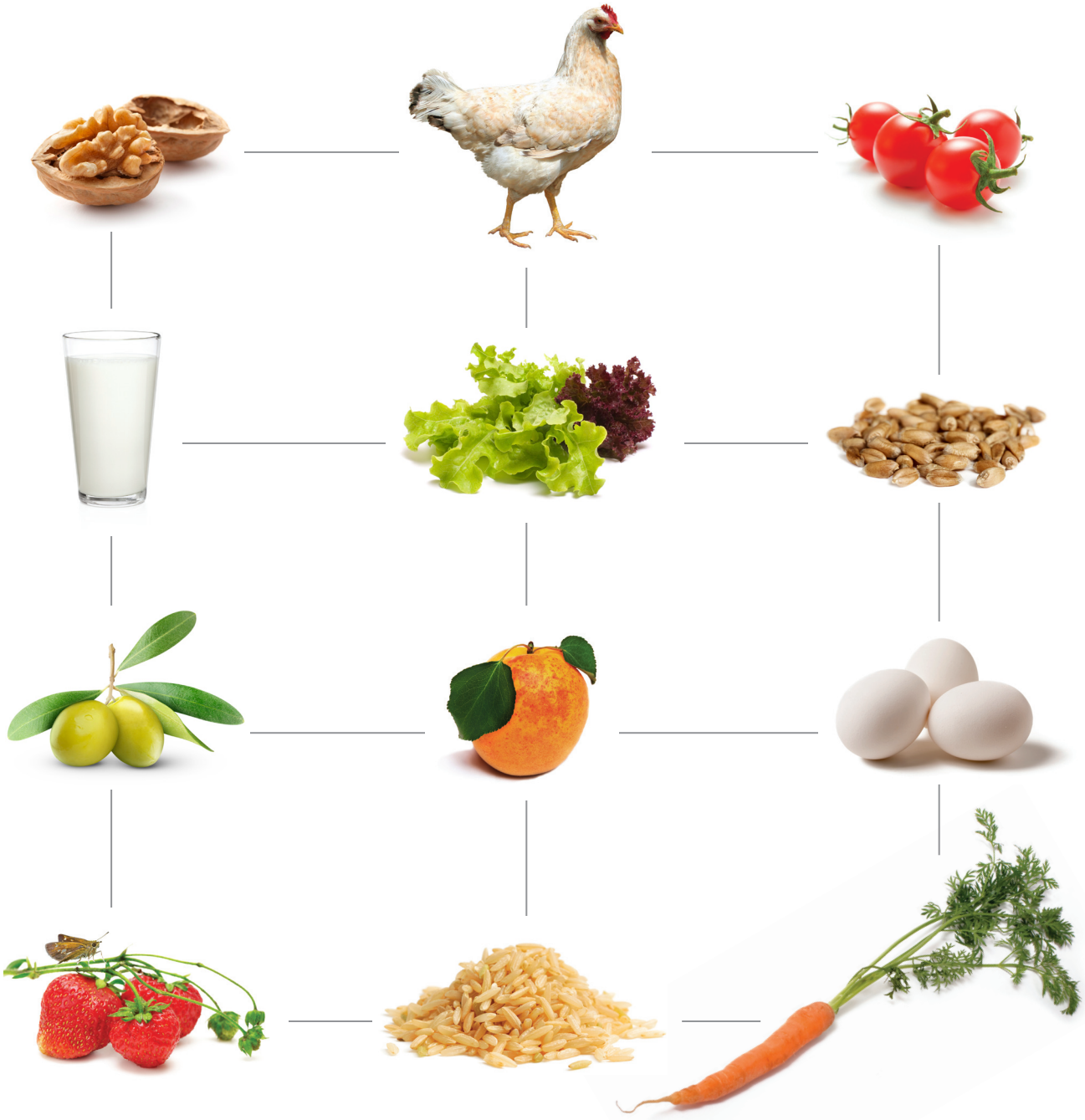
RETHINKING SCHOOL LUNCH

ARE CALIFORNIA KIDS EATING CALIFORNIA FOOD?

