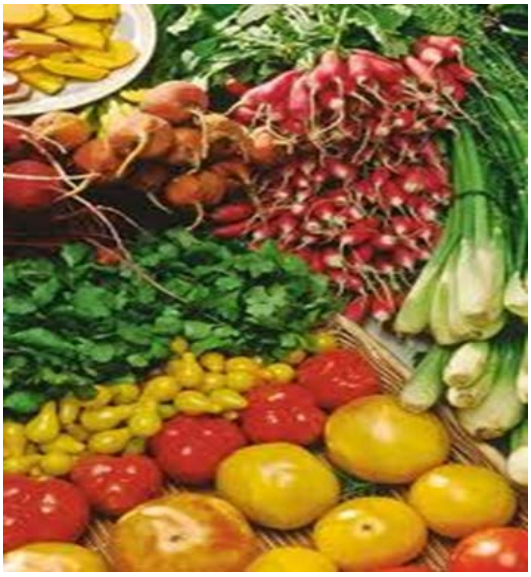

CONTRA COSTA COUNTY FOOD SYSTEM ANALYSIS AND ECONOMIC STRATEGY

March 2015

Summary of Key Findings

Prepared for

Contra Costa County, California

By

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Contra Costa County Food System Analysis and Economic Strategy

SUMMARY OF KEY FINDINGS

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EXECUTIVE SUMMARY

We were retained by Contra Costa County, California to perform an independent and objective economic analysis and to provide a strategy to maintain and enhance the viability of the agricultural economy in the Contra Costa County primary and secondary zones of the Sacramento-San Joaquin Delta, contributing to the overall viability, health and sustainability of Contra Costa County agriculture, specifically by seeking to leverage the economic development potential of agriculture in Contra Costa County.

We have attempted to: (i) assess Contra Costa County's existing agriculture, food, and beverage sector, (ii) analyze the total economic impact of the sector, (iii) identify opportunities to increase the economic value, jobs, and social benefit of the sector and (iv) identify barriers to developing Contra Costa's agriculture, food, and beverage sector. More importantly, this report attempts to address the following questions:

- Is Contra Costa County maximizing its agricultural production value and food system potential?
- Can Contra Costa County develop alternative strategies to increase the economic return to its growers?
- Are there surmountable barriers that can be overcome to achieve a greater level of economic success for Contra Costa County agriculture?



KEY FINDINGS

A. Contra Costa Agriculture Today

- **Contra Costa County has over 25,000 acres of prime farmland, a Mediterranean climate, and ample, inexpensive agricultural irrigation water.**

- **Contra Costa County and the City of Brentwood have an array of agricultural protection policies in place to protect Contra Costa County's prime farmland.**

- **Nonetheless, Contra Costa County lost more than forty percent of its prime farmland between 1990 and 2008, as well as significant agricultural infrastructure and support services.**

- **During the past ten years, over 1,000 acres of prime farmland in East Contra Costa County has been permanently protected with agricultural conservation easements.**

- **Recent changes in zoning allow for wineries, olive oil presses, tasting rooms, expanded roadside stands and commercial kitchens in the prime agricultural region of East Contra Costa County.**

- **Contra Costa County is served by a complex produce distribution system that rarely maintains the source identity of agricultural products.**

- **Contra Costa farmers use a wide range of distribution channels including wholesale distribution to local, national and foreign markets, roadside stands, u-pick operations, CSAs and farmers markets.**

- **Residents in Contra Costa County consumed almost 775,000 tons of food in 2013, half of which were fruits, vegetable, and nuts (specialty crops), showcasing the significant existing demand for fresh produce in the County.**

- **Moreover, Contra Costa farmers produce for regional Bay Area markets with a regional population of seven million residents who annually consume over 2.5 million tons of fruits, vegetables, and nuts, providing an enormous demand for specialty crops.**

B. Trends in Agricultural Land Base, Farm Size, and Production Value

- **While Contra Costa County lost forty percent of its prime farmland in the last thirty years, land in agricultural production has stabilized and is no longer decreasing at an accelerating pace.**

- **As California agriculture is impacted by the drought, East Contra Costa's irrigation water resources make it an increasingly desirable farming region.**

- **Over the last decade, *Harvested Cropland*[1] has increased by 28.4%.**

- **During this same period, the number of farms on *Harvested Cropland* has increased by 17.9%.**

- **During the last twenty years, the average size of a Contra Costa County farm has decreased from 242 acres to 212 acres.**

[1] As defined by the U.S. Census of Agriculture, *Harvested Cropland* includes land from which crops were harvested and hay was cut, land used to grow short-rotation woody crops, Christmas trees, and land in orchards, groves, vineyards, berries, nurseries, and greenhouses. Land from which two or more crops were harvested was counted only once.

- **The median size Contra Costa County farm has decreased in half from 20 acres to 10 acres, indicating that there are many more farms less than 10 acres as compared to 20 years ago.**

- **However, a better economic measure is a review of the size and number of farms with viable commercial production. These farms can be segmented into small (1 to 9 acres), medium (10 to 100 acres), and large (101 and above acres).**
    - **There are approximately 60 small farms, 52 medium farms, and 27 large farms, spread mostly across eastern Contra Costa County.**
    - **The vast majority of small and medium farms are grower-owned with large farms a mix of grower-owned and leased property.**

- **Over the last decade, the *Gross Value of Agricultural Production*[2] has also leveled off, reaching nearly $97 million in 2013 as compared to just over $100 million in 2002.**

- **The changes in *Gross Value in Agricultural Production* in Contra Costa County are due in large part to the overall changes in crop mix and the resultant production volumes of the various crop categories.**

- **Over the last ten years, the largest increases in production value have occurred in vegetable and seed crops, principally beans, sweet corn, and tomatoes.**

- **From a *Gross Production Value* of $17.7 million in 2002, vegetable and seed crop production has grown to over $35.6 million in 2013 (101.1% increase).**

- **The *Gross Production Value* of field crops rose from $10.1 million in 2002, to $18.5 million in 2013 (83.5% growth). The *Gross Production Value* of fruit and**

[2] Gross Value of Agricultural Value is reported annually in the Contra Costa County Annual Crop Reports issued by the Contra Costa County Commissioner of Agriculture.

nut crops also grew from $14.5 million in 2002, to nearly $17.0 million in 2013 (16.6% growth).

- **The once vibrant nursery products sector has experienced a drastic and precipitous decline over the past decade. Leading the County in *Gross Production Value* of over $35.3 million in 2002, nursery products have dropped to $4.1 million by 2013 (88.4% drop).**

- **Following a national trend, in 2013, Contra Costa County organic production had reached 1,390 acres as compared to only 94 acres in 2002.**

C. Trends in the Food and Agricultural Economic Sector

- **The demand for locally grown, source-identified, healthy, and sustainably produced food is growing rapidly.**

- **This increased demand is not only driven by consumer preferences, but also demand from institutions such as schools, colleges, universities, and hospitals.**

- **Research strongly indicates that consumers are willing to a pay a premium for source-identified, locally grown produce, and prefer retailers that carry more locally produced items.**

- **Demand for organic products is increasing each year, reaching over $35 billion in sales in 2013.**

- **According to the California League of Food Processors, the fastest growing segment in food processing is in value-added, co-processing, or co-packing, utilizing local, source identified fresh food products.[3]**

[3] A Co-Packer, is a company that manufactures and packages foods or other products for their clients. To market and distribute, a co-packer works under contract with the hiring company to manufacture food as though

D. Potential Economic Opportunities for Contra Costa Agriculture

- **Changes in specialty crop production**
  - **Increase permanent and high value specialty crops**
  - **Continued growth in organic production**
  - **Further development of year-round production**

- **Taking better advantage of local and Bay Area markets by:**
  - **Creating source-identification and branding of Contra Costa County products**
  - **Targeting local retailers with source-identified Contra Costa County products**
  - **Continued and improved direct marketing to local and regional buyers through agri-tourism, farmers markets, and community supported agriculture**
  - **Work with local institutional buyers such as school districts, hospitals, community colleges, and others to increase purchasing of Contra Costa County-grown specialty crops**

- **Further develop local value-added food processing, manufacturing, co-processing and co-packing across the County**
  - **On-farm value-added processing along with vertical integration**
  - **Value-added food processing focused on growing ethnic and specialty products**

- **Further develop agricultural tourism by:**
  - **Creating agricultural tourism-friendly zoning**
  - **Developing better public outreach and marketing**

the products were manufactured directly by the hiring company. A co-packer is similar to a contract manufacturer in other industries, such as automotive or aerospace. Co-packing is commonly used when the producing company doesn't have the packing capacity, machinery, knowledge etc.

- Creating transportation solutions to alleviate parking and traffic problems during the u-pick seasons
- Linking growers with other City and County tourism and visitor services

E. Barriers to Increased Economic Opportunities for Contra Costa County Agriculture

- **General Barriers for Contra Costa County Growers in Increasing Specialty Crop Production**
  - Small to medium-size growers in particular face many challenges in growing specialty crops for local consumption, including operating costs and infrastructure, labor costs, complex regulatory requirements, and land ownership, tenure and parcel size.

- **Barriers to Accessing Bay Area Markets with Source-Identified Product**
  - Existing agricultural infrastructure and procurement policies make it difficult for many institutions to purchase locally grown specialty crops. There is fragmentation of purchasing power across types of customers such as schools and hospitals.
  - Centralized retail procurement and distribution centers are located outside the region.
  - Lack of local-specific branding, lack of traceability of product, potential for commingling of product at distribution, and definition of local at retail could diminish the value.

- **Barriers to Value-Added Processing**
  - Burdensome Contra Costa County regulations and permitting process.
  - Lack of relationship between Contra Costa County food processors and local growers.

- **Barriers to Improved Agricultural Tourism**
  - **Lack of funding or support for new outreach, marketing, the creation of new agricultural tourism experiences, or connection to city, county, and state tourism and visitor services**
  - **Inability to create agricultural tourism-friendly zoning and transportation solutions to alleviate parking and traffic problems during the u-pick seasons**

I. Introduction

Delta Protection Commission

The Delta Protection Commission provided the funding for this analysis as a follow-on to its *Economic Sustainability Plan* which was prepared for the Sacramento-San Joaquin Delta in 2012 ("ESP"). The ESP used a variety of data sources and modeling and projected moderate changes in cropping patterns and shifts to production of higher value crops, including specialty crops over time.

The mission of the Delta Protection Commission is to adaptively protect, maintain, and where possible, enhance and restore the overall quality of the Delta environment consistent with the Delta Protection Act and the Land Use and Resource Management Plan for the Primary Zone. This includes, but is not limited to, agriculture, wildlife habitat, and recreational activities. The goal of the Commission is to ensure orderly, balanced conservation and development of Delta land resources and improved flood protection.

