

CONTEXT MATTERS: VISIONING A FOOD HUB IN YOLO AND SOLANO COUNTIES

PREPARED FOR:
THE AG AND FOOD ALLIANCE

BY:
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EXECUTIVE SUMMARY

OVERVIEW

This report was prepared by a team of students at UC Davis for the Yolo Ag and Food Alliance (AFA). The objective was to examine the plausibility of creating a food hub in Yolo and Solano Counties. To achieve this, the UC Davis research team explored recent trends in food hubs across the country and conducted a food system assessment of the two counties. The food system assessment tracks historical trends and data in Yolo and Solano Counties for five sectors of the food system: production, processing, distribution, retail, and consumption. By analyzing these sectors, the report provides a context to better understand the viability of a possible food hub in the region and includes exercises and recommendations to help guide the AFA through a planning process.

We designed this report to help the AFA understand the context of the local food system, create a common vision for a food hub, compile background information for future funding applications, and facilitate partnerships for the next stage in the design process for a food hub.

RESULTS

The UC Davis research team found a wide range of existing food hub models, from centralized aggregation facilities to virtual models with no physical infrastructure. In each of these cases, the local food system context determined the ultimate success of the food hub. Likewise, in Yolo and Solano Counties, the success of a food hub will depend on an understanding of the AFA's vision and goals, the characteristics of the regional food system, the size and reach appropriate for the hub's context, and relationships between key stakeholders. A food hub's success will also be determined by a thorough understanding of current and past attempts to create aggregation and distribution infrastructure in the region.

The AFA should consider several key characteristics of the regional food system in designing a food hub. Most producers in the region are large-scale commodity growers

who serve non-local markets. The region also contains a large number of small-scale growers (especially in Clarksburg and Capay Valley) who may benefit from a local food hub. A successful food hub could build upon existing agri-tourism efforts to create an identity for the counties. There has been an interest to switch to organic production for a wholesale market, but this has typically served customers outside of the region. The current distribution industry handles mostly non-local food products and distribution companies face many complex barriers. It is not clear whether a food hub would overcome all of these barriers.

Nonetheless, the region contains many current and potential retail markets for local agricultural products, and local consumers are very interested in purchasing local food. Unfortunately, many local residents lack the resources to obtain fresh, healthy food; the presence of food deserts and high obesity rates indicate that local emergency food programs and entitlement programs have not fully addressed the nutritional needs of residents.

In the end, the UC Davis research team does not feel confident about the success of a potential food hub based on the data they collected and the significant financial risk associated with starting such a project. Indeed, several past attempts to create a food hub in this region demonstrate the magnitude of these risks. Before investing in a food hub, the AFA might consider collaborating with other current efforts in Northern California or strengthening existing infrastructure for food distribution in this region. Given the significant risks associated with creating a food hub, the AFA should first ensure that a food hub would address the major concerns of local producers, distributors, and consumers before agreeing to undertake this project.

RECOMMENDATIONS

Based on this research, the UC Davis research team makes the following recommendations:

- 1.) Define and clarify a vision for a food hub. The AFA must agree upon its definition of a food hub, and this vision must align with the assets and needs of the local food system.

- 2.) Understand why past attempts to create alternative aggregation and distribution infrastructure in Yolo and Solano Counties have been unsuccessful, and identify current local food hub efforts.
- 3.) Understand the specific needs and interests of key stakeholders in a potential food hub, including small and mid-size farmers, processors, retailers, and consumers.
- 4.) Identify how processing will fit into an envisioned food hub.
- 5.) Identify cold storage space that is available for possible food aggregation in Yolo and Solano Counties.
- 6.) Understand current successes where distribution companies have sourced limited local produce and consider ways in which this may be strengthened and expanded.
- 7.) Explore the current barriers facing distribution companies, like road infrastructure, seasonality, price points, etc., and determine whether a food hub could overcome these challenges.
- 8.) Explore consumer interest in buying local products and retailer interest in advertising these items.
- 9.) Consider including mechanisms to assure affordable food access in a potential food hub, such as balancing sales between higher prices and volume for institutional buyers and subsidized prices for low-income consumers.
- 10.) Identify potential funding streams and other resources that will aid in planning and implementing a food hub (many of which are still being developed by the USDA).

ABOUT THE AUTHORS

The authors include eight UC Davis students who comprise the spring 2011 course CRD 298: Food Systems Analysis. **Danielle Boule**, **Courtney Marshall**, **Anna Jensen**, **Thea Rittenhouse**, and **Julia Van Soelen Kim** are graduate students in Community Development. **George Hubert** is a graduate student in Geography, **Kelsey Meagher** is a graduate student in Sociology, and **Alannah Kull** is an undergraduate student in Sustainable Agriculture and Food Systems. Together, they served as the research team to gather and analyze data for the writing of this report. As a group, they are passionate about studying sustainable food systems and have a breadth of knowledge to draw upon from inside and outside the academe.



CRD 298: Food Systems Analysis

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Introduction

“Food hubs” have recently received attention and popularity from multiple groups whose interests intersect with food, agriculture, and community and economic development. The food hub concept represents an organizational vehicle for these groups to collaborate and create positive change for their members and local food systems. While we will discuss the complexities of defining a food hub in greater detail later in this report, the UC Davis research team offers the following working definition as a starting point: A food hub is a physical site for aggregation, storage, light processing, and distribution of food products from small- to mid-scale farms within a region.

In early 2011, the UC Davis research team was tasked by the Yolo Ag and Food Alliance (AFA) with examining the plausibility of a food hub in Yolo and Solano Counties.¹ In envisioning a possible food hub, the team recognized the importance of conducting a food system assessment of the two counties. A food system assessment is an analytical examination of the various components of a food system.

The UC Davis research team chose to focus on the following sectors: production, processing, distribution, retail, and consumption. This assessment identifies major participants, historical patterns, and recent changes to each sector. The report offers background context and qualitative and quantitative data sets that can be utilized as a starting point for visioning a food hub. It also offers a variety of exercises, data, and recommendations to help guide the AFA through this process. The assessment starts with background information and trends in food hubs. It then includes an analysis of the various segments of the Yolo and Solano County food systems. The report ends with a series of recommendations for next steps. The study is neither a specific business plan nor a vision statement. Rather, the study marks an initial step toward the planning and design of a food hub.

¹ The Yolo AFA is interested in a wide range of distribution, processing, and aggregation infrastructure to support local growers. For the sake of simplicity, the UC Davis research team uses the term “food hub” to refer to these diverse efforts.

The specific opportunities for a potential food hub emerge from an examination of the local food system. Several key questions underlie the analysis of the local Yolo-Solano food system. These questions attempt to reveal both the immediate feasibility and, more generally, the social utility afforded by a food hub:

- *What are the opportunities and barriers for processing, distributing, selling and buying local products?*
- *Supply Analysis: What is the production capacity? What exactly is included in aggregation, processing, and distribution infrastructure? What is the current situation in regard to the infrastructure? Where are the gaps in this infrastructure?*
- *Demand Analysis: What is the current consumer demand for and access to local food?*
- *What are possible economic, social, and environmental role(s) for the food hub or other alternative processing and distribution infrastructure?*

While not all of these questions were comprehensively addressed, they guided the general direction of the report. This report suggests multiple opportunities and potential relationships that may support a food hub in the Yolo-Solano region in order to strengthen the sustainability of the local food system.

This report can be used as a tool to:

- Better understand the viability of a food hub within the context of the local food system;
- Assist the AFA in creating a common vision for a food hub;
- Provide the AFA with background information that can help secure funding;
- Facilitate the partnerships necessary to implement a food hub.

The primary audience for this report is the AFA, with secondary audience including those interested and engaged with the food system in Yolo and Solano Counties. The primary purpose of the work is to provide a holistic picture of the Yolo and Solano County food

system to better understand how the current state of the food system might inform the development of a food hub.

Methodology

In winter 2011, prior to conducting research for this report, the research team studied the field of Food System Analysis to prepare and learn how to conduct our own analysis. Subsequently, the research team collaborated with the AFA to conduct a food system assessment of Yolo and Solano Counties to inform their preliminary work on food hubs. In March 2011 the research team met with Morgan Doran from the AFA to discuss the AFA's initial interests in a food hub and then with Marsha Gibbs to present our initial research questions based on our understanding of the AFA's interests and goals. In May 2011, the research team met with other member of the AFA at their monthly meeting, as an opportunity get feedback on our process and re-align our research with the AFA's needs. To close the process, the research team presented their findings and recommendations to the AFA at their June 2011 meeting.

Methodological Approach

Throughout this assessment, the research team attempts to balance the goal of a holistic assessment with targeted and strategic analysis of primary segments of the food system, including production, processing, distribution, retail, and consumption. Due to constraints of time and resources, this assessment does not include an analysis of waste removal and recycling, and the authors make no claims to exhaustive or definitive data collection. Rather, the assessment provides a well-balanced "snapshot" of the state of the local food system.

Scope/Scale

In terms of time, this assessment looks back and forward, but only slightly. While we strongly believe a historical understanding of the region and a constant look to the future are essential in food system planning, constraints in our own time necessitate that the majority of this analysis looks at the present conditions only. In terms of the geographic

region, primary attention is given to Yolo and Solano Counties, but the report includes brief references to other areas including the greater Sacramento Region, the Bay Area, and California, as a whole. Given the research team’s location at UC Davis, the assessment admittedly provides more personal knowledge and perspective within Yolo County, although the report tries to give equal attention to the two counties.

Methods

The assessment highlights quantitative data from numerous secondary data sources included in the bibliography. The research team compiled a significant amount of data through thorough Internet research in the processing, distribution, and retail sections when official data sources were unavailable. Finally, this report includes a limited amount of primary data that is qualitative in nature, collected through informal interviews, guest lectures, and conversations with food system actors in the region. This qualitative data is meant to provide glimpses into the lived realities of local food system actors and a deeper understanding of the kinds of opportunities and challenges available to them.



Profile of Yolo & Solano Counties

Yolo and Solano Counties are located in northern California between San Francisco and Sacramento. After the California gold rush, agriculture emerged as the main industry in these counties.

Even today, the region dominates the national market for canning and processed tomatoes (Yolo County history, 2011; Solano County history, 2011).

Demographics

Yolo County has a population of 200,709 residents (Yolo County’s statistical and demographic profile, 2010). The county contains four incorporated cities

(Davis, West Sacramento, Winters, and Woodland) and several unincorporated communities (Rumsey, Guinda, Capay, Brooks, Madison, Zamora, Dunnigan, Knights Landing, Clarksburg). With a population of 66,005, Davis is the largest city in Yolo County, but Woodland (population 56,399) is the county seat.

Solano County’s main cities include Benicia, Vallejo, Suisun City, Dixon, Vacaville, Rio Vista, and Fairfield (Solano County history, 2011). As of 2010, Solano County had a population of 427,837 residents. With a population of 121,435 residents, Vallejo is the largest city in Solano County. Basic demographic indicators for Yolo and Solano Counties have been summarized in the following table:

	Yolo County	Solano County	California
Population	200,709	427,837	37,253,956
Population density (people per sq. mile)	166	476	234
Racial composition	67.7% White 25.9% Hispanic 9.9% Asian 2% African American 1.2% Native American 0.3% Pacific Islander 5.2% Multiracial	63.5% White 22.8% Hispanic 15.3% African American 14% Asian 1% Native American 0.9% Pacific Islander 5.1% Multiracial	61.3% White 36.1% Hispanic 12.3% Asian 6.2% African American 2.2% Multiracial 0.8% Native American 0.4% Pacific Islander
English as a first language	68.5%	76%	57.6%
Number of households	60,000	130,000	35,464,229
Average household size	2.71 people	2.9 people	2.91 people
Median age	30 years	34 years	34.6 years
Age profile	25.3% under 18 65.3% between 18-64 9.4% over 65	28.3% under 18 62.2% between 18-64 9.5% over 65	24.6% under 18 64.5% between 18-64 10.9% over 65

Data sources: American FactFinder, 2000; Solano County QuickFacts, 2010.

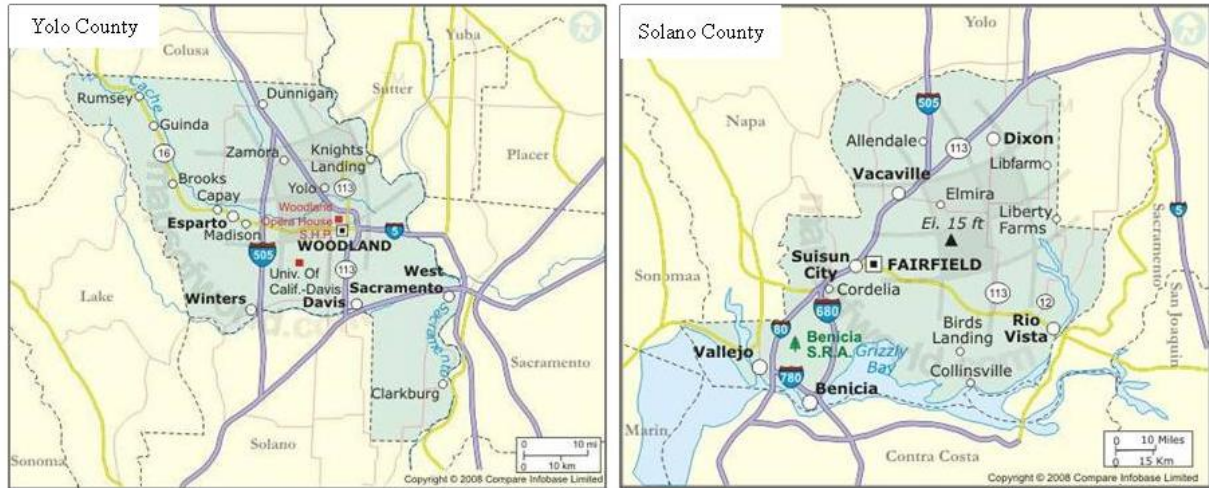
Income and Employment

The median household income in Yolo County is \$40,769. The median income for females is \$30,687, while the median income for males is \$38,022. 18.4% of the population and 9.5% of families are below the poverty line. The top ten employers in Yolo County are as follows: UC Davis, Cache Creek Casino Resort, U.S. Postal Service, State of California, Yolo County, United Parcel Service, Target Corporation, Raley's Inc., Woodland Healthcare, and Wal-Mart Stores Inc. As of 2008, the unemployment rate in Yolo County was 6.7% (Community economic development hot report, 2011).

In Solano County, the median household income is \$54,099. The median income is about 30% higher for males than females; the median income for females is \$31,916, while the median income for males is \$41,787. About 8% of the population and 6% of families are below the poverty line. As of 2004, the unemployment rate in Solano County was 5.9%. The top ten industries (by number of employees) included the following: general medical and surgical hospitals, limited-service eating places, full-service restaurants, physician offices, grocery stores, department stores, exterior contractors, employment services, building equipment contractors, and residential building construction (Community economic development hot report, 2011).

Land Use and Agriculture

Yolo County has a total area of 654,650 acres, of which 553,161 acres (84.4%) are devoted to agricultural purposes (as of 2000). Only 25,957 acres (4%) are urban and built-up land (Richter, 2009). The gross value of agriculture was \$462.1 million in 2009 (a decrease of nearly \$40 million from the previous year). As of 2007, Yolo County had 983 farms, of which 83 were registered organic farms. The average farm size was 488 acres. The top ten crops in 2009 (in order of value) were as follows: processing tomatoes (\$127.8 million), wine grapes (\$56.4 million), rice (\$53.5 million), seed crops (\$33.4 million), alfalfa (\$30.0 million), almonds (\$25.0 million), organic produce (\$22.8 million), walnuts (\$19.2 million), cattle and calves (\$12.8 million), and wheat (\$11.7 million) (Yolo County agricultural crop report, 2009).



Map sources: Map of Yolo County, 2008; Map of Solano County, n.d.; and Benbennick, 2011.

Solano County has a total area of 909.4 square miles, of which 357,816 acres (61.4%) are agricultural land (61.4%). The urban and built-up land occupy only 59,157 acres (10.2%). Solano County ranks 26th out of 58 California counties in terms of agricultural production, and the gross value of agriculture was \$251.9 million in 2009 (a decrease of nearly \$40 million from the previous year). The average farm size was 403 acres in 2007. Farmers in the county produced over 80 different crops in 2009. The top ten crops (in order of value) were as follows: processing tomatoes (\$39.4 million), nursery products (\$33.5 million), walnuts (\$21.1 million), alfalfa (\$20.4 million), cattle and calves (\$19.9 million), wine grapes (\$12.2 million), certified sunflower seed (\$10.8 million), milk (\$10.2 million), almonds (\$7.7 million), sheep and lambs (\$6.4 million), and field corn (\$5.7 million). Solano County exported its agricultural products to over 40 different countries in 2009. The distribution of farm acreage in Solano County is as follows: pasture and rangeland (57.2%), field crops (25.5%), fruit and nut crops (5.3%), vegetable crops (4.1%), seed crops (3.1%), nursery stock (0.3%), and other (4.5%). 30 farms on about 1,404 acres grew certified organic crops in 2009. Their approximate value was \$7.2 million in 2009 (Solano County 2009 crop and livestock report, 2009).

Chapter 1: Food Hub Analysis

For several years, non-profit food and agriculture organizations have studied food hubs and devoted resources to their establishment. In support of these efforts, the USDA has sponsored studies of food hubs and directed funding streams towards food hub infrastructure through the “Know Your Farmer, Know Your Food” (KFY2) initiative which seeks to strengthen local and regional food systems. An Economic Research Service study (U.S. Department of Agriculture, 2010) confirmed what grassroots organizations like the Ag and Food Alliance (AFA) has understood for many years: there are significant identifiable barriers to local food market entry and expansion, including capacity constraints for farms, a lack of infrastructure for moving local food into mainstream markets, and regulatory uncertainties.

The design, organization, and function of a food hub can vary tremendously based on myriad factors, including: goals, target market, infrastructure, start-up funds, organizational management experience, and existing relationships. This portion of the report first provides a general typology of existing food hubs, including their dominant characteristics as well as their chief benefits and risks (see Table 1, pp. 19-20). Lastly, this section briefly outlines the various contexts to consider while examining the potential of a local food hub. Overall, the goal of this section is to provide a framework to guide the planning of a food hub in Yolo and Solano Counties.

While we will discuss the complexities of defining a food hub in greater detail further on in this section, the UC Davis research team offers the following working definition as a starting point. A food hub is a physical site for aggregation, storage, light processing, and distribution of food products from small- to mid-scale farms within a region. Additionally, food hubs can foster economic vitality, equity (social welfare of farm workers and consumers) and environmental sustainability in a region.

Food Hub Design and Trends

Recent discussion around food hubs has generated widespread attention and interest. Many farmers and non-profits, for example, are interested in the concept but often lack adequate understanding of their complexities. In an attempt to better understand and

support food hubs, the Regional Food Hub Subcommittee of the USDA’s Know Your Farmer, Know Your Food (KYF2) is involved with various initiatives, such as: outlining basic models and benefits of food hubs, surveying and creating a database of existing food hubs, supplying case studies of different models, and identifying potential USDA funding sources for food hubs.

At a statewide level, the Regional Food Hub Advisory Council (of California) advocates for the establishment of a food hub parent organization that “networks regional food aggregators and distributors into a system that expands marketing opportunities, reduces risk, and increases access to food—a network of Regional Food Hubs” (Regional Food Hub Advisory Council, 2010).