Discovering Opportunities for Improving School Meals



CENTER FOR ECOLITERACY

Published by Learning in the Real World

CALIFORNIA FOOD FOR CALIFORNIA KIDS™ DOWNLOADABLE RESOURCE

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Berkeley, CA 94704-1377

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Learning in the Real World is a publishing imprint of the Center for Ecoliteracy, a not-for-profit, tax-exempt organization. Created in 1997, Learning in the Real World offers resources to support schooling for sustainability, stories of school communities, and the ecological framework that informs the work of the Center.

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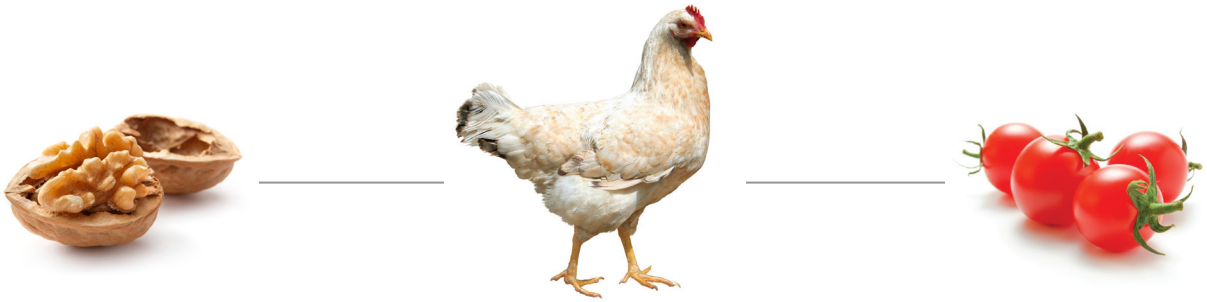


TABLE OF CONTENTS

CALIFORNIA FOOD FOR CALIFORNIA KIDS

by Kat Taylor and Zenobia Barlow

We are pleased to present this report on behalf of TomKat Charitable Trust and the Center for Ecoliteracy, as one of a suite of projects designed to cultivate systemic strategies for addressing issues of schooling for sustainability, children's health, and regional sustainable agriculture.

We are motivated by the potential for positive systems change embodied in the nearly 900 million meals served yearly in California schools. School food provides one of the best occasions we know for simultaneously supporting student well-being, building healthy lifelong habits, and promoting our economy and environment—all while offering the pleasure of delicious, appealing meals that celebrate our agricultural abundance and rich cultures.

Healthy students learn better and achieve more. How we grow, process, and prepare food impacts issues from health care costs to climate change, energy and resource conservation, and community vitality. California is uniquely positioned to respond. Our state's dynamic agriculture makes it possible to serve the best, freshest, healthiest food imaginable. Because of our Mediterranean climate, a vast number of crops are available fresh throughout the year. California schools do not need to depend on highly processed food that is shipped thousands of miles, at high cost to both the environment and the quality of the food offered to children.

Moreover, the magnitude of the state's financial investment in school food creates an opportunity for a robust partnership between California schools and California agriculture. In 2009–2010, the state's schools received nearly $1.6 billion in cash payments from the federal government for school food programs. The state added another $134 million. Not all of these funds are allocated for purchase of food, to be sure, but the California Farm to School Taskforce estimates that between 30% and 40% of the amount received is spent directly on food. That's $520–$694 million in a year, in addition to $32 million worth of commodity food offered by the USDA to schools in the state.

If 20% of that total were spent locally, $110–$145 million would be added to local economies. And money spent locally continues to circulate locally and to multiply. A 2011 report by the Portland-based nonprofit Ecotrust calculates that every dollar spent locally for school food adds $1.86 to the economy and that every job created by a district's purchasing local foods results in an overall increase of 2.43 jobs.

