



CONTRA COSTA COUNTY

2014 CROP REPORT



Table of Contents

Mission Statement

Agricultural Commissioner and Sealer's Letter....	1
Leading Crops	2
Small Steps We Can Take to Reduce Our Water Use	2
Production Summary	3
Vegetable and Seed Crops.....	4
Livestock and Livestock Products	4
Fruit and Nut Crops	5
Field Crops	6
Nursery Production	7
The Benefits of Native Plants.....	7
Agriculture Today: The Many Sources of the Foods We Eat	8-9
Certified Farmers' Markets.....	10
Organic Farming.....	10
Pest Exclusion and the K-9 Teams	11
Pest Management.....	11
Pest Detection.....	12
What Happens When We Find an Invasive Pest? ..	12
Weights and Measures	13
Cherries in Contra Costa County.....	14
The Cost of Growing Cherries	15
The Value of Urban Agriculture	16-17
Economic Impact of Urban Gardening and Farming in Contra Costa County	17

The Contra Costa County Department of Agriculture / Weights and Measures, under the direction of the California Department of Food and Agriculture, Department of Pesticide Regulation and Division of Measurement Standards, is responsible for conducting regulatory and service activities pertaining to the agricultural industry and the consumers of our county. The primary goal of this office is to promote and protect agriculture while safeguarding the public and the environment. Our work as county Weights and Measures officials in the community ensures a safe place to live and a fair marketplace for trade.

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Agricultural Commissioner and Sealer's Letter

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Contra Costa County



Chad Godoy

Agricultural Commissioner
Director of Weights and Measures

Karen Ross, Secretary
California Department of Food and Agriculture and
The Honorable Board of Supervisors of Contra Costa County

I am pleased to submit the 2014 Annual Crop and Livestock Report for Contra Costa County in accordance with the provisions of Section 2272 and 2279 of the California Food and Agricultural Code. This report also includes information on additional topics including the California drought, native plants, cherry production and urban agriculture.

The total gross value of agricultural crops and products in 2014 was \$119,829,000, which is an increase of \$23,017,000 or 23.8% from 2013. In general, demand and prices have remained strong for agricultural crops in Contra Costa County.

Crop values vary from year to year due to many factors such as production issues, weather and market conditions. Some notable changes in values include: livestock and livestock products increased 52%; nursery products increased 50%; fruit and nut crops increased 25%; vegetable and seed crops increased 17%; and beans increased 35%. Cattle and calves showed a large increase both in numbers sold and in value. Fresh market and processing tomatoes saw a significant increase in harvested acreage. By contrast, cherry yield declined 59% due to unfavorable weather conditions that greatly reduced fruit set.

Several crop categories exceeded one million dollars in value. These categories in decreasing order include cattle and calves, sweet corn, tomatoes, grapes, beans, alfalfa, rangeland, miscellaneous field crops, walnuts, miscellaneous vegetables, cherries, field corn, peaches and pasture.

It should be emphasized that the values stated in this report are gross receipts and do not include the cost of production, transportation, or marketing of the products. The economic benefit of agricultural production is generally thought to be about three times the gross production value.

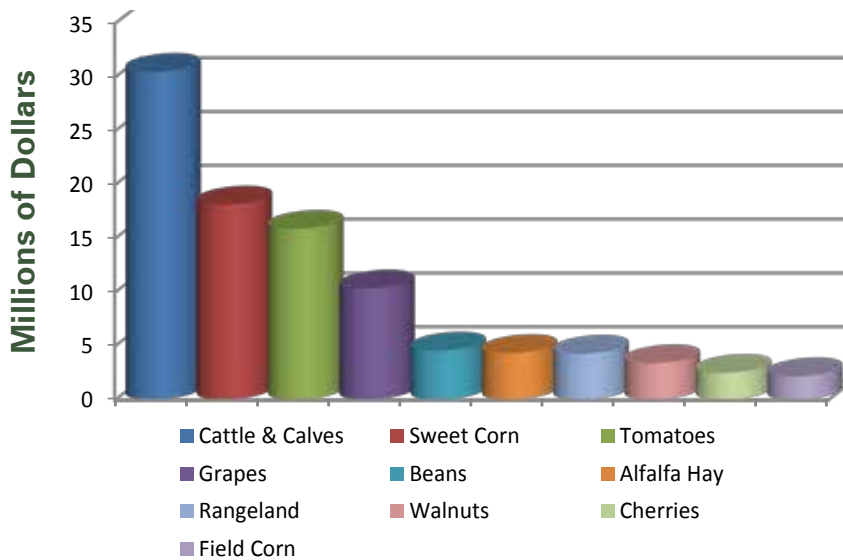
We wish to thank the individuals, industry and organizations that supplied us with vital information to complete this report. Their cooperation is truly appreciated. I would also like to thank Karen Adler, Ralph Fonseca and all of my staff for their diligent work in compiling information for our annual crop report.

Respectfully submitted,

A blue ink signature of Chad Godoy, written in a cursive style.

Chad Godoy

Leading Crops



Leading single crops in Contra Costa County in 2014	Gross Value in millions of dollars
Cattle & Calves	30.47
Sweet Corn	18.14
Tomatoes	15.88
Grapes	10.34
Beans	4.56
Alfalfa Hay	4.32
Rangeland	4.26
Walnuts	3.37
Cherries	2.48
Field Corn	2.16

Small Steps We Can Take to Reduce Our Water Use

On January 17, 2014, Governor Jerry Brown declared a State of Emergency in response to the ongoing drought. This trend has continued unabated, causing water shortages for growers and urban residents. It is clear that water is a limited resource in California and anything that we can do to manage it more efficiently will benefit everyone, from farmers to consumers.

When we try to reduce our own water footprint, most of us consider the ways that we use water directly. Shortening showers, using less water for dishes, reducing unnecessary irrigation in the garden and refraining from washing cars are all great ways to lower water use. We also associate the drought with agriculture, since it is often reported that farmers use the majority of California's water to irrigate crops. However, we don't make the connection that the food we consume carries a water footprint in and of itself.

The United States Department of Agriculture has shown that more than 25% of all the fresh water used for agriculture in the United States is lost through food waste. Food waste typically occurs in homes, restaurants and supermarkets when produce, dairy products, pantry items and meat are thrown away because they are damaged, spoiled or not wanted. By taking simple steps

to purchase only the food that is needed in a household, eating what is cooked and limiting waste, every person can reduce their water use significantly.