Leveraging the work of these two groups, the following section examines the functions and a basic typology of food hubs including benefits and risks, results from a national food hub survey, and a synopsis of the vision statement and strategic vision plan for a regional food hub network in California.

Basic Functions of a Food Hub

Regardless of the model, the KYF2 food hub committee highlights four potential (and common) functions of regional food hubs:

1. Aggregation/distribution

A hub can operate as a drop-off point for multiple farmers and/or a pick up point for distributors/wholesalers/retailers who want to buy source-identified local and regional food.

2. Active coordination

KYF2 suggests that a hub needs a “business management team” that actively coordinates various supply chain logistics such as: identifying markets for producers and coordinating efforts with distributors, processors, buyers, consumers, etc.

3. Permanent facilities

There must be some identified space and equipment for food to be stored, processed, packed, palletized, labeled, etc. (An exception to

this is a virtual hub, which can serve as an online directory, database, and/or marketplace)

4. Other possible roles tied to community services

A hub can provide space for: wholesale and retail vending, health and/or social service programs, community kitchens, meetings, etc.

Additionally, the committee identifies the following potential benefits of food hubs: expanded market opportunities for agricultural producers, job creation (in both urban and rural areas), and increased consumer access to fresh and healthy food (with a strong potential to reach underserved areas). Food hubs can often bring these benefits, which extend well beyond their immediate economic impact, to rural and urban communities that suffer from lower incomes and underdevelopment.

Basic Typology and Benefits/Risks of Different Food Hub Models

The Food Hub Subcommittee of KYF2 proposes a basic food hub “typology” which includes the following food hub types: non-profit driven models, producer/entrepreneur models, state-driven models (such as “State Farmers Markets”), wholesale/retail driven models, consumer driven models (online buying clubs), and “virtual” food hubs (online matchmaking platforms) (USDA, 2011).² Hybrids of these typologies are also possible. Table 1 summarizes the benefits and risks of each model.

² The “Food Hub” Model examples vary within two presentations created by the subcommittee; a standard/set typology has not yet been created. The USDA is working on developing a typology tool that will help farmers identify what model food hub would best serve their needs as a producer. (The two KYF2 presentations can be found [here](#) and [here](#))

Table 1: Basic Typology of Food Hubs

Model type	Benefits	Risks	Examples
Non-profit driven	<ul style="list-style-type: none"> • More likely to attain grant funding • More likely to focus on community development aspects of food system (e.g. needs of low-income producers/consumers) 	<ul style="list-style-type: none"> • May not have the business or technical background necessary to create a viable operation • Once seed funding has exhausted, may face difficulty with economic viability 	Alba Organics (CA), Growers Collaborative (CA), Intervale Center (VT), Red Tomato (MA), Appalachian Sustainable Development (VA)
Producer/entrepreneur	<ul style="list-style-type: none"> • More likely to have adequate business/technical background • More likely to have solid knowledge of local food systems • Likely to feel a high level of “investment” in the success of the hub because personal economic viability is involved 	<ul style="list-style-type: none"> • May not have necessary seed funding • May not focus on normative criteria (mentioned in Introduction) 	Farm Shop (CA), Grasshopper (KY), Good Natured Family Farms (KS), Tuscarora Organic Growers (PA), New Noth Florida Cooperative (FL), Eastern Carolina Organics (NC)
State-driven	<ul style="list-style-type: none"> • Potentially more stable (than previous two) if a steady flow of funding is secured • Coordination with other relevant government agencies may lessen “red tape” (e.g. coordination with Planning Department and Agriculture Commission) • Local government has vested interest in stimulating local economy • Likely to focus on normative criteria 	<ul style="list-style-type: none"> • With shrinking budgets for local governments, securing state-driven support/funding may be difficult • May not have relationships with necessary actors (farmers, processors, etc.) 	Many “State Farmers Markets” in the Southeast and Midwest, such as NC, SC, MI, FL
Wholesale/Retail	<ul style="list-style-type: none"> • More likely to have business savvy and existing connections to consumers and producers • May have existing infrastructure 	<ul style="list-style-type: none"> • May not focus on normative criteria • Governance structure can vary dramatically; administration/coordination model must be identified early on 	Davis and Sacramento Natural Food Co-Ops (CA), San Mateo Farmers Market (CA), La Montanita Food Coop (NM), Wedge’s Coop Partners (MN), Hunts Point Wholesale Farmers Market (NYC)

Consumer-driven

- Reflects existing consumer demand
- Often a way to connect consumers and producers with limited use of “middle-men”
- If sole purpose of hub is exchange, there will be limited infrastructure needs

- May not have necessary business/agriculture background necessary to initiate/operate business
- Will need to identify who will be responsible for coordination
- May not have relationships with necessary actors (farmers, processors, etc.) so the hub will need to identify partners along the food system chain depending on needs/wants of hub
- May not focus on normative criteria

Oklahoma Food Coop, Nebraska Food Coop, Iowa Food Coop

“Virtual”

- No (or limited) new infrastructure costs
- High amounts of information available online
- Can connect producers and buyers “real-time” and in a way that can be easily tracked, processed (paid), and recorded online

- Governance—who would operate this model type?
- May not focus on normative criteria

Ecotrust (OR), FarmsReach (CA), MarketMaker (Multiple states)

Results from Survey of Existing Food Hubs

The USDA is also a member of the Regional Food Hub Collaboration (USDA AMS, Wallace Center, National Good Food Network, Project for Public Spaces, and National Association of Produce Market Managers). In early 2011, this group circulated a survey to better understand the scope and scale of regional food hubs throughout the country. The survey was sent to 72 food hubs and completed by 45.

According to the survey results, the “archetypal” food hub (USDA, 2011):

- Offers a wide range of food products, with fresh produce being its main product
- Sells through various marketing channels, with restaurants being an important entry point
- Offers a wide range of services to both producers and consumers
- Gross annual sales are around \$700k. Even with these sales figures, the hub must rely on some external support to cover a portion of its services and activities

Additional survey results, including various statistics and charts, can be found in Appendix A.

Sample Profiles of Existing Hubs

To offer a few concrete examples, below are profiles of three existing food hubs with significantly different models. While only one of the food hubs is located in California, the UC Davis research team felt the selected cases were still relevant to Yolo and Solano Counties.³

Alba Organics (AO)

Salinas, CA- Monterey County (Rural)

<http://www.albafarmers.org/index.html>

Ownership: Non-profit

³ The information and structure of the Alba profile is borrowed from the Regional Food Hub Advisory report referenced in the Bibliography

Mission: to advance economic viability, social equity and ecological land management among limited-resource and aspiring farmers. In pursuing its mission, ALBA aims to contribute to a more just and sustainable food system through the development of: 1) human resources that will be tomorrow's farmers and sustainable agriculture leaders; 2) growing marketing alternatives for small-scale, limited-resource farmers; and 3) the enhancement of biological diversity and protection of natural resources – all necessary components of such a food system.

- Alba's mission statement offers an example of how to integrate concerns regarding equity, economics, and the environment into the structure and goals of a food hub.

Participating farmers: 30-50 (currently at 49, per the AO website)

Operations and Management: AO essentially operates as a wholesale distributor, buying product from farmers and then labeling and selling this source-verified, certified organic product to customers.

Aggregation Point: a 3000 ft² facility and 110-acre farm near Salinas. The facility includes:

- Outdoor covered washing station with sink
- Receiving area
- 1500 sq. ft. dry storage (non-cooled),
- 800 sq. ft. cold storage and 800 sq. ft. medium-cold storage for products needing humidity
- Forced air cooler
- Forklift
- 2 delivery trucks

Customers: various institutions (universities, K-12 school districts, hospitals, etc.), wholesale distributors, retailers, and restaurants. AO does not participate with direct marketing.

Community Oriented Programs:

- Provides education and technical assistance to its beginning and limited-resource grower vendors as part of its business model.

- Working on programs to sell to corner stores in low- income and underserved communities
- Works with Community Alliance of Family Farmers (CAFF) to support the Harvest of the Month program for area schools.

FoodHub

Virtual (No set geography, however, membership is open to food buyers and sellers in Oregon, Washington, Alaska, Montana, Idaho, and California.)

<http://food-hub.org/>

Ownership: non-profit project of Eco-Trust but moving towards for-profit status in the coming months

Mission: FoodHub is a dynamic marketplace and online directory that makes it easy and efficient for professional food buyers and sellers to research, connect, and do business. It's easy to use and a great place to meet and do business over food.

Sellers: there are hundreds of organic and conventional sellers, including: farmers, ranchers, fishermen, dairies, brewers, distilleries, wineries, processors/manufacturers, brokers, and wholesale distributors.

Operations and Management: FoodHub supports a wide variety of distribution models—ranging from sellers who use their own trucks to those who rely on the services of mainline distributors. Once a connection is made via FoodHub, buyer and seller negotiate pricing and order details, execute the transaction and coordinate the exchange of goods independently. There are no transaction fees associated with making connections on FoodHub. Currently there are no membership fees but FoodHub will be launching a tiered monthly membership starting in the summer.

Aggregation Point: FoodHub offers an online matchmaking platform that includes a comprehensive catalog of buyers and sellers, online space for buyer and seller profiles, and an interactive directory that facilitates easy searching/navigation.

Customers: Bakery, B&B, buying club, caterer, college or university, culinary school, food bank or food assistance program, food service contractor, grocer, healthcare facility, hotel, motel, resort, packer/processor, personal chef, restaurant, school or specialty retailer.

Community Oriented Programs: The FoodHub focuses primarily on the membership community. However, its initiatives do have the potential to have positive environmental and social impacts. FoodHub Knowledge Base, a resource for buyers and sellers, will be launched in the near future. It will include a comprehensive database with information on sourcing locally, food safety, running a sustainable kitchen, different sources of direct marketing, and so forth. Given FoodHub's tie to EcoTrust, it aims to promote environmental sustainability and equity through its initiatives.

La Montanita Co-Op Food Market

New Mexico, with four retail locations in urban areas

<http://www.lamontanita.coop/>

Ownership: Consumer co-operative

Mission: La Montanita is committed to local farmers and producers, its members, and the broader community. The Co-op emphasizes "Fresh", "Fair", and "Local."

Producers: nearly 700 local producers

Operations and Management: Co-op is a regional distributor for national brands, which helps cover the overhead costs of maintaining warehouse and distribution services. It currently stocks and sells 1,100 products from local growers and producers. The co-op provides the following to

growers/producers: bulk purchase inputs/farm supplies, storage space, distribution services, market outlets, and business development services.

Aggregation Point: In 2006, the Co-op invested \$150,000 in renovating a warehouse and leading trucks to assist regional growers with distribution and wholesale market coordination.

Customers: 15,000 members

Community Oriented Programs: The co-op sponsors and participates in a wide variety of community events. They recently started a “pre-payment” for product loans to farmers, ranchers and local producers who sell to the co-op. Requests for the loans extended beyond what the co-op could do on its own so now with the approval of the New Mexico State Securities Division, co-op members can contribute to the loans as well.

Food Hub Definition

The growing interest in “food hubs” and the various models already in existence result in a variety of definitions of the term. A food hub to one organization can represent something entirely different to another. Food hub feasibility analysis should develop, as a first step, from consensus for a cohesive and descriptive definition of food hub. A shared definition improves communication within the organization and eases the difficulty of creating a clearly defined problem statement. Without a strong problem statement, project design can diverge from the original planning goals. This section of the report examines the conceptual complexity of food hubs according to the following questions:

- What are some of the different definitions of “food hub”? And what are the implications of these definitions for a food hub?
- What are the various characteristics (size, governance structure, market, etc.) of existing food hubs?

The discussion reveals some of the problems with current definitions. This analysis seeks to prompt an intensive discussion within the AFA about the food hub that best suits the goals and values of the AFA membership. The authors, as students of community development, suggest that a participatory process offers a way to obtain a shared definition and a clear problem statement. To this end, this section of the report also includes a participatory exercise for the AFA to facilitate the development of a collective food hub definition. This exercise uses a series of questions to direct a focused discussion about the desired range of functions and characteristics of a food hub that is appropriate for both the Yolo County as a region and the AFA as an organization.

The following section examines and critiques two different definitions of “food hub” in order to illustrate their complex and varying roles. The research team suggests that these carry embedded values and implicit assumptions that require careful analysis prior to any planning and design effort.

The first definition comes from the USDA “Know Your Farmer, Know Your Food” (KFY2) program which defines a food hub as *a centrally located facility with a business management structure that facilitates the aggregation, storage, processing, distribution, and marketing of locally and regionally produced food products.*

- *Centrally located facility* suggests not only that the food hub is a physical place but also that the distance between producers and consumers is minimized, thus decreasing the environmental and economic costs associated with transportation and distribution. This aspect of the definition will require further analysis when the discussion turns to “virtual food hubs” in the section on food hub types.
- *Business management structure* implies a focus on commerce, the need or desire for food hub participants to make cash transactions, and presumably to realize profits and savings. A *business* management structure differs significantly from other forms of management such as organizational, institutional, or bureaucratic. These others apply to government, not-for profit, or in-house enterprises that may strive for efficiency but not profits *per se*. The emphasis on commerce bears on further discussion about the desired function of food hub types. The KFY2

definition raises the possibility that both non-profit partnerships and government management of food hubs may not receive adequate consideration.

- *Aggregation, storage, processing, distribution, and marketing* would seem to set clearly defined limits to the direct activities of a food hub within a food system. However, roles and responsibilities of food hubs are not always clear-cut. For example, what responsibilities for monitoring food production practices attach to a food hub when its marketing efforts make warranties of sustainability about farm worker labor conditions? When a non-profit food bank leverages the formation of a food hub, how is this contribution quantified and repaid and how are the organizational resources of the food hub deployed equitably?
- “*Local and regional food products*” is an inherently spatial concept that ultimately describes the physical distance between producers and consumers. Yet, within the local food movement (of which the AFA is a participant), the term *local* means a great deal more than a spatial characteristic. In this regard, the local food movements typically value small, sole proprietorships over large, publicly traded operations; organic over conventional production; fair labor practices over the current standards; and distribution through informal or open alternative channels as opposed to restrictive high volume supply chains. Therefore, the term “local” often means much more than its literal description of proximity.

The second definition comes from the Regional Food Hub Advisory Council, which defines a regional food hub as *an integrated food distribution system that coordinates agricultural production and the aggregation, storage, processing, distribution, and marketing of locally or regionally produced food products* (2010).

The RFHAC definition uses many of the same words as the KYF2 definition but does carry some important nuances.

- The phrase *food distribution system* differs from the physical place based idea of a *centrally located facility* used by the KYF2 definition. However, the RFHAC definition does not specify the organization of the food hub as the KYF2 definition does with the phrase *business management structure*.

- *Coordinates* is the dominant action that describes the primary function of the food hub. Although the definition specifies the scope of the activities to be coordinated, the definition does not explain either the manner of the coordination (i.e., how) or the purpose (i.e., why) beyond the vague description “distribution.” By contrast, the KFY2 definition may be overly specific and narrow in regard to the “how” and the “why” in identifying a *business management structure*.

The lack of specificity in the RFHAC definition leaves open ways for potentially undesirable production and management practices that run counter to the RFHAC vision of environmental, economic, and social equity within the food system. What activities involving food would the RFHAC definition necessarily exclude from the definition of a food hub? The RFHAC document provides a more definitive set of concepts in the following passage:

Regional food hubs (RFHs) share common goals of serving small to mid-sized farmers and supporting the growth of regional food systems. All of the profiled RFHs also work to improve food security or provide educational opportunities relating to the food system. While RFHs ostensibly exist in order to make farming more profitable for their growers, the case studies showed that they also make distinct efforts to support their communities in ways that don't provide direct economic gains. Additionally, RFHs have the same basic infrastructure needs, and are all driven to promote their products. They also share a common struggle to find and maintain appropriate markets, match supply and demand, and overcome logistical obstacles.

This passage seems to offer a more complete definition that articulates many of the objectives, rationales, and values that have made food hubs into a common cause for many organizations in the local food movement. In this regard, the passage offers a more descriptive and useful definition of a food hub than the one discussed previously.

A Food Hub Definition for the AFA and the Yolo County Region

The preceding discussion describes both the difficulty and the lack of universality in food hub definitions. The critique of the definitions illustrates the importance of a clear conception of the organizational structure and function of a food hub. While a definition is only an abstract idea, the process of creating ideas that define a vision for the future through a collaborative process can be a powerful way for a group to gain a new understanding of itself and see new possibilities where before only obstacles existed. To this end, the research team created a group exercise to

assist the AFA in creating its own definition or mission statement for a food hub. The exercise challenges participants to consider the variety of values that underlie the group's definition. Directions for running the exercise and its associated questions appear in Appendix B. The AFA food hub subcommittee could test the exercise at an upcoming meeting. If the exercise seems useful, then the subcommittee can consider whether to bring it before the general membership.

Food Hub Context

There are a few different “contexts” to consider when analyzing what type of food hub would best serve Yolo and Solano Counties. First, there is the local food system context, which considers the strengths and weaknesses of the local and regional food system. Second, there is a historical context to consider. What can be learned from past (and current) attempts at food hubs within the region? Third, it is important to think about scalar context. How would a food hub fit within the region and beyond? Lastly, it is important to consider the various relationships that are necessary to operate a successful food hub. How would a local food hub partner or compete with existing food hubs, farmers, and other organizations in the region and beyond?

The countless variations of food hubs illustrated by the research of the USDA and others indicate the significance of aligning a food hub's functions and services with the needs and assets of the local and regional food system. The success of a food hub in Yolo and Solano Counties will rely upon its ability to leverage the strengths, expertise, and gaps within the local food system (many of which are outlined in this report.)

In addition to defining the goals and needs of a food hub within the context of the local food system, it is crucial to understand current and previous attempts of food hubs within Yolo and Solano Counties. The UC Davis research team did not have adequate time to conduct a historical analysis of local food hubs but the current work of Shermain Hardesty and Penny Leff, and Libby O'Sullivan will shed light on some of these histories. Shermain Hardesty and Penny Leff have recently completed systematic interviews with multiple stakeholders involved with YoCal Produce Cooperative and Tuscarora Organic Growers (from Pennsylvania). Hardesty and Leff

will conduct a Yolo County workshop (“Collaborating to Access New Markets”) on Wednesday, June 29, 2011 to share their results. In addition, Libby O’Sullivan conducted an analysis of three different attempts of aggregation in the region, including YoCal, Growers Collaborative, and The Hub (O’Sullivan, forthcoming).

Additionally, a food hub’s scalar context deserves consideration: how would a local food hub fit into Yolo County, Solano County, surrounding regions, the state of California, and so on? The Regional Food Hub Advisory Council, consisting of producers and non-profits from California, believes that a network of food hubs offers the most effective means to serve small to mid-sized farmers and support the growth of regional food systems. They envision a Food Hub Network that will “provide assistance in business management and services that will amplify the success and impact of individual hubs . . . and serve and support autonomous Regional Food Hubs through inter-hub brokerage, access to infrastructure, technical assistance, and networking related hub operations in order to bolster the scale, predictability and success of regional food production, sales, and consumption” (Regional Food Hub Advisory Council, 2010). The Network would be membership-based non-profit serving for-profit food hubs. Although the feasibility study and business plan have not yet been developed, the thought is that the value and efficiency provided by the Network would make membership economically viable for participating hubs. The Advisory Council aims to secure funding in 2011 so it can complete a feasibility study and business plan in 2012-2013.