THE CALIFORNIA FOOD FOR CALIFORNIA KIDS™ INITIATIVE

All these opportunities have led the TomKat Charitable Trust and the Center for Ecoliteracy to collaborate on a "California Food for California Kids" initiative within the Center's Rethinking School Lunch suite of projects. In addition to its immediate goals, this initiative breaks new ground, approaching the objectives of healthier children and more sustainable agriculture at different levels, from statewide efforts to projects in single districts, and from different angles, to determine the most promising routes for future endeavors to benefit California. Among the projects: *Cooking with California Food in K–12 Schools*, a cookbook and professional development guide written by award-winning authors Georgeanne Brennan and Ann M. Evans, was published in August, 2011. It presents recipes reflecting seasonal foods of varying regions and a field-tested program for introducing fresh fruits and vegetables through dishes students love and flavor profiles applicable to the state's ethnicities. *Cooking with California Food* was the basis for a statewide conference and cooking school for nutrition services directors and other school reform advocates that included practice with scratch cooking from fresh ingredients, as well as presentation of a range of strategies for change. We completed a feasibility study for the Oakland Unified School District, using the Center for Ecoliteracy's Rethinking School Lunch planning framework. That study examined the multiple dimensions of this large urban district's food system, resulting in concrete recommendations, a budget, and a timeline for action.

DISTRICT BUYING PATTERNS

The present document reports on Phase I of a multiphase project to evaluate how more of California's crops can reach the state's students as freshly and minimally processed as possible, while reducing the carbon footprint of these products. It includes gathering data to understand the current situation and provide accurate baselines for measuring the effectiveness of future initiatives. It focuses particularly on 12 important California crops and their use in six school districts with innovative nutrition services programs (see Methodology).

It begins to answer such questions as, What crops are available to schools wishing to prepare meals from fresh California ingredients? How significant is California as a source for these crops? Where in the state are the crops raised, and when during the school year are they available fresh? How and where are they processed? To what extent are they being purchased by federal and state school nutrition programs and used in California schools? How are they being used? What is the potential for greater utilization of these crops? Are there identifiable trends? If some districts are using these crops more than other districts, what makes the difference? Are there systemic barriers to identifying, procuring, and using locally sourced crops? What are the most fruitful areas for further exploration?

We honor the dedication and hard work of all who contribute at every step of the journey of food from seed to school lunchroom. We hope that the discoveries that this report initiates may provide inspiration and ideas and serve as a launching pad for continued efforts to make the goal of "California Food for California Kids" a reality.

Sincerely,

Kat Taylor, President
TomKat Charitable Trust

Zenobia Barlow, Cofounder and Executive Director,
Center for Ecoliteracy

EXECUTIVE SUMMARY

The reports that follow offer snapshots of the amount of each crop produced in California and the place of California within the national agricultural economy for each crop. They illustrate how much of each crop is potentially available for California consumers, how much of the crop is being purchased by federal and state authorities for the National School Lunch and Breakfast Programs, how much is being purchased by the surveyed districts, and how it is used.

Given the objective of increasing the amount of fresh California food in California school meals, this document is intended to help school districts recognize how close they are geographically to sources of many crops, and at what times during the school year various crops are harvested in locations throughout the state. It is also hoped that learning about the uses that other districts are making of some of the crops will inspire nutrition services directors and give them ideas that they can employ in their districts.

DISCOVERIES

This phase of this project offers some important reminders and revelations for anyone hoping to reform the system by which California food arrives (or doesn't arrive) on the plates of California students:

- The bounty of California agriculture is immense.

- Many of the leading California crops are not yet reaching our students, even though they may be growing close to schools. The surveyed districts are among the most innovative, but for various reasons have not yet been able to take full advantage of the state's bounty. Compared with what is available, purchases of these 12 crops often remain modest.

- The range of the amounts purchased by these six districts is striking: from less than a pound to more than 17 pounds of carrots a year per student; from about a third of a pound to nearly three pounds of rice. This finding suggests how much potential exists for a greater presence of these foods in school meal programs.

- The National School Lunch Program (NSLP) is a vast and complex system (see the Appendix, "Overview of the National School Lunch Program"). It is marked by multiple and sometimes conflicting goals—providing children with nutritious food and serving the needs of the agriculture industry, for instance. But improving school food will require the participation of people who understand that system and can work with it or find the policy levers to effect change in it.

- The NSLP system as constituted can be a barrier to buying locally or regionally, or even to identifying the provenance of food. For example, the USDA commodities program does not permit buyers to specify products from a particular region. In some cases, federal and state agencies cannot themselves identify the source of food they supply to schools or (as in the case of chicken and eggs) the information may be proprietary and unavailable to buyers.