And if that weren't reason enough, reducing food waste to the landfill also reduces the amount of methane that is produced from our household waste. Since methane is a greenhouse gas that is roughly 30 times more potent in its heat trapping capacity than carbon dioxide, reducing food waste, the raw material for bacterial emissions of methane, works to reduce overall greenhouse gas emissions.

California farmers are working to increase water use efficiency and adapt their practices to the current drought, while still providing food to consumers at reasonable prices. We can support this effort by limiting our food waste and demanding that the places where we purchase food do the same. When food waste can't be reduced, we can compost it locally or throw it away with other compostable material in the green waste bin rather than discarding it with household garbage. With these simple steps, we can reduce our water use and help conserve our existing water for the future.

A Year of Food Loss Accounts For:

>25%

of all fresh water used for agriculture in the US

1,160

pounds of food lost by a US family of four

\$115 BILLION

dollars spent by US consumers on wasted food

Sources: "The Estimated Amount, Value, and Calories of Postharvest Food Losses at the Retail and Consumer Levels in the United States, USDA Economic Research Service, Online at: <http://www.ers.usda.gov/media/1282296/eib121.pdf> and "One-third of Food is Lost or Wasted: What Can be Done", National Geographic, <http://news.nationalgeographic.com/news/2014/10/141013-food-waste-national-security-environment-science-ngfood/>

Production Summary



Production values rose significantly in 2014. Livestock and livestock products drove this trend with a strong increase in value. Vegetable and seed crops also continued to increase in both acreage and value.

	Gross Value		Change in Gross Value	Total Cultivated Acreage		Change in Cultivated Acreage	Ranking	
Category	2014	2013		2014	2013		2014	2013
Vegetable & Seed Crops	\$41,710,000	\$35,616,000	+17%	7,567	6,422	+18%	1	1
Livestock & Livestock Products	\$32,767,000	\$21,509,000	+52%	-	-	-	2	2
Fruit & Nut Crops	\$21,295,000	\$16,967,000	+26%	3,627	3,217	+13%	3	4
Field Crops	\$17,753,000	\$18,526,000	-4%	188,506	194,390	-3%	4	3
Nursery Products	\$6,304,000	\$4,194,000	+50%	41	33	+24%	5	5
Total	\$119,829,000	\$96,812,000	+24%	199,741	204,062	-2%	-	-

2014 Gross Production Values by Percentage



Vegetable and Seed Crops

Contra Costa County sweet corn remained the leading vegetable crop due to continuing demand for this high quality product. There was also a significant increase in tomato acreage, including both fresh and processing tomatoes.

Crop	Year	Harvested Acreage	Production Per Acre	Tons Harvested	Value Per Ton	Total Dollar Value ¹
Beans, Fresh Market	2014	477	4.80	2,290	\$1,989.71	\$4,556,000
	2013	399	4.85	1,940	\$1,732.00	\$3,360,000
Squash	2014	61	5.91	361	\$993.04	\$358,000
	2013	36	5.76	207	\$725.40	\$150,000
Sweet Corn	2014	3,263	10.45	34,100	\$531.86	\$18,136,000
	2013	3,265	10.03	32,700	\$427.54	\$13,981,000
Tomatoes ²	2014	3,105	35.61	150,130	-	\$15,879,000
	2013	2,400	37.76	119,470	-	\$11,888,000
Miscellaneous ³	2014	661	-	-	-	\$2,781,000
	2013	322	-	-	-	\$6,237,000
Total	2014	7,567	-	-	-	\$41,710,000
	2013	6,422	-	-	-	\$35,616,000

Livestock and Livestock Products

The gross value for cattle products increased significantly in 2014 due to high market prices. In addition, ranchers sold more cattle and took advantage of federal feed subsidies that were available because of the drought.

Commodity	Year	Number of Head	Total Liveweight	Value Per CWT	Total Dollar Value ¹
Cattle & Calves	2014	23,260	186,884	\$163.04	\$30,470,000
	2013	19,100	157,382	\$119.00	\$18,728,000
Apiary Products ⁴	2014	-	-	-	\$597,000
	2013	-	-	-	\$881,000
Miscellaneous Livestock ⁵	2014	-	-	-	\$1,700,000
	2013	-	-	-	\$1,900,000
Total	2014	-	-	-	\$32,767,000
	2013	-	-	-	\$21,509,000

¹ Values represent rounded estimates based on data collected from producers, experts and literature

² Includes both fresh market and processing tomatoes

³ Includes asparagus, artichokes, beets, cabbage, cardoon, carrots, cauliflower, cucumbers, eggplant, garlic, ginseng, lettuce, okra, onions, geens, herbs, peas, peppers, potatoes, pumpkins and radishes

⁴ Includes honey, wax and pollination

⁵ Includes chickens, ducks, emus, goats, hogs, llamas, ostriches, pigs, rabbits, sheep, turkeys, milk, wool and eggs

Fruit and Nut Crops



In general, fruit and nut prices were significantly higher in 2014 while yield for most commodities was generally lower. Grape and walnut production increased due to new vineyards and orchards starting to bear. In addition, grape prices increased by 15%, which raised the overall production value. Cherry production was down due to unfavorable weather conditions that greatly reduced fruit set.

Crop	Year	Harvested Acreage	Production Per Acre	Tons Harvested	Value Per Ton	Total Dollar Value ¹
Apricots	2014	66	4.85	320	\$3,489.16	\$1,117,000
	2013	89	3.70	328	\$2,763.85	\$907,000
Cherries	2014	494	0.99	489	\$5,071.00	\$2,480,000
	2013	506	1.68	850	\$3,613.00	\$3,071,000
Grapes	2014	2,190	4.64	10,200	\$1,013.35	\$10,336,000
	2013	1,734	4.59	7,960	\$878.55	\$6,993,000
Nectarines	2014	23	3.85	87	\$5,631.56	\$490,000
	2013	33	4.22	137	\$3,326.00	\$456,000
Olives	2014	183	1.77	324	\$759.63	\$246,000
	2013	179	2.29	410	\$782.00	\$321,000
Peaches	2014	101	4.10	414	\$4,207.60	\$1,742,000
	2013	136	4.20	571	\$2,823.00	\$1,612,000
Plums & Pluots	2014	27	4.27	113	\$5,249.80	\$593,000
	2013	32	4.62	146	\$3,264.00	\$477,000
Walnuts	2014	458	2.09	957	\$3,522.00	\$3,371,000
	2013	393	2.28	896	\$2,697.00	\$2,417,000
Miscellaneous ²	2014	87	-	-	-	\$920,000
	2013	117	-	-	-	\$713,000
Total	2014	3,627	-	-	-	\$21,295,000
	2013	3,217	-	-	-	\$16,967,000

¹ Values represent rounded estimates based on data collected from producers, experts and literature

² Includes almonds, apples, apriums, asian pears, berries, citrus, figs, melons, pears, pecans, persimmons, pistachios, prunes, pomegranates, quinces and strawberries

Field Crops



In 2014, field crop harvested acreage decreased, while production values increased slightly. Overall, despite price increases, the total field crop dollar value dipped slightly.

