table 2). But by 2004, differences in yields between plant sizes were not statistically significant.

Results of this trial suggest growers can lower their costs by purchasing smaller plants. Nursery prices may not consis-

tently correlate with the size of a plant—i.e., plants that are half the size of another plant may not be half its price. But at 36-inch spacing, savings of \$1 per plant would mean \$1,300 saved over an acre, with yields likely only affected in the first three years of establishment.

Ongoing trials: Irrigation and mulch

There is little to no existing information on appropriate irrigation for blueberries in California. Our study was designed as a preliminary study, simply to compare irrigation regimes of 50 percent, 100 percent, and 200 percent. Based on this preliminary study, we are currently designing a more detailed irrigation trial to better examine the water needs of blueberries.

Another trial that we will be expanding upon in the near future examines using different types of mulch. This preliminary trial was designed to compare two types of wood mulch, black plastic and two untreated checks (no mulch).

The question everyone wants to know is: How bad are the untreated plots, with no mulch? This data suggest that growers who have good soil but are trying to cut costs may be able to get by without incurring mulching costs.

We are beginning an expanded version of a mulch trial to include 18 treatments, instead of just five. The treatments will include varieties of woods from fruit and nut orchards; different textures of pine mulch; different varieties of bark; and plastics with different textures. The primary focus of this expanded mulch trial is determining whether any of the mulch options that growers want to use might be detrimental.

New blueberry cost study now available

An updated study of costs related to growing blueberries commercially was published by UC Cooperative Extension and UC Davis in July.

"Sample Costs to Establish and Produce Fresh Market Blueberries, 2009, Southern San Joaquin Valley" is co-authored by Manuel Jimenez, Small Farm Program advisor for UC Cooperative Extension Tulare County; Karen M. Klonsky, UC Cooperative Extension Specialist at UC Davis; and Richard L. De Moura, staff research associate at UC Davis.

The study based costs to establish blueberries on planting 1-gallon plants spaced at 36-inch intervals. Estimated cost to start 20 acres was \$12,734 net per acre, over a 2-year period with some fruit yield during the second year. The study assumed growers price of \$3 per pound based on information from the USDA Agricultural Marketing Service.

The analysis is based upon data from sample growers and hypothetical farm operations using practices common to the region. Assumptions used to identify current costs for the individual crops, material inputs, cash and non-cash overhead are described. A ranging analysis table shows profits over a range of prices and yields.

Cost studies of blueberries and organic blueberries in the southern and central coast regions are available from 2007.

In addition to blueberries, new cost studies were published on small grain silage, wheat for grain, reduced-till corn silage, pasture, organic leaf lettuce, processing potatoes and winegrapes.

All cost of production studies are available online at <http://coststudies.ucdavis.edu> or by calling (530) 752-1517.

From the Cover

Farm stands — FROM PAGE 1

- Prepared and packaged in a health department-approved facility, not a home kitchen. For low-acid canned goods with pH levels greater than 4.6, such as preserved corn or green beans, processing must take place in a state-licensed cannery. For products such as salsas or chutneys where acid levels are unknown, the state offers free testing. For more information, see <http://www.cdph.ca.gov/programs/Pages/fdbCAN.aspx>.

- Produced in “close proximity” to the farm stand.

One advantage of selling value-added products is growers can create jams or juices from produce that might not otherwise be sold because of cosmetic blemishes, seasonal market saturation, or overproduction. Converting excess fruits or vegetables into a product that can be sold in the off-season is one more chance for income. Having products to sell year-round can also mean more regular customers.

Bottled water also allowed

Farm stands are now also allowed to sell some bottled water, sodas and other non-local foods in limited quantities. These non-local, pre-packaged foods and drinks are limited to 50 square feet of selling space. The legislation specifically includes bottled water and other drinks, but also allows for other “non-potentially hazardous” foods.

The addition of bottled drinks and some non-local, prepackaged foods helps modern farm stands be more convenient for visitors.

Health regulations

Farm stands that make use of these new regulations—and sell anything other than fresh, farm-produced fruits, vegetables, nuts and shell eggs—are considered “retail food facilities,” and are therefore regulated by California Health and Safety Code. But requirements for farm stands are much less strict than those for most retail food facilities. For farm stands, health department inspectors require:

- No food preparation at the farm stand, other than sampling. Food sampling is allowed if at least a portable toilet and temporary hand-washing facilities are available for use by employees.

- Processed foods must be stored in a vermin-proof area or container when the

How California’s farm stand rules changed

Fifty years ago, a typical customer at a farm stand would buy several lugs of in-season fruit to make jams, jellies and pies. Today, a typical customer at the same farm stand is more likely to purchase a few farm-fresh fruits or vegetables to eat out of hand, or as ingredients for dinner. Customers are still interested in jam and pies, but now they want to buy them already made.