- Districts are inconsistently making use of the chance to educate students about locally sourced items and thereby to encourage them to develop a preference for the products of their region.

CHICKEN PARTS AND CHICKEN NUGGETS: A CONTRAST IN FOOD PROCESSING

All six districts surveyed are reducing their purchases of highly processed chicken products like "nuggets"—the fried, bite-sized chicken patties that appear on fast food menus and school lunch plates. Recipes for nuggets vary among processors; however, the difference in the amount of processing between identifiable chicken parts and chicken nuggets is roughly this:

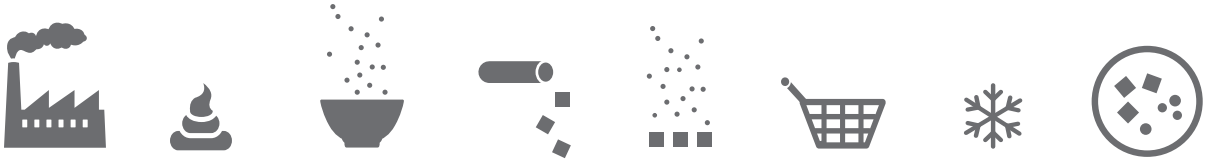
CHICKEN PARTS

Chickens are delivered to facilities for slaughter and processing.

After slaughter, carcasses are separated into identifiable parts, which are packaged and shipped.

Chicken parts are cooked and served.

CHICKEN NUGGETS



Chickens are delivered to facilities for slaughter and processing.

After slaughter, meat is separated from the carcasses. Some scraps may be processed as "mechanically separated" meat, a thick slurry that includes skin and other tissues.

Meat and/or slurry is mixed with ingredients that may include salt, sugar, seasonings, starch, water, and sodium phosphate.

The seasoned mixture is extruded into "nuggets." Nuggets can be shaped like disks, rectangles, animals, or cartoon characters.

Nuggets are breaded or battered with ingredients that may include bleached wheat flour, modified food starch, salt, spices, wheat gluten, dextrose, yeast, partially hydrogenated soybean oil, cottonseed oil with mono- and diglycerides, and leavening.

Nuggets are deep-fried in batches. Frying fats may include canola oil, corn oil, soybean oil, and hydrogenated soybean oil, and the anti-foaming agent dimethyl-polysiloxane.

Nuggets are frozen, packaged, and shipped.

Nuggets are heated and served.

—Karen Brown

Several factors that appear regularly when districts make, or consider making, more use of these crops:

- Nutrition services directors indicated in some cases that they had not thought of incorporating some of these crops (walnuts, for instance). Others had not realized that some crops such as apricots were available fresh during parts of the school year. Others were not aware, for example, that what they thought was olive oil did not actually qualify as olive oil. Others have increased their interest in some of these crops after being shown their health benefits.

- Districts have often required new recipes and menus in order to expand the list of crops they use, as was the case with Los Angeles, the one district which increased purchase of eggs since 2009.

- Some districts incorporated new offerings after programs of tastings by students and/or nutrition services staff.

- Nutrition services staffs that have begun making more use of crops (apricots and olive oil in Davis, for instance) did so after exposure to the crops through professional development classes.

- Los Angeles was moved to introduce walnuts after receiving support from the California Walnut Commission, which provided the district walnuts for recipe development and tasting.

- Davis did the calculations and concluded that its pizza would be higher quality and less expensive if they used wheat flour rather than prepared dough products.

- A major reason none of these districts is using more than a very small amount of wheat is that none of them have bakeries. Directors report that the chief impediment to installation of more salad bars is the absence of facilities.

Several trends are worth noting:

- All of the nutrition services departments surveyed expressed a desire to find ways to include more fresh California food in their offerings.

- Salad bars—a primary vehicle for offering fresh fruit and vegetables—are increasing.

- The six surveyed districts are purchasing more fresh strawberries, in most cases from local farmers.

- The districts are moving away from iceberg head lettuce and increasing purchases of leaf and mixed leaf lettuce.

- Districts are purchasing more fresh tomatoes, mostly from local distributors, and moving toward making their own sauces.