Consumer demand for locally grown food is increasing, particularly in the metropolitan regions surrounding the Delta. Individual households, restaurants, grocery stores, fresh produce distributors, and institutions such as schools and hospitals are all seeking locally grown food. Growers, consumers, and policy makers also are focusing on the many public benefits of local agriculture, including the public health benefits of increasing access to locally grown produce in underserved communities, the economic development and job creation potential of the agricultural sector, the climate protection, open space and recreational benefits of urban-edge agricultural land, the benefits of agri-tourism, and the sense of history and place that farming provides to Contra Costa County and the Delta.

Contra Costa County's Food System

The County is geographically divided between productive farmland of Brentwood in the east and the dense urban populations of central Contra Costa and Richmond. While Contra Costa farmers grow a diversified volume of fruits and vegetables, many urban communities in Contra Costa County do not have adequate access to fresh fruits and vegetables and are facing a public health crisis of childhood obesity, diabetes, and heart disease.

While Contra Costa County has all of the components of a local food system, it can further develop this system to provide more source-identified local food directly to urban communities and throughout the Bay Area and Northern California. Over the years, Contra Costa's

agricultural infrastructure, packing, and processing facilities have diminished. Consequently, food grown in Contra Costa leaves the county for distribution, processing, and manufacturing that adds value to its agricultural products. A further developed local food system could provide all Contra Costa County's urban residents with fresh, healthy food, build its agricultural economy, create jobs, and keep more food-generated dollars in its communities.

The Unique Advantages of Contra County Agriculture

Contra Costa County is a Delta county that is well positioned to develop a more vibrant agricultural economy and local food system. The County can build upon its unique advantages:

- Extraordinary soils, Mediterranean climate, year-round growing season, and inexpensive water.
- Land use certainty and agricultural conservation resulting in increased investment in land and farming operations.
- Significant specialty crop production – row crops, orchards, nuts and wine grapes – with increasing organic production.
- Proximity to Bay Area markets.
- Undeveloped processing opportunities to take advantage of wine grapes, cannery tomatoes, vegetable and orchard crops.
- Fifty-percent of the Delta's agricultural tourism.
- Engaged county and city officials.
- Multi-generational farming families with children returning to the family farming operations after college.
- Active grassroots support for local agriculture through the Contra Costa Food System Alliance and other community organizations.

II. Objective of Report

The objective of this report is to perform an independent and objective analysis to develop and define the appropriate economic development strategy to maintain and enhance the viability of the agricultural economy in the Contra Costa County primary and secondary zones of the Sacramento-San Joaquin Delta (see Attachment 1—Map of Sacramento-San Joaquin Delta), contributing to the overall viability, health and sustainability of agriculture, specifically by seeking to leverage the economic development potential of agriculture in the County.

III. Key Findings

A. Contra Costa County Agriculture Today

Contra Costa farmers have grown food for the Bay Area since the Gold Rush: from vast fields of winter wheat in the 1880's to the famous Brentwood sweet corn, peaches and cherries enjoyed today in the Bay Area and beyond. Before prohibition, Contra Costa County was home to over fifty wineries, including the largest winery in the world, Winehaven, in Richmond. With rich Delta soils, a Mediterranean climate, and inexpensive irrigation water, Contra Costa farms produce a tremendous diversity of crops – sweet corn, stone fruit, vegetables, olives and wine grapes. The 2013 County Agricultural Commissioner's Report found that Contra Costa farmers produced almost $71,109,000 million of fruit, nuts, vegetable and field crops. Contra Costa agriculture, which is characterized by small and medium size farms, also benefits from a remarkable diversity of farming operations that distribute product through a wide variety of marketing channels. Over the past century, Contra Costa farmers have demonstrated flexibility in adapting to market demands. Today Contra Costa farmers primarily harvest row crops and orchards from May through November. Tree nuts, olive oil, and citrus are produced between the months of November and April.

1. Agricultural Resources

Land and Climate. While almost 24,000 acres in Contra Costa County is actively farmed, the most intensive food-producing region in the County is the prime farmland south and east of the City of Brentwood. With a Mediterranean climate of hot summer days and cool nights, the Brentwood region of East Contra Costa County has a year-round growing season. The Class 1-4 prime soils are well suited for orchards, vineyards, row crops and grains. As discussed below, East Contra Costa experienced a rapid loss of prime farmland between 1980 and 2005.

Water. In the early 20th century, the English company, Balfour Guthrie, recognized the extraordinary growing conditions of the Brentwood valley. Balfour Guthrie installed a gravity irrigation system that is still used today and provides East Contra Costa farmers with senior water rights. The East Contra Costa Irrigation District and the Byron-Bethany Irrigation District provide irrigation water to most East Contra Costa farmers. Located adjacent to the Delta, the irrigation districts draw water directly from the Delta, providing farmers with ample water at $19 per acre-foot. During times of drought this provides East Contra Costa farmers with a tremendous advantage over their neighbors in the Central Valley who are drilling wells or paying up to $2,000 an acre foot for surface water.

Agricultural Infrastructure. At one time, Contra Costa farming was served by an extensive agricultural infrastructure that included packing sheds, rail service and agricultural support services. As Contra Costa County lost agricultural land to urbanization, the County lost the critical mass to support agricultural infrastructure. Today Contra Costa farmers must travel to the Central Valley for equipment and services like tractor repair. Additionally, as farmers watched development approaching over the past thirty years, many questioned the future of Contra Costa agriculture and stopped investing in their farming operations.

2. Current Land use Policy

Contra Costa County's General Plan also includes a wide range of policies dedicated to protecting the prime soils of Contra Costa County. However, the primary farmland protection mechanism is the designation of the 11,500-acre County Agricultural Core. The minimum parcel size in the County Agricultural Core is 40-acres and the zoning restricts the land uses to farming and limits agricultural tourism and small-scale value-added processing. Nevertheless, due to previous subdivision, over fifty- percent of the parcels in the County Agricultural Core are ten acres or less.

While the land uses in the County Agricultural Core are very restricted, in 2004 the County amended the General Plan to allow for wineries, olive oil presses and tasting rooms in the County Agricultural Core. A subsequent amendment in 2009 allows expanded roadside stands and small-scale commercial kitchens. There is one winery, Hannah Nicole, in the Contra Costa Agricultural Core. Frog Hollow Farm has a commercial kitchen, and a second kitchen, Tess' Community Farm Kitchen is under construction.

The voters of the County adopted an urban limit line (ULL) in 1990 under a countywide ballot measure that directed development to existing urban areas and away from agricultural lands. Contra Costa voters affirmed the ULL in 2006 by a countywide ballot measure. The County also has a Right-to-Farm Ordinance and requires setbacks for urban uses within or adjacent to agricultural areas.

In 2002, the City adopted an Agricultural Enterprise Ordinance that requires that developers that convert agricultural land within the City of Brentwood (the "City") to urban uses pay a mitigation fee that is held by the City. The City has funded thirteen agricultural conservation easements since 2006, permanently protecting over 1,000 acres in the County Agricultural Core. The City has also developed the *Brentwood Grown* brand and provided grants to local agricultural enterprises.

In 2008, the County Agricultural Core was designated a Priority Conservation Area by the Association of Bay Area Governments as part of the Bay Area's Sustainable Conservation

Strategy, recognizing the importance of conserving Contra Costa's agricultural lands as part of the Bay Area's regional climate change strategy.

3. Distribution of Contra Costa Agricultural Products

The San Francisco Bay Area is served by a complex produce distribution system that brings food from around the world to East Bay consumers. During the harvest months, Contra Costa farmers sell wholesale to distributors who provide Contra Costa-grown produce to retailers, restaurants and institutions. Most wholesale distributors provide their customers with very little information about the source of the fruits and vegetables they sell. As demand for local food has increased, businesses along the distribution chain, from farmer to retailer, have begun to provide sourcing information and create "value-based food supply chain". Some local grocery stores like Diablo Foods and Whole Foods provide customers with farm-identification in their produce section and advertise their "buy local" policy. Bay Cities Produce provides their institutional customers like hospitals and schools with source-identified produce and washed-and-cut produce mixes.

In addition to traditional retailers, there are 25 certified farmers' markets operating in Contra Costa Country. Many East Contra Costa County farms of all sizes engage in direct marketing through roadside stands and u-pick operations. Some farms like Frog Hollow Farm and First Generation Farmers market through "community supported agriculture" that provide customers with a box of produce each week. Several non-farm produce box distributor like "Doorstep Farmers" also source from Contra Costa County farmers.

There is no data available that allows us to trace the ultimate destination of food grown in Contra Costa County. Nor do we know much of the food grown in the County is consumed locally. The current distribution system does not often track the origin of the produces it sells so we have little information about where Contra Costa agricultural products are shipped, processed, or consumed. Food that is source-identified as local remains a small fraction of total food production. During the summer months, the Bay Area undoubtedly

enjoys a bounty of local produce but we also know that about forty-percent of California's agricultural production is exported nationally and abroad.[4]

4. Current Branding and Agricultural Tourism Efforts

The County and the City of Brentwood actively participated in the *Contra Costa/Brentwood Buy Fresh Buy Local Program* managed by the Brentwood Agricultural Land Trust and the Community Alliance with Family Farmers from 2005 through 2009.

In 2009, the City of Brentwood created the *Brentwood Grown* certification program to help Brentwood farmers distinguish Brentwood products as locally grown, harvested and processed. The City created the *Brentwood Grown* logo that is available for use by all farmers in the County Agricultural Core and the Brentwood planning region. The program currently has nine participating farmers.

Many Contra Costa farms have taken advantage of the increasing demand for on-the-farm experiences with roadside farm stands and u-pick orchards and fields. U-pick operations have a long history in Contra Costa County and Bay Area residents have fond memories of visiting Brentwood u-pick farms since the 1970's. With a long history of u-pick operations and roadside stands, Contra Costa farms of all sizes participate in direct marketing and agricultural tourism. Harvest Time in Brentwood, founded in 1976, is a nonprofit organization with over 40 grower members and the mission to promote East Contra Costa County's u-pick farms and roadside stands. Harvest Time produces an annual map of u-pick operations

[4] "Think Globally – Eat Locally, San Francisco Food Shed Assessment," American Farmland Trust and SAGE, 2008.

and roadside stands, has a user-friendly website and an app. In July 2014, Harvest Time held a successful Harvest Time Festival showcasing Contra Costa agriculture.