Regardless of whether collaboration occurs through a formalized network, collaboration and communication is significant. If two developing hubs within the same region, for example, are targeting the same producers and consumers, challenges are bound to arise. Rather than creating competitive zero sum situations, collaboration and planning could enhance the efficiency and success of regional food hubs through sharing knowledge, networks, products, and so forth. Some markets may not be able support more than one food hub. Preferably, comparative advantage would drive competing food hubs to specialize and create new market niches. Ideally, these new markets will sustain additional non-economic benefits to the local food system (e.g., improved access for low-income people, higher demand for organic produce, etc.) Equally important are the relationships that the hub will share with other involved parties, including

farmers, local businesses, consumers, and so forth. As noted by Agriculture Deputy Secretary Kathleen Merrigan, food hubs are incredibly innovative business models that “rely on cooperation instead of competition, and ensure that the regional small and midsize producers get access to the infrastructure they need” (2011).

Summary

While effort has been devoted to understanding the various forms of food hubs, very little is known about key factors to their success. However, what is clear is the importance of understanding the context of a food hub in Yolo and Solano Counties, including: its desired design and goals, the characteristics of the local food system, current and past attempts of food hubs within the region, a food hub’s scalar context, and various relationships impacting the success of a food hub. The AFA must understand all of these aspects while considering the creation of a local food hub. Chapter 2 provides an analysis of the production, distribution, processing, consumption, and retail of Yolo and Solano Counties. The data provides specific background information which can answer critical conceptual questions about the feasibility of a new food hub organization.

Chapter 2: Yolo County Food System Assessment

Production

This section discusses production in Yolo and Solano counties. The first section gives an overview of agricultural land use in the counties, including a brief historical account and current trends. The second section describes characteristics of farms in Yolo and Solano counties with a focus on organic agriculture. The final section presents some of the opportunities and challenges for growers in Yolo and Solano Counties, and offers recommendations for further research related to production.

Agricultural Land-Use in Yolo and Solano: An Overview **Yolo County**

Yolo County can be divided into 16 different geographical regions. The agricultural production changes from east to west, with significant differences in land use, crops, and agricultural economics. It is helpful to understand the overall picture in order to address the issues that small-scale farmers face in Yolo County (Richter, 2009).

Table 1: *2006 FMMP Study: Land Classification in Yolo County (Richter, 2009)

Category	Acres
Prime Farmland:	257,892
Unique Farmland/Farmland of Statewide Importance	67,187
Farmland of Local Potential	21,958
Farmland of Local Importance	43,213
Grazing land	150,338
Urban/Built-Up land	29,341
Other Land (habitat/conservation)	75,705
Water	7,815

* The Farmland Mapping and Monitoring Program (FMMP) within the California Department of Conservation produces periodic reports on changes in farmland and urban development. The latest report was produced in 2006. See Appendix C for category definitions.

The overall number of acres of farmland /grazing land is five times greater than the urban/built land in Yolo County. The majority of the farmland in Yolo County is prime farmland. Table 1 illustrates the importance of conservation of unique farmland and utilization of prime farmland for agricultural purposes.

Table 2: Yolo County Production Regions/Crops Produced

Top 6 Production Regions: Top Crops Produced in that Region	Acres	%Total Acreage	Value (millions)	% Total Value
Blue Ridge: Pasture	166,178	29%	17	3%
Yolo East: Tomatoes, Alfalfa	69,197	12%	111	21%
Clarksburg: Chardonnay wine grapes, alfalfa	31,784	5%	102	19%
Yolo West: Alfalfa, Processing Tomatoes	41,925	7%	61	11%
River Garden: Rice, Processing Tomatoes,	39,492	7%	55	10%
Yolo Bypass: Rice	60,925	10%	35	6%
Capay Valley: Organic Vegetables, Tree Crops	27,423	5%	23	4%

Data from National Agricultural Statistics Service quick stats, 2009

Table 2 illustrates the diversity of the crops grown in Yolo County as well as the land use patterns across the county. See Appendix D for an illustration of geographical agriculture regions in Yolo County and crops produced in those regions.

Statistical Overview of Farms by County

County	Total # of Farm Operators: Yolo County	# Of Organic Farms	# Small Family Farms	# Small Scale Farms with less than \$100,000/yr profit	Average # Years as Farm Operator
Yolo	1647	54	740	77	19
Solano	1456	28	732	84	18.3

Data National Agricultural Statistics Service quick stats, 2009

Yolo County has the highest number of organic farms in the Sacramento Valley Region (Klonsky & Richter, 2011).

For a map showing the delineations of farm sizes in Yolo County, see Appendix F.

For a comprehensive table of USDA farm typology definitions (Hoppe et al., 2000), see Appendix E.

Crop Trends: 1939 – 2009

Yolo County

The top crops in Yolo County have changed over the past 50 years, but a few agriculture crops have been mainstays in terms of production and value. Yolo has a significant amount of land dedicated to pasture and cattle grazing, and simultaneously devotes a high percentage of land for alfalfa production. Yolo has always been well known for producing tree crops, notably walnuts and almonds. This trend continues today, with only a few areas in east Yolo replacing tomato fields with permanent trees for nut crops (Richter, 2009).

Yolo County used to be a large sugar beet producer, but that changed in the 1980s, when tomatoes replaced beets as the top crop. In the latest crop report, Yolo County's agricultural production was valued at \$462,132,949 (2009). This is ranked 21st in the state in terms of sales value (National Agricultural Statistics Service quick stats, 2009). The highest amount of acreage was devoted to tomatoes, pasture, and alfalfa. The highest valued crops in 2009 were tomatoes,

wine grapes, seed crops (sunflower and safflower), alfalfa, and almonds (Yolo County agricultural crop report, 2009).

Table 3: Number of farms, average farm size in acres and median farm size in acres, Yolo County, Source: 2007 Agriculture Census

Number of Farms	983
Average size of farm, acres	488
Median size of farm, acres	60

Number of Farms by Size	Yolo County	State of CA
1-9 acres	15	31
10-49 acres	32	35
50-179	21	16
180-499	15	9
500-999	7	4
1,000 +	11	5

As Table 3 illustrates, Yolo County has a higher percentage of farms with more than 1,000 acres than California as a whole. The median farm size is 60 acres. Overall, Yolo County is represented by a large number of small-scale growers (under 50 acres) and large-scale growers (over 1,000 acres).

In Yolo County, one recent trend has been to promote agricultural tourism. Two potential agricultural tourism areas are the Clarksburg and Capay Valley regions (Richter, 2009). There is considerable interest in establishing the Clarksburg region as a center for agri-tourism. Clarksburg is geographically separated from the majority of the commodity agriculture in Yolo County, yet the majority of the agricultural acreage in the region is currently used for commercial commodity production; therefore any agri-tourism developments in the Clarksburg region must incorporate existing commodity agricultural production.

The Capay Valley is a well known agricultural tourism area, focusing on the theme of showing consumers “where your food comes from.” The agri-tourism movement here has promise if

more farms were included in the events and the number of events was increased, as long as it would not affect the farmers' production levels (Richter, 2009).

Solano County

Solano agriculture shows similar trends to Yolo, but Solano does not produce the same amount of tree crops as Yolo. After Solano County phased out of sugar beet production, the top value crops have been tomatoes, alfalfa, and nursery products for the past 10 years. A significant portion (57.2 %) of the land in Solano County is devoted to pasture and rangeland for cattle. The latest crop report valued Solano's agricultural production at \$292,840,200 (2009).

See Appendix G for a map of Solano Agriculture Regions.

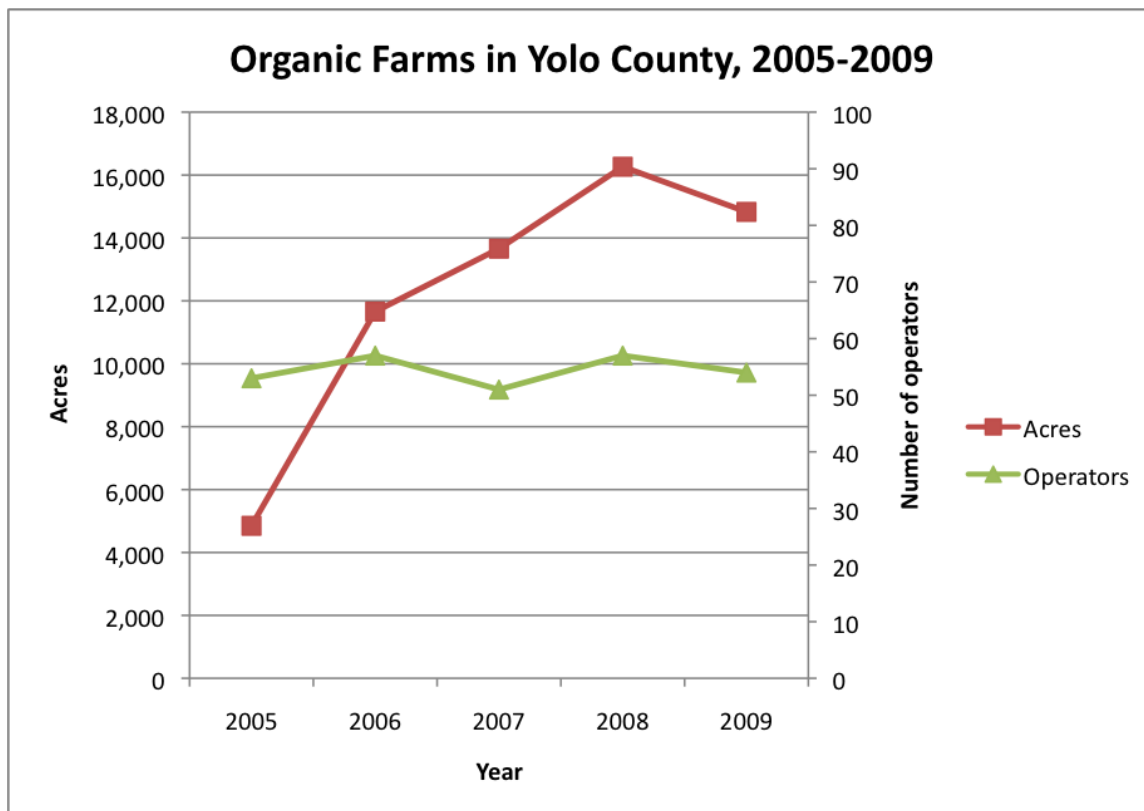
Organic Agriculture

Data about organic production in California generally and Yolo and Solano Counties in particular is not easy to obtain because there is limited reporting, and growers often combine organic and conventional production. The annual County Commissioners crop reports, which began in 1939, did not delineate specific statistics about organic agriculture until the late 1990s. They do report the overall value and acreage by county, not the specific crops grown organically in the county.

Yolo County

The majority of organic acreage in Yolo County is dedicated to tree, fruit and field crops. The main organic growing regions of Yolo are Capay Valley, Hungry Hollow, Clarksburg, and Elkhorn. The Capay Valley is well known for diversified vegetable production, but the Elkhorn region also has a significant number of specialty organic vegetable producers. Additionally, the Hungry Hollow has many large-scale organic growers that sell to the wholesale market. The Clarksburg region primarily grows organic grapes, which are processed outside of Yolo County in combination with other growers of Chardonnay grapes (Richter, 2009).

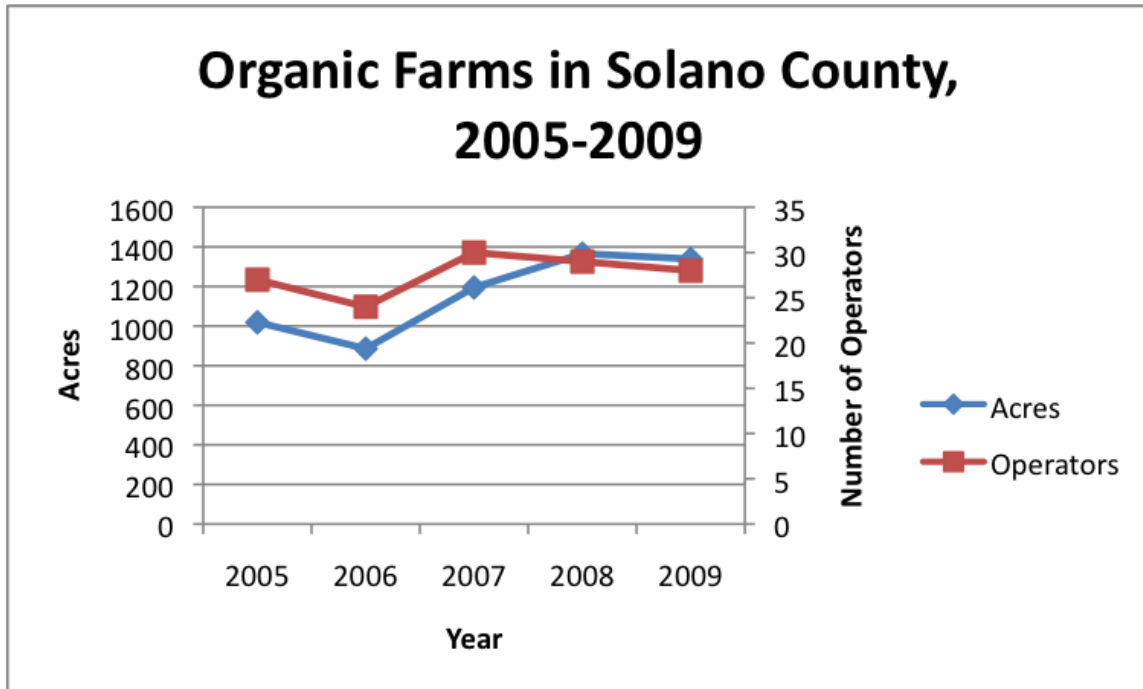
The acreage in Yolo County devoted to organic agriculture had an overall sharp increase in the period from 2005-2009 (Klonsky & Richter, 2011). The number of operators, however, remained mostly steady over the same period, indicating an increase in the scale of agriculture and paralleling trends in agriculture as a whole. These figures point to the consolidation of farms in organic agriculture in Yolo County. Sales in organic agriculture have also increased in the same period, from \$12,500,874 in 2005 to \$23,292,205 in 2009 (Klonsky & Richter, 2011).



Data retrieved from Klonsky & Richter, 2011.

Solano County

Organic agriculture in Solano County, in contrast to Yolo County, represents a much smaller amount of the county's agricultural area. The number of operators and the number of acreage both grew only slightly from 2005 to 2009, and never reached more than 1,400 acres in total. As in Yolo County, the value of the crops sold increased over the four-year period measured, but the value of sales was much smaller in Solano County. The value of organic crops sold from Solano County farms was \$2,551,223 in 2005 and \$6,982,128 in 2009 (Klonsky & Richter, 2011).



Data retrieved from Klonsky & Richter, 2011.

Labor: An Overview

There are five registered labor contractors in Yolo County. The registered contractors are; J&R Labor, Inc., Lara Labor Contractors, John Perez & Sons, and Reyes FLC (Richter, 2009). There are two registered labor contractors listed in Solano County, both of which are based in Dixon: Conrad Ruiz of Ruiz Farm Labor and Rosendo Mayoral of Mayoral Brothers (Farm labor contractors’ license database, 2011).

Yolo County had 3,953 hired agricultural workers in 2007 according to the USDA. 1,928 of these workers were employed for fewer than 150 days of the year. 3,078 worked on farms with 10 or more workers. Of the workers employed for greater than or equal to 150 days/year, 1,250 of them worked on farms with laborers working both for more than 150 days and fewer than 150 days/year, indicating that local farms need both full-time and temporary labor.

According to USDA, Solano County had 2,813 hired agricultural workers in 2007 (National Agricultural Statistics Service quick stats, 2009). 1,339 of those workers were employed for fewer than 150 days of the year. 2,171 of the total workers worked on a farm employing 10 or more workers. Of the workers employed for more than 150 days/year, 690 of them are employed on farms hiring workers for greater than 150 days/year and fewer than 150 days.

A caveat with all of these figures is that farm labor is notoriously difficult to count and usually under-reported due to the high level of irregularity in farm employment. These are official USDA figures, but the reality of farm labor in Yolo and Solano counties probably looks somewhat different.

As Figure 1 illustrates, farm labor needs are medium to high for the production of most commodity crops, wine grapes, and diversified organic vegetables. Labor demand is low in the regions where pasture and livestock are the dominant forms of production. Most of the commodity crops farms in Yolo (tomatoes, alfalfa, sunflower, wheat, rice) employ <2.5 workers per acre.

Labor Demand in Yolo County

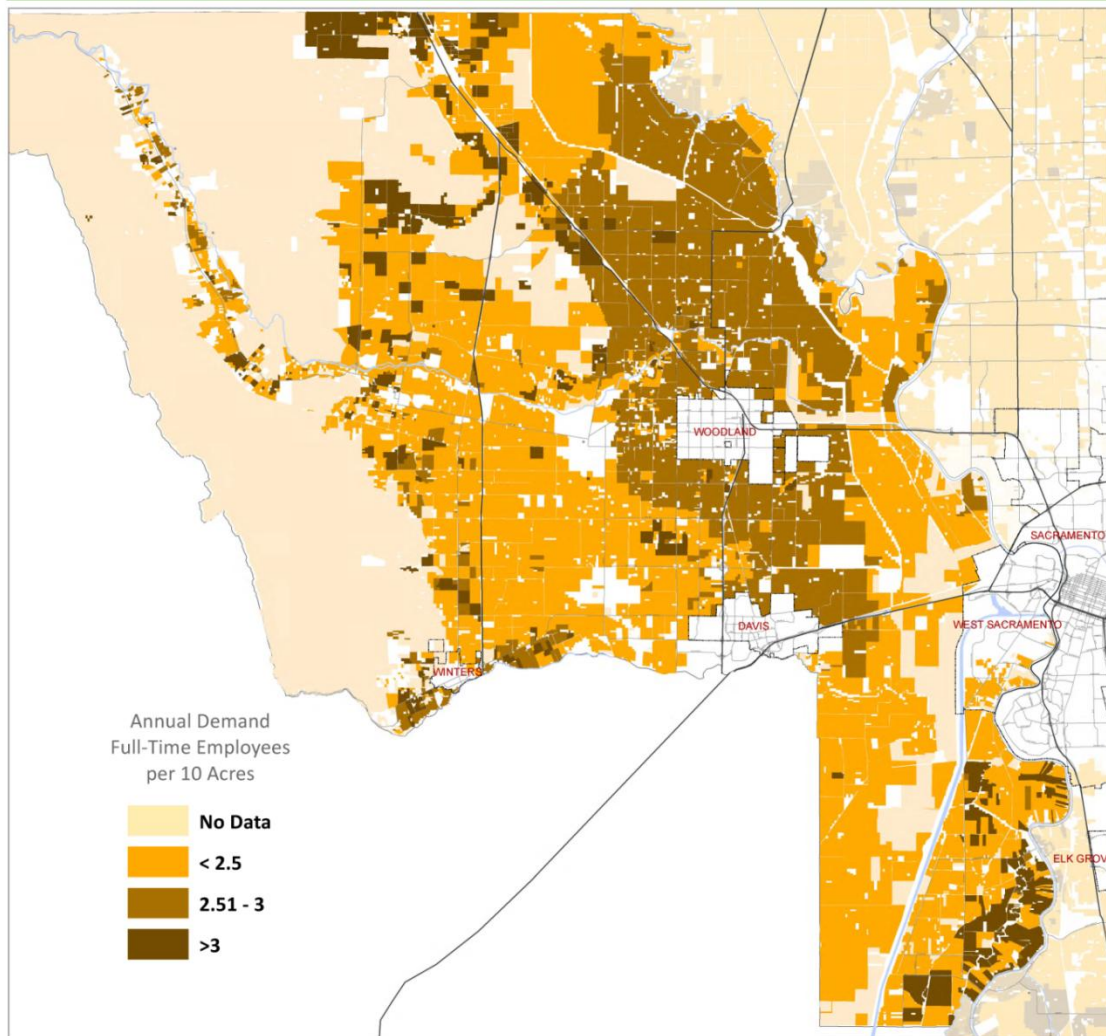


Figure 1 Labor Demand in Yolo County

Source: SACOG Rural Urban Connections Strategy Report

Local Farmers: Opportunities and Challenges

Many of the local growers listed on websites devoted to local agriculture like Local Harvest and Community Alliance with Family Farmers (CAFF)'s Buy Fresh, Buy Local campaign specify that they sell their produce to restaurants or farmers' markets in the San Francisco Bay Area or Sacramento.