- Districts are increasing the use of brown rice, and some have switched almost completely to brown rice.

- All six districts surveyed are reducing the proportion of highly processed chicken products and are purchasing more raw chicken, identifiable chicken parts, and less-processed chicken products.

- Many districts are restricting or completely eliminating flavored milk, to which sweeteners are added.

NEXT STEPS

This phase of this project suggests a number of areas for further consideration:

ASSISTANCE TO SCHOOL DISTRICTS What interventions would help districts make the switch to more use of fresh California food? What local experiments could pilot systemic problem solving in schools? Exploring and testing a range of possibilities with selected districts appears to be a fruitful avenue to consider. The possibilities include development of new recipes, professional development programs, cooperative buying, and partnerships with industry and trade association groups.

MENU CHANGES What is the impact on purchasing patterns for districts willing to create new menus focused on incorporating some of these California crops?

POLICY CHANGES Are there policy changes at levels from the local district to the USDA that could improve the amount of fresh and regionally sourced food served in school meals, as well as enhancing districts' ability to identify the provenance of the products they purchase?

PURCHASING ORGANIC FOODS What kinds of potential challenges and opportunities are there for identifying and increasing the use of organic crops?

PURCHASING LOCALLY What are some of the opportunities and obstacles related to obtaining food directly from local (and small) farms and enhancing the economic "multiplier" of locally spent dollars?

OTHER CONCERNS These range from from pesticide use, to BGH in milk, to the resources required to grow particular crops in California, to the health and safety of the people who grow, harvest, and process crops.

METHODOLOGY

The 12 important California crops featured here represent components of a healthy lunch plate: apricots and strawberries for fruit; carrots, lettuce, and tomatoes for vegetables; milk, chicken, and eggs for animal protein; rice and wheat for carbohydrates; and walnuts and olive oil for healthy fats.

FRUITS

Apricots
Strawberries


VEGETABLES

Carrots
Lettuce
Tomatoes



ANIMAL PROTEIN

Milk
Chicken
Eggs



WHOLE GRAINS

Rice
Wheat


HEALTHY FATS

Walnuts
Olive oil


Six representative public school districts were chosen; they have all been leaders in school food innovation. They include urban, rural, and suburban districts from across the state and range in size from small to very large. Together they enroll about 12% of the students in California.

	Nutrition Services Director	County	Enrollment (Rounded)	% Eligible for Free or Reduced-Price Meals	Average "Meal Equivalents" Served Daily[1]	Amount Spent on Food, 2009–2010
Davis	Rafaelita Curva	Yolo	8,600	18.6	2,362	$620,884
Los Angeles	Dennis Barrett	Los Angeles	670,700	76.4	505,000	$89,000,000
Oakland	Jennifer LeBarre	Alameda	38,000	70.7	25,239	$5,478,605
Riverside	Rodney Taylor	Riverside	42,000	61.6	30,956	$6,018,000
Ventura	Sandy Curwood	Ventura	17,500	47.0	7,619	$2,878,335
Winters	Cathleen Olsen	Yolo	1,700	57.9	763	$110,523

[1]One "meal equivalent" equals one lunch, two breakfasts, or five snacks.