Before the new rules, farms that expanded sales into value-added products—such as jams, pickles and olive oil—were considered full-blown “retail food facilities,” which required the farm stands to meet stringent requirements such as grocery store-like buildings with impermeable flooring and mop sinks, which were costly and sometimes impossible for rural, small-scale farm stands.

Farmers and organizations in one county—Contra Costa—made strides in changing local regulations to help modernize farm stands. From there, California Farm Bureau Federation took up the cause of reforming state regulations. Members worked with Assemblyman Dave Jones (D-Sacramento) to initiate and support Assembly Bill 2168. In 2008, the governor signed the bill that is now law.

Resources online

“Safe Methods for Canning Vegetables”
<http://ucanr.org/sfn/canning.pdf>

National Center for Home Food Preservation
<http://www.uga.edu/nchfp/>

facility is closed.

- All garbage and refuse must be disposed of in an appropriate manner.
- No live animals within 20 feet of food storage or sales area, except service dogs.

Field retail stands

For farmers who have no interest in selling value-added products, previous regulations for on-farm sales still exist as a re-named category called “field retail stands.”

Field retail stands are restricted to selling whole produce and shell eggs grown by the producer on or near the site, exempt from standard wholesale size and pack requirements. These traditional field stands are exempt from California Health and Safety Code, as long as they adhere to the previous set of rules.

Direct sales to chefs and organizations

With the regulations, chefs and charitable organizations—who sell or distribute directly to consumers—are now also allowed to purchase product exempt from wholesale size and pack regulations at farm stands, field retail stands or farmers markets.

However, farmers who sell to chefs or organizations from their farm stand (or farmers market stand) must provide these

buyers with a memorandum that lists the name and address of the producer, and type and quantity of the produce purchased. A basic bill of sale or a container label including this information meets this requirement.

As with other direct-to-consumer sales, all fresh fruits, nuts and vegetables must still meet maturity and quality standards set by the California Code of Regulations.

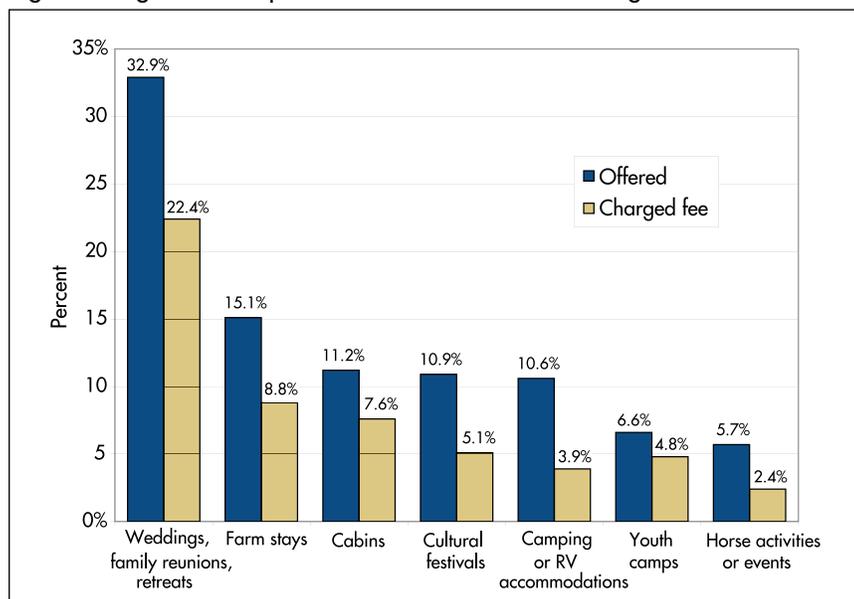
Further defining the rules

Even with the new regulations from AB 2168, county officials will need to clarify and more specifically define some aspects of farm stand regulations. For example, products can now be sold at farm stands if they were produced in “close proximity” to the stand, a phrase that appears to be open to further definition. Other questions may arise with farm stands that provide potential dining areas, such as a picnic table, near the farm stand. These and other questions may be decided by local officials.

In addition, any farmer who wants to set up a roadside stand—whether it’s a “farm stand” or a “field retail stand”—still needs to meet with their county planning department to learn their individual county’s rules for building, parking, grading, signage and any other regulations relating to their potential new business venture.

Editor’s Note: Portions of this article were adapted from a presentation by Janet Caprile, farm advisor for UC Cooperative Extension Contra Costa County, at the 2009 California Small Farm Conference.