The Small Farm Center at the UC Davis conducted a survey that compared USDA data with producer interviews and demonstrated that Yolo County is the leading county in the U.S. in terms of consumer direct sales (Richter, 2009). This study shows promise for local interest in a food hub, but the study did not show the percentage of Yolo consumers purchasing the crops (i.e. most of the consumers could have been from the Bay Area).

One small-scale farmer who was interviewed for the report stated that one of the current challenges facing his operation is:

Keeping costs low, and getting a good price, but it's not easy because it's an agricultural area and everyone is producing pretty much the same thing. Organic growing needs to use expensive and intensive methods, the costs are high, so price to customers need to be higher. We need two to three times more customers to cover the costs.

We also asked about whether he could identify current opportunities for his business. He responded as follows:

We want to grow into an export market, the price for organic produce is very high overseas, and we can get a good price for oranges, broccoli, and the quality is good, by cutting out the middle man.

This same farmer has a successful large CSA with the majority of his customers living in Yolo or Sacramento. He would like to expand his market locally, but for him there is not a way to increase his sales by marketing locally.

Local beef producers are searching for ways to access niche markets outside of the traditional cattle markets. Currently, there are no USDA and State inspected facilities for harvesting cattle in Yolo or Solano County. Recently, a group of University of California Cooperative Extension specialists surveyed over 400 livestock producers in Northern California to assess the demand for a small-scale livestock processing facility (Richter, 2009).

Summary

Historically, Yolo and Solano Counties have been large-scale commodity producers growing crops for a non-local market. This changed in the 1970s, when organic farms started switching their production to include diversified vegetable crops for markets in the Bay Area and Sacramento. However, currently there are only two areas in Yolo County, Clarksburg and Capay Valley, devoted primarily to this type of production, while the rest of the county continues to grow commodity crops for export. There are local tomato processing plants to serve tomato growers, local alfalfa production supports livestock production, and large-scale tree crops continue to garner good market prices. The current production picture of Yolo and Solano Counties shows that medium to large scale growers of commodity crops have successful market systems. Further interviews with small scale farmers need to be conducted to determine those interests in a food hub. As Table 3 illustrates, there are a large number of small-scale farmers in Yolo County, and this population of growers should be targeted for assessing the level of interest in a food hub. Our preliminary findings show that growers may have difficulties marketing produce locally because of limited outlets, but more interviews need to be conducted to make sure this is true for all of the small-scale farmers in Yolo and Solano.

There are a few recent trends in both counties to switch to organic production for a wholesale market, but this typically serves customers outside of the area. The numbers of small-scale growers in Yolo and Solano could justify the formation of a food hub, but the consumer base would likely be outside the county. Models that have proved successful in Yolo and Solano counties for farmers include CSAs and agri-tourism. A food hub could build upon already existing popular agri-tourism areas, specifically the Capay Valley and Clarksburg winegrowing regions. Extending the reach of agri-tourism to include more small and medium-scale growers would ensure more opportunities for farmers to build recognition for their farms. The greatest possibility for success may lie in creating a stronger identity for the counties related to agri-tourism and organic production. This model has been successful in areas like Napa Valley, Apple Hill, and Capay Valley in Yolo County. These examples provide a good local starting point, but more of a concerted effort is necessary to take the burden off individual farmers and include all small-scale growers.

Food Processing

Industry Overview

Food processors purchase fruits, vegetables, meat, dairy products, and other raw foods that are then manufactured to add a specific value; for instance, canning or freezing vegetables adds value by preserving and extending the shelf life of crops year-round. The procedure of converting a whole food into a prepared food product significantly increases an item's marketing potential. "Food processing has one of the highest economic impacts of all types of manufacturing activity and is strategically linked to other economic sectors, including tourism, biotechnology, packaging, environment, resource recovery and advertising" (Unger & Wooten, 2006).

Sometimes "artisan," small-scale food purveyors and entrepreneurs will perform onsite harvesting, processing, or marketing of the final product; however, the bulk of the food processing sector involves business relationships with other organizations that have the specialized infrastructure to support processing, packaging, and distribution activities (Food manufacturing in California, 2010). The following types of industry groups serve as the major players involved in food processing (Northern California Center of Excellence and the Office of Economic Development at Cerritos College, 2010):

- Animal food
- Grain and Oilseed
- Sugar and Candy
- Fruit and Vegetable
- Specialty Foods
- Dairy
- Meat
- Seafood
- Bakeries and Tortillas
- Beverages
- Other Manufacturing (dressings, spices, etc.)

Yolo and Solano Processing Industry Composition

The following section provides an overview of processing in Yolo and Solano Counties. Many food-processing plants have closed in the region (Rural-Urban Connections Strategy, 2008). The closing of the Hunt-Wesson tomato processing plant in Davis in 1999 resulted in the loss of about 620 full-time and seasonal jobs (Swett, 1999). In some cases, the loss of a processing facility will cause farmers to cease growing a particular crop altogether (Rural-Urban Connections Strategy, 2008). For example, sugar beets were once Yolo County's main crop. Due to a combination of agricultural economic factors and low prices, the Spreckels sugar beet factory closed in Clarksburg in 1993 causing Yolo County farmers to significantly decrease the acreage of sugar beets (Edwards, 2011; Spreckles Sugar, 2006). As stated in the Rural-Urban Connections Strategy report, "Such closures also eliminate direct and indirect processing jobs, as well as the economic multiplier effect associated with those jobs and the facility (2008). Despite the closure of the tomato processing plant in Davis, the region dominates the national market for canning and processed tomatoes (Swett, 1999).

A study entitled "The Food Chain Cluster" recently published information regarding food processing in Yolo and Solano Counties (Henton et. al., 2011). In addition to the added economic return that processing offers for value added products, food processing also accounts for a significant portion of the food industry labor market across the two counties. In 2008, the food-processing sector of the labor market reported the highest annual employee earnings to be \$52,722 and in 2009, food processing occupied the largest percentage of food system jobs across both counties (23% of all workers), in addition to experiencing a 43% increase in employment in the industry. In 2009, there were 297 small-scale food manufacturers in the Yolo-Solano County region, defined as processors that have no employees and are run by one owner or partner. The GDP for processing in both counties was \$500 million (Henton et. al., 2011).

On the educational front, UC Davis plans to offer a new food-processing teaching and research facility that will include the study of "alternative food-processing methods and their nutritional effects, nutritional quality and shelf life of fresh-cut fruits and vegetables; nutritional enhancements from food-processing 'waste' products; and improved food formulations" (UC

Davis, 2010). This can be seen as an opportunity for local processors to have access to expert education in post harvest chopping, packing, canning, cold storage, freezing, drying, and grading techniques. Private donations have funded the facility (UC Davis, 2010), representing private investor interest in funding food processing development and endeavors within the built in reputation for food and agriculture that goes along with the region.

Slow Food Yolo recently featured an exciting announcement for a potential opportunity with an upcoming custom meat processing facility, Manas Ranch (Slow Food Yolo, 2011). Manas is located along Highway 16 and is capable of serving USDA inspected, state inspected, and custom-exempt producers, processing commercially grown, organic grown, beef, lamb, pork and goat in addition to wild game (Slow Food Yolo, 2011). Carcass aging, dry aging, meat cutting, meat processing, smoking, curing, freezing and vacuum-sealing are also offered (Slow Food Yolo, 2011). Given the high number of small-scale manufacturers in the region, there exists the opportunity for further research in order to identify and to locate these small-scale processing enterprises. The AFA must collectively decide how both large and small scale processors will integrate into the AFA vision of a food hub as well as what scale processing they are interested in expanding. The UCD research team compiled a list of processors in the two counties in Appendix H. Appendix I provides a map of Yolo and Solano County processors in proximity to food in relationship to distribution centers and the roadways frequently utilized for distribution within the two counties (SACOG, 2011). This map illustrates the geographic proximity of Yolo County processing and distribution routes, illuminating potential opportunities and partnerships within existing infrastructure.

Barriers

Processing markets are both competitive and dynamic (COE, 2010), and food processing conditions in Yolo and Solano counties are largely driven by economies of scale. Small-scale producers often lack entry to processing due to barriers that include high entry costs in addition to size and scale requirements of existing operations (Yolo Ag Viability Summary, n.d.). Other times there are other challenges between various players in the industry. For example, to assure food freshness in the produce industry there is pressure to align the timing of the harvest with the availability of the processor. Farmers cite the difficulties of sourcing a reliable processor and

being able to meet the proper volume requirements and price points of customers as primary reasons to work with processors outside of Yolo and Solano counties (Yolo Ag Viability Summary, n.d.).

The UC Davis research team visited a local mid-size diversified farm located along Interstate 80. The farmer has been working on plans to implement processing facilities on his property and would like to build a winery, a dairy, a commercial kitchen, and a separate processing kitchen. He went on to describe plans for his future facility that will serve as an asset to the region's farmers. During the visit, the farmer explained that both the state and the county regulates processing infrastructure that could present conflicts between local and state governances. For example, he said county regulations tend to be stricter than state regulations and that county agencies are often not set up to deal with small-scale processors. These regulatory barriers can be difficult for farmers to overcome. Without a user friendly, accessible mechanism for interpreting, organizing, and distributing this regulatory information to industry stakeholders, compliance can be difficult and regulatory barriers can appear overwhelming, deterring small-scale processors from entering the market.

The UCD research team compiled a list of processors in the two counties in Appendix H. Appendix I provides a map of Yolo and Solano County processors in proximity to food in relationship to distribution centers and the roadways frequently utilized for distribution within the two counties (SACOG, 2011). This map illustrates the geographic proximity of Yolo County processing and distribution routes, illuminating potential opportunities and partnerships within existing infrastructure.

An interview with a local multinational fruit drying company revealed that a diverse market approach that is part of what keeps this mid-large scale food processor in business. Raisins and prunes are the main fruits that the company works with and while talking with the Director of International Sales, it was stated the company success is attributed to the presence of international as well as local markets for their own brand of dried fruit as well as for their private label customers in which case the fruit is packaged by another major name brand. Due to accommodating farmer quantity minimums and time of delivery restrictions, small-scale farmers

can better access this drying facility as the plant serves a variety of customer outlets, and is always strategizing to maintain company standards, efficiency, and economic viability while offering smaller-scale farmers access to a drying and packing facility. As a mid-large scale processor this fruit dryer requires a steady flow of distribution channels to and from their location with multiple pick ups and drop offs occurring daily. One of the noted challenges for this particular processor was the financial and spatial challenges of sitting on the surplus of incoming product that surrounds that late fall when the majority of area farmers harvest.

Summary

Processing creates value added products and holds opportunities for growth within Yolo and Solano county employment profiles. In addition, the realization of regionalized food processing through the emergence of diversified products, new food entrepreneurs, processors, and processing industries will require the provision of necessary infrastructure and a clearer understanding of current regulations. Solano County Shared Spoon Kitchen and The Hillel House in Yolo County are two commercial kitchens that may serve to expand various scales of food processing. The AFA will need to decide what type of processing it wants to expand within the counties and then research the specific regulations to better respond to current barriers and opportunities. Additional recommendations can be found in Chapter 3.

Food Distribution in Yolo and Solano Counties

Industry Overview

Following food processing, distribution infrastructure facilitates the transportation of food products to a variety of consumer outlets and institutional buyers. Distributors buy food directly from farmers or processors and then sell the food to grocery stores, restaurants, hospitals, food banks, and schools. Many small-scale farmers are often left out of the large-scale distribution model currently serving much of the American food system. Large-scale retail stores often

“develop their own vertically integrated distribution systems that tend to shut out wholesalers, small processors, and smaller retailers” (Heffernan et al., 1999).

Due to economies of scale, it is cheaper for these large distribution centers to buy food from larger farms, regardless of whether or not they are local. Larger farms also provide a distributor with a more consistent source of food, making it difficult for smaller farms to compete. In the Sacramento Region, some farmers have had a difficult time getting their food into a market, and food is sometimes left to rot on the fields (Weintraub, 2010). This section describes the current distribution system in Yolo and Solano Counties. The section is divided into three parts: distribution industry composition, company lists, and barriers.

Yolo and Solano Distribution Industry Composition

“The Food Chain Cluster” is a recent study that analyzed the food distribution economy in Yolo and Solano Counties (Henton et al., 2011). The report showed that the food distribution industry is an important part of the two counties’ economy that has been growing over the years. “The region’s GDP in distribution increased by almost three times since 1990, faster than any other segment [in the food sector]” (Henton et al., 2011). In 2009, the GDP for the food distribution industry in the two counties was \$872 million. This GDP was higher than the GDP produced by the food production sector and the food processing sector in 2009 (Henton et al., 2011).

The food distribution industry provides employment for residents of both Yolo and Solano Counties. According to “The Food Chain Cluster,” about 19% of food system jobs in Yolo and Solano Counties were in the distribution sector in 2009 (Henton et al., 2011). In 2008, those employed in the food distribution sectors had average earnings of about \$46,762. From 2001 to 2008, employee earnings from the distribution sector increased by 7%. Despite the increase in both the GDP and employee earnings, there was a 2% decrease in employment from 2001-2009 (Henton et al., 2011). It is not clear why the employment has slightly decreased while the GDP has increased in the distribution sector of the two counties.

Distributors

Distributors In Yolo and Solano Counties

Below is a list of food distributors with facilities in Yolo and Solano Counties. Seventeen food distributors were identified from internet searches. This is not a comprehensive list of every food distributor in the two counties. The UC Davis research team does not purport that each distributor listed below buys local food or distributes to local businesses. For more information, including addresses and phone numbers of the distributors listed below, see Appendix J.

Adams Grain Company, Woodland

Beeman Farming, Corp., Woodland

C&S Wholesale Grocers, West Sacramento

Capay Organics/Farm Fresh to You, Capay and West Sacramento

Ed Jones Foods, Fairfield

Hernandez Produce, Fairfield

Jacmar Food Service Northern California, West Sacramento

Jim Hyatt Produce Company, West Sacramento

Kiwi Distributing Inc., Woodland

Nor-Cal Produce Inc., West Sacramento

North American Food Distributing Company Inc., West Sacramento

Pittsburg Wholesale Grocers, West Sacramento

Safeway Distribution Center, West Sacramento

Soh Distribution Company, West Sacramento

Timco Worldwide, Inc., Davis

Tony's Fine Foods, West Sacramento

Yolo Produce, Woodland

Sacramento Region and Bay Area Distributors

Yolo and Solano Counties are located between two urban centers: the San Francisco Bay Area and the Sacramento Region. Both of these regions contain distributors who may have an interesting in purchasing local foods. During an interview, one local grower expressed concern that there was a lack of distributors he was able to sell to in Yolo and Solano Counties, therefore his main distributor is in San Francisco.

Below is a list of distributors that may help to provide a market to potential local growers. Unless otherwise cited, the information below was collected through the research team's own knowledge and conversations with UC Davis student researcher and Geography PhD Candidate, Libby O'Sullivan (2011). The UC Davis research team does not claim that each company listed has an interest in increasing the amount of local foods currently sold. For more information, including addresses and phone numbers of the distributors listed below, see Appendix K.

Fresh Point, Turlock, CA

Although not necessarily labeled as "local," Fresh Point buys some local products.

General Produce, Sacramento, CA

General Produce buys less than 10 percent of its produce from local growers. The majority of the produce is distributed to food service businesses and retail stores.

Next Generation Foods, Olivehurst, CA

Next Generation Foods buys only local products. Some of the products are distributed to local retail stores or institutions. For example, U.C. Davis Dining Halls serve foods distributed from Next Generation Foods.

Produce Express, Sacramento, CA

Produce Express buys some local produce. The produce is sold to a variety of clients, including Sacramento restaurants and both Davis and Sacramento Unified School Districts.

Sysco Sacramento, Pleasant Grove, CA

Sysco has launched an effort to source more local produce (Sustainable Food Laboratory, 2011). For example, Sysco was able to distribute lettuce that was grown and processed locally in Michigan to Michigan State University (Sustainable Food Laboratory, 2011).

Veritable Vegetable, San Francisco, CA

Veritable Vegetable is an organic produce distributor, buying some of its products from local Capay Valley growers. Some of the products are sold to local retail stores.

Barriers

The “Rural Urban Connections Strategy” report found that while Sacramento Region’s consumer demand for local food is increasing, only about 2-3% of the produce distributed is sourced locally (Rural-Urban Connections Strategy, 2011). The report identified the barriers that local distributors have in sourcing local foods. The distributors interviewed listed the following barriers for sourcing local produce: “purchasing from multiple small growers, seasonal availability, limited volume, price, and food safety concerns” (Rural-Urban Connections Strategy, 2011).

In a case study undertaken by King, et al., a local Sacramento company, Nor-Cal Produce Inc. was the main distributor of spring mix lettuce for the Sacramento Region grocery chain, the Nugget (King, et al, 2010). None of the spring mix lettuce distributed to the Nugget from Nor-Cal came from local growers. The majority of the spring mix lettuce came from Earth Bound Farms. Depending on the season, Earth Bound Farms spring mix grows on farms in Southern California, Arizona, or Mexico (King, et al, 2010). The researchers reported that Nor-Cal is able to offer a “fixed price” for the Earth Bound Farms spring mix to the Nugget (King, et al, 2010). Local spring mix growers may have difficulty competing with the fixed prices of nonlocal sources.

This case study demonstrates several barriers that distribution companies face in sourcing products from small local growers. It is often cheaper for the distributor to buy non-local products. Non-local products grown in warmer climate zones during northern California’s winter can provide distributors with a more consistent source of products throughout the year (King, et al, 2010).

“The Food Chain Cluster” stated that in order to support the food distribution sector in the future, it is important to continue to have well-maintained transportation infrastructure (Henton et al., 2011). Road infrastructure is another barrier that affects distribution companies throughout the region. The “Rural-Urban Connections Strategy Current Conditions” report stated that traffic is a huge barrier for farmers trying to transport their produce, because many commuters are using the rural roads to avoid congested highways (Rural-Urban Connections Strategy, 2008). In addition, residential and casino development in the area has exacerbated traffic problems. According to the report, improving the road maintenance could encourage new development which would actually increase congestion and speeding (Rural-Urban Connections Strategy, 2008). The complexity of the situation makes it difficult to know how to improve this particular barrier.

Summary

The food distribution industry is an important player in Yolo and Solano Counties, generating a large percentage of the food system’s GDP. The industry has been growing rapidly since 1990. Despite its growth, the majority of the produce distributed has been from non-local sources. Distribution companies interested in accessing local produce face many barriers. Distribution companies also face complex barriers related to infrastructure. Specific recommendations for further action plans regarding the distribution system are included at the end of this report.