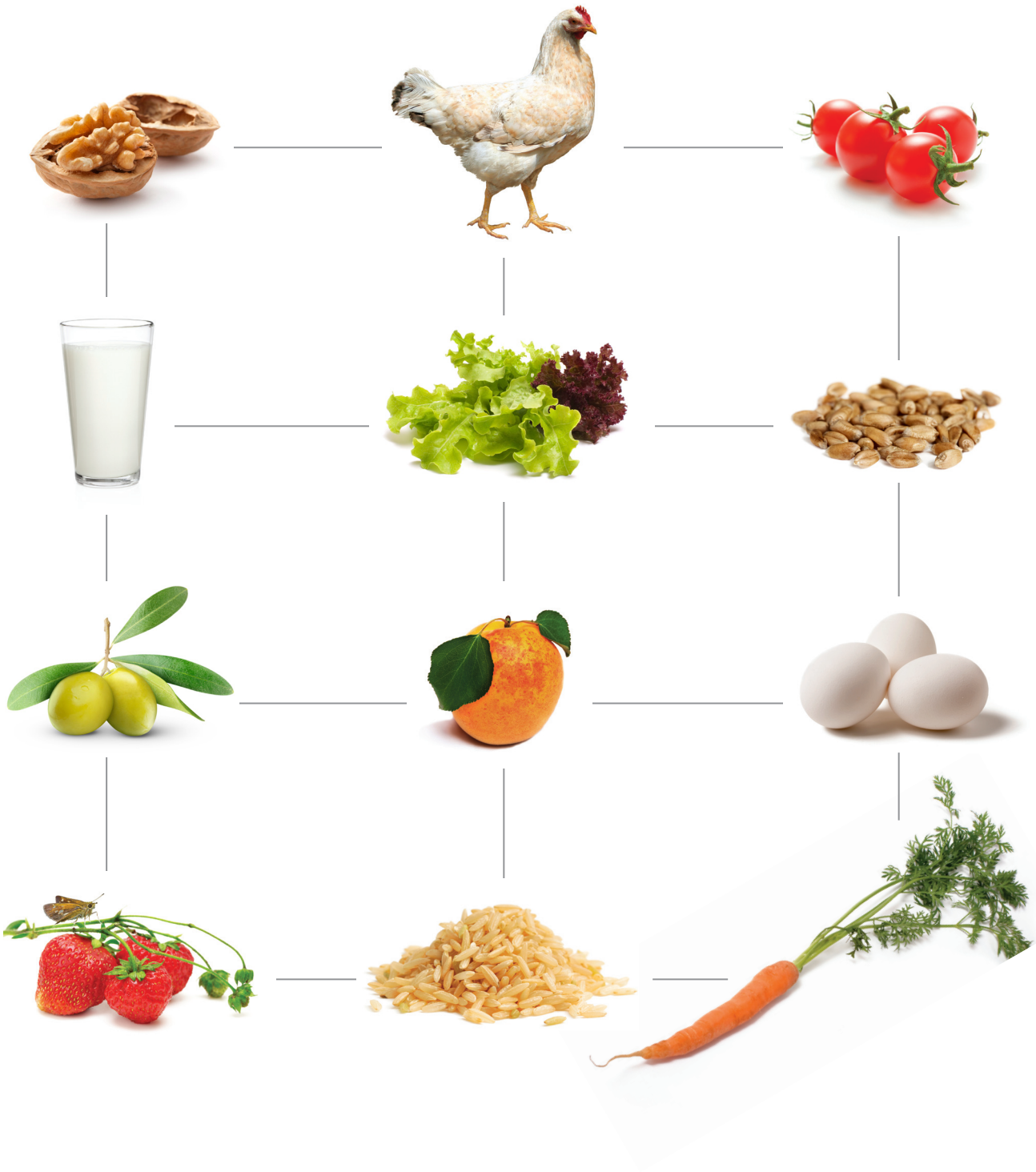
Principal investigators Ann M. Evans and Georgeanne Brennan utilized a variety of sources for information on agricultural production of the 12 crops in California, including interviews with industry representatives, processors, and producers, and statistical and historical data available on Internet sites, including governmental agencies, crop/product marketing associations, and academic reports. Data on food purchases and distribution by state and federal government agencies were obtained through a questionnaire designed by the investigators, along with interviews and a site visit to the state warehouse in Sacramento.

To obtain information on purchase and use of the crops by the six districts, Evans and Brennan conducted site visits at the Southern California schools in January 2011 and at the Northern California schools throughout the 2010–2011 academic year, designed questionnaires that school district nutrition services directors or their designees completed, and interviewed each informant.

Crop production information (2009) and school data (2009–2010 academic year) are taken from the most recent years that complete data were available. See Endnotes for sources of particular data.

In order to compare quantities purchased by districts of such varying sizes, the report for each crop includes both (a) the total pounds (or cartons of milk) purchased and (b) the "pounds purchased per student" by each district in 2009–2010. The latter figure was estimated by dividing the average number of meal equivalents served each day (see table above) into the total pounds of each crop purchased during the year. The result is not precise, but provides a general method for comparing the amounts purchased by the respective districts.