Crop	Year	Harvested Acreage	Production Per Acre	Total Harvested	Unit	Value Per Unit	Total Dollar Value ¹
Alfalfa hay	2014	3,387	5.13	17,400	Ton	\$248.26	\$4,320,000
	2013	3,351	4.99	16,700	Ton	\$207.00	\$3,457,000
Cereal hay	2014	3,166	2.69	8,520	Ton	\$154.88	\$1,320,000
	2013	1,920	2.68	5,150	Ton	\$149.30	\$769,000
Field corn	2014	2,658	4.20	11,200	Ton	\$192.68	\$2,158,000
	2013	7,928	3.90	30,900	Ton	\$193.50	\$5,979,000
Pasture	2014	5,450	-	-	Acre	\$300.00	\$1,635,000
	2013	5,450	-	-	Acre	\$300.00	\$1,635,000
Rangeland	2014	169,000	-	-	Acre	\$25.20	\$4,259,000
	2013	169,000	-	-	Acre	\$25.00	\$4,225,000
Wheat	2014	807	2.41	1,940	Ton	\$232.54	\$451,000
	2013	4,097	1.44	5,900	Ton	\$221.00	\$1,304,000
Miscellaneous ²	2014	4,038	-	-	-	-	\$3,610,000
	2013	2,644	-	-	-	-	\$1,157,000
Total	2014	188,506	-	-	-	-	\$17,753,000
	2013	194,390	-	-	-	-	\$18,526,000

¹ Values represent rounded estimates based on data collected from producers, experts and literature

² Includes barley, forage hay, hay (wild), rye, safflower, silage, straw, sudan grass and sorghum

Nursery Production

Nursery production values continued to rise in 2014, demonstrating strong consumer demand. The diverse group of nurseries in Contra Costa County produces a wide selection of plants that fit a number of specialized niches, including heirloom varieties, native plants and fruit tree rootstock. These supply Bay Area residents as well as consumers from other parts of California and beyond.

	Year	Greenhouse Production in Square Feet	Acres in Field Production	Total Dollar Value ¹
Indoor Decoratives	2014	7,200	-	\$55,800
	2013	36,000	0.10	\$23,700
Vegetable Plants	2014	15,000	1.05	\$417,000
	2013	15,000	0.80	\$239,000
Miscellaneous ²	2014	21,425	39.00	\$5,831,000
	2013	82,600	29.90	\$3,931,000
Total	2014	43,625	40.15	\$6,304,000
	2013	133,600	30.85	\$4,194,000

¹ Values represent rounded estimates based on data collected from producers, experts and literature

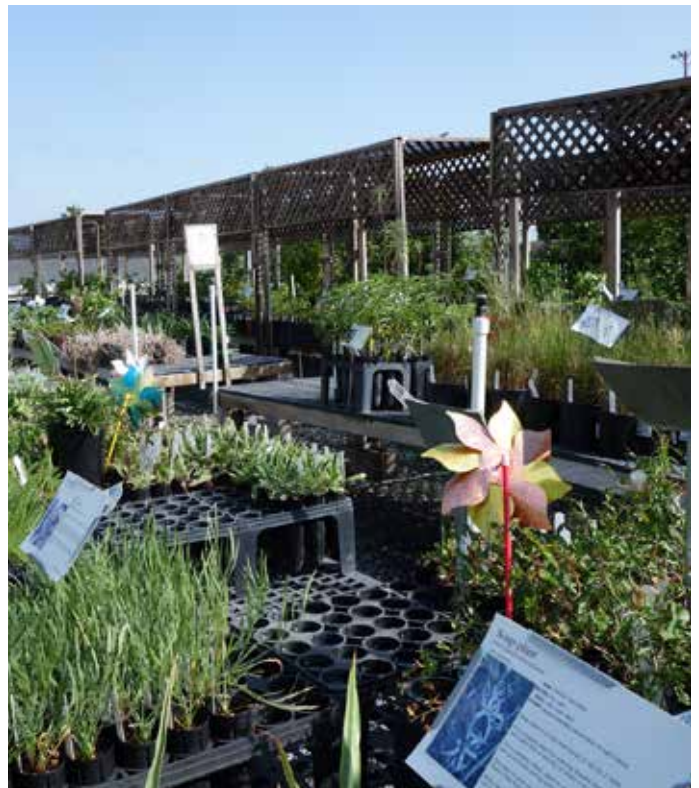
² Includes bedding plants, herbaceous perennials, Christmas trees, cactus, ground covers, propagative materials, ornamental trees and shrubs, fruit trees and cut flowers

The Benefits of Native Plants

Contra Costa County nurseries offer an array of horticultural and food-producing plants to businesses and the public. With the current drought, the nurseries that offer native plants are seeing an upswing in sales. This is due to the multitude of benefits that these plants provide to yards, gardens and other vegetated sites.

Since many native plants evolved in low precipitation environments, they are more drought-tolerant than other plants that originate in wetter climates. They supply habitat for native pollinators and have adapted defense strategies that provide protection from local pests. Native plants also generally require less maintenance and fewer inputs like pesticides. Research has shown that many types of wildlife, including birds, butterflies and beneficial insects prefer native plants, so growing them in your garden provides more opportunities to support and view wildlife. In addition, since open space areas have diminished due to urban growth, planting native plants can create corridors of habitat that help to maintain populations of wildlife.

You can find more information about natives at cnps.org. For resources on invasive, non-native plants, check out <http://www.plantright.org/>



Agriculture Today: The Many

Contra Costa County agriculture is diverse and historically rich. Many people from around the Bay Area are familiar with the eastern part of the county because of the U-pick cherry orchards and farm stands. The majority of the fruit, vegetable and field crops are concentrated in and around the Agricultural Core, an area near Brentwood that is zoned to maintain economically viable blocks of agricultural land.