Retail and Consumption

According to the AFA’s *Yolo County Regional Food Forum Report* (2011), there are a number of challenges and barriers to local food systems relevant to retail and consumption. Among them, food security is cited as a key challenge, including: access to local foods in low-income communities; pricing product low enough to be accessible, but high enough to be sustainable; and keeping prices low enough so local food is not a privilege (AFA, 2011). However, there are also many opportunities found in local food systems. Specifically, the AFA cites the demand and interest in local foods, including: an increasingly aware and interested public; lots of excitement by consumers for local food; UC Davis staff and students as a large potential market; great

interest in local foods in Davis; growing demand for local foods and food products which brings local wealth and jobs; greater food security; and more local products entering the larger food distribution system (AFA, 2011).

This section presents an overview of retail opportunities and consumption trends in Yolo and Solano Counties. It includes a list of local retail outlets and institutional buyers who may be interested in sourcing local products. The section also presents a profile of broad eating habits nationally to extrapolate locally, highlights food insecurity issues in Yolo and Solano Counties, and provides an illustrative example of the connection (or in this case, disconnects) between food insecurity and local agriculture.

Retail

Retail food includes food that is sold at a retail price, directly to the consumer. This includes food sold at grocery stores, restaurants, or in institutional settings such as schools and hospitals. Below is a list of local retail outlets and institutional buyers who may be interested in sourcing local products.⁴ For more information, including a detailed list of the retail outlets and institution buyers listed below, see Appendix L.

Alternative Retail Outlets

Farmers' Markets

Yolo and Solano County are lucky to have 13 farmers' markets to choose from, including the Davis Farmers' Market, which was awarded "America's favorite farmers' market" by the American Farm Land Trust in 2009, registering over 3,000 votes and winning the 'large' category of markets featuring 55 vendors or more (American Farm Land Trust, 2011). Farmers' markets in Yolo and Solano County include:

- West Sacramento Farmers' Market
- Woodland Farmers' Market
- Davis Farmers' Market

⁴ Unless otherwise cited, sources in this section represent our own knowledge, general internet searches, and information posted on Davis Wiki, Local Harvest, and the California Federation of Certified Farmers' Markets.

- UC Davis East Quad Farmers' Market
- Sutter Davis Hospital Farmers Market
- Winters Farmers' Market
- Capay Valley Regional Farmers' Market, Esparto
- Dixon Farmers' Market
- Vacaville Farmers' Market
- Nut Tree Local Harvest Market
- Fairfield Farmers' Market
- Kaiser Vallejo Farmers' Market
- Vallejo Farmers' Market
- Benicia Certified Farmers' Market

Community Supported Agriculture (CSA)

There are a total of 18 CSAs in the two counties – 15 CSAs in Yolo and three CSAs in Solano County (Galt, in press 5/2011). A few examples are identified below:

- Full Belly Farm, Guinda
- Farm Fresh To You, Capay
- DeVoDa Gardens CSA, Woodland
- Eatwell Farm, Dixon
- Riverdog Farm, Guinda
- Shooting Star CSA, Fairfield
- Terra Firma Farm, Winters
- Full Circle Organic Farm, Davis
- Good Humus Produce, Capay

- Student Farm CSA, UC Davis

Restaurants That Use Local Products

There are a few restaurants using local produce in Yolo and Solano Counties, including Monticello Seasonal Cuisine, The Farmers Kitchen Café, and Tucos, all located in Davis. In addition to these restaurants, numerous restaurants in the Sacramento region are known to use local products, including Water Boy, Ella, the Kitchen, Selland's Market Café, Grange, and Mulvaney's B&L.

Grocery Stores That Sell Local Products

There are a number of grocery stores in the region that sell local products, including Nugget (multiple locations), the Davis Food Co-op in Davis, and Henry's Farmers Market in Elk Grove. In addition to these grocery stores, there are a number of specialty stores that sell local products, including Natural Food Works and the UC Davis Meat Lab (open to the public during limited hours) both in Davis, as well as the newly open Manas Ranch Old-Style Custom Meat Market in Esparto.

Produce Stands

There are a variety of produce stands in Yolo and Solano Counties, including a few examples below:

- The Yolo Fruit Stand (between Davis and West Sacramento)
- Ikedas, Davis
- Pedrick Produce (between Davis and Dixon)
- FL Strawberries (near Davis)
- Grandpa's Barn / Impossible Acres (near Davis)
- Pacific Star Gardens (near Davis)

- Capay Valley Farm Stand (Esparto)

In addition, there are a number of strawberry farm stands in the region owned by growers of Southeast Asian origin (Iu Mien and Hmong). In Yolo and Solano County, this includes:

- Saelee Strawberry (near Dixon)
- Fou Sio Saelee (near Davis)
- Choy Saetern, (near Rio Vista)
- Lew Saetern & E Chiam Lee, (near Winters)
- (Sacramento Strawberry Map, 2011)

Ethnic Markets

There are a number of ethnic markets in Yolo and Solano Counties. Examples include:

- International Food Market, Davis
- Kim's Mart [Korean and other Asian foods], Davis
- SF Market [Asian Supermarket], South Sacramento
- Main Street Market [Indian], Woodland
- MIS Amigos Meat Market [Mexican], Woodland
- La Superior [Mexican], Woodland

Conventional Retail Outlets

Full-Service Grocery Stores

There are a great deal of full-service conventional grocery stores in Yolo and Solano Counties, each with multiple locations, including Safeway, Save Mart, Target, Trader Joe's, Food 4 Less, Grocery Outlet, Walmart, Costco, and WinCo. There are also a number of locally owned full-

service grocery stores, including Nugget (multiple locations), Westlake IGA (Davis), County Square Market (Vacaville), and Raley's (Raley's, Bel Air, Nob Hill, and Food Source) with multiple locations in the Sacramento Region.

Institutional Buyers

There are a wide variety of institutional buyers in Yolo and Solano Counties, including 12 hospitals, 6 colleges and universities, 13 school districts, 7 jails and prisons, Travis Air Force Base, Cache Creek Casino Resort, and numerous Food Banks and Food Assistance programs (see Consumption section below for more information on emergency food assistance).

Consumption

Consumption in Yolo and Solano Counties

The average American household spent \$6,372 on food in 2009 (Consumer expenditures, 2009). \$3,753 (59%) of these expenditures was spent on food consumed at home, and the other \$2,619 (41%) was spent on food consumed away from home. In 2008, the average American consumed 2,661.17 calories per day. The average American diet consists mainly of grains, fats and oils, meat, and caloric sweeteners; less than 10% of dietary calories come from fruits and vegetables (Ibid). (See Figure 1 for the complete diet profile.)

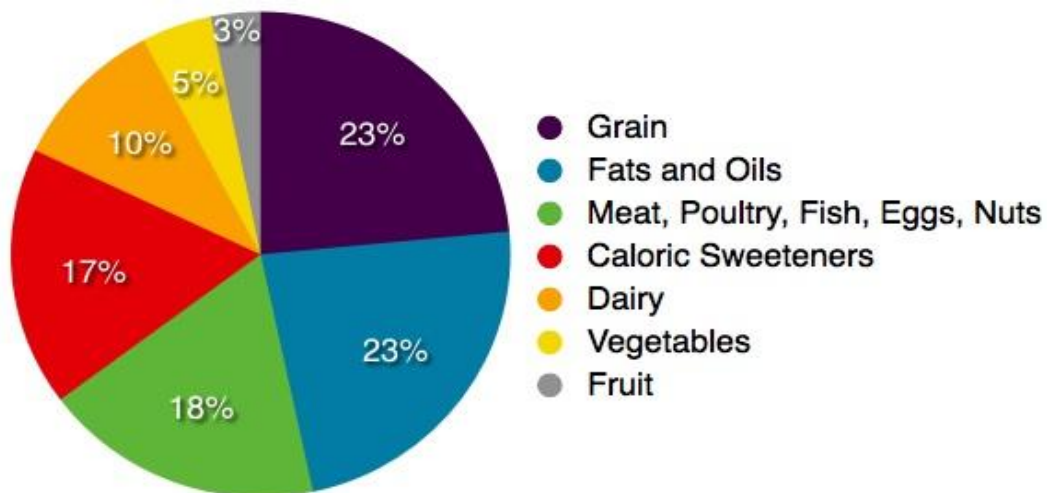


Figure 1 Per Capita Calorie Consumption, 2008

Food Insecurity

Food security is defined as “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life” (World Health Organization, 2011). The following paragraphs present a snapshot of food (in)security trends in Yolo and Solano Counties, including a look at food deserts in the two counties, the role of poverty in food insecurity, and the relationship between food insecurity and poor health. These issues will be important to address in the efforts to make the Yolo-Solano regional food system more equitable, environmentally sound, and economically viable.

Food security is a serious issue in California. Nearly 35% of all adults in California are considered food insecure, and the situation is only slightly better in the Yolo-Solano region; about 13,000 (31.6%) adults in Yolo County and about 22,000 (33.8%) adults in Solano County are considered food insecure (California Food Policy Advocates, 2010b). The region contains food deserts, or geographic areas in which residents find it difficult to obtain fresh, healthy food. Figures 2 and 3 display the food deserts located in Yolo and Solano Counties; the purple region indicates where residents have low access to supermarkets and other retail food outlets (The Reinvestment Fund, 2010). Although several food desert mapping tools exist which contain somewhat conflicting information, most of them agree that food deserts exist in the northeastern part of Yolo County and around Fairfield and Vallejo in Solano County.⁵ With about one-third of adults lacking the resources to regularly put food on the table, it is important to examine ways to increase participation in national food assistance programs, ensure easy access to emergency food programs, and understand the unique causes of food insecurity.

⁵ In addition to these maps, see also California Center for Public Health Advocacy’s Searching for Healthy Food: The Food Landscape in California Cities and Counties – [Solano County fact sheet](#) and the USDA Economic Research Service’s [Food Desert Locator](#).

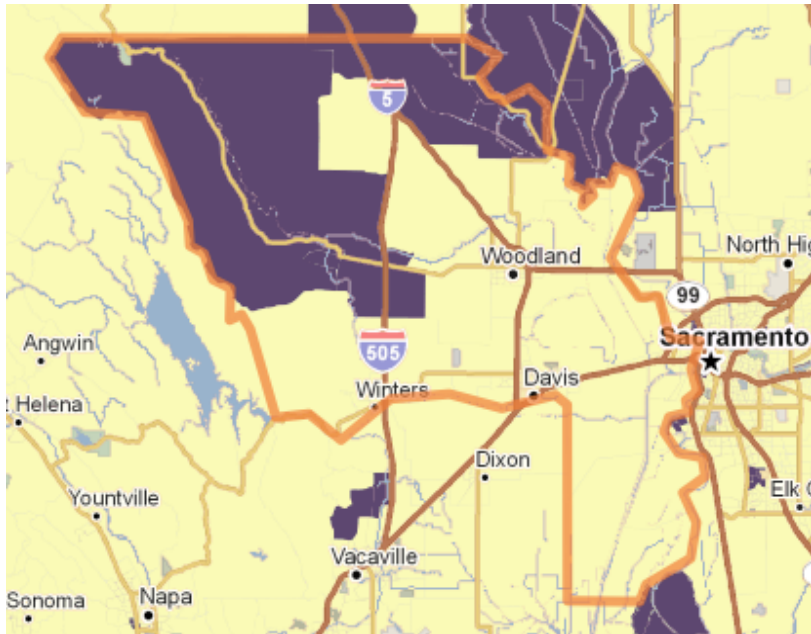


Figure 2 Food Deserts in Yolo County (from The Reinvestment Fund)

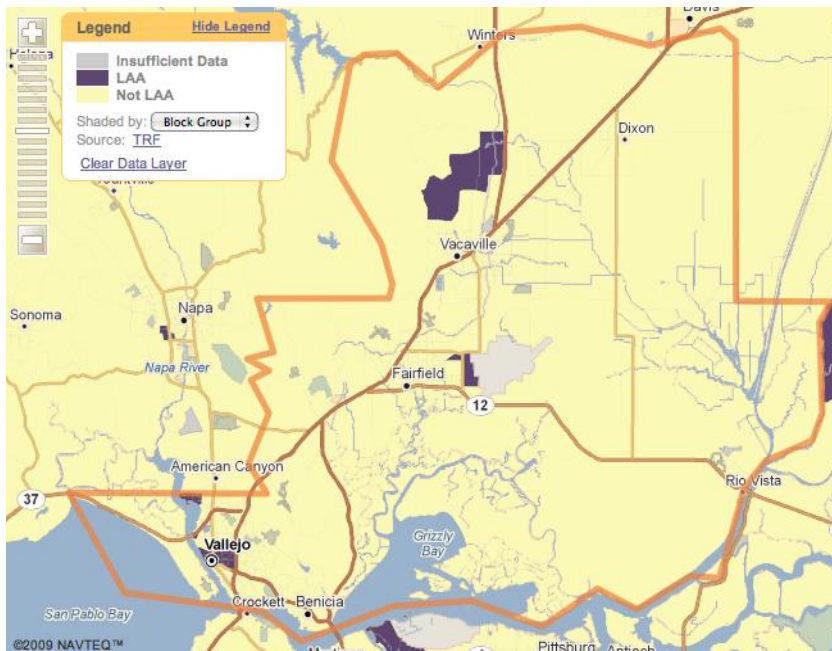


Figure 3 Food Deserts in Solano County (from The Reinvestment Fund)

Poverty

Over 4.7 million Californians live in poverty, making up 13% of the total population.

Unfortunately, children are disproportionately affected by poverty; about 17% of all children in California live at or below the poverty line. The situation in Yolo and Solano Counties mirrors these statewide trends: 13.7% of children and 14% of the total population in Yolo County live in poverty, and 11.1% of children and 9% of the total population in Solano County live in poverty (California Food Policy Advocates, 2010b).

Federal Programs for Food and Nutrition Assistance

The federal government operates several food and nutrition programs to prevent food insecurity in vulnerable populations, including low-income individuals, children, women, and the elderly.

These programs include the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps), the Women, Infants and Children (WIC) Program, National School Lunch Program, the School Breakfast Program, and the Summer Nutrition Program.

Unfortunately, these programs are often underutilized by eligible individuals because of bureaucratic barriers, lack of awareness about the programs, and social stigma. For example, a recent report by the California Food Policy Advocates estimates that California misses out on \$4.9 billion in federal benefits per year due to low participation in CalFresh, the state's food stamp program (California Food Policy Advocates, 2010a).

These federal nutrition programs are vastly underutilized in the Yolo-Solano region. Figure 4 displays the participation rates among eligible individuals for food stamps, the National School Lunch Program, the School Breakfast Program, and the Summer Nutrition Program in Yolo and Solano County. Even in the most utilized program—the Yolo County School Lunch Program—23% of eligible participants did not receive benefits. The Yolo County Summer Nutrition Program is the least utilized program, and 81% of eligible participants do not receive benefits. State lawmakers are currently considering several bills that will make it easier for eligible people to receive benefits (Chaussee, 2011). However, it may prove fruitful to examine whether local programs could be implemented to increase participation in the federal food and nutrition assistance programs. Also of importance to note is that only 31% of eligible individuals receive

food stamps in Yolo County, as compared to 72% of eligible individuals in Solano County (California Food Policy Advocates, 2010b). Increasing program participation in these federal food and nutrition assistance programs will not only provide program participants with healthy and affordable food, but it could potentially increase the market for fresh, local produce and strengthen the local economy.

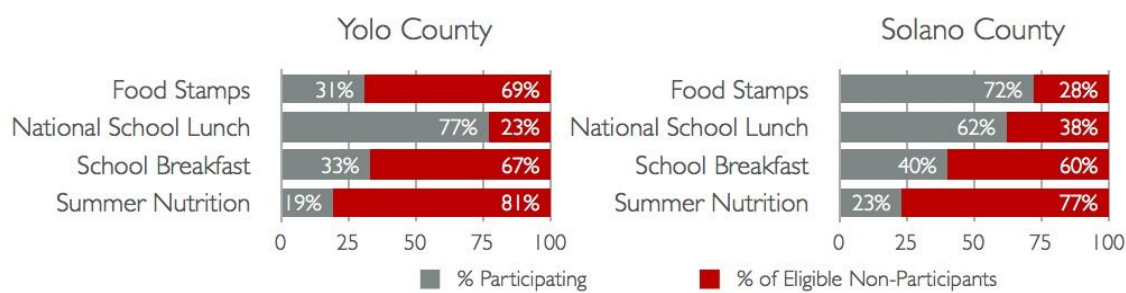


Figure 4 participation rates among eligible individuals for four federal programs in Yolo and Solano County

Emergency Food Services

Local nonprofit and social services agencies operate numerous emergency food programs to address food insecurity in vulnerable populations, including low-income individuals, children, women, and the elderly. The Food Bank of Contra Costa and Solano (located in Fairfield) and the Food Bank of Yolo County, located in Woodland, are two of the largest agencies providing emergency food aid. For example, the Food Bank of Yolo County provides food to about 70 organizations, representing over 100 programs, of which 60% of these programs are food closets/pantries and 40% of these programs providing on-site feeding. The various programs to which the Food Bank provides food offer 10 broad categories of social service (José Martinez, Personal Communication, May 4, 2011):

- Food give away on either a regular program basis or on an as needed emergency basis
- Drug/alcohol residential treatment
- Transitional housing
- Homeless
- Faith based
- Work training programs
- Sexual assault domestic violence

- Social services
- Emergency services, such as the Red Cross
- After school programs

In addition, there are a wide variety of other food aid programs, ranging from The Pantry—a food pantry for college students at UC Davis—to Meals on Wheels, which delivers food to home bound seniors in our community, regardless of economic need. For a detailed list of emergency food providers, see Appendix M: Emergency Food Providers in Yolo and Solano Counties.

Food Insecurity and Health

Overweight and obesity has reached epidemic proportions in recent years (Diamant et al., 2010). Statewide, 57.1% of adults are overweight or obese, and 11.2% of children are overweight for their age. In Yolo County, 56.3% of all adults are overweight or obese, and almost 13% of children are overweight for their age. In Solano County, 61.9% of adults are overweight or obese, and 8.9% of children are overweight for their age. While these trends may not seem immediately connected to food insecurity, both of these problems can be traced to a common cause -- a lack of access to fresh, healthy food (Food Research and Action Center, 2010).

These are serious health issues that affect Yolo and Solano Counties. While the region contains many resources for food and nutrition assistance, (see Appendices K and L), these resources have not fully addressed the health and nutrition needs of residents.

In order to better understand the connections and disconnects between the on-the-ground realities of food insecurity mentioned above and local agriculture in the region, the research team met with José Martinez, the Executive Director of the Food Bank of Yolo County. Martinez highlighted the large quantity of fresh produce that the Food Bank distributes to Yolo County residents who are food insecure. He explained that a few years ago, the Food Bank of Yolo County provided 40,000 to 60,000 pounds of fresh produce to families in need. In 2010 the Food Bank purchased 1 million pounds of fresh produce, representing a huge success in the effort to provide more healthful products to food insecure residents in Yolo County. The produce was primarily purchased through Farm to Family, a specialized produce distributor for food banks in

California which is operated through the California Association of Food Banks. Much of the produce comes in the form of seconds (produce with slight defects not appropriate for conventional retail markets) or culls (produce that would otherwise have been left in the field to go to waste). Because of this, Farm to Family is able to sell produce at below market price to food banks (California Association of Food Banks).