THE 12 CROPS



APRICOTS

119,000,000

Pounds of apricots grown in California in 2009

87%

Percentage of total U.S. apricot production supplied by California in 2009

16

California's rank in apricot-producing "countries" in the world

14,081

Pounds of apricots purchased by the six surveyed school districts in 2009–2010

"Summer is a limiting factor for fresh apricots for us, but we'd like to look into other options, such as dried apricots."

Jennifer LeBarre, Director, Nutrition Services, Oakland

SUMMARY

Apricots are grown on any commercial scale in few states other than California. Although California produced 119 million pounds of apricots in 2009, the six school districts surveyed purchased only 14,081 pounds in the 2009–2010 school year. Many nutrition services directors may not be aware that fresh apricots are available during the last part of the school year and through the summer sessions, or know how to incorporate dried apricots into entrée and salad recipes. Davis, the only district serving fresh apricots, has offered its food service staff extensive professional development emphasizing seasonal local products.

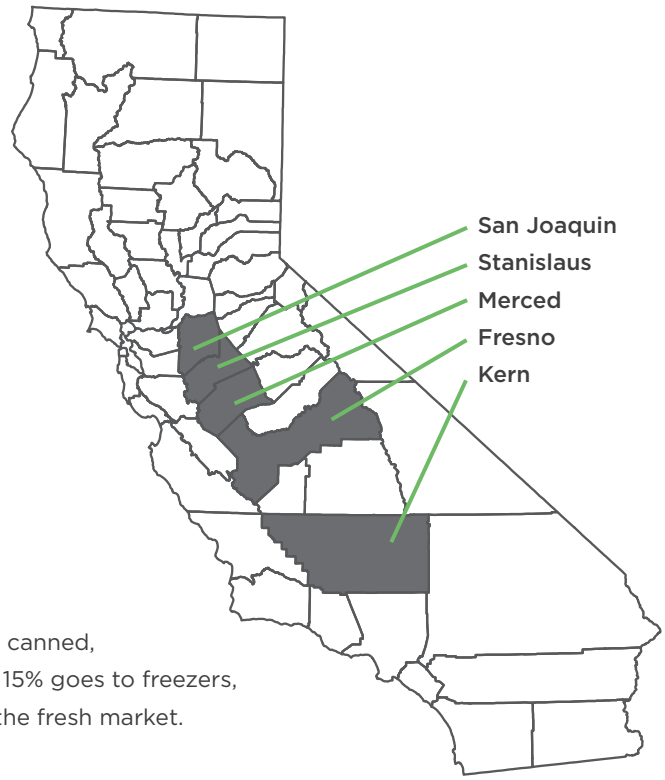
Apricots dry well, and certain varieties are grown strictly for processing. Neither the USDA, the California Department of Education, nor the Department of Defense purchases dried or fresh apricots, though the USDA purchases dried cherries, which are used by many districts in trail mix.

AGRICULTURAL OVERVIEW

There are between 100 and 125 apricot growers in California, many of them small family farms growing on less than 40 acres. Apricot acreage peaked in California in 1994 at 22,000 acres, but in 2009 only 11,000 acres remained in production. Imports from Turkey have taken much of the dried apricot market, and China, Chile, and Argentina have captured much of the world market for apricot concentrate. Growers tend to specialize by region and by variety in either fresh or processing apricots. Orchards in Fresno and Kern counties ripen earlier, so most of that fruit goes to fresh market. The remaining orchards in Merced, Stanislaus, and San Joaquin counties generally ship more fruit to processors. Apricot varieties ripen at different times and have differing characteristics of color, flavor, and sweetness. Patterson, Tilton, Blenheim, and Castlebrite are the most prevalent varieties. Apricot trees begin fully bearing in their fifth year, and have a life of 17 to 18 years. Harvest usually starts in May and runs through June.

GROWING REGIONS

California once grew apricots commercially throughout the state. The Santa Clara Valley, now home to Silicon Valley, was known as the Valley of Hearts Desire for its fruit production, including apricots. As the region became urbanized, farmers moved to outlying regions, including Solano and Yolo counties. With the development of new varieties, the bulk of the production shifted to the San Joaquin Valley where the fruit ripens earlier and there is less chance of rain during bloom. Only the San Joaquin Valley is still a significant producer.