Livestock production has also been an important part of the agricultural economy for decades. In 1940, cattle production accounted for 18% of the total calculated crop value of the county and in 1970, it provided 23% of total gross production. By 2000, due in part to a surge in nursery production, cattle values accounted for only 8% of the total. However, at present livestock and livestock products are once again the biggest single commodity in the county, providing 25% of the gross value of Contra Costa's agricultural production.

While large-scale farming and livestock account for a majority of the agricultural production in the county, there are also many small-scale producers and business owners that contribute to our county's agricultural diversity and provide a growing quantity of produce to local and regional food systems. The international

Food and Agricultural Organization (FAO) notes that, "Agriculture – including horticulture, livestock, fisheries, forestry, and fodder and milk production – is increasingly spreading to towns and cities. Urban agriculture provides fresh food, generates employment, recycles urban wastes, creates greenbelts, and strengthens cities' resilience to climate change."¹

Contra Costa County has been the starting ground for a number of these urban and suburban diversified small-scale farms. In the late 1970s, the Contra Costa Community Gardening Project and several independent initiatives in Richmond established 16 community gardens around Contra Costa County. In this same period, a handful of school gardens were established and pioneering programs in horticultural education began. By the early 1980s, the county's first farmers' markets opened in Pleasant Hill and Walnut Creek. Since then, the urban gardening and farming movement in Contra Costa has continued to grow. This year there are over 40 community gardens and 30 Certified Farmers' Markets that bring locally grown fresh fruit and vegetables from farms to consumers. Most impressively, there are now over 60 school gardens around the county, many of which are part of larger multi-school educational gardening programs.



Small-scale diversified farms

- ◆ Produce a variety of fruits, vegetables and other agricultural products by employing ecological principles including nutrient recycling and biological control agents that reduce the need for pesticides and chemical fertilizers
- ◆ Use direct marketing avenues like farmers' markets, farm stands, CSAs² and direct sales to restaurants
- ◆ Offer classes and volunteer opportunities to the public focused on food production, composting, marketing, cooking, nutrition and other agricultural skills
- ◆ Find a profitable niche by differentiating their products from more widely available commodities by unique quality, taste, appearance or harvest time



Nurseries

- ◆ Specialize in particular plants that provide value to homes and gardens such as natives, vegetable seedlings, plants that provide pollinator habitat, drought-tolerant ornamentals, herbs and flowers
- ◆ Produce plants for landscaping, gardening, home use and habitat restoration
- ◆ Retain a historical significance and promote both small and large-scale enterprises, especially in the Richmond area where old greenhouses are still used for production today

Sources of the Food We Eat



Commercial Farms

- ◆ Provide a diverse array of crops including grapes, cherries, walnuts, sweet corn and tomatoes
- ◆ Market crops commercially, although many also diversify by using more direct channels like farmers' markets, U-Picks and farm stands
- ◆ Utilize larger tracts of land and tend to grow crops in blocks that are rotated annually
- ◆ Consist of organic and conventional production



Community Gardens

- ◆ Sustain crops that aren't always available in grocery stores like heirloom varieties or have ethnic or cultural value
- ◆ Provide access to nutritionally rich foods that may otherwise be inaccessible to low-income families and individuals
- ◆ Provide green space in urban neighborhoods and are credited with reducing urban blight
- ◆ Add beauty to the community and heighten people's awareness and appreciation for living things



School Gardens

- ◆ Provide innovative teaching tools that allow educators to incorporate hands-on activities in a diverse array of interdisciplinary, standards-based lessons
- ◆ Create opportunities for students to discover fresh food, make healthier food choices and become better nourished, expanding on First Lady Michelle Obama's *Let's Move* initiative
- ◆ Build classroom relationships, provide physical activity, improve teamwork, beautify the environment and instill a positive work ethic
- ◆ Provide pre-employment training in production gardening, hydroponic farming, culinary and food service training



Livestock production

- ◆ Encompasses primarily large acreages used in beef cattle and calf production, but also includes other types of livestock
- ◆ Contains an extensive amount of land devoted to rangeland and pasture with much of this land also serving as public open space
- ◆ Controls the growth of non-native grasses and forbs through managed grazing, which allows other desirable plants like wildflowers and native grasses to maintain viable populations
- ◆ Reduces fuel load, which along with other rangeland management tools such as prescribed burning, helps mitigate fire risk

¹ Source: <http://www.fao.org/urban-agriculture/en/>

² CSA refers to Community Supported Agriculture, where individuals support a local farm by purchasing a share of the harvest that is usually supplied in the form of produce baskets that are provided throughout the harvest season

Certified Farmers' Markets

Many consumers don't realize what is meant by a Certified Farmers' Market. People come to farmers' markets to purchase local, high quality specialty produce and products directly from the farmer who grew them. Often, they don't recognize that there is a certified section in each market, nor do they notice that each producer with fresh fruit, vegetables, nuts, honey, eggs and cut flowers has a certificate that is displayed at his or her stall.

The Department of Agriculture/Weights and Measures inspects growers who plan to sell at a farmers' market within each county to certify what they are producing. During a site inspection, we document the types and amounts of crops being grown, post-harvest storage practices and harvest season. All of this information is put onto a Certified Producer Certificate that the producer must post at the market.

Certified Farmers' Markets can only be run by certified producers, non-profits, or government agencies. The individual or group that organizes the market also registers and provides general information about the market to the county. Throughout the period when the market is open to the public, agricultural inspectors walk the markets to check that these producers have certificates and what they have for sale matches what is on the certificate. In this way, the office of the County Agricultural Commissioner endeavors to maintain the equity of the market by ensuring that consumers grow what they sell.