Farm to Family explained that donations are first offered to the food bank serving the local community (California Association of Food Banks). Martinez explained that the produce they receive from Farm to Family comes from large commodity growers elsewhere in California. Therefore, local commodity growers are not donating to Farm to Family. The local produce the Food Bank of Yolo County receives comes directly from local farmers who donate their produce. In 2010 this included 50,000 pounds of produce. He explained that the Food Bank never asks “Yolo County growers to donate because their cost structure can’t support it” and that given the current context, “there really is not a feasible way for local farmers to sell produce directly to the Food Bank because farmers in this region just simply cannot afford to do so”.

Summary

The Yolo-Solano region contains many current and potential retail markets for local agricultural products, including conventional outlets (e.g. grocery stores), alternative outlets (e.g. farmers’ markets and produce stands), and institutional buyers (e.g. hospitals, K-12 schools, and universities). National trends in consumer eating behavior indicate that significant markets exist both for meals consumed inside and outside the home. Furthermore, regional trends have demonstrated that consumers in Yolo and Solano Counties are very interested in purchasing local food. Unfortunately, many residents in our region lack the resources to obtain fresh, healthy food. About 14% of our residents live in poverty, and many federal food and nutrition assistance programs are significantly underutilized in our region. While our region contains many emergency food programs, these resources have not fully addressed our residents’ health and nutrition needs, as marked by the presence of both urban and rural food deserts and high rates of obesity – especially in children.

Chapter 3: Conclusions & Next Steps

Over the academic quarter in spring 2011, the UC Davis research team analyzed segments of the food system in Yolo and Solano Counties in order to highlight potential opportunities for creating a successful food hub in the region. The counties could benefit from leveraging opportunities to create a more equitable, environmentally sound, and economically viable food system. The location of Yolo and Solano Counties lies amidst a rich agricultural area between two major urban centers, providing great opportunity to bring farm fresh produce to nearby markets in the San Francisco Bay Area and the Sacramento Region. Additionally, widespread interest in the consumption of local food may help to leverage the region's agricultural economy.

As the AFA is well aware, growers experience difficulties in selling produce locally due to limited processing, distribution, and retail channels. While there is a growing demand for local foods, distributors face challenges with sourcing local produce including: seasonality, price points, economies of scale, food safety, and infrastructure. Furthermore, many Yolo and Solano County residents may not be able to access or afford local foods demonstrated by high rates of food insecurity in the region.

Ultimately the UC Davis research team believes that the data provided doesn't guarantee the success of a potential food hub. Starting a food hub poses a significant financial risk and past efforts in the region underscore the challenges inherent in such endeavors. In addition, similar efforts are occurring in Northern California, and greater consideration should be given to collaboration before duplicating efforts. Before investing in a food hub, it may be more appropriate to strengthen existing infrastructure as a more financially viable solution. The region's distributors are currently operating under significant challenges, and it is unclear how a food hub will circumvent these challenges. It is unknown whether a food hub is the best solution to support both small and mid-scale farmers' livelihoods. It is also unknown the degree to which retailers and consumers are willing to pay a higher price for local foods.

Going forward, a much more concerted effort is necessary to clarify the collective vision for a food hub, understand past and current attempts at aggregation, processing, and distribution, and ensure adequate supply and demand for local products. While examples of successful food hubs

exist across the country, a food hub may not be the appropriate solution for every challenge in the food system or for every region. Understanding the local context will be crucial in creating innovative solutions to the region's food system challenges.

Recommendations for Next Steps

Define and Clarify

Food Hubs

- Define and clarify a food hub vision.
 - Internally: the AFA must agree upon its definition and vision for a food hub.
 - Externally: the AFA's food hub vision must align with the assets and needs of the local food system.

Processing

- Define the scale of processors that the AFA is interested in.

Understand and Explore

Food Hubs

- Understand the local context:
 - Understand the past attempts to create aggregation and distribution infrastructure in Yolo and Solano Counties have been unsuccessful.
 - Understand current attempts to build local food hubs.
- Understand the specific needs and interests of key stakeholders in a potential food hub, including small and mid-size farmers, processors, retailers, and consumers.

Production

- Understand small-to-mid size farmers' needs and level of interest in a food hub
- Understand what small scale farmers are currently growing and explore if this would change if different processing and distribution options were available.

Processing

- Explore why there are so many small-scale processors and who they serve.
- Understand the ability of small and mid-size farmers to access processing.
- Understand the regulatory challenges of small scale processing.
- Understand the specific timing and scale of processors.

Distribution

- Determine what challenges distribution companies face that will not be overcome by a food hub. (For example: road infrastructure, seasonality, price points, and demand.)
- Understand current successes where distribution companies have sourced limited local produce and consider ways in which this may be strengthened and expanded.

Consumption/Retail

- Explore the underlying causes for low participation in federal food and nutrition assistance programs in the local context.
- Understand why only 31% of eligible individuals receive food stamps in Yolo County, while about 72% of eligible individuals receive benefits in Solano County.
- Explore creative ways in which these programs could provide more residents with access to fresh, local produce and strengthen the local economy.
- Ensure that all local farmers' markets accept SNAP Electronic Benefit Transfer (EBT) and WIC benefits.
- Understand unique food access issues across regions, including the different needs of urban and rural food deserts.
- Gauge level of retailers' knowledge, interest, and capacity in advertising for local products. Find out about signage in restaurants, grocery stores, etc.
- Gauge level of consumers' knowledge, ability, and interest in purchasing local products.

Identify and Develop

Food Hubs

- Identify and develop relationships that are crucial to the success of a local food hub: producers, processors, retailers, community partners, consumers, etc.
- Identify potential funding streams and other resources that will aid in planning and implementation (many of these are still in development with the USDA).

Processing

- Identify how processing will fit into an envisioned food hub.
- Identify ability of small and mid scale farmers to access processing facilities.

Distribution

- Identify cold storage space for a food hub.
 - One suggestion was the Yolo County Food Bank, but it appeared that there is limited cold storage space at their facilities and the organization may be at storage capacity. More investigation may be needed.

Consumption/Retail

- Identify food hub's target market and associated price points.

Communicate and Partner

Consumption/Retail

- Share best practices across county lines to increase participation rates in these programs and explore the opportunity for a two-county outreach campaign to increase participation in food and nutrition assistance programs.

Plan

Production

- Tap into already-existing agri-tourism efforts in Yolo & Solano
 - Examples in Yolo: Clarksburg & Capay Valley regions.

Consumption/Retail

- Consider including mechanisms to assure affordable food access in a potential food hub.
 - For example, balance sales between higher prices and volume for institutional buyers, subsidized prices for low-income consumers, create a business model that serves food deserts or food insecure households, or distribute seconds and culls through local emergency food aid via food banks, food pantries, mobile food banks, and soup kitchens.

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Appendices

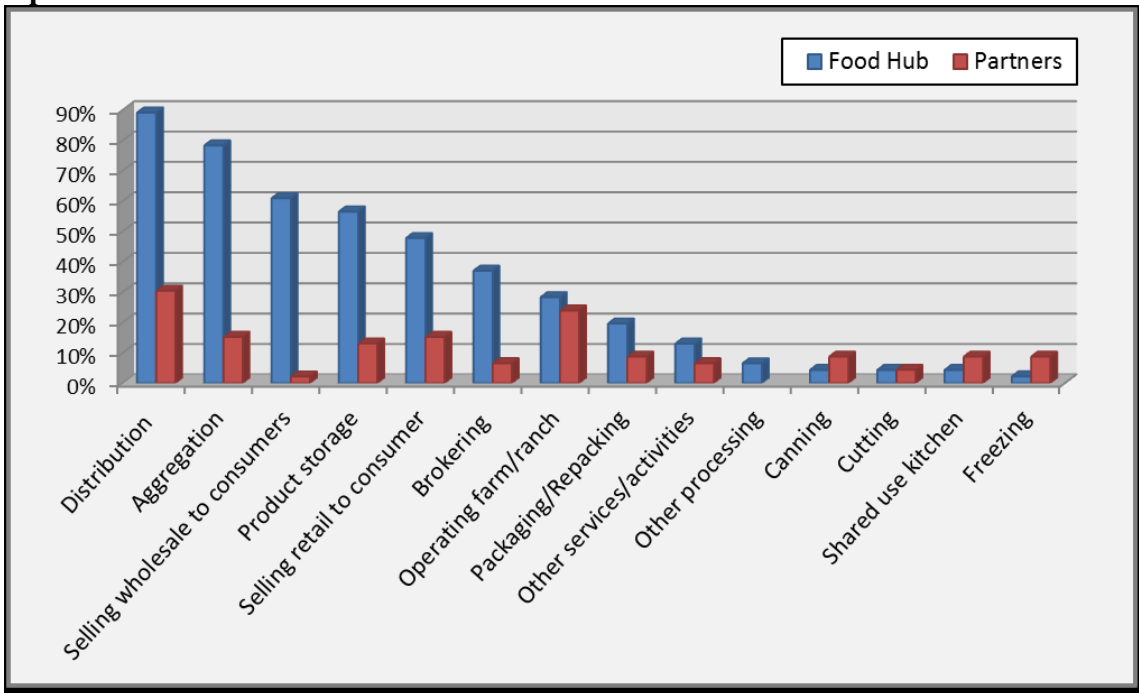
Appendix A: Preliminary Survey Results from a Nationwide Survey of Food Hubs Conducted by the Regional Food Hub Collaboration

(Barham, 2011)

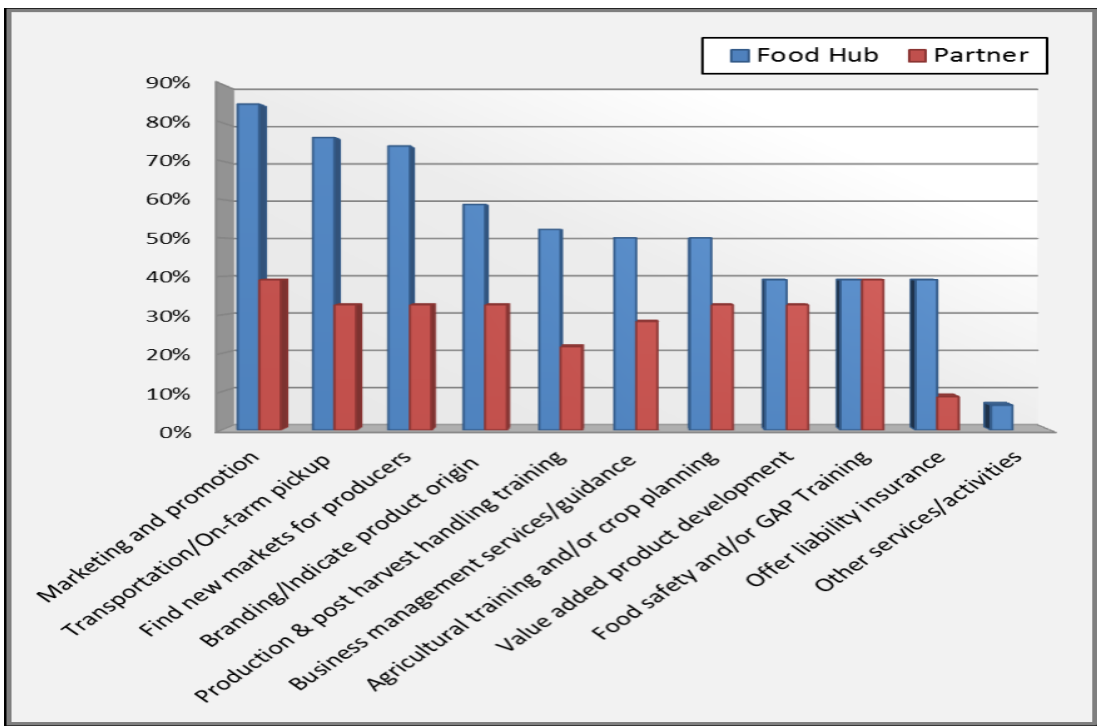
Below are additional findings and charts from the survey created by the Regional Food Hub Collaboration:

- **Establishment:** 40% of the hubs were established by entrepreneurs (vs. distributors, non-profits, etc.)
- **Legal Status:** 36% were non-profit, 27% cooperative, 22% LLC
- **Food Hub Maturity:** 60% had been in operation for 5 years or less
- **Funding:** 60% of hubs received government funding to begin operations, 30% currently receive government funding
- **Food Product Categories:**
- **Primary food products** were fresh produce, followed by eggs, dairy, meat poultry and grains, and so forth.
- **Secondary products** were frozen produce, grains, preserves/honey, baked goods/bread, and so forth.
- **Buyers/Customers:** the majority sourced to restaurants then grocery stores, colleges, food co-ops, distributors, school food service producers, multi-farm CSAs, caterers, hospitals, food processors, etc. (*hubs sell through multiple channels with restaurants being an important entry point*)
- **Number of hub suppliers:** Average: 77, median 40, range: 4-450 (53% sourced from 40 or less)
- **Workforce:** 29% had zero full-time, 40% had 1-5 full time. Average is six full-time or part time employees and volunteers are used regularly
- **Annual gross sales:** the median sales are \$700,000. Range is from \$46,000 to \$40 million. However, even those in the mid range are not completely financially solvent; they rely on some external support to certain aspects of their food hub services/activities

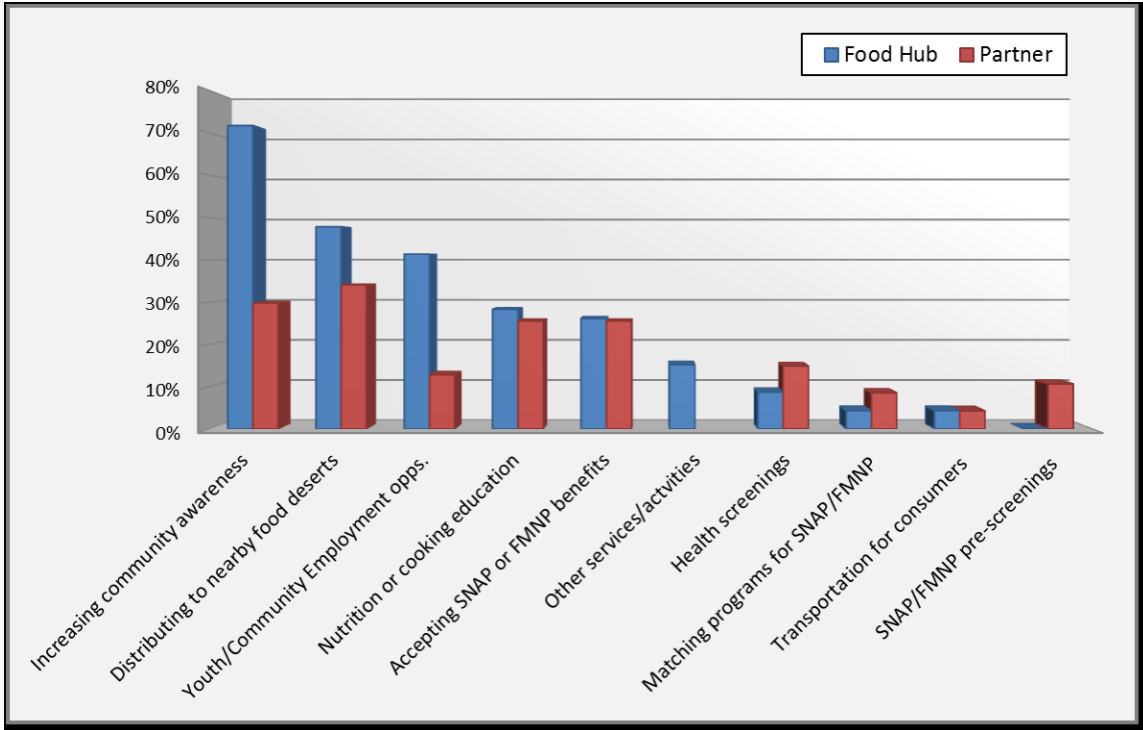
Operational Services/Activities



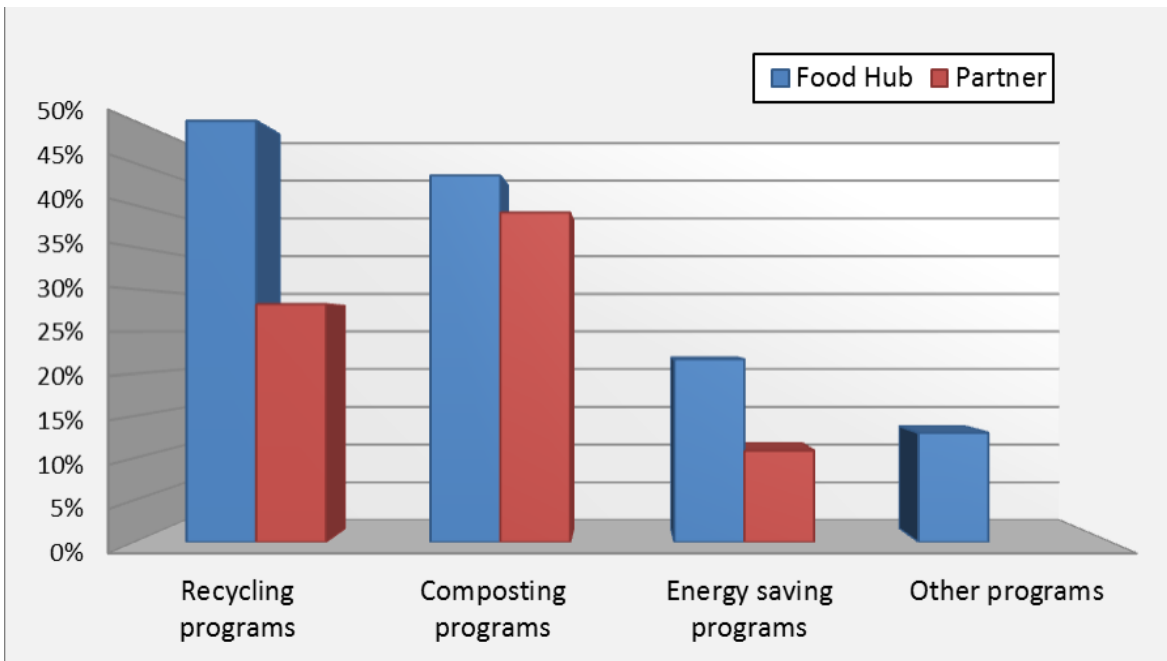
Producer Services/Activities



Community Services/Activities



Environmental Services/Activities



Appendix B: Food Hub Definition Process

This group exercise is intended to facilitate a discussion and a process of collaborative decision making to create a food hub definition. The goal of the exercise is to be participatory and comprehensive.

First, let's break out into teams of 2-3 and make some lists:

Why should a food hub exist?

What problems can it solve?

What problems might be a mistake for a food hub to address?

Does the food hub have a particular scale (e.g., global, national, regional, or local)?

Do these terms mean anything in addition to simply describing a spatial relationship?

What is a food hub? What might be easily confused for a food hub, but really isn't?

What are its basic elements and essential parts?

What does a food hub actually do? What shouldn't it do?

What kind of products does the food hub handle? Not handle?

Do production practices matter?

Do labor practices matter?

Who does the food hub serve? Is anyone or anything not served?

Does it serve a specific "market niche"? If so, how is that niche defined?

How is the food hub organized? How are decisions made?

How is it governed?

What is the management structure?

What are the core values and ideals that motivate and support a food hub?

What characteristics and qualities define "sustainability", "equity", "economy", and "ecology"?

What questions or issues are missing from this list?

Next, let's share one element from each in a round robin until the lists are complete

Each group puts up an answer to each question that is distinct from previous ones until there are no more unique answers.