5. Annual Contra Costa County and Bay Area Regional Food Consumption

According to data from the U.S. Census and Bureau of Labor Statistics, the average Bay Area household spends $919 per year on fresh produce and $8,500 per year on total food purchases. Residents in Contra County consumed almost 775,000 tons of food in 2013. Nearly half of this total came from fruits, vegetable, and nuts (specialty crops), showcasing the significant existing demand for fresh produce in the County.[5]

TABLE 1: ANNUAL TOTAL FOOD CONSUMPTION VS. FOOD PRODUCTION, 2013 (IN PRIMARY WEIGHT TONS)

Food Group	Contra Costa County Consumption	Contra Costa County Production	Difference
Fruits	153,268	10,402	-142,866
Vegetables	217,836	154,317	-63,519
Nuts	4,782	896	-3,886
Specialty Crop Subtotal	**375,886**	165,615	-210,271
All Other Foods*	398,440	163,282	-235,158
Total Tons	***774,326***	328,897	-445,429

*Other Foods include meat, poultry, fish, dairy, grains, and fats and oils.

Calculation based upon Contra Costa County population of 1,087,008 as of January 1, 2014.[6]

As indicated in Table 1, Contra Costa County food consumption totals far exceed Contra Costa food production in volume, variety, diversity of products, and overall demand. The current and future consumption of specialty crops is a strong market driver for the sourcing

[5] Analysis of USDA's FICRCD and FADS data bases to create a Contra Costa County Food Consumption Calculator, http://www.ers.usda.gov/data-products/commodity-consumption-by-population-characteristics.aspx#27850.

[6] http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php, California Population by County estimated from January1, 2014.

of more locally grown foods with a demand of nearly 376,000 tons in Contra Costa County alone.

Moreover, Contra Costa farmers grow specialty crops for markets in the nine-county Bay Area region. Utilizing USDA's food consumption data bases and multiplying it by the populations in the nine Bay Area counties, the specialty crop consumption estimates total over 2.5 million pounds a year as outlined in Table 2 below.

TABLE 2: TOTAL FOOD CONSUMPTION IN THE BAY AREA 2013 (IN PRIMARY WEIGHT TONS)

Food Group	Per Capita Consumption (pounds per year)	Bay Area Consumption
Fruits	282.0	1,046,283
Vegetables	400.8	1,487,058
Nuts	8.8	4,782
Specialty Crop Subtotal	**691.6**	**2,538,123**
All Other Foods*	733.1	2,719,965
Total	1,424.7 pounds per person	5,285,955 tons per year

*Other Foods include meat, poultry, fish, dairy, grains, and fats and oils.

Calculation based upon the nine-county Bay Area population of 7,420,453 as of January 1, 2014, including Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties.[7]

Bay Area residents represent an enormous demand for specialty crop production. However, as noted above, it's not possible to determine how much of the food grown in Contra Costa is consumed in the County or the Bay Area.

B. Trends in Agricultural Land Base, Farm Size, and Production Value

Contra Costa County agriculture has historically produced a wide variety of premium-quality fruits, nuts, vegetables, and some value added agricultural products, including wines, oils, and other processed items. Its production has been largely dependent upon regional, national and international market demands as well as to a lesser extent on direct marketing

[7] http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php, California Population by County estimated from January1, 2014.

opportunities such as roadside farm stands, u-pick, farmers markets, and community supported agriculture ("CSA").

a. Land in Agricultural Production

After decades of contraction and decline, Contra Costa County agriculture appears to have stabilized over the past ten years. The decades following World War II saw increased urbanization across the County with much of the growth occurring on prime farmland. Although from 1984 to 2004, almost 20,000 acres of prime agricultural land was converted from agricultural use primarily due to urbanization, that trend has been greatly diminishing. In the California Department of Conservation's latest *Farmland Conversion Report, 2008-2010*, Contra Costa County saw the conversion of only 770 acres of important farmland,[8] much less than the converted acreage recorded in prior reports. Moreover, Table 1 indicates that there has been a more recent stabilization in the *Land in Farms* and *Total Number of Farms* from 2002 through 2012.[9] More

Table 3: Contra Costa County – Land in Agricultural Production (1992 vs. 2002 vs. 2012)

	1992	2002	2012	% Change (2002 to 2012)
Total Acres	460,765	460,765	460,765	
Land in Farms (acres)	163,036	126,338	127,670	1.0
Total Number of Farms	675	593	602	1.5
Harvested Cropland (acres)	28,867	26,018	33,420	28.4
Number of Farms with Harvested Cropland	361	280	330	17.9

[8] "California Farmland Conversion Report, 2008-2010: Documenting changes in agricultural land use since 1984," California Department of Conservation, April 2014, http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2008-2010/fcr/FCR%200810%20complete.pdf.

[9] Census of Agriculture, United States Department of Agriculture, 2012, 2007, 2002, and 1992, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/California

significantly, there has been an increase of 28.4% in *Harvested Cropland*[10] and a corresponding increase of 17.9% in the *Number of Farms with Harvested Cropland* during this most recent ten-year period. Importantly, these measures would indicate that there is no longer a decline in the number of farms, nor a decrease in the acres farmed in Contra Costa County. To the contrary, as Table 3 further illustrates, *Harvested Cropland* and the *Number of Farms with Harvested Cropland* increased between 2002 and 2012.

b. Average Size of Contra Costa County Farms

Table 4: Average and Median Size of Farms in Contra Costa County (1992, 2002, 2007 and 2012)

	1992	2002	2012
Average Size of Farms (acres)	242	213	212
Median Size of Farms (acres)	N/A	20	10

Despite the increase in both *Harvested Acreage* and the *Number of Farms* -- over the last twenty years, the average size of farms in Contra Costa County has decreased from 242 acres to 212 acres, with the median size of farms falling by half in the last ten years from 20 acres to 10 acres.[11] This is a clear indication that there are many smaller farms of less than 10 acres sprinkled mainly across eastern Contra Costa County as compared to previous years of production. However, many of these smaller farms may create little or no economic value for the County. Therefore, we must examine more closely those farms with viable and measurable commercial production.

c. Segmentation in Size of Farms in Production

Although the data from the U.S. Census of Agriculture provides a general overview of Contra Costa County farms as outlined above, it only tells part of the story. A closer

[10] This USDA measured category includes land from which crops were harvested and hay was cut, land used to grow short-rotation woody crops, Christmas trees, and land in orchards, groves, vineyards, berries, nurseries, and greenhouses. Land from which two or more crops were harvested was counted only once.

[11] Census of Agriculture, United States Department of Agriculture, 2012, 2007, 2002, and 1992.

analysis of County-level data from both CalAg Permits[12] and Certified Producer Certificates[13] reveals a more specific breakdown of farms in production and better identifies those core farms that are commercially viable. For purposes of this analysis, we have segmented these farms in production by size, including those from 1 to 10 acres (small); 11 to 100 acres (medium); and 101 acres and above (large). Based upon our analysis of the Contra Costa County CalAg Permit and Certified Producer Certificate data, as well as discussions with local growers and staff of the Agricultural Commissioner, we have identified the following characteristics of Contra Costa County farms in Table 5.

[12] A grower must obtain the proper permit from the Agricultural Commissioner before pesticides are applied for commercial or agricultural use. One function of this program is recording data on agricultural pesticide use. This information is obtained from the Pesticide Use Reports, submitted monthly by growers and/or other applicators.

[13] A grower who sells agricultural products of their own production at Certified Farmers' Markets directly to the consumer is required to obtain a Certified Producer Certificate (CPC). The Producer will be issued a CPC listing all the products grown by the Producer. The Certificate will be issued after an on-site inspection of the growing grounds by Contra Costa County Department of Agriculture/Weights & Measures to verify that all products presented for sale are grown by the Producer.

a. Small Farms in Production

There are approximately 60 small farms in production, principally centered near Brentwood, Byron, Oakley, and Knightsen in east Contra Costa County. There are also a handful of farms located in Martinez, Concord, and Clayton, with a small number of vineyards in Lafayette, Moraga, and Orinda. These smaller farms are predominantly grower owned and their primary market access is through direct marketing, including farmer's markets, u-pick, roadside farmstands, and sourcing of wine grapes to local wineries.

Table 5: Contra Costa County Farms in Production by Size (in acres), 2014

Size of Farms	Number of Farms	Type of Ownership	Primary Market Access
Small (1-10 acres)	Approx. 60	90% owned; 10% leased	Farmer's Markets, U-pick, Farmstands, Wineries, CSA
Medium (11-100 acres)	Approx. 52	90% owned; 10% leased	Farmer's Markets, U-Pick, Farmstands, Wineries, Wholesale Distributors, CSA
Large (101 and above acres)	Approx. 27	Varied mix of owned and leased	Wholesale Distributors, Retailers, Processors, Farmer's Markets, Wineries, U-Pick, CSA, Farmstands

*These numbers are approximates as actual acreage planted may vary from original reporting to County.

b. Medium Farms in Production

There are approximately 52 medium-sized farms in production, with the vast majority located in east Contra Costa County. Similar to small farms, medium-sized growers are focused mainly upon specialty crop production, including mostly fruits, nuts and vegetables. Medium-sized farms are predominantly grower owned and their primary market access is through direct marketing, including farmer's markets, u-pick, roadside farmstands, and sourcing of wine grapes to local wineries, as well as sales to wholesale distributors, such as Bay Cities Produce. In addition, walnut growers process their product in local hullers, then ship the final product to either handlers or wholesalers outside the area.

c. Large Farms in Production

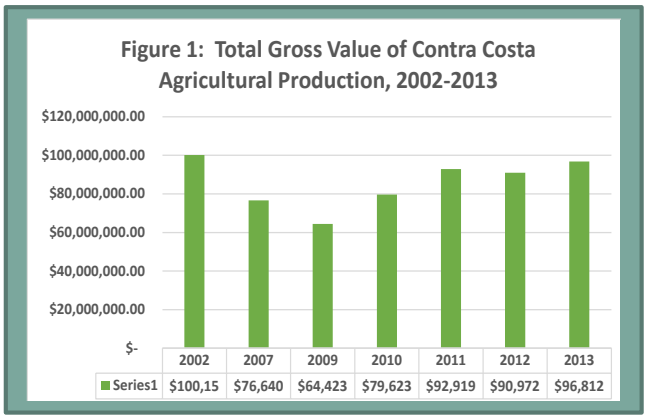
Historically, the largest farms in production in Contra Costa County have done a remarkable job of responding to international, national, regional, and local market demands. These growers have exhibited flexibility, ingenuity, and practicality in producing a diversity of crops to meet not only the demands of the market, but also to maximize economic returns despite pressures of urbanization, shrinking infrastructure, foreign competition, and increasing regulation.

There are approximately 27 large farms in production, centered around the agricultural core of eastern Contra Costa County and also adjacent to the Delta. These farms – ranging from 100 acres to over 2,000 acres – are a varied mix of grower-owned and leased land. The primary market access depends upon the specific crop, but for the most part these growers rely upon contracts with wholesale distributors, retailers and supermarkets (e.g. Safeway, Whole Foods, Costco, Walmart, etc.), and value-added processors (e.g. tomatoes, walnuts, wine grapes, etc.) To a lesser extent, they still rely upon direct marketing outlets such as farmers markets, roadside farmstands, u-pick, and Community Supported Agriculture (CSA).

d. Value of Agricultural Production

The value of Contra Costa County agricultural production has ebbed and flowed over the past decade, topping out in 2002 at over $100.1 million, and reaching nearly $97.0 million in 2013.[14]

[14] Contra Costa County Annual Crop Reports, 2002-2013, http://www.co.contra-costa.ca.us/2207/Crop-Reports.