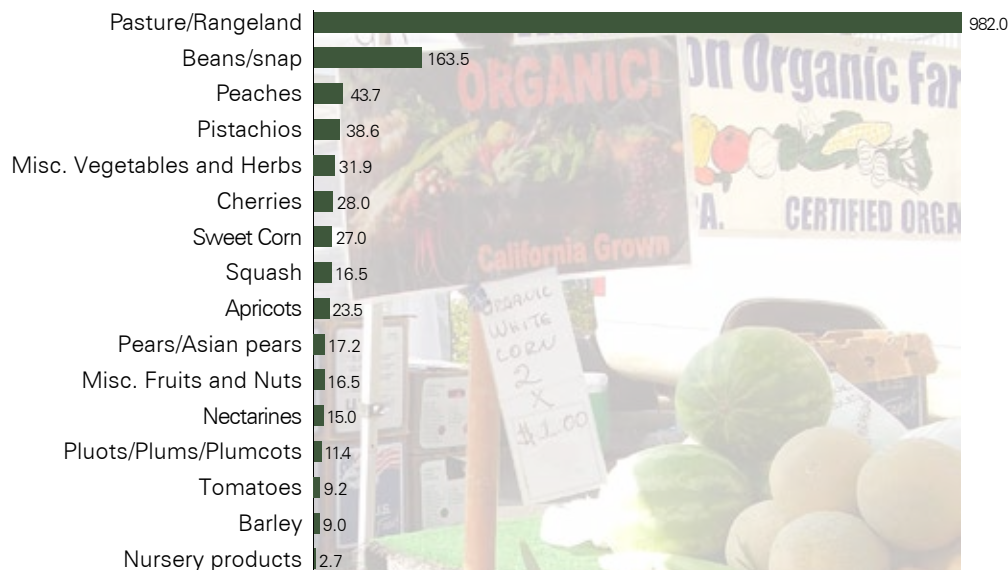
In 2014, there were 30 Certified Farmers' Markets in Contra Costa County. Of those, 16 were seasonal and 14 were open year-round. In addition, three of these markets served local hospital populations. These markets were run by a total of eight different market associations or individual parties.

Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Concord Todos Santos Plaza Martinez Contra Costa County Hospital Walnut Creek Kaiser El Cerrito San Pablo Ave.	Richmond Main St. San Ramon Sherwood Sports Park	Concord Todos Santos Plaza Antioch Kaiser San Ramon Bishop Ranch 3 Martinez Court St.	Richmond Barrett Ave. Martinez Main St. Rossmoor	El Cerrito San Pablo Ave. Brentwood Walnut Creek Diablo Valley Shadelands Clayton / Danville / Orinda Pinole / Pittsburg Pleasant Hill / San Pablo San Ramon Bishop Ranch 2	Antioch Sommersville Walnut Creek North Locust Moraga Alamo Kensington Martinez Main St.

Organic Farming

Organic acreage continues to rise in Contra Costa County. In 2014, there were 1,449 acres certified for organic production. This is an increase of 59 acres or 4% from 2013. The number of organic farms registered for organic production in the county remained the same from 2013 with 17 farms growing organic crops.

Organic Crop Acreage



Pest Exclusion and the K-9 Teams

The mission of the pest exclusion program is to keep exotic agricultural and environmental pests out of the state of California and to prevent the establishment or limit the spread of newly discovered pests within the state. Non-native plant pests that become established in California can cause enormous market losses as a result of quarantines imposed by other states or countries that restrict or prohibit the ability of California growers to market and ship their agricultural commodities.

The Department of Agriculture has two key roles in the pest exclusion program: (1) quarantine regulatory compliance and enforcement and (2) service to the agricultural industry and the public. We meet these objectives by regularly inspecting commodities entering our county that pose a risk of harboring agricultural pests. Examples include: incoming plant shipments at nurseries; UPS, Postal Service, and FedEx terminals; sites where landscaping is installed; and outdoor household articles from areas where the gypsy moth is present.

Our agricultural detector dogs, which are funded through a federal program, play a pivotal role on our inspection team. These dogs are trained to find fruit, vegetables, plants, seeds, soil or live animals shipped in packages. In one of our most recent successes, Cairo and his handler Mariah deNijs intercepted a package containing 25 pounds of unshelled walnuts at a USPS distribution facility. The walnuts, which originated from

Pennsylvania, were found to be infested with the A-rated pests Hickory Shuckworm (*Cydia caryana*) and Walnut Husk Maggot (*Rhagoletis suavis*). The A rating signifies that the organism is prohibited entry into California and is subject to confiscation and destruction. In this case, neither of the pests are currently found in California and if they were to become established, they would cause significant damage to the walnut industry.

The find was even more important because these walnuts were being shipped to Yuba County, where walnuts are the number one crop. If the infested material had been allowed to transit to its final destination, the likelihood that the pests would have found a host to continue reproducing would have been very high. Instead, our dog team alerted on the infested package. The walnuts were subsequently confirmed to contain A-rated pests and destroyed, ultimately preventing a possible infestation.



Pest Exclusion Statistics

Post Office/UPS/FedEx Package Inspections	47,230
Truck Shipment Inspections from Within California	2,190
Truck Shipment Inspections from Other States	123
Household Goods Inspections for Gypsy Moth	145
Non-native Pest Interceptions	20
Canine Detection Rejections	58
Quarantine Pest, Certification and Markings Rejections	207

Pest Management

Contra Costa County staff use integrated pest management methods including surveying, monitoring and chemical applications to control or eradicate certain exotic weed pests on public and private land. In 2014, the major weed species treated were: Artichoke Thistle - 511 sites; Purple Star Thistle - 232 sites; and Perennial Pepperweed - 51 sites. In addition, biologists surveyed areas for barbed goat grass, hoary cress, japanese dodder, japanese knotweed, oblong spurge, pampas grass, russian knapweed, red sesbania, woolly distaff thistle, white horse nettle, smooth distaff thistle, purple loosestrife and kangaroo thorn, treating as needed. Where feasible, mechanical control methods were used.

Pest Detection

Pest detection activities ensure that new quarantine pests do not find a home in our county. Exotic invasive pests can trigger quarantines costing millions of dollars in lost revenue while necessitating large increases in pesticide use to control the pest. Contra Costa County pest detection specialists monitor insect traps throughout the county, using pheromone and other attractant lures to detect insects of quarantine significance. At the first sign of an invasive pest, steps are taken to eradicate it so that the population doesn't become established.

Pest	Peak Number of Traps	Total Annual Trap Services	Pest	Peak Number of Traps	Total Annual Trap Services
Apple Maggot	8	100	Asian Citrus Psyllid	715	1,388
European Grapevine Moth	63	514	Fruit flies (McPhail & Champ)	812	20,941
Glassywinged Sharpshooter	980	5,684	Gypsy Moth	583	891
Japanese Beetle	603	1,010	Light Brown Apple Moth	45	232
Mediterranean Fruit Fly	809	10,181	Melon Fly	751	6,962
Oriental Fruit Fly	854	12,276	Oriental Fruit Moth	15	780
Pine Shoot Moth and Nantucket Pine Tip Moth	6	34	Vine Mealybug	63	363
Gypsy Moth	583	1,002	Khaphra Beetle	16	18

What Happens When We Find an Invasive Pest?