Finally, each team should synthesize answers to each question and also a brief one to two sentence definition of a food hub that fits the AFA.

Appendix C: FMMP Land Classifications

(Richter, 2009)

PRIME FARMLAND: Irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date.

FARMLAND OF STATEWIDE IMPORTANCE: Irrigated land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date.

UNIQUE FARMLAND: Lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

FARMLAND OF LOCAL IMPORTANCE: Cultivated farmland having soils, which meet the criteria for Prime or Statewide, except that the land is not presently irrigated, and other non-irrigated farmland.

FARMLAND OF LOCAL POTENTIAL: Prime or Statewide soils that at the present time aren't being irrigated or cultivated.

GRAZING LAND: Land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

URBAN AND BUILT-UP LAND: Urban and Built-Up land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

OTHER LAND: Land which does not meet the criteria of any other category. Typical uses include low-density rural development, heavily forested land, mined land, or government land with restrictions on use. Appendix B: Important agricultural processors and support industries.

Appendix D: Listings of local producers

A Taste of Yolo: http://www.atasteofyolo.com/component/option,com_magazine/Itemid,32/

Capay Valley Grown: <http://www.capayvalleygrown.com/index.html>

Community Alliance with Family Farms: <http://www.caff.org/>

Local Harvest: <http://www.localharvest.org/>

Solano Grown: <http://www.solanogrown.org/>

Appendix E: Farm Typology Groups

SMALL FAMILY FARMS (SALES LESS THAN \$250,000)*

(Hoppe et al., 2000)

Limited-resource. Any small farm with gross sales less than \$100,000, total farm assets less than \$150,000, and total operator household income less than \$20,000. Limited-resource farmers may report farming, a non-farm occupation, or retirement as their major occupation.

Retirement. Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).

Residential/lifestyle. Small farms whose operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation).

Farming occupation/lower-sales. Small farms with sales less than \$100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).

Farming occupation/higher-sales. Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

OTHER FARMS

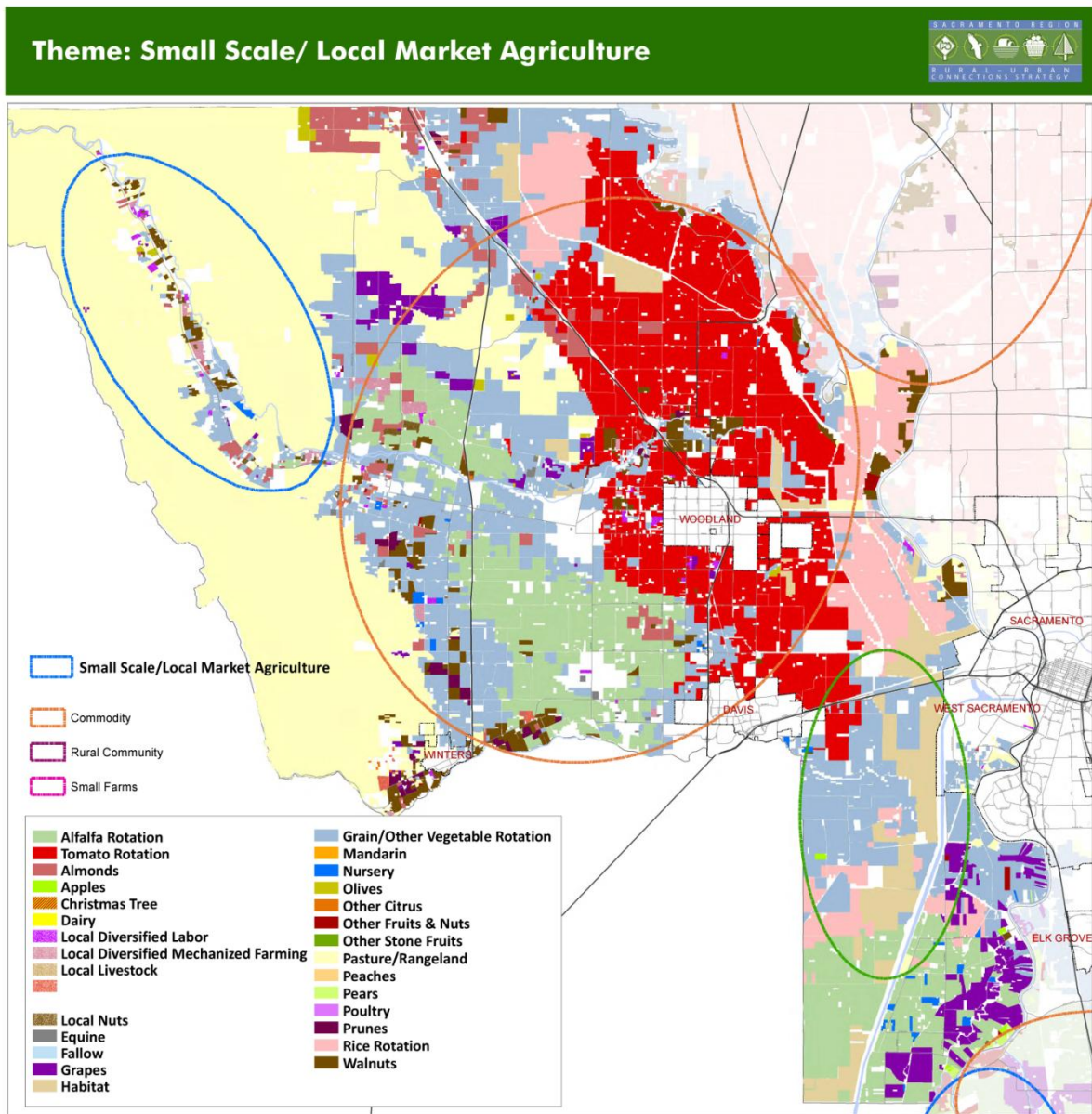
Large family farms. Farms with sales between \$250,000 and \$499,999.

Very large family farms. Farms with sales of \$500,000 or more.

Nonfamily farms. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

The \$250,000 cutoff for small farms was suggested by the National Commission on Small Farms.

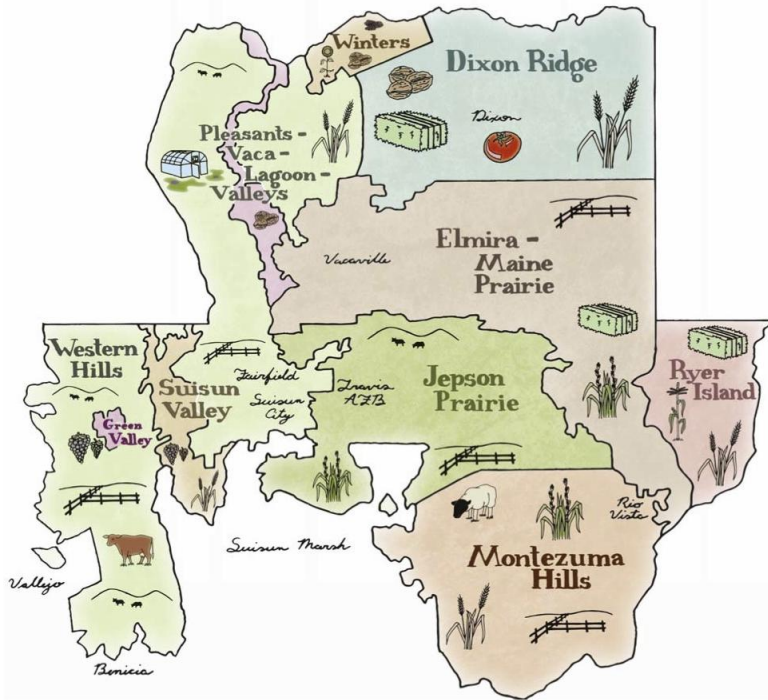
Appendix F: Agricultural Regions of Small-Scale Growers in Yolo County



Source: SACOG Rural Urban Connections Strategy Report

Appendix G: Solano County Agricultural Production Regions

SOLANO COUNTY AGRICULTURAL REGIONS



Source: 2009 Solano Crop Report

Appendix H: Processors in Yolo and Solano Counties⁶

Company Name	Street Address	Town	Zipcode	County	Phone	Industry
Abco Laboratories Inc.	2450 South Watney Way	Fairfield	94533	Solano County	(800) 678-2226	Herbs, seasonings, marinades
ACH Food and Nutrition	351 Hanson Way	Woodland	95776	Yolo County	(530) 662-5056	Rice milling/cereal manufacturer
Anheuser-Busch Co.	3101 Busch Drive	Fairfield	94534	Solano County	(707) 429-2000	Beer Manufacturer
Baker's Delights	743 East Street	Woodland	95776	Yolo County	(530) 661-6876	Bakery
Bariani Olive Oil Processing	30400 County Road 16	Zamora	95698	Yolo County	(916)-689-9059	Olive Oil Processor
Bezzerides Co	398 West Channel Road	Benicia	94510	Solano County	(707) 746-0770	Nut Processor
Big Paw Grub	23 Muller St	Vallejo	94590	Solano County	(707) 647-1449	Olive oil and vinegar processor
Bogle Vineyard Winery	37783 County Road 144	Clarksburg	95612	Yolo County	(916) 744-1139	Winery
Bunge Milling, Inc.	P.O. Box 652	Woodland	95776	Yolo County	(530) 666-3928	Rice milling
California Fresh Salsa	2081 Freeway Dr	Woodland	95776	Yolo County	(530) 662-0512	Salsa and tortillas
California Pacific Rice Milling Ltd.	194 W. Main St.	Woodland	95695	Yolo County	(530) 661-1923	Rice Milling
California Rice Oil	2485 Courage Dr.	Fairfield	94533	Solano County	(707) 425-0400	Rice bran oil

⁶ The following information was collected through internet research and two different lists sent via e-mail to the research team. A list of names of processors was sent via e-mail on May 20, 2011 from Theresa Milan from the Northern California Center of Excellence. A list of processors and their contact information was sent via e-mail on May 17 from Wes Ervin at the Economic Development Department at Yolo County.

Company Name	Street Address	Town	Zipcode	County	Phone	Industry
Calio Groves, LLC & The Critelli Olive Oil Co.	2445 South Watney Way	Fairfield	94533	Solano County	(707) 426-3400	Oil and vinegar
Campbell Soup Supply Co	8380 Pedrick Rd.	Dixon	95620	Solano County	(707) 678-4406	Tomato processor
Capay Valley Vineyards	#1 Ranch Road	Brooks	95606	Yolo County	(530) 796-4110	Winery
Certified Foods, Inc.	41970 East Main Street	Woodland	95776	Yolo County	(530) 666-6565	Grain milling
Champion Nutrition aka Wildwood Natural Foods	2414 Del Monte Drive	Fairfield	94534	Solano County	(925) 689-1790	Health Food Manufacturer
Chavez Bakery and Restaurant	1746 North Texas Street	Fairfield	94533	Solano County	(707) 434-1909	Bakery
Cindy's Cinnamon Rolls Inc.	1264 E Gibson Rd # 621	Woodland	95776	Yolo County	(530) 661-0072	Bakery
Cinnabon	1350 Travis Blvd # 211	Fairfield	94533	Solano County	(707) 422-2666	Bakery
Cioclat & Cioclat Inc	301 B St	Davis	95616	Yolo County	(530) 753-3088	Bakery
Old Sugar Mill: Clarksburg Wine Co LLC	35265 Willow Avenue	Clarksburg	95612	Yolo County	(916) 744-1615	Crush facility for wines
Cookie Co.	710 Main Street	Woodland	95695	Yolo County	(530) 662-7920	Cookies
Culinary Farms Inc	2757 Rockville Road	Fairfield	94534	Solano County	(707) 425-0132	Tomato and chili processor, dryer
Dillon Bread Co.	451 Ryder St # C	Vallejo	94590	Solano County	(707) 557-3525	Bakery
El Buen Gusto	155 5th St.	Woodland	95695	Yolo County	(530) 666-6866	Bakery
Englehard Gourmet Foods	2475 Courage Dr.	Fairfield	94533	Solano County	(707) 422-6300	Sausage manufacturer

Company Name	Street Address	Town	Zipcode	County	Phone	Industry
Fat Cat Bakery	752 Northport Dr # E	West Sac.	95691	Yolo County	(916) 712- 2071	Bakery
Galeria Do Vinho Part of Old Sugar Mill	35265 Willow Ave	Clarksburg	95612	Yolo County	(916) 744- 1615	Winery
Georgie Porgie's Sweet Stiff	1945 Louisiana St	Vallejo	94590	Solano County	(707) 712- 2024	Bakery
Glarus Gourmet Inc.	4872 East 2nd Street	Benicia	94510	Solano County	(707) 748- 5658	Chocolate and cocoa manufacturer
Gold River Mills LLC	194 W Main St.	Woodland	95695	Yolo County	(530) 661- 1923	Rice milling
Goldilocks Bake Shop	3885 Sonoma Boulevard	Vallejo	94589	Solano County	(707) 557- 9977	Bakery
Gorman's Much More Seasoning	55 Pershing Avenue	Woodland	95695	Yolo County	(530) 669- 6673	Seasoning and marinade
Gourmet Valley Foods	1277 Santa Anita C	Woodland	95776	Yolo County	(530) 669- 0150	Rice Milling
Green Pies	1825 Sonoma Boulevard	Vallejo	94590	Solano County	(707) 643- 5808	Bakery
Heringer Estates	35265 Willow Avenue, Suite 203	Clarksburg	95612	Yolo County	(916) 744- 1094	Winery
Hostess Cakes Thrift Shop	117 Peabody Road	Vacaville	95687	Solano County	(707) 451- 9026	Bakery
Jelly Belly Candy Co.	1 Jelly Belly Ln	Fairfield	94533	Solano County	(707) 428- 2800	Candy
Keebler Co Distribution Div.	820 Riverside Parkway	West Sac.	95605	Yolo County	(916) 373- 0981	Bakery
Konitorei Austrian Pastry	2710 5th Street	Davis	95618	Yolo County	(530) 758- 1331	Bakery
Ledgewood Creek Vineyards	4589 Abernathy Road	Fairfield	94534	Solano County	(707) 426- 4424	Winery
Lester Farms Bakery	606 Railroad	Winters	95694	Yolo	(530) 795-	Bakery

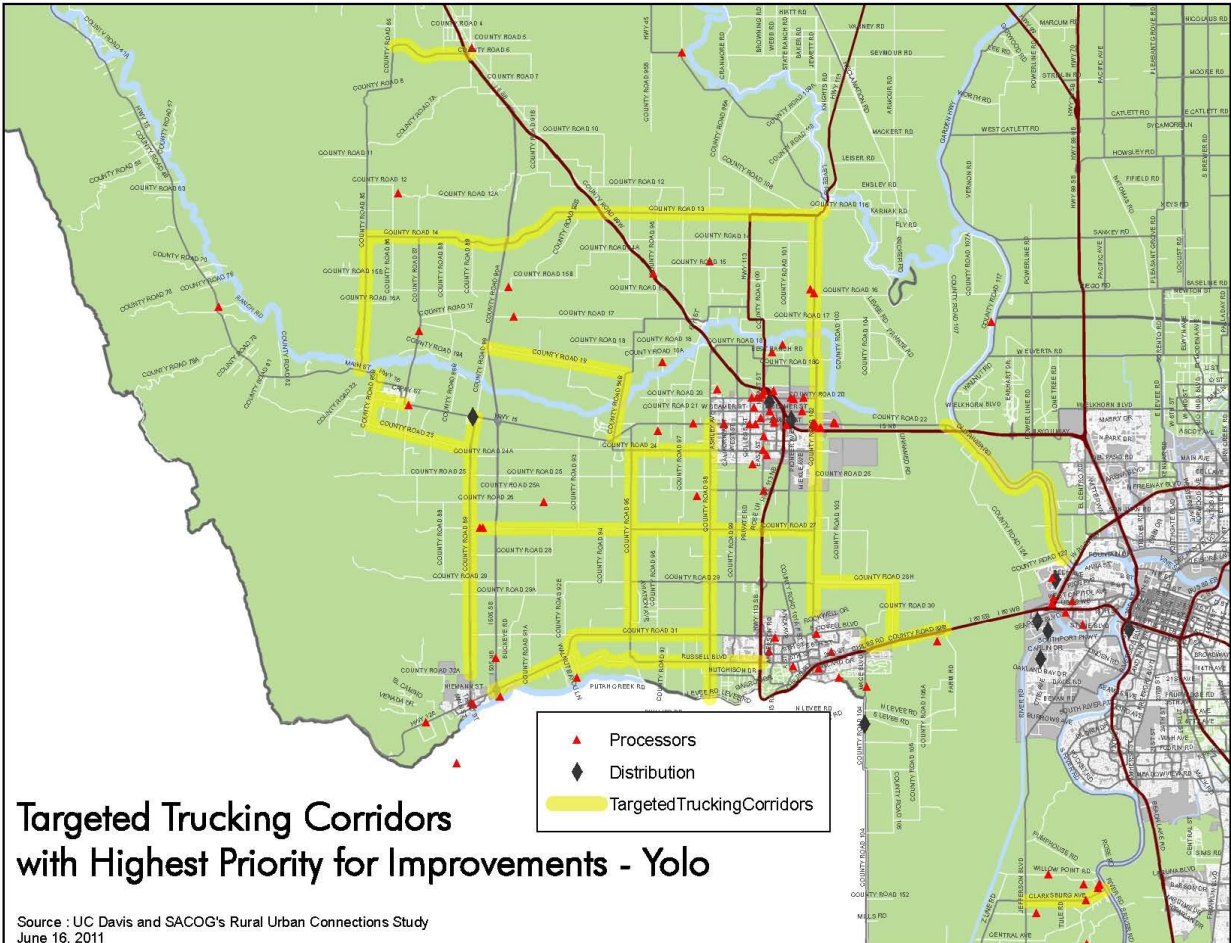
Company Name	Street Address	Town	Zipcode	County	Phone	Industry
	Avenue			County	1474	
Lester Farms	4317 Margaret Lane	Winters	95694	Yolo County	(530) 795-3970	Dried Fruits
Little Maya Bakery	985 Broadway Street	Vallejo	94590	Solano County	(707) 644-2253	Bakery
Dean Dip and Dressings Co LLC, Marie's Dressings	1244 E Beamer Street	Woodland	95776	Yolo County	(530) 662-9638	Pickles, sauces, dressings
Manas Ranch Custom Meats Inc.	26797 State Highway 16	Esparto	95627	Yolo County	(530) 787-1740	Meat processing
Mariani Nut Company, Inc.	8 E Edwards Street	Winters	95694	Yolo County	(530) 662-3311	Nut processor
Mariani Packing Company	500 Crocker Drive	Vacaville	95688	Solano County	(707) 452-2800	Dried fruits
Merlino's	3939 W Capitol Ave	West Sac.	95691	Yolo County	(916) 373-9868	Ice cream, frozen deserts
Merwin & Sons Mill	38065 Z Line Rd	Clarksburg	95612	Yolo County	916) 775-1282	Flour and grain mill products
Mike Madison's Olive Mill	6466 Putah Creek Lane	Winters	95694	Yolo County	?	Olive mill
Nippon Industries	2430 S Watney Way	Fairfield	94533	Solano County	(707)-427-3127	Dinners, frozen/packaged
Nor-Cal Wild Rice, Inc.	P.O. Box 940	Woodland	95776	Yolo County	(530)-661-1606	Rice and processed rice distributor
Olive Oil Factory	2450 South Watney Way	Fairfield	94533	Solano County	(707) 426-3400	Wholesale oils
Orr Food Co	1244 E Beamer Street	Woodland	95776	Yolo County	530) 662-9639	Manufacturer of unknown products
Pacific Basin Rice Products LLC	1620 E Kentucky Ave.	Woodland	95776	Yolo County	(530)-662-6466	Rice Milling
Pacific Coast Producers	1376 Lemen Avenue	Woodland	95776	Yolo County	(530)-662-8661	Tomato Processor
Pacific Grain Products, Inc.	351 Hanson Way	Woodland	95776	Yolo	(530)-662-	Rice Milling