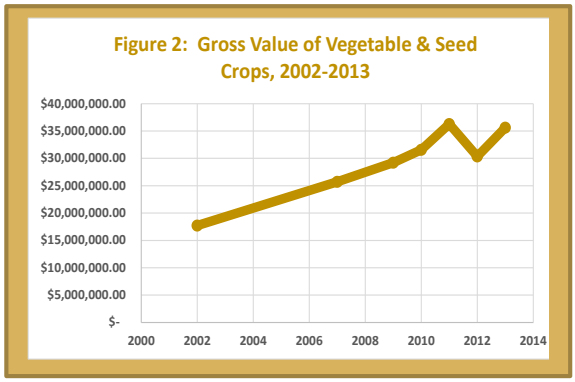


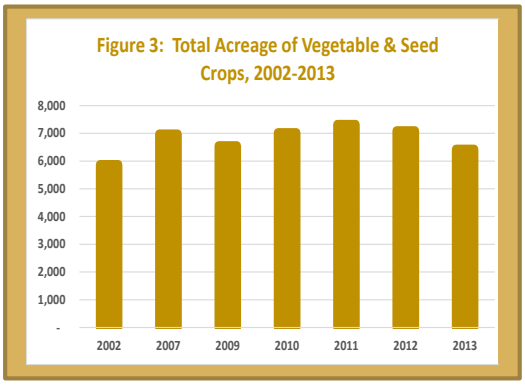
As the data from the Contra Costa County Annual Crop Reports indicates, the value of agricultural production has fluctuated over the past several years for many reasons, including changes in regional, national, and international market demands, changes in market prices, shifts in acreage planted as well as the mix and variety of crops grown, but also due to the uncontrolled forces of nature with changing climatic factors affecting growing seasons and ultimately productivity and crop yield. However, despite a dip in the value of agricultural production starting in 2007 through 2010, the value of Contra Costa County's agricultural production has risen and stabilized, concurrent and consistent with land use patterns and the increasing number of farms and acreage planted.

e. Changes in Crop Mix and Production Volumes

The changes in gross value in agricultural production in Contra Costa County are due in large part to the overall changes in crop mix and the resultant production volumes of the various crop categories. For purposes of this analysis, we are relying upon the historically measured crop categories as listed in the Annual Crop Reports, including Vegetable and Seed Crops, Field Crops, Fruit and Nut Crops, and Nursery products.

Over the last ten years, the largest changes in production value have occurred in Vegetable and Seed Crops, principally beans, sweet corn, and tomatoes. Vegetable and Seed Crop production value has doubled from 2002-2013 as shown in Figure 2.

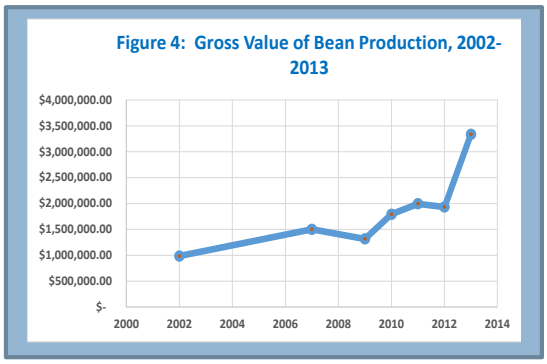




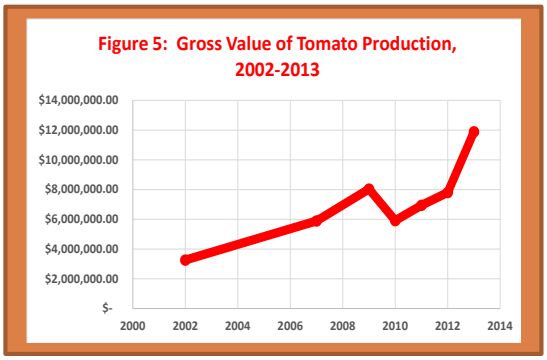
From a gross annual production value of $17.7 million in 2002, Vegetable and Seed Crop production has grown to over $35.6 million in 2013 (101.1% increase).

However, at the same time total acreage planted in Vegetable and Seed Crops varied less dramatically over the years, from 5,564 acres in 2002, 7,019 acres in 2010, to 6,422 acres in 2013 (15% increase).

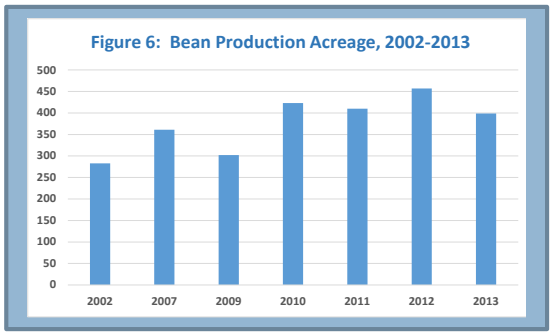
To better determine the reasons for the impressive increase in production value of Vegetable and Seed Crops, we must further analyze the changes in production patterns of specific crops. During the period 2002 through 2013, the gross value of both bean and tomato production increased significantly. As Figure 4 indicates, the gross value of beans jumped from $986,000 in 2002, to nearly $3.4 million in 2013 (238.3% growth).

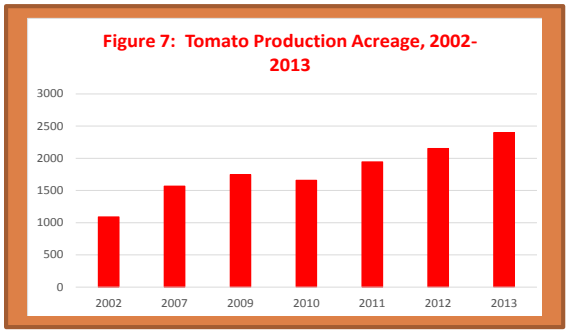


At the same time, Figure 5 illustrates the increase in tomato production from $3.2 million in 2002, to $11.9 million by 2013 (264.2% growth).

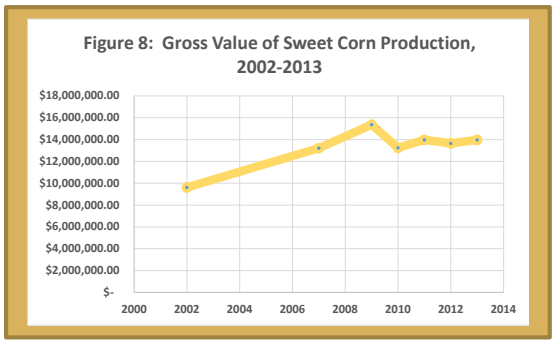


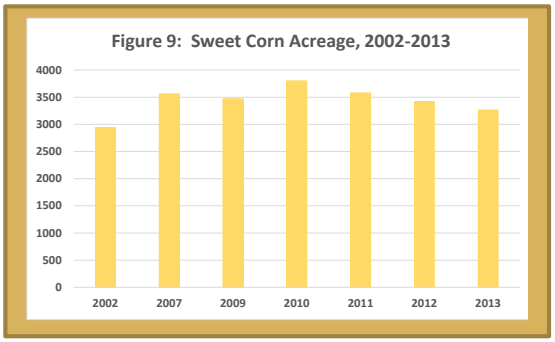
A concurrent increase in both crops' production acreage occurred during this same period as indicated in Figures 6 and 7. Acreage in bean production increased from 283 acres in 2002, to 399 acres in 2013 (41.0% growth). Over the same period, tomato production increased from 1,089 acres in 2002, to 2,400 acres in 2013 (120.4% growth).





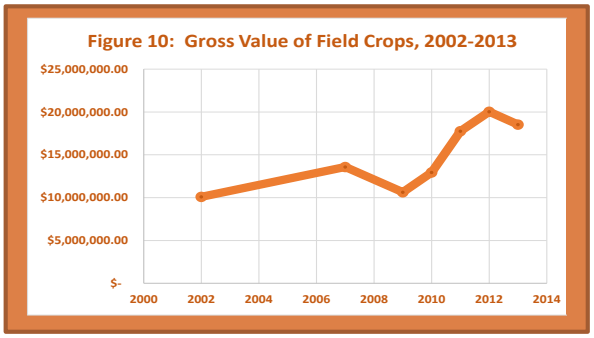
The gross production value and acreage planted for sweet corn also increased, but less dramatically, over this same period as shown in Figures 8 and 9 below:

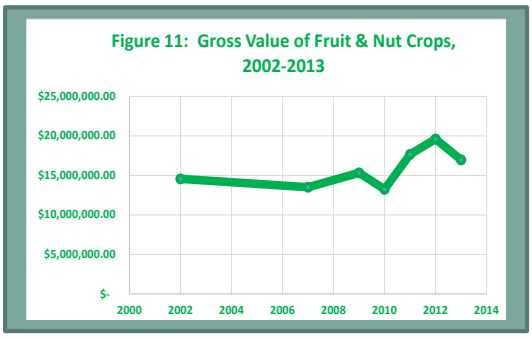




Gross production value for sweet corn increased from $9.6 million in 2002, to nearly $14 million by 2013 (45.4% growth); acreage planted in sweet corn also increased from 2,940 acres in 2002, to 3,265 acres by 2013 (11.0% growth).

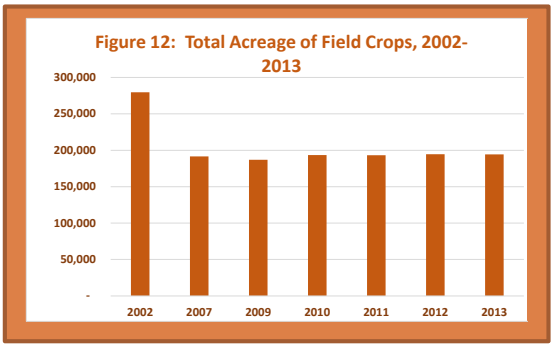
In addition, changes occurred in the gross production value and acreage in production for other crop categories in Contra Costa County from 2002-2013. The gross production value of both Field Crops and Fruit and Nut Crops increased as illustrated in Figures 10 and 11.