Figure 2. Agritourism operations that offer and/or charge for events



Agritourism survey — FROM PAGE 1

throughout University of California Cooperative Extension and the UC Small Farm Program, with funding from the California Communities Program. The group includes Holly George, Christy Getz, Ellie Rilla, Shermain Hardesty, Kristin Reynolds and Penny Leff.

Nearly 2,000 surveys were originally mailed in January to existing agritourism businesses and participants from UC-sponsored agritourism workshops held over several years. A total of 554 responses were received, but only 332 identified themselves as current agritourism business operators.

The survey aimed to quantify the size and profitability of California's agritourism community and to better understand the goals and needs of agritourism operators in order to develop useful educational programs and information. Below are highlights from the survey's preliminary results.

Sources of income

In general, agritourism operators made more money from direct sales of agricultural products than from other activities, with an average of 45 percent of all agritourism gross income resulting from direct sales.

More than half the respondents (169) reported welcoming school field trips, with many offering classes, workshops, tours and other education, but only an average of 9 percent of agritourism income came from tours or field trips. Many operators offered

land and facilities for weddings, special events, farm stays, cultural festivals and youth camps, but often did not charge fees for these activities (see Fig. 2).

Websites, but no business plans

Almost as many operators used a website for marketing (242) as had a sign outside their business (252). Survey respondents rated websites as a very effective form of promotion, almost as effective as word of mouth or a feature story in local media. The most effective types of promotion, ranked on a scale of 1 to 5 by operators who used each type, were word of mouth (mean of 4.3), websites (mean of 4.0) and feature stories (mean of 4.0).

Only 24 percent of respondents said they have a business plan for their entire farm or ranch business. Of those who do have a business plan, 91 percent included their agritourism operation in the plan.

Permitting, regulations and liability

Of agritourism operators who responded to the survey, 29 percent (97) had acquired a use permit from their county to operate agritourism. When asked for comments about the permitting process, 69 percent responded negatively (expensive, difficult, slow, etc) while 31 percent responded with positive or neutral comments.

The survey asked about liability insurance and other risk management practices. Liability insurance is held by 87 percent of

responding operators, and 90 percent of the insured were covered for \$1 million or greater. Although most of the respondents carried insurance, operators rated liability and insurance issues as major challenges, along with permitting, zoning, other regulations and legal constraints.

Small farms, big business

For whole-farm revenues, 68 percent of respondents reported gross revenues from their entire farm or ranch operation to be less than \$250,000, which means they meet the USDA definition of "small farms." Almost half (47%) of the operators reported gross revenues from their agritourism operations of less than \$10,000, while 22 percent reported gross agritourism revenues of more than \$100,000 (see Fig. 1 on p.1).

When asked to rate the profitability of their agritourism operations, the most popular answer was "somewhat profitable," with a mean response of 3.29 on a scale of 1 to 7 (from "not at all profitable" to "highly profitable"). Expanding or diversifying their agritourism operations over the next five years was part of the plan for 64 percent of respondents; only 4 percent plan to go out of business in the same time period.

2.4 million visit 257 California farms

More than half (51 percent) of the businesses reported fewer than 500 visitors each in 2008, but 12 percent of the operations hosted more than 20,000 visitors each. The sum of the visitors estimated by the 257 respondents to this question totaled more than 2.4 million people. Operators estimated that 88 percent of the visitors were from California, with 50 percent coming from the same county as the farm or ranch they were visiting.

Next steps

The research team will continue to analyze the data in the coming months. Further results will be published in academic journals and for use by operators, governments officials and tourism professionals. Questions that researchers hope to answer from survey responses include:

- What activities are most profitable?
- How many jobs are created by California agritourism operations?
- What is agritourism's impact on California's economy?

More extensive preliminary results are available for viewing online at <http://ucanr.org/agtour/prelim-results.pdf>.

The University of California prohibits discrimination or harassment of any person on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994: service in the uniformed services includes membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services) in any of its programs or activities. University policy also prohibits reprisal or retaliation against any person in any of its programs or activities for making a complaint of discrimination or sexual harassment or for using or participating in the investigation or resolution process of any such complaint. University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Equal Opportunity Director, University of California, Agriculture and Natural Resources, 1111 Franklin Street, 6th Floor, Oakland, CA 94607, (510) 987-0096.



Small Farm Program
 University of California
 One Shields Avenue
 Davis, CA 95616-8699

640W

Address Services Requested

New and improved!



We have renovated the UC Small Farm Program website. Now with **easier** navigation, **updated** information and a **brand-new** look.

Now you can find information about specialty crops (including blueberries), farmers markets, agritourism, direct marketing, and farm management with one simple click.

Take a look. Let us know what you think! We are always working to improve our website, and appreciate hearing from you.

www.sfp.ucdavis.edu
 UC Small Farm Program, online

www.sfp.ucdavis.edu