In early July, pest detection specialists found three male guava fruit flies over a three day period during routine detection trapping in the Bay Point neighborhood of central Contra Costa County. All three were found in traps that contained a lure that mimicks the pheremone that female oriental, guava and similar Bactrocera fruit flies release to attract males.

When a pest of quarantine significance like the guava fruit fly is found, a multi-pronged approach is employed to eradicate it. A Proclamation of Eradication Project is issued by the California Department of Food and Agriculture that outlines a work plan for the eradication. A delimitation area is created in which additional traps are deployed to determine the extent of the infestation. Agricultural staff also investigate how the fly may have arrived and employ a technique of male eradication to break the life cycle. In addition, hold notices are issued to owners of properties where the flies are found to restrict movement of potentially infested host fruit.



The response is targeted to ensure that the guava fruit fly, which is native to southeast Asia and China, doesn't become established in California. Since it feeds on fruits like guava, peach, citrus, cherry, fig, pomegranate and melon, it could have a potentially devastating effect on agriculture. If the pest were to become established, the larvae or "maggots" would destroy fruit tissue, making the fruit unmarketable. Pesticides would be used to combat the feeding damage, resulting in additional environmental and food costs. For commercial producers, the presence of a serious pest would also result in the loss of export markets due to quarantines imposed by other states and countries.

For fruit growers in Contra Costa County, allowing the guava fruit fly to become established would cause significant damage. Estimated annual economic losses for an unabated population that spread throughout the state run into the hundreds of millions of dollars.

Weights and Measures

The Contra Costa County Division of Weights and Measures promotes a fair and equitable marketplace by performing inspections of packages and commercial weighing and measuring devices for accuracy. This ensures that the sale of harvested crops, livestock, animal feed, vehicle fuel and other commodities is based on an honest weight or measure.

Measuring Devices	Devices Registered	Devices Inspected ¹	Weighing Devices	Devices Registered	Devices Inspected ¹
Vehicle Fuel Station Meters	7,602	6,027	Light Capacity Retail Scales	2,090	2,200
Electric Submeters	7,184	430	Heavy Capacity Retail Scales	322	245
Water Meters and Submeters	5,968	607	Vehicle/Railway Scales	99	123
Vapor/LPG Meters and Submeters	4,345	188	Prescription/Jewelers Scales	61	46
Taxi Meters	305	889	Livestock/Animal Scales	19	22
Other Measuring Devices	416	183	Other Weighing Devices	39	25

Advertisement & Transaction Verification	Locations Registered	Inspections Conducted	Quality Assurance	Registered	Audited
Petroleum Gas Stations	286	271	Weighmaster Locations	105	22
Price Verifying Scanner	1,150	164	Service Agent Devices	-	1,073

¹ Includes reinspections



Contra Costa County Weights and Measures inspectors test a large variety of devices for accuracy. There are scales ranging from jeweler's scales used for tiny gemstones all the way up to scales that can weigh a fully loaded railroad car. You can be sure commercial scales and meters are accurate because a Weights and Measures official has tested them. Before they can be put into commercial use, devices are inspected to make sure they are accurate and approved for that use. After the inspection, the inspector seals any adjustable parts that might affect how they perform. Each commercial scale that passes inspection will have a paper county seal that is visible to consumers. Additional regular inspections are performed on devices to ensure continued accuracy.

Examples of scales that are tested include railroad scales, livestock scales, vehicle scales and produce scales (counterclockwise from top left).



Cherries in Contra Costa County

By Janet Caprile, UC Cooperative Extension Farm Advisor

U-Pick Cherries

In recent years the Brentwood U-Pick cherry orchards have become one of the most successful and well known agri-tourism enterprises in Contra Costa County. About 60% of our orchards are U-pick or direct marketed and about 40% are picked for commercial shipping. This robust mix of U-pick and commercial shipping operations is quite unique among our agricultural crops.

Sixty-five percent of our cherry orchards are 10 acres or less. Cherries are a great crop for small farmers and rural ranchettes. They are one of the first crops to come off in the season (so there is less time for something to go wrong with the crop) and until recently, they didn't need any sprays, so it was a good crop around home sites. The U-pick arrangement also solves the increasing labor problem that many growers face as the customers do the picking themselves!

The U-pick operations tend to be smaller orchards and account for about 30% of all the cherry acreage in the county. But even though there may be fewer U-Pick acres, they are the most visible cherry acres and are an important avenue for consumer education. They connect people to where their food comes from, which garners support for agriculture by promoting a better understanding of what it means to grow, harvest and eat freshly grown produce.

Cherries can be a high risk crop if rain comes during harvest and splits the cherries or when the crop is light due to warm winter temperatures. So although 70% of our acreage is commercially picked, packed and shipped, most of these growers also have a U-pick operation because it helps them offset their risk due to weather and labor shortages. When the crop is light it can be difficult to find a commercial crew to pick the crop. However, the U-Pick customers enjoy spending time strolling in the orchard to find the perfect cherry and they will simply leave the split ones behind.

Varieties

Our acreage has grown from about 400 acres in 1990 to 900 acres in 2014. In 1990 our acreage was primarily Bing, the standard variety for the California cherry industry. Now about 75% of our acreage is Coral Champagne, a University of California (UC) variety selected, named and introduced as an excellent variety for Brentwood by UC Cooperative Extension Farm Advisor Ross Sanborn. Coral Champagne is a variety that has excellent eating and shipping quality like Bing, but ripens a little earlier so growers can get good prices at the front end of the market window. The remaining 25% of the acreage is comprised of a number of other cultivars that help to

offer variety and extend the season such as Brooks, Bing, Lapins, Rainier, Sweetheart, Tulare and Utah Giants.

New pests

We have had two pest introductions in recent years that have threatened our cherry industry: Cherry Buckskin disease and Spotted Wing Drosophila. We have overcome both due to a strong working relationship among local growers, UC Cooperative Extension and the Department of Agriculture.

Cherry Buckskin disease had been found in neighboring San Joaquin County in the 1980s and had the potential to devastate our unsprayed, U-pick cherry industry if it got into this county. UC Cooperative Extension began coordinating an annual survey with the help of their Master Gardener volunteers, the Department of Agriculture, Mid Valley Agricultural Services and the local growers to look for this difficult-to-identify disease and keep it from getting established here. When we found the disease in 2002, we stepped up our survey, initiated eradication efforts and took an aggressive approach to prevent establishment. The disease is now almost entirely eliminated and our cherry industry continues to grow, unaffected by this disease.