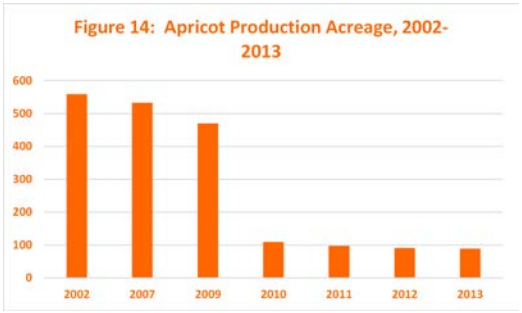
The gross production value of Field Crops rose from $10.1 million in 2002, to $18.5 million in 2013 (83.5% growth). The gross production value of Fruit and Nut Crops also grew from $14.5 million in 2002, to nearly $17.0 million in 2013 (16.6% growth).

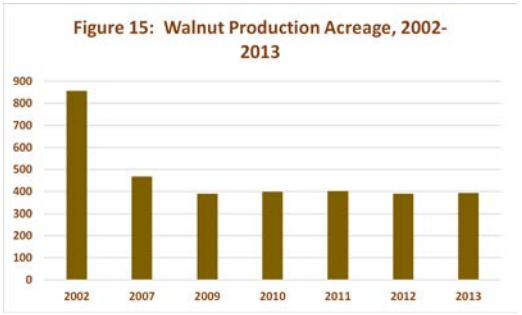
However, the increase in gross production value for both of these crop categories can be attributed to strengthening market prices during this 10-year period rather than increased production. As illustrated in Figures 12 and 13, acreage planted in Field Crops and Fruit and Nut Crops actually decreased from 2002 to 2013.

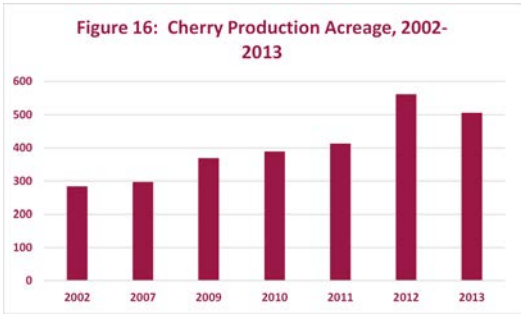


Acreage planted in Field Crops declined from 279,618 acres in 2002, to 194,390 acres in 2013 (30.5% reduction). Fruit and Nut Crop acreage also declined from 4,631 acres in 2002, to 3,217 acres in 2013 (30.5% reduction).

This decline in production acreage is more clearly illustrated when examining the changes in several of the prominent Fruit and Nut Crops. Although the gross production value for apricots remained relatively flat near $1 million annually, the total acreage in production dropped notably from 559 acres in 2002, to only 89 acres in 2013 (84% decline). The



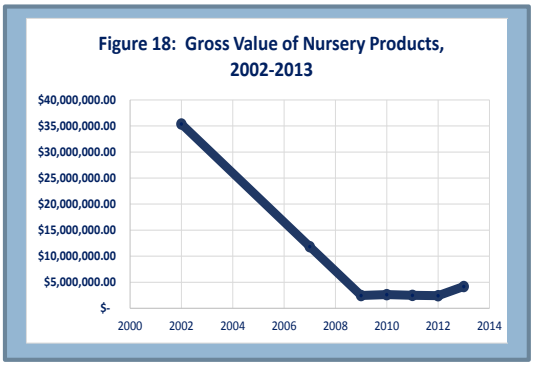




change marks the final decline of a formally significant crop of processing apricots, the last of which were removed in 2009. The existing apricots are primarily high-value organic apricots or "angelcots" that are sold through direct marketing or specialty stores. The same held true for walnut production as gross value actually increased from $1 million in 2002, to over $2.4 million in 2013. However, walnut production acreage fell sharply from 856 acres in 2002, to 393 acres in 2013 (54% decline).

Cherry production tripled from $1 million in gross value in 2002, to $3 million in gross value in 2013. In contrast to the declining trends in apricot and walnut acreage, Cherry acreage increased significantly from 284 acres in 2002, to 506 acres in 2013 (78.2% growth). Since the recent drought, most of the cherry crop is sold through u-pick and roadside stand operations, with 120 acres sold wholesale.

In any event, regardless of the stabilization and growth in some agricultural categories in Contra Costa County, the once vibrant Nursery Products sector has experienced a drastic and precipitous decline over the past decade. Leading the County in gross production value of over $35.3 million in 2002, Nursery Products have dropped to $4.1 million by 2013 (88.4% drop). According to the County Agricultural Commissioner's office, the drop in value was due mainly to the closure of *Color Spot Nursery's* facilities in Richmond, CA, as well as other smaller nursery closures throughout the past decade. More specifically, *Color Spot Nursery* consolidated their nursery operations in the Central Valley due to lower operating costs and increased efficiencies. Additionally, domestic nursery operations have experienced intense competition from international producers.



f. Changes in Organic Production

Organic production in Contra Costa County has also exploded over the last decade as indicated graphically by Figure 19, and more specifically in Table 4.

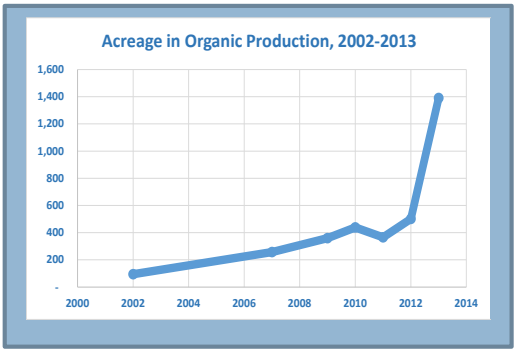


Table 4: Acreage in Organic Production in Contra Costa County (2002 to 2013)

	2002	2007	2009	2010	2011	2012	2013
Acreage	94	257	359	439	366	501	1,390

In 2013, organic acreage more than doubled from 2012 levels, totaling 1,390 acres. This is mostly due to the conversion of conventional pasture and rangeland to organic production. The number of organic farms registered for organic production increased from 16 farms in 2012 to 17 farms in 2013, with the largest organic production occurring in beans, peaches, cherries, sweet corn, summer squash, apricots, pears, nectarines, pluots, and an assortment of vegetables. While several high profile East Contra Costa County farms like Knoll Farms and Frog Hollow Farm have been organic for decades, some of the larger and medium-sized farms like Dwelley Farms have moved towards organic production. In 2012, Farmland LP purchased 1,100 acres of farmland in East Contra Costa County. Farmland LP is converting the land to organic and will lease it to farmers who will engage in a rotational farming cycle of pasture and vegetable crops.

C. Trends in the Food and Agricultural Economic Sector

1. Increasing Demand for Source-Identified Food

The demand for locally grown, source-identified, healthy, and sustainably produced food is growing rapidly. Research by the National Restaurant Association and other industry organizations which are responding to consumer demand documents the strength of the trend towards locally grown foods. For example, the National Restaurant Association's 2014 Culinary Forecast, based on a national survey of nearly 1,300 professional chefs, identified the hottest menu trends for 2014. Locally sourced and healthy foods and environmental sustainability dominate the list.

Source: National Restaurant Association, http://www.restaurant.org/News-Research/Research/What-s-Hot

The strong consumer support for local foods also is illustrated in the findings of the "2014 Ripe for Grocers: The Local Food Movement Survey," conducted by A.T. Kearney, which reported that seventy percent of survey respondents are willing to a pay a premium for locally grown produce, and prefer retailers that carry more locally produced items. The research found a strong correlation between fresh and local, with smaller retailers having an advantage regarding perceptions of "fresh."[15]

Institutional Purchasers. Institutions such as schools and hospitals are also major drivers in the trend for local produce. For example, in May 2014 the California State University (CSU) Board of Trustees approved a state-wide Sustainable Food Policy that "will govern the more than $100 million spent on food across the 23-campus system." Under the policy, by 2020 all campuses must demonstrate that least 20% of all food spending goes

[15] Riemenschneider, Pamela. "Survey: Consumers want local, willing to pay premium," The Packer, May 6, 2014.

to farms and local businesses that met Real Food Challenge guidelines.[16] In July 2014, the University of California (UC) announced the UC Global Food Initiative, which includes potential purchasing partnerships with K-12 school districts and new policies to increase campus purchases from local growers.[17] Funded by the CDFA and the Network for a Healthy California, the statewide California Farm to School Network has been created to improve local food purchasing and education practices at schools and preschools.

Over the past ten years, there has been a movement to increase local, healthy food in hospitals. One hundred and twenty-seven hospitals participate in the California Healthy Food in Health Care program, which "guides health care facilities to make food a fundamental part of prevention-based health care" through sustainable food purchasing. According to a 2013 survey, 91% of the health care institutions surveyed purchase local and/or sustainable foods and beverages and 62% of facilities purchase organic food. Twenty-two facilities in California spent a combined total of almost $3.6 million on local and/or sustainable food and beverages in 2012.[18]

Public Sector. Moreover, the public sector has also recognized the importance of this growing demand. The *California Office of Farm to Fork*, located within the California Department of Food and Agriculture, was created in 2012 and is committed to helping all Californians access healthy and nutritious California-grown food. The *California Office of Farm to Fork* connects individual consumers, school districts, and others directly with California's farmers and ranchers, and provides information and other resources.[19]

[16] CSU Chancellor's Office. "CSU Board of Trustees Approves State-wide Sustainable Food Policy," May 21, 2014.

[17] Dillard, Helene, Dean. "UC Global Food Initiative Initiated by UC President Napolitano," College of Agricultural and Environmental Sciences, UC Davis. July 14, 2014.

[18] Klein, Kendra and Sayre, Lucia. California Healthy Food in Health Care, Health Care Without Harm and Physicians for Social Responsibility, pp. 5, 10, 11, 2014.

[19] http://www.cafarmtofork.com/.

Contra Costa County. In 2008, the Contra Costa County Board of Supervisors signed a resolution directing the County Agricultural Commissioner, the Health Services Department, the County Agricultural Advisory Task Force and UC Cooperative Extension to work with community-based organizations to:

- Develop a food purchasing policy that maximizes the use of locally grown fresh foods at the County hospital and other appropriate facilities or programs;
- Develop or expand existing distribution systems to deliver local agricultural products to consumers throughout the county; and
- Integrate the value of locally grown, fresh foods into existing education curricula and develop a teaching program that allows farmers to make connections with children in urban areas.[20]

The Mt. Diablo Unified School District, Pittsburg Unified School District, City Wellness Challenge, the Community Alliance with Family Farmers, and the Contra Costa Food System Alliance are working to increase school purchasing from local farms, as well as agricultural and culinary-based education.

2. Growing Demand for Sustainable and Organic Food

Demand for organic products is increasing, and about 81% of American families reported to be purchasing organic food at least some times, according to 2012 estimates from the Organic Trade Association.[21] Sales of organic products in the United States jumped to $35.1 billion in 2013, up 11.5% from the previous year and the fastest growth rate in five years. According to "United States Organic Food Market Forecast & Opportunities, 2018," it is forecasted that the organic food market in United States will grow at the compound annual growth rate of about 14% during 2013-18.