Company Name	Street Address	Town	Zipcode	County	Phone	Industry
				County	5158	
Pacific International Rice Mills, Inc. (Pirmi)	845 Kentucky Ave.	Woodland	95695	Yolo County	(530)-666-1691	Rice Milling
Panaderia Dixon	636 North 1st Street	Dixon	95620	Solano County	(707)-678-2638	Bakery
Panaderia La Purisima	2927 West Capitol	West Sac.	95691	Yolo County	(916)-374-8259	Bakery
Panaderia Mana	739 East Street	Woodland	95776	Yolo County	(530)-661-4946	Bakery
Pretzel Choice	1264 E Gibson Rd # 621	Woodland	95776	Yolo County	(530)-666-6143	Pretzel Shop
Putah Creek Winery	9518 Drummond Lane	Davis	95618	Yolo County	(916)-747-2131	Winery
Rafael's Family Restaurant	1540 East Main Street	Woodland	95776	Yolo County	(530)-661-7500	Bakery
Raley's Bakery	3061 Alamo Dr	Suisun City	94585	Solano County	(707)-446-8707	Retail Bakery
Red Ribbon Bakeshop	3495 Sonoma Blvd	Vallejo	94590	Solano County	(707)-554-2024	Bakery
Rio Vista Bakery and Café	150 Main Street	Rio Vista	94571	Solano County	(707)-374-4341	Bakery Cafe
Rominger West Winery	4602 2nd Street	Davis	95618	Yolo County	(530)-747-2044	Winery
Rosanna's European Delights	408 Military East	Benicia	94510	Solano County	(707)-422-2255	Bakery
Rosanna's European Delights	1119 Texas Street	Fairfield	94533	Solano County	(707)-747-94510	Bakery
Salad Cosmo Corporation	5944 Dixon Avenue	Dixon	95620	Solano County	(707) 678-6633	Sprouts? Distribute

Company Name	Street Address	Town	Zipcode	County	Phone	Industry
Satiety Winery	1027 Maple Ave	Davis	95616	Yolo County	(530)-757-2699	Winery
Satiety Winery and Cafe	4010 County Road 25A	Woodland	95695	Yolo County	(530) 661-0680	Bakery / Winery
Save Mart	1900 Anderson Road	Davis	95616	Yolo County	(530)-758-0580	Grocery Bakery
Schwarz Sausage	2475 Courage Dr.	Fairfield	94533	Solano County	(707)-422-6300	Sausage Manufacturer
Scott Meat Pie Co	245 North 1st St.	Dixon	95620	Solano County	(707)-678-5354	Meat Pies
Sepay Groves Olive Oil	370 Chadbourne Road #D	Fairfield	94534	Solano County	(707)-434-8222	Olive Oil Processor
Solano Baking Co	1160 Pitt School Road	Dixon	95620	Solano County	(707)-678-0950	Bakery
Starbread Bakery	3718 Sonoma Blvd	Vallejo	94589	Solano County	(707)-553-1993	Bakery
Sun Foods, LLC	1620 E Kentucky Ave.	Woodland	95776	Yolo County	(530)-661-1923	Rice milling and packaging
Sunnyside Farms	199 Red Top Road	Fairfield	94534	Solano County	(707)-864-0502	Dairy Distributor
Sunshine Bakery	3570 Sonoma Blvd.	Vallejo	94590	Solano County	(707)-642-6866	Bakery
Sunsweet Dryers	PO Box 899, 29485 County Road #27	Winters	95694	Yolo County	530-661-6172	Fruit Dryer
Superior Farms Inc	1480 Drew Ave	Davis	95618	Yolo County	(530)-297-7299	Lamb Processor
Superior Farms Inc.	985 Broadway Street	Dixon	95620	Solano County	(707) 678-3091	Lamb Processor
Timothy's Bakery	422 Main Street	Woodland	95695	Yolo County	(530)-661-6044	Bakery
Vacaville Fruit Co	830 Eubanks	Vacaville	95688	Solano	(707)-448-	Fruit Drier

Company Name	Street Address	Town	Zipcode	County	Phone	Industry
	Drive #D			County	5292	
Valerios Tropical Bake Shop	3495 Sonoma Blvd #B	Vallejo	94590	Solano County	(707)-552-6636	Bakery
Wild Rice Exchange Inc	1277 Santa Anita Court	Woodland	95776	Yolo County	(530)-669-0150	Rice processor
Winters Fruit Tree	1661 E Monte Vista Ave #	Vacaville	95688	Solano County	707-451-8240	Fruit / Nut Dryer
Wonder Hostess Thrift	555 Kentucky Ave	Woodland	95695	Yolo County	(530)-666-4399	Discount Bakery
Yocha Dehe Wintun Nation Olive Press	To be constructed on Highway 16/County Rd 78			Yolo County		Olive mill (not yet constructed)

Appendix I: Targeted Trucking Corridors with Highest Priority for Improvements - Yolo⁷



⁷ Map made by SACOG June 2011. Data sources include a list of names of processors received via personal communication on May 20, 2011 from Theresa Milan at the Northern California Center of Excellence and a list of processors and their contact information received via personal communication on May 17, 2011 from Wes Ervin at the Economic Development Department at Yolo County. Internet research was used to obtain additional information.

Appendix J: Distributors in Yolo and Solano Counties⁸

Company Name	Street Address	Town	State	Zip code	Phone	County	Industry
Adam's Grain Company	Highway 16 & CR 102	Woodland	CA	95776	(530) 476-2000	Yolo	Buyer/Seller
Beeman Farming Corp	20301 East Street	Woodland	CA	95776	(530) 666-5397	Yolo	Wholesale grocers
C& S Wholesale Grocers	3771 Channel Dr.	West Sacramento	CA	95691	(916) 373-4200	Yolo	Wholesale distributor
Capay Organics/Farm Fresh to You	23808 State Highway 16	Capay	CA	95607	800 796 6009	Yolo	Produce Distributor
Ed Jones Foods	5100 Fulton Drive Suite D	Fairfield	CA	94534-1639	(707) 864-8616	Solano	Distributor
Hernandez Produce	1881 Walters Ct.	Fairfield	CA	94533	(707) 422-3897	Solano	Produce Wholesale
Jacmar Food Service Northern California	3057 Promenade Street	West Sacramento	CA	95691	(916) 372-9795	Yolo	Produce/Dairy Distributor
Jim Hyatt Produce Company	1649 Overland Court	West Sacramento	CA	95691-3490	(916) 372-9296	Yolo	Produce Distributor
Kiwi Distributing, Inc.	1540 Tanforan Ave	Woodland	CA	95776-6135	(530) 662-5075	Yolo	Distributor
NorCal Food Produce Inc.	2995 Oates St	West Sacramento	CA	95691	(916)373-0830	Yolo	Distributor
North American Food Distributing Co. Inc.	3969 Industrial Blvd	West Sacramento	CA	95691-5000	(916) 373-1111	Yolo	Importer, Wholesale Distributor
Pittsburg Wholesale Grocers	1670 Overland Ct	West Sacramento	CA	95691-3490	(916) 372-7772	Yolo	Wholesale grocers
Safeway Distribution Center	2935 Ramco Street # 10	West Sacramento	CA	95691-5999	(916) 371-4393	Yolo	Distributor
Soh Distribution Company	819 F St	West Sacramento	CA	95605-2395	(916) 737-5112	Yolo	Distributor
Timco Worldwide, Inc.	29280 County Road 104	Davis	CA	95618-9615	(530) 757-1000	Yolo	Watermelon distributor
Tony's Fine Foods	3575 Reed Avenue	West Sacramento	CA	95605	(916) 374-4000	Yolo	Distributor
Yolo Produce	29017 Highway 16	Woodland	CA	95695	(530) 406-1604	Yolo	Produce Distributor

⁸ The following list was compiled through internet research and the SACOG RUCS WIKI retrieved on May 25, 2011 at http://www.sacog.org/rucs/wiki/index.php/Sacramento_Region_Local_Market_Assessment.

Appendix K: Sacramento Region and Bay Area Distributors⁹

Company Name	Street Address	Town	State	ZIP	Phone	Industry
Fresh Point	5900 North Golden State Boulevard	Turlock	CA	95382-9671	(209)- 216-0200	Distributor
General Produce	1330 North B Street	Sacramento	CA	95811-0605	(916)-441-6431	Distributor
Next Generation Foods	2640 Hoffman Road	Olivehurst	CA	95901	(530) 632-6784	Distributor
Produce Express	2630 5th St # 6	Sacramento	CA	95818-2826	(916)-446-8918	Distributor
Sysco Sacramento	7062 Pacific Ave	Pleasant Grove	CA	95668	(916) 569-7000	Distributor
Veritable Vegetables	1100 Cesar Chavez	San Francisco	CA	94158	(415)- 641-3500	Distributor

⁹ The following information was collected through internet research, conversations with U.C. Davis PhD Candidate in Geography, Libby O’Sullivan, and the knowledge of the U.C. research team.

Appendix L: Retail & Institutional Buyers

ALTERNATIVE RETAIL OUTLETS

FARMERS MARKETS

- West Sacramento Farmers' Market, 1271 West Capitol Ave, West Sacramento
- Woodland Farmers' Market, at Woodland Healthcare, 1325 Cottonwood Street and at Freeman Park, 1001 Main Street, Woodland
- Davis Farmers' Market, Central Park-4th & C Streets, Davis
- UC Davis East Quad Farmers' Market, East Quad at UC Davis
- Winters Farmers' Market, Rotary Park, Railroad Avenue & Main Street, Winters
- Capay Valley Regional Farmers' Market, Esparto
- Dixon Farmers' Market, East B Street between First and Second Streets, Dixon
- Vacaville Farmers' Market, Main Street between Parker and Dobbins, Vacaville
- Nut Tree Local Harvest Market, The Nut Tree Plaza, 1681 East Monte Vista Ave., Vacaville
- Fairfield Farmers' Market, Jefferson Street at Texas Street in Downtown Fairfield
- Kaiser Vallejo Farmers' Market, 975 Sereno Dr., Vallejo
- Vallejo Farmers' Market, Georgia & Marin Street, Vallejo
- Benicia Certified Farmers' Market, Downtown First Street between B & D Streets, Benicia

COMMUNITY SUPPORTED AGRICULTURE (CSA)

There are 15 CSAs in Yolo and 3 CSAs in Solano County (Galt, in press 5/2011)

A few examples are identified below:

- Full Belly Farm, Guinda
- Farm Fresh To You, Capay
- DeVoDa Gardens CSA, Woodland
- Eatwell Farm, Dixon
- Riverdog Farm, Guinda

- Shooting Star CSA, Fairfield
- Terra Firma Farm, Winters
- Full Circle Organic Farm in Davis, Davis
- Good Humus Produce, Capay
- Student Harvests CSA, Davis
(Local Harvest, 2011)

RESTAURANTS THAT USE LOCAL PRODUCTS

- Monticello Seasonal Cuisine, Davis
- The Farmers Kitchen Café, Davis
- Water Boy
- Mulvaney's B&L

GROCERY STORES THAT SELL LOCAL PRODUCTS = 1+

- Nugget (Multiple Locations)
- Davis Food Co-op, Davis
- Henry's Farmers Market (Elk Grove)
- Natural Food Works, Davis
- UC Davis Meat Lab, Davis
- Manas Ranch Old-Style Custom Meat Market, Esparto

PRODUCE STANDS

- The Yolo Fruit Stand, between Davis and West Sacramento
- Ikedas, Davis
- Pedrick Produce, between Davis and Dixon
- FL Strawberries - Rd. 31 / West Covell Boulevard just before Rd. 98
- Grandpa's Barn / Impossible Acres - Rd. 31 / West Covell Boulevard and Rd. 98
- Pacific Star Gardens, Road 25A on Rd. 99 (also a U-Pick area)
- Unnamed: Rd. 99 just north of Road 25A appears

- Strawberry stand, Putah Creek Road, just west of its intersection with Railroad Ave.
- Capay Valley Farm Stand, 25020 State Highway 16, Esparto

STRAWBERRY PRODUCE STANDS = 4+

- Saelee Strawberry, off Hwy 80 at the Dixon Ave. W./A. St. exit near Dixon
- Fou Sio Saelee, 3362 W. Covell Blvd, (east of Pedrick Rd.) near Davis
- Choy Saetern, northeast side of Hwy 12 just southeast of River Rd (Victory Hwy 160), near Rio Vista
- Lew Saetern or E Chiam Lee, 4530 Putah Creek Road. (north of Winters Rd.) near Winters
- (Sacramento Strawberry Map, 2011)

ETHNIC MARKETS = 7+

- International Food Market, Davis
- The Inconvenient Store [Asian snack foods], Davis
- Kim's Mart [Korean and other Asian foods], Davis
- SF Market [Asian Supermarket], South Sacramento
- Main Street Market [Indian], Woodland
- MIS Amigos Meat Market [Mexican], Woodland
- La Superior [Mexican], Woodland

CONVENTIONAL RETAIL OUTLETS

FULL-SERVICE GROCERY STORES

- Davis Food Co-op (Davis)
- Westlake IGA (Davis)
- County Square Market (Vacaville)
- WinCo (Vacaville)
- Nugget (Multiple Locations)
- Safeway (Multiple Locations)
- Save Mart (Multiple Locations)

- Target (Multiple Locations)
 - Trader Joe's (Multiple Locations)
 - Food 4 Less (Multiple Locations)
 - Grocery Outlet (Multiple Locations)
 - Walmart (Multiple Locations)
- (Davis Wiki, 2011)

INSTITUTIONAL BUYERS

HOSPITALS

- Sutter Davis Hospital (Davis): 48 staffed beds; 11,404 patient days
- Woodland Healthcare (Woodland): 108 staffed beds; 18,095 patient days
- UC Davis Student Health & Wellness Center (Davis)
- NorthBay Medical Center (Fairfield): 140 staffed beds; 25,372 patient days
- Solano Psychiatric Health Facility (Fairfield): 16 staffed beds; 4,364 patient days
- Davis Grant USAF Medical Center (Fairfield): 230 beds
- California Medical Facility (Vacaville) (Government psychiatric hospital)
- Kaiser Permanente Medical Center (Vacaville)
- VacaValley Hospital (Vacaville): 50 beds; 12,203 patient days
- Kaiser Permanente Medical Center (Vallejo): 287 beds; 73,343 patient days
- Saint Helena Hospital Center for Behavioral Health (Vallejo): 61 beds; 19,297 patient days
- Sutter Solano Medical Center (Vallejo): 102 beds; 21,136 patient days

COLLEGES AND UNIVERSITIES

Solano County:

- California Maritime Academy (Vallejo): 858 students
- CSI Career College (Vacaville): 266 students

- Solano Community College (Fairfield): 11,163 students
- Yolo County:
- UC Davis (Davis): 32,153 students
- Woodland Community College (Woodland)
- Wyoming Technical Institute (“Wyotech”) (West Sacramento): 595 students

SCHOOL DISTRICTS

Solano County:

Benicia Unified School District

- 4 elementary schools
- 1 middle school
- 2 high schools

Dixon Unified School District

- 3 elementary schools
- 1 middle school
- 2 high schools
- 1 community day school

Fairfield-Suisun Unified School District

- 18 elementary schools
- 6 middle schools
- 4 high schools
- 4 alternative schools

Travis Unified School District (Fairfield)

- 5 elementary schools

- 1 middle school
- 1 high school
- 1 alternative school

Vacaville Unified School District

- 10 elementary schools
- 2 middle schools
- 3 high schools
- 1 charter school
- 2 alternative schools

Vallejo City Unified School District

- 16 elementary schools
- 4 middle schools
- 4 high schools
- 3 alternative schools

Yolo County:

Alternative Education Facilities:

- Einstein Education Center (Woodland)
- Midtown Community School (Woodland)
- Dan Jacobs School (in the Juvenile Detention Facility) (Woodland)
- Greengate School (Woodland)

Davis Joint Unified School District (Davis):

- 8 elementary schools
- 4 junior high schools
- 3 high schools

- 3 other schools

Esparto Unified School District (Esparto):

- 1 elementary/middle school
- 2 high schools

Washington Unified School District (West Sacramento):

- 1 preschool
- 9 elementary schools
- 4 secondary schools

Winters Joint Unified School District (Winters):

- 2 elementary schools
- 1 junior high school
- 2 high schools
- 1 other school (independent study)

Woodland Joint Unified School District (Woodland):

- 10 elementary schools
- 2 middle schools
- 3 high schools
- 2 other schools (adult school & charter school)

JAILS & PRISONS

Solano County:

- Solano County Justice Center Detention Facility (Fairfield)

- Solano County Sentenced Detention Facility (Fairfield)
- Solano County Juvenile Hall (Fairfield)
- California State Prison, Solano (Vacaville)
- California Medical Facility (Vacaville)

Yolo County:

- Yolo County Jail (Woodland)
- Yolo County Juvenile Hall (Woodland)

MILITARY

Solano County:

- Travis Air Force Base (east of Fairfield)

CASINOS, RESORTS, AND CONFERENCE CENTERS

Yolo County

1. Old Sugar Mill (Clarksburg): 6 wineries, plus event space for 500+
2. Cache Creek Casino Resort (Brooks): 415,000-square foot property includes 200-room hotel and 8 restaurants

FOOD BANKS & FOOD ASSISTANCE PROGRAMS

Solano County:

- Food Bank of Contra Costa and Solano (<http://www.foodbankccs.org/>)

- Dixon Family Services
- Fairfield-Suisun Community Action Center
- Meals on Wheels of Solano County
- Dixon Community Assistance Corp

Yolo County:

- Food Bank of Yolo County (Woodland)
- The Pantry at UC Davis
- Elderly Nutrition Program of Yolo County
- Short Term Emergency Aid Committee (STEAC)
- NAMI - Yolo (list of local churches & community groups who offer meals and food)
- Davis Community Meals

(Unless otherwise cited, sources in this section represent our own knowledge, general Internet searches, and information posted on Davis Wiki, Local Harvest, and the California Federation of Certified Farmers' Markets.)

Appendix M: Emergency Food Providers in Yolo and Solano Counties

Yolo County:

- Food Bank of Yolo County (in Woodland): <http://www.foodbankyc.org/>
- The Pantry at UC Davis: <http://thepantry.ucdavis.edu/>
- Elderly Nutrition Program of Yolo County: <http://www.elderlynutrition.org/>
- Short Term Emergency Aid Committee (STEAC): <http://steac.org/>
- NAMI - Yolo: <http://namiyolo.org/food.html>
- Davis Community Meals: <http://www.daviscommunitymeals.org>

Solano:

- Food Bank of Contra Costa and Solano: <http://www.foodbankccs.org/>
- Dixon Family Services: <http://www.dixonfamilyservices.org/about.php>
- Fairfield-Suisun Community Action Center: <http://www.fairfieldcac.org/>
- Meals on Wheels of Solano County: <http://www.mealsonwheelssolano.org/>
- Dixon Community Assistance Corp: (707)678-559
- Solano County Services:
<http://www.co.solano.ca.us/depts/hss/ees/solanohelps/services.asp>