Spotted Wing Drosophila is a small vinegar fly that was found in Brentwood towards the end of the 2009 cherry harvest season. This brand new pest to the U.S. invaded the entire Pacific Northwest that year. UC Cooperative Extension worked furiously with researchers throughout the west to find a solution to this new pest. By the 2010 season they



A Spotted Wing Drosophila adult

had management plans and extensive grower education programs in place that allowed our local growers to successfully control it. During the next few years the research team continued to fine tune the management program to make it as safe and environmentally-friendly as possible. UC Cooperative Extension worked extensively to develop management practices that were compatible with the unique needs of our U-Pick industry. We now have organic options and bait sprays that have been widely adopted in the Brentwood area and work particularly well in our multiple variety, U-pick orchards.

The Cost of Growing Cherries



UC Davis Agricultural and Resource Economics in conjunction with University of California Cooperative Extension Services all over the state continually put together production cost studies for various crops. For cherries in California, research shows that farmers, on average, gain a 13% profit after all production costs are considered.¹

Production costs and returns for cherries vary by location and over time for any particular farming operation. This variability stems from differences in the following:

- ♦ Capital, labor and natural resources
- ♦ Type and size of machinery
- ♦ Cultural practices
- ♦ Size of farm enterprise
- ♦ Crop yields
- ♦ Input prices
- ♦ Commodity prices
- ♦ Management skill

For example, while our cherry producers grossed an average of \$5,071 per acre on cherries in 2014, based on a 13% profit projection from the cost study, the grower may only see a profit of about \$659 per acre. For a small grower with 5 acres, this means that the grower needs to spend \$22,059 in order to earn \$3,296 in total profit. The cost study shows that cherry producers, like many farmers, assume an enormous amount of risk by investing in a crop without knowing what the yields will be when the cherries are harvested.

Sample production cost studies for many commodities are available and can be requested through the Department of Agricultural and Resource Economics, UC Davis. Current studies and some archived studies can be obtained from county UC Cooperative Extension offices or downloaded from the department website at <http://coststudies.ucdavis.edu>



¹ Costs can also be calculated differently depending on the intended use of the cost estimate. The information in this publication serves as a general guide for establishing and producing sweet cherries in central California. To avoid drawing unwarranted conclusions for any particular farm or group of farms, the reader must closely examine the assumptions used. If they are not appropriate for the situation under consideration, adjustments in the costs and/or returns should be made.

The Value of Urban Agriculture

By Rob Bennaton, Bay Area Urban Agriculture Advisor, UC Cooperative Extension

In 2013, the world's population crossed a threshold never before surpassed in history: greater than 50% of the world now lives in cities and metropolitan areas.¹ This trend carries over to Contra Costa County, which is home to a number of cities. As a matter of fact, "The San Francisco-Bay Area is the nation's second most densely populated area at 6,266 people per square mile, followed by San Jose, CA (5,820 people per square mile)... Of the ten most densely populated urbanized areas, nine are in the West, with seven of those in California."²

As cities grow, one key question many are asking is how humanity will continue to sustain itself in terms of food systems that maintain both our environment and a sustainable quality of life. We all want an environment that includes healthy water, soil and air that we can enjoy for generations to come. To support a beneficial quality of life for all, urban agriculture considers social issues, economics and equity in the context of a healthy local environment. Urban agriculture is a way to support healthy families, communities and the environment, while reaping the associated social and environmental benefits that come from bringing people together to grow food.

"Urban agriculture includes production, distribution and marketing of food and other [agricultural] products within core metropolitan areas and at their edges".³ It is inclusive because anyone can learn how to grow his or her own food and enjoy the benefits. Urban food production ranges from carrots growing in a balcony container pot to a local urban farm growing produce to feed a low income community lacking access to healthy food. It comes in all shapes and sizes: urban farms, community and school gardens, and parks, and can be for-profit, non-profit, community/school-based or a hybrid model.

Urban agriculture provides stacked social, health, economic and environmental advantages to communi-

ties. Social impacts of urban agriculture include safer spaces, community building and intergenerational/cross-cultural integration and understanding. Economic impacts cover increased farmer income through market expansion, saved or locally-used food-dollars and social and economic reevaluation through asset-building. Some health impacts are improved nutrition from increased fruit and vegetable consumption, low-intensity physical activity and the therapeutic effects of gardening on mental and rehabilitative health. Environmental impacts include a lower carbon footprint from reduced food-miles traveled, increased water conservation and decreased organic materials entering the waste stream. In addition, urban agriculture generally uses fewer chemical inputs and enhances soil conservation. This

does not mean that every urban agriculture project or farm offers all of these benefits because each site is unique. Projects must be designed and implemented with specific goals in mind, and the type of hybrid model that results will have many of these benefits.

But the picture is not all rosy! Cultivating food in urban areas has its challenges and the urban growers have their burdens to bear as well. Participation and buy-in

of area residents is essential to the success, viability and safety of urban agriculture projects. Managing soil quality issues by testing soils, building raised beds, adding organic material and being aware of a specific site's history, especially if it is an industrial one, are key factors to consider. Legal issues such as liability/permitting, leases, food safety, heavy metals in soil and local zoning regulations are also crucial points to recognize. Another challenge has been that urban agriculture projects have historically been subsidized by government funding earmarked for education and outreach, but attempts to become financially self-sustainable haven't always succeeded. After all of these realities are resolved, the traditional agricultural issues of production, small farm business management, food safety in post-harvest handling and processing come to the forefront as well.



1 Source: http://www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/

2 Source: http://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html

3 Adapted from the APA Definition, 2011. See UC Urban Ag Website: <http://ucanr.edu/sites/UrbanAg/> for more information

Given these challenges, the University of California's Division of Agriculture and Natural Resources (ANR) conducted a statewide Urban Agriculture Needs Assessment. One of the main findings was that urban agriculture is a priority for UC Cooperative Extension, which has over 120 UCCE academics involved in some aspect of urban agriculture throughout California. Another was the need to develop technical literature that was adapted to the urban context and audience on soil quality, pest management and irrigation. The assessment also led to the establishment of an ANR

Urban Agriculture Collaborative Team and website (<http://ucanr.edu/sites/UrbanAg/>) with a vast array of information on urban agricultural production, distribution and marketing.

Urban agriculture provides the opportunity for livable cities that allow for an urban existence in which healthy families and communities can coexist without compromising the environmental and natural resources needed by future generations. Let's grow together!