[20] Contra Costa County Buy Fresh Buy Local Report, June 2009.
[21] https://ota.com/what-ota-does/market-analysis.

The forecast predicts that organic fruits and vegetables will continue to dominate until 2018, with the demand for organic meat, fish, poultry, dairy, etc. also expected to gain demand in the forecasted period. The western states in United States hold the major market share in the total organic food market revenues. However, increasing per capita income coupled with the growing domestic production and commercial sector are anticipated to surge the demand of organic food in other regions of the country.[22]

3. Increased Opportunities for Value-added Food Processing

Convenience, along with preservation, is the point of food processing. Making foods and beverages easier to consume has been the driving force in 21st Century product development. The dynamic opportunity is in the shifting nature of the American population. Diversity is on the rise and today's demographics will not be the same as tomorrow's, creating an opportunity for more innovation. According to the California League of Food Processors, the fastest growing segments in food processing are (i) value-added products such as sauces, jams, mixes, oils, and single-serve packages made with local, source identified produce and (ii) products catering to ethnic markets, tastes, cultures, and customs.

"Food producers are tapping into the growing sophistication and buying power of today's consumers," says Denise Purcell, editor of *Specialty Food News*. "They are catering to new demands for better ingredients, sustainable packaging, and more convenient ways to shop and eat."

"In 2015, expect to see deeper explorations of global cuisines and cooking methods, especially Asian; continued efforts to reinforce community connections and adopt buying habits that promote sustainability; and new foods and flavors that meet our demands for balanced nutrition as well as adventurous (and, well, "elevating") eating experiences." *Sterling Rice Group: Culinary Trends for 2015*

These emerging trends provide an increasing opportunity for Contra Costa growers to access the growing markets for locally produced and ethnic value-added foods in two ways: 1.) increase on-farm, value added processing to vertically integrate farming

[22] "United States Organic Food Market Forecast and Opportunities, 2018," TechSci Research, November 2013.

operations through the food sector, and 2.) increase sales to local value-added food processors and manufacturers.

a. On-Farm Value-Added Processing and Vertical Integration

In addition to on-farm production of an array of specialty crops, several ambitious Contra Costa County growers also produce a variety of value-added products, including bakery-items, jams, juices, sauces, wines, olive oils, and other prepared foods. Several growers, like Frog Hollow Farm have succeeded in running modest value added operations that vertically integrate growing, packing, processing, manufacturing, and distribution. There are several wineries throughout Contra Costa County. Hannah Nicole Winery, the first winery and tasting room in East Contra Costa County, opened in 2009.

Value-added Products are defined by USDA as follows:

- A change in the physical state or form of the product (such as milling wheat into flour or making strawberries into jam).
- The production of a product in a manner that enhances its value, as demonstrated through a business plan (such as organically produced products).
- The physical segregation of an agricultural commodity or product in a manner that results in the enhancement of the value of that commodity or product (such as an identity preserved marketing system).

As a result of the change in physical state or the manner in which the agricultural commodity or product is produced and segregated, the customer base for the commodity or product is expanded and a greater portion of revenue derived from the marketing, processing or physical segregation is made available to the producer of the commodity or product.

b. Value-Added Food Processing and Manufacturing with Local Agricultural Products

Another important component of Contra Costa County's food system and agricultural infrastructure is found not in the fields and orchards of East County, but most often in the streets of the more urban areas of the region. In more recent times, value added food processing companies and facilities have flown under the radar screen of prominence and visibility. However, value-added food processing, manufacturing,

and distribution is very much a part of the economic fabric of Contra Costa County and could add even more value with the growth in co-packing across the state and country, especially in the exploding specialty and ethnic food sectors.

A prime example of the present and future of food processing opportunities is Ramar International Corporation located in Pittsburg. Founded in Oakland in 1969, the Quesada family moved their headquarters and sole production facility to Pittsburg in 1989. They have since grown into America's #1 Filipino Food company, aggressively expanding into the mass natural and specialty markets, including Magnolia Natural Tropical Ice Cream and Orientex Lumpia. They have also added two more manufacturing facilities in Pittsburg to provide an all-natural line of Filipino entrees available at ethnic markets and Whole Foods. They remain a family-owned and operated business, now into their third generation of Quesada family leadership.

4. Growing Interest in Agricultural Tourism

Agricultural tourism is a commercial enterprise at a working farm, ranch or agricultural plant conducted for the enjoyment or education of visitors, and that generates supplemental income for the owner. Agri-tourism can include farm stands or shops, U-pick, farm stays, tours, on-farm classes, fairs, festivals, pumpkin patches, Christmas tree farms, winery weddings, orchard dinners, youth camps, barn dances, hunting or fishing, guest ranches, and more. The popularity of agri-tourism has grown as consumers become more mindful and aware of the source, quality, and growing conditions of their food.

D. Potential Economic Opportunities for Contra Costa Agriculture

After a thorough review of Contra Costa County's existing agricultural production patterns, its current food system development, and current and future market trends in food production and consumption, we have determined that the following economic opportunities exist for Contra Costa County agriculture.

1. Changes in Specialty Crop Production

a. Increase Permanent and High Value Specialty Crops

Specialty crop production, which makes up nearly 75% of the agricultural production value in Contra Costa County, often yields a far higher per acre value than other crops. For instance, in 2013, 3351 acres of alfalfa yielded $3,457,000 or $1,031 an acre. Sweet corn yielded $4,282 an acre and cherries produced $6,069 an acre. If farmers have the necessary land tenure and capital to invest in permanent or higher intensity crops they can increase their farm revenues. The higher farm gate value of specialty crops, together with increasing market demand and prices in the Bay Area region, creates a tremendous opportunity to the production of tree fruit, vineyards, and other higher value crops.

b. Continued Growth in Organic Production

With the demand for organic products growing throughout the region and country, Contra Costa growers will need to continue their upward growth of acreage in organic specialty crop production. This will continue to generate higher value products, higher returns.

c. Further Development of Year-round Production

Contra Costa County's moderate climate, coupled with its fertile soil, abundant water, and diverse land resources, could allow more year-round production of many commodities, extending the growing and marketing seasons for farms of all sizes. Contra Costa farmers have successfully grown and marketed winter crops, including lettuce, broccoli, and celery in the past and they could extend their season into the winter and early spring again to meet market demand. Expanding to winter crops could provide added economic benefit to small and medium sized farms, particularly if they can contract with institutional and retail consumers.

2. Taking Better Advantage of Local and Bay Area Markets

For the past 150 years, Contra Costa County has been a highly productive area for specialty crops, including fruits, vegetables and nuts. With production acreage stabilizing and specialty crop demand and market prices strong, Contra Costa growers have the opportunity to further build upon past and current success. With Bay Area and Contra Costa County annual per capita consumption of specialty crops far surpassing local production, there is ample opportunity to meet this growing local demand though various market channels.

a. Create Source-Identification and Branding of Contra Costa County Products

Most Contra Costa agricultural products are distributed primarily through wholesale markets where their product loses its farm identity. While consumers will pay more for local food, farmers cannot capture the increased value through wholesale markets because source identification is lost in the distribution system. As noted above, seventy percent of consumers surveyed said that they are willing to a pay a premium for locally grown produce. However, Contra Costa farmers are not able to take advantage of this increased value unless the consumer can source-identify the products as locally grown. Local branding of Contra Costa County as an agricultural region not only creates retail value, but supports direct marketing and agricultural tourism.

Consequently, there should also be a renewed focus to build upon the work initiated under the Buy Fresh Buy Local Program started in 2008 and the City's "Brentwood Grown" marketing initiative. The City, County, and agricultural nonprofits like *Harvest Time* could work together collaboratively to brand and market Contra Costa agriculture through annual agricultural festivals, billboards, advertisements, and signage in fields, farmers markets, restaurants, retail outlets and other relevant locations. The effort to brand Contra Costa agricultural products should be closely coordinated with agricultural tourism promotion.

b. Target Local Retailers with Source-Identified Contra Costa County Product

Research strongly indicates that consumers are willing to a pay a premium for source-identified, locally grown produce, and prefer retailers that carry more locally produced items. The research found a strong correlation between fresh and local, and a majority of consumers are willing to pay up to 10% more for food that promises to be healthier, safer, or produced to higher ethical standards.[23]

c. Continued Direct Marketing to Local and Bay Area Buyers

Direct marketing through farmers' markets, roadside stands and CSA's provides farmers with an opportunity to diversify their operations and earn a higher percentage of the consumers' food dollar. Current direct marketing opportunities such as farm stands, u-pick, and farmers markets should be a continued emphasis, with a goal of extending growing and selling seasons with a diversified mix of available specialty crops and products. Direct marketing efforts should be closely tied with local branding and agricultural tourism efforts.

d. Work with Local Institutional Buyers such as School Districts, Hospitals, Community Colleges, and Others to Increase Purchasing of Locally-grown Specialty Crops

With the growing movement by schools, hospitals, universities, and other institutional buyers toward buying more locally grown specialty crops, Contra Costa County should continue to work with local institutional buyers in conjunction with the Community Alliance with Family Farmers, the California Office of Farm to Fork at CDFA, the California Farm to School Network, as well as local school districts and hospitals such as Kaiser to identify and remove barriers to institutional purchasing of locally-grown food.

[23] "Beyond Organic – How Evolving Consumer Concerns Influence Food Purchases," Context Marketing, October 2009.

3. Develop Local Value-Added Food Processing, Manufacturing, Co-Processing and Co-Packing Across the County

Value-added processing, co-processing, and co-packing of specialty crops has emerged as one of the fastest growing segments in food processing locally, regionally, and across the country. According to the California League of Food Processors ("CLFP"), food processing is the third largest industry in the state with over 3,000 registered food processing businesses and over $82 billion in annual economic impact within California.[24] However, based upon California Department of Health registrations, there are less than 100 of those businesses in Contra Costa County.

Nonetheless, many of the food processing businesses located in Contra Costa County are focused upon the value-added ethnic markets serving the diversifying Asian and Hispanic populations. Further development of this sector would reap large economic returns – according to a recently completed study for the CLFP, food processing creates significant economic multipliers. For every dollar spent on food processing creates another $3.25 in direct and indirect impacts upon the economy; for every job in the food processing industry another 3.85 jobs are created directly and indirectly.[25] Therefore, food processing can have an enormous economic impact upon the County.

These emerging trends provide an increasing opportunity for Contra Costa growers to access the growing markets for locally produced and ethnic value-added foods in two ways: 1.) increase on-farm, value added processing to vertically integrate farming operations through the food sector, and 2.) increase sales to local value-added food processors and manufacturers.

[24] "The Economic Impact of Food and Beverage Processing in California and Its Cities and Counties," prepared by Richard J. Sexton, Josue Medellin-Azuara, and Tina L. Saitone, January 2015.

[25] Ibid.

4. Further Develop Agricultural Tourism

East Contra Costa has a long history of agricultural tourism. Over 100,000 people travel to Brentwood to pick cherries over Memorial Day weekend. Contra Costa County's proximity to the Bay Area, history of successful u-pick operations, and roadside stands make it posed for expanded agricultural tourism.

a. Create Agricultural Tourism-Friendly Zoning

Additional amendments to the County's zoning provisions could support fresh and new high-quality agri-tourism experiences including additional opportunities for special events, bed and breakfasts, and restaurants specializing in local food and cuisine. Newer activities would attract additional visitors and expand marketing exposure.

b. Develop Better Public Outreach and Marketing

East Contra Costa growers and leaders could work with the County to identify programs and funding to continue the public outreach and marketing work of *Harvest Time* to support the *Harvest Time* annual map, online content, social media, and other outreach venues. Also, all interested parties, including the local chambers of commerce could identify other creative opportunities to promote new agri-tourism experiences in the County through public outreach to new, urban, and younger consumers.

c. Create Transportation Solutions to Alleviate Parking and Traffic Problems During the U-Pick Seasons

During the u-pick and agricultural tourism seasons, the narrow, rural roads of the County Agricultural Core are jammed with cars beyond capacity. Therefore, continuing to work with the County and the Contra Costa Transportation Authority to develop possible public transportation, bike paths, and trails is necessary to alleviate the parking and traffic problems at peak season.

d. Link Growers with Other City and County Tourism and Visitor Services

Agricultural entities such as Harvest Time, the Contra Costa Winegrowers Association, and the Contra Costa County Farm Bureau should pursue formal partnerships with the local chambers of commerce, visitors and convention bureaus, and the Delta Stewardship Commission to market and link growers to seasonal tourism opportunities across the County. In addition, a formal relationship should be established with the California Travel and Tourism Commission (www.visitcalifornia.com), which among many items, highlights agricultural tourism venues and events throughout the calendar year.

E. Barriers to Increased Economic Opportunities for Contra Costa County Agriculture

Most of the food grown today moves from the farm gate to the consumer through a concentrated and specialized system that takes advantage of economies of scale to provide a cheap and consistent product. This system maximizes efficiency and specialization yet also tends to distance production location and farmer identity from the final consumer. While large-scale commodity production continues to be the most prevalent model in the Contra Costa County agricultural sector as well as across California, the last few years have witnessed an ever growing trend towards farm-identified local food products and increasing opportunities for direct marketing for small to mid-sized growers.

1. General Barriers to Increasing Contra Costa County Specialty Crop Production

A recent study we completed for the Sacramento Area Council of Governments ("SACOG") examined the barriers faced by growers in supplying locally grown specialty crops to market.[26] Many of our findings are also relevant for the growers in Contra Costa County. The study identified several challenges facing growers, including a.) Operating Costs and Infrastructure; b.) Labor; and c.) Regulation.

[26] Regional Agricultural Infrastructure Project, "Impediments to Supplying Locally Grown Specialty Crops." Prepared by SACOG in partnership with Applied Development Economics, Inc., FoodPro International, Inc., The Hatamiya Group, and DH Consulting, July 2014.

a. Operating Costs and Infrastructure

As described above, as Contra Costa lost its prime farm land, it also lost the agricultural infrastructure and support services used by the farming community. The lack of specialized local-serving infrastructure in the region such as tractor and implement retailers, fuel distributors, and mechanical and tire repair, adds costs both on and off the farm. Moreover, a producer contemplating growing a wider variety of specialty fruit and vegetable crops for local production may find it prohibitively expensive to acquire the crop-specific equipment and machinery that improves efficiency and reduces labor costs.

In addition, although there are distribution channels existing for Contra Costa growers including wholesale terminal markets in Oakland, San Francisco, and South San Francisco, distributors such as Bay Cities Produce, and a proliferation of farmers markets (25) within the County, access to these outlets come with added operating costs and potential barriers. For example, small and mid-sized growers who want to enter wholesale markets and work with distributors can face issues related to access to proper storage and handling, transportation, business planning and management, increased labor and time to learn a new system, keeping production up with demand, and adapting to wholesale pricing and food safety and liability requirements.

As for farmers markets, growers must rely on their own infrastructure to get to market instead of selling to a distributor with specialized facilities. This requires significant grower labor and time to get to and staff the various markets, especially if a grower is selling to multiple markets on multiple days of the week.

b. Labor Costs

Specialty fruit and vegetable crops have a much higher labor component compared to other types of crops. For example, data from University of

California Cooperative Extension cost of production studies suggest that a single acre of alfalfa needs only six hours of machine labor and an additional hour of non-mechanized labor for production. Similarly, growing corn would require about ten hours of labor per acre. In contrast, the cost of production studies report significantly higher labor commitments per acre for specialty crops: over 200 hours for conventional tree fruit production, 550 for leafy greens, and 1,000 hours for strawberries.[27] In addition, from the same cost of production database, specialty crops grown for local consumption currently tend to require a greater labor contribution than conventional specialty crop production.

This labor difference partly stems from production methods commonly used in local production, as many of the growers producing for the local market are smaller in scale and relatively new to farming, and thus may lack the specialized machinery and economies of scale that reduce labor costs. Unlike commodity production, farmers growing for the local market generally require a further labor contribution even after harvest, from staffing farmers markets to transporting direct product to multiple locations across the region. While varying by crop, the labor difference may be one and a half times higher to grow specialty crops for the local market than for conventional markets.[28] Complicating matters even further, the California Farm Bureau reported a statewide farm labor shortage between 10 and 30 percent in 2012.[29]

d. Federal, State and Local Regulation

Contra Costa County growers wishing to sell to the local market must navigate a complex regulatory system that adds costs and time to the production process. Some examples of regulations affecting specialty crop production include: air quality; transportation; pesticides; water availability and quality; safety; marketing; labor; health; and land use.

[27] SACOG analysis of Cost and Return Studies, University of California Davis Agricultural & Resource Economics. http://coststudies.ucdavis.edu/.

[28] SACOG analysis of Cost and Return Studies.

[29] California Farm Bureau Federation, "Walking the Tightrope: California Farmers Struggle with Employee Shortages," 2012. http://www.cfbf.com/employmentsurvey/pdf/CFBF_Farm_Employment_Survey2012.pdf.

e. Voluntary Certification Programs

While not mandated, voluntary certification programs are increasingly becoming necessary as a cost of doing business for local growers, especially as customers such as grocery stores, restaurants, or farmers markets require safe practice documentation from upstream producers. The *Good Agricultural Practices* ("GAP") certification program represents one of the most common of these certifications, where a grower institutes and documents a food safety plan and then invites an auditor to the farm to review the on-site food safety system. In addition, to sell at a Certified Farmers Market a producer needs to apply as a *Certified Producer*, which requires an on-site inspection of the growing grounds to verify the producer grows all products presented for sale. And in order for a grower to use the term organic, she must comply with all the regulations contained in the California Organic Food Act of 2003, which requires operations in excess of $5,000 per year to be certified by a third party organization.

Bay Cities Produce and CAFF have developed programs to assist Contra Costa County growers in wading through food safety certification. However, according to Steve Del Masso with Bay Cities Produce, many small farmers have resisted this assistance due to the process cost and the need for continued monitoring and mandated paperwork.

f. Land Ownership, Tenure, and Parcel Size

There are over sixty farms of less than ten acres in Contra Costa County and over fifty farms of less than 100 acres. More than fifty percent of the parcels in the Contra Costa Agricultural Core are less than ten acres. The barriers facing specialty crop growers are especially acute for small and medium-scale farmers. Smaller and medium-sized farmers often have the most difficult time accessing institutional and wholesale markets.

Medium and large farming operations in Contra Costa County often farm a mix of owned and leased land. Often the land is leased from out-of-town owners and

most agricultural leases are short term. Without ownership or secure land tenure, farmers are unlikely to invest in permanent crops, agricultural infrastructure or converting to organic production. Because of high land costs, it is often difficult for existing farmers and aspiring new farmers to purchase farmland in Contra Costa County. Conservation easements with land trusts like the Brentwood Agricultural Land Trust can be an important tool to eliminate the speculative value of farmland on the urban-edge, making the land affordable for farmers. Agricultural property owners who record conservation easements on their farmland often received cash payments that can be used to purchase additional land and invest in farming operations.

2. Barriers to Accessing Bay Area Markets with Source-Identified Product

a. Challenges to Accessing Institutional Markets

Existing agricultural infrastructure and distribution does not facilitate access to institutional markets for small and medium-sized farmers. Current distribution networks rely upon long-established relationships with growers and as stated above, small and mid-sized growers who want to enter wholesale markets and work with distributors can face issues related to access to proper storage and handling, transportation, business planning and management, increased labor and time to learn a new system, keeping production up with demand, and adapting to wholesale pricing and food safety and liability requirements. In addition to these added requirements and costs, small and medium-sized growers lack the aggregation facilities to bring their collective products to institutional markets requiring specialized procurement demands and quantities at specific times of the year.

Additionally, current procurement policies make it difficult for many institutions to purchase locally grown, source-identified specialty crops. There is fragmentation of purchasing power across types of customers such as Contra Costa County and Bay Area school districts, community college districts, universities, and hospitals.

Policies, contract procedures, and local buying authority differ from school district to school district and from hospital to hospital. Not only are existing policies often difficult for local institutions to better streamline for procurement of locally grown commodities, but growers are also faced with the challenge of wading through a myriad of rules and regulations. Without standardization, Individual growers find it impossible to meet the needs of all the differing rules, regulations, and requirements regarding traceability and food safety.

However, USDA's Food and Nutrition Service is attempting to assist in streamlining the process with the establishment of *Procuring Local Foods for Child Nutrition Programs*. Nonetheless, this Program is targeted for school procurement officials and less so for growers. The *California Farm to School Network* has also been created to enrich the connection communities have with fresh, healthy food and local food producers by changing food purchasing and education practices at schools and preschools.