Economic Impact of Urban Gardening and Farming in Contra Costa County

In March 2013, Sustainable Contra Costa (SCOCO) launched a multi-faceted initiative to support urban gardening and farming (UGF) in Contra Costa County. SCOCO conducted a first-ever inventory and survey of urban gardens and farms in the county and compiled a comprehensive on-line directory of gardens, projects and supporting programs. In the process, SCOCO documented the work of a number of organizations that are working to create a local food system and connect people to the land. These growing spaces provide land for people who want to grow their own food, schools that teach our kids about food, nutrition and other core subjects through garden-based curricula, urban farmers, co-op neighborhood gardening groups, gleaners, farmers' markets, backyard farm circles and more.



Estimated Annual Value of Urban Gardening and Farming Food Production

	Projects ¹	Acres (avg) ²	Sq. ft.	Value/Project ³	Total Value
Community Gardens	41	1/8	5,445	\$8,168	\$334,868
School Gardens	60	1/16	2,723	\$4,084	\$245,025
Urban Farms and Demonstration Gardens	6	1/2	21,780	\$32,670	\$196,020
Charity Gardens	4	1/4	10,890	\$16,335	\$65,340
Gleaning ⁴	1	-	-	-	\$80,000
Estimated Total	-	-	-	-	\$921,253

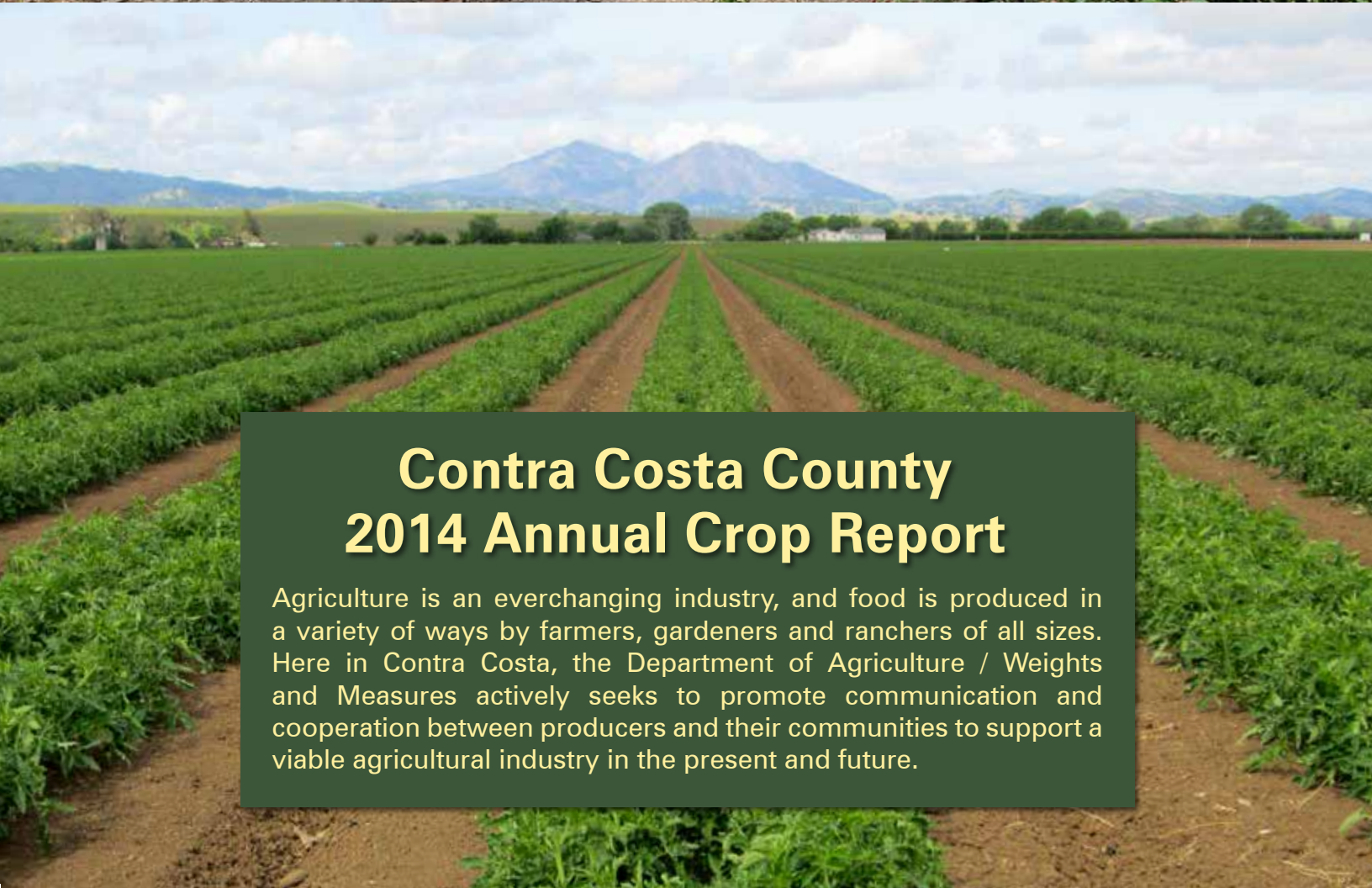
You can find more information about valuing urban food production at: <http://sustainablecoco.org/>, <http://communitygarden.org/resources/research/> and <http://foodsecurity.uchicago.edu/research/community-gardens-2/>

¹ Urban Gardening and Farming Projects. Source: Sustainable Contra Costa's Directory of Urban Gardening and Farming Projects in Contra Costa, <http://sustainablecoco.org/gardendirectory>

² Gardened areas are rough estimates not based on actual site measurements

³ Values are based on an estimated square foot value of \$1.50 based on information from Gardens for All and the National Gardening Association, <http://www.gardenresearch.com/files/2009-Impact-of-Gardening-in-America-White-Paper.pdf>

⁴ Gleaning figures are based on the estimate of 80 tons of produce or 160,000 pounds per year harvested and donated to the food bank at a price of \$0.50 per pound in Contra Costa County



Contra Costa County 2014 Annual Crop Report

Agriculture is an everchanging industry, and food is produced in a variety of ways by farmers, gardeners and ranchers of all sizes. Here in Contra Costa, the Department of Agriculture / Weights and Measures actively seeks to promote communication and cooperation between producers and their communities to support a viable agricultural industry in the present and future.