Although there has been active involvement on this front in Contra Costa County led by efforts of CAFF working with the Kaiser Foundation with the Mt. Diablo and Pittsburg School Districts, as well as Bay Cities Produce initiative to sell more fresh produce to UCSF Medical Center and the John Muir Health, these are only the starting point of a necessary continued effort.

b. Centralized Retail Procurement and Distribution Centers Located Outside the Region

Major retailers such as Whole Foods, Costco, Safeway, and Walmart have disparate and disjointed procurement processes for specialty crops that are often administered from regional procurement offices and distribution facilities not located near Contra Costa County farms. For example, Safeway's and Costco's distribution centers are located in Tracy, CA, Walmart's distribution centers are located in Sparks, NV and Riverside, CA, and Whole Foods regional procurement center is located in Emeryville, CA. In discussion with several Contra Costa

growers, this was identified as an impediment that has developed over time as retail procurement and distribution operations have been centralized in locations not proximate to local farms. This further complicates the ability of small and medium-sized growers to access the larger retailer system with local, source-identified product.

c. Lack of Local-specific Branding, Lack of Traceability of Product, Potential for Commingling of Product at Distribution, and Definition of Local at Retail

Without local-specific branding and source identification of Contra Costa County specialty crops such as *Contra Costa/Brentwood Buy Fresh Buy Local* or *Brentwood Grown,* or grower specific identification such as *Frog Hollow Farms* or *Dwelley Farms,* locally grown products quickly lose their "locally grown" identity and market advantage for potential Contra Costa and Bay Area consumers. In addition, because they do not trace the origin of a product from field to table, wholesalers and distributors commingle similar products grown in other counties and venues and still market the product as "local." Unless the actual source of the product can remain identified throughout the distribution chain, Contra Costa farmers are unable to capture the increased value of a locally-grown product.

3. Barriers to Value-Added Processing

a. Contra Costa County Regulations and Permitting Process

Despite recent improvements in Contra Costa County zoning laws allowing wineries, olive oil presses, expanded roadside stands, and commercial kitchens, the cost and complexity of the permitting process is continually cited by growers as a barrier for the further development of agricultural enterprises. Moreover, the lack of coordination between County agencies with a myriad of differing rules and regulations are also cited as major constraints. In discussion with the County's Director of Environmental Health, regulations are often mandated by state laws,

especially in the area of food handling. This is of particular concern to those agricultural enterprises attempting to vertically integrate into value-added processing through proposed commercial kitchens and/or wineries. Several growers, principally Frog Hollow Farms, have succeeded in running modest value added operations that vertically integrate growing, packing, processing, manufacturing, and distribution. Only one winery, Hannah Nicole has opened in East Contra Costa County.

These same burdensome and costly regulations and permitting processes can also stand in the way of further development of local value-added food processing, manufacturing, co-processing and co-packing across the County. Several food processors such as Ramar International Corp., the Bonami Baking Company, Inc., and All Star Tamales have eliminated some of this regulatory burden by expanding their manufacturing facilities in the City of Pittsburg. Nonetheless, burdensome regulations across the County could potentially stifle one of the fastest growing market segments in the food industry.

b. Lack of Relationship between Contra Costa County Food Processors and Local Growers

Although not a barrier that has hindered the development of value-added and ethnic specialty food processors in Contra Costa County, the lack of a relationship between local growers and these local companies misses a market opportunity for Contra Costa growers to supply specialty crops to Contra Costa food processors. According to Ramar International Corp., they procure their fresh fruit and vegetable needs from large distributors such as Sysco with no or little consideration for the source of product. However, they are most willing to utilize source-identified Contra Costa County product if it was made available and meets their product requirements. They also acknowledged that including locally source-identified commodities into their finished product increases freshness, quality, and a sense of local Contra Costa County connection.

4. Barriers to Improved Agricultural Tourism

a. Lack of Funding or Support for New Outreach, Marketing, the Creation of New Agricultural Tourism Experiences, or Connection to City, County, and State Tourism and Visitor Services

Without a concerted effort to identify sources of funding and support, new outreach, marketing, and the creation of new agricultural tourism experiences in Contra Costa County could be stymied or delayed. In addition, without a county-wide Visitors and Convention Bureau, connecting to city, county, and state tourism and visitors services will need to be focused and well-coordinated.

b. Inability to Create Agricultural Tourism-Friendly Zoning and/or Transportation Solutions to Alleviate Parking and Traffic Problems during the U-pick Seasons

The creation of agricultural tourism-friendly zoning, transportation solutions, and parking and traffic alternatives will require active local leadership to continue the progress made in both County zoning and state-wide regulations.

IV. Recommendations

The following general recommendations are focused upon reasonable and achievable outcomes based upon both the aforementioned potential economic opportunities for Contra Costa County agriculture as well as surmounting the various barriers to these opportunities. More specific recommended strategies have been outlined under opportunities and barriers above. However, for positive and continued agricultural economic development to take place in Contra Costa County, a concerted effort must be undertaken with political, community, and agricultural leadership working together to achieve meaningful results.

A. Recommendations to Increase Economic Opportunities for Agriculture

1. Create and Fund a "Farmbudsman" Program in Contra Costa County

***Who*: Contra Costa County, City of Brentwood, County Agricultural Commissioner, Contra Costa County Farm Bureau, and other community and agricultural industry leaders**

Other northern California counties such as Marin, San Mateo, Solano and Yolo have created an agricultural ombudsman program ("Farmbudsman") as a key opportunity to enhance the value of agriculture and decrease the actual and perceived regulatory obstacles on agriculture-related businesses seeking to expand, enhance, and maintain their operations. The "Farmbudsman" would act as (i.) an advocate and liaison between agricultural businesses and local government and agencies to help growers through zoning and permitting; (ii.) act as an agent to identify grants and funding for planning and marketing and assist with grant writing; and (iii.) act as a liaison between growers and potential wholesalers, distributors, retailers, farmers markets, and other institutional buyers to provide facilitation of projects and the flow of timely and accurate information.

More specifically, the Farmbudsman could accomplish these objectives by assisting growers and agriculture-related businesses with various local and county permitting processes. In addition, the Farmbudsman would assist growers in wading through the difficult regulatory process, especially in the creation of vertically integrated, value-added processing, and also provide assistance and guidance in streamlining the agricultural permitting and standards as required by various regulatory agencies.

Moreover, the Farmbudsman could also serve as an information clearinghouse regarding marketing and aggregation opportunities and provide necessary relational linkages between growers and buyers. The Farmbudsman could work to identify the various assistance programs such as state and federal grants that enhance the local, source-identified marketing brands as established in *Contra Costa County Grown* and *Brentwood*

Grown designation and labels. The Farmbudsman could also coordinate communications and assist in the development of relationships between growers and potential institutional buyers such as schools, colleges, hospitals, distributors, and or retailers.

2. Create and Fund Additional Agricultural Economic Data Collection

Who: Contra Costa County, City of Brentwood, County Agricultural Commissioner, Contra Costa County Farm Bureau, and other community and agricultural industry leaders

In order to better determine the overall economic contribution the agricultural sector makes to the Contra Costa County economy, collection of more accurate data is necessary to better determine longer-term policies to assist growers maintain and grow their markets. For example, data related but not-limited to farm-size, diversity of production, markets served, wholesaler and distributor relationships, valued-added production, and ultimately specialty crop consumption patterns throughout Contra Costa County would prove useful. Since data is already collected from growers regarding pesticide use on an annual basis, additional questions could be posed to fulfill this data requirement. Information about current land use policies and existing farmland conservation policies in the County would also be useful in strengthening farmland protection. In addition, any other useful data could be reported in the Annual Crop Report to enhance Contra Costa County's information flow to the food consuming public as well as to political leaders across the County.

B. Recommendations to Surmount Barriers to Agricultural Economic Opportunities

3. Adopt additional policies to preserve the County's agricultural lands, especially large, contiguous agricultural areas and high-quality farmland and fund agricultural easement programs

Who: Contra Costa County, County Agricultural Commissioner, LAFCO and Contra Costa cities

Sustaining a vibrant agricultural economy hinges on maintaining a critical mass of working land within a designated area. Contra Costa County and the City of Brentwood have utilized zoning, urban growth boundaries, and agricultural mitigation fees to restrict the types of development and support local agriculture. Farmland protection and mitigation policies are essential tools in creating long-term economic stability. Farmland protection policies and conservation easements keep land at agricultural values that farmers can afford to purchase, and cash payments for conservation easements provide farmers with capital to invest in their farming operations. Farm land preservation and mitigation policies need to be reinforced and expanded to provide local funding for agricultural easement programs, such as land acquisition, conservation easements, and affirmative easements. It is important to note that local land trusts cannot access many state and federal funding programs without providing fifty percent matching funds.

4. Support and Fund Agricultural Tourism Activities and Harvest Time

Who: Contra Costa County, City of Brentwood, County Agricultural Commissioner, Contra Costa County Farm Bureau, Contra Costa Winegrowers Association, and other community and agricultural industry leaders

All interested parties would work together towards identifying sources of local, state, federal and private-sector funding to support existing and new outreach, marketing, and creative agricultural tourism experiences. Without a county-wide Visitors and Convention Bureau, all parties will work toward utilizing existing chambers of commerce and other city, county, and state tourism and visitor services.

V. Methodology

As noted in Section III (Major Findings) above, identification and quantification of various agricultural economic measures for Contra Costa County was accomplished by analyzing detailed data provided by the 1992, 2002, 2007, and 2012 Census of Agriculture, provided by the United States Department of Agriculture's National Agricultural Statistics Service; Commodity Consumption Reports, including Food Availability Data ("FADS") and Food Intakes Converted to Retail Commodities Data ("FICRCD) from 2012, from the Economic Research Service at USDA; the annual Contra Costa County Crop Reports from 2002 through 2013, as well as California Farmland Conversion Reports: *Documenting changes in agricultural land use since 1984*, provided by the California Department of Conservation for 1984-2010. We also analyzed data from annual Pesticide Use permits (CalAg Permits) and Certified Producer Certificates (CPC) as issued by the Contra Costa County Commissioner of Agriculture.

In order to best utilize the available data from the Census of Agriculture, the Contra Costa County Commissioner of Agriculture, and California Department of Conservation, we determined that a comparative analysis of historical data was warranted. First, we compared the data from the various Census' of Agriculture for Contra Costa County. Second, we reviewed and compared the Contra Costa County Crop Reports. Third, we reviewed the annual CalAg Permits and CPC data for 2014-15. Fourth, we reviewed the California Department of Conservation Farmland Conversion Reports. Fifth, we reviewed and analyzed the FICRCD and FADS data to develop a Contra Costa Food Consumption Calculator. Finally, we compared and analyzed the year-over-year data to determine an appropriate agricultural economic strategy for Contra Costa County.

However, we did not rely solely upon this data to limit our range of options. Rather, we relied upon the comparative data as a solid baseline and starting point from which an economic strategy could be further built and developed. More specifically, our research findings are also based on interviews and meetings with stakeholders and key informants, including growers, distributors, policy makers and elected officials, community leaders, Contra Costa County Agricultural Commissioner and staff, Contra Costa County Department of Conservation and Development, Contra Costa County Division of Environmental Health, Contra

Costa County Farm Bureau, Brentwood Agricultural Land Trust, Contra Costa Food System Alliance, California League of Food Processors, Governor's Office of Business and Economic Development, California Department of Food and Agriculture, USDA's Rural Development California State office, University of California Cooperative Extension, and EC^2, among others. In addition, we relied upon a myriad of reports and studies that have been previously conducted over the past several years.

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