PROCESSING

California apricots are grown for the fresh, frozen, canned, and dried markets. Canners take 38% of the crop, 15% goes to freezers, 17% goes to drying, and 30% of the crop goes to the fresh market.

Processing plants for canning and freezing fruit and drying yards are located in the major apricot producing counties of San Joaquin, Stanislaus, and Merced. Some apricots are moved to Watsonville for freezing.

FEDERAL AND STATE OVERVIEW

In the 2009–2010 school year, the USDA Agricultural Marketing Service (AMS) purchased a total of 19.94 million pounds of apricots, all grown in California — 18.2 million pounds canned and 1.74 million pounds

frozen and used in a fruit cup product. Of these totals, the California Department of Education (CDE) purchased 1.11 million pounds of apricots (812,592 pounds canned and 295,680 pounds frozen) on behalf of school districts. The USDA purchases dried cherries, which are used by many districts in trail mix, but neither the USDA, the CDE, nor the Department of Defense purchases dried or fresh apricots.

SCHOOL DISTRICT PERSPECTIVE

Winters, Riverside, Oakland, and Davis serve canned apricots, which were reported as popular with the students by all but one director using them. Other apricots are purchased as frozen fruit cups and may be packed in syrup. Davis, the only district purchasing fresh apricots, has offered extensive professional development lessons over the past three years on how to use local products in season. Historically, Winters is an apricot-growing region (students used to get out of school early to work cutting apricots in the drying yards), but fresh apricots are not offered in school meals there. "I don't serve fresh apricots because I worry about someone choking on the pits," said Rodney Taylor, Riverside's Director of Student Nutrition Services. Jennifer LeBarre, Director, Nutrition Services in Oakland, reported that students would have to take more than one apricot to meet the requirements for a fruit serving, due to the fruits' small size. However, she and the others expressed interest in learning how to use this California crop.

TABLE 1

APRICOTS PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	2,033	0.86	Local farmers, produce company, USDA
Los Angeles	0	0.00	N/A
Oakland	1,608	0.06	Sysco
Riverside	10,200	0.33	DOD
Ventura	0	0.00	N/A
Winters	240	0.31	USDA
TOTAL (LBS)	**14,081**		

* "Student" = Average meal equivalents served daily

TABLE 2

APRICOTS PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	FRESH	CANNED AND FROZEN	DRIED	HOW USED
Davis	1,120	913	0	Salad bar, menu item preparation
Los Angeles	0	0	0	N/A
Oakland	0	1,608	0	Unknown
Riverside	0	10,200	0	Apricot cups, diced, salad bar
Ventura	0	0	0	N/A
Winters	0	240	0	As a fruit option
TOTAL (LBS)	**1,120**	**12,961**	**0**	

SELCTED QUOTES

"We are using fresh apricots as a part of the salad bar in a couscous salad." *Rafaelita Curva, Director of Student Nutrition Services, Davis*

"We had canned product when I first got there, but it was not well received. I would like to start using a couscous recipe which uses apricots." *David Binkle, Deputy Director, Food Services, Los Angeles*

"Dried apricots are too expensive. However, we use dried cherries in the trail mix and would like to use dried apricots." *Cathleen Olsen, Director of Food Services, Winters*

STRAWBERRIES

2,490,000,000

Pounds of strawberries grown in California in 2009

89%

Percentage of total U.S. strawberry production supplied by California in 2009

27%

Percentage of total world strawberry produciton supplied by California in 2009

567,238

Pounds of California strawberries purchased by the six surveyed school districts in 2009–2010

"We're looking for zero sugar content. A strawberry fruit cup with lots of syrup is not the direction we're trying to go with healthy preparation."

David Binkle, Deputy Director, Food Services, Los Angeles

SUMMARY

California is the major supplier of strawberries in the world, producing 2.49 billion pounds annually; California alone produces almost four times as many strawberries as any country outside the U.S. Over half a million pounds of strawberries were purchased in 2009–2010 by the six surveyed districts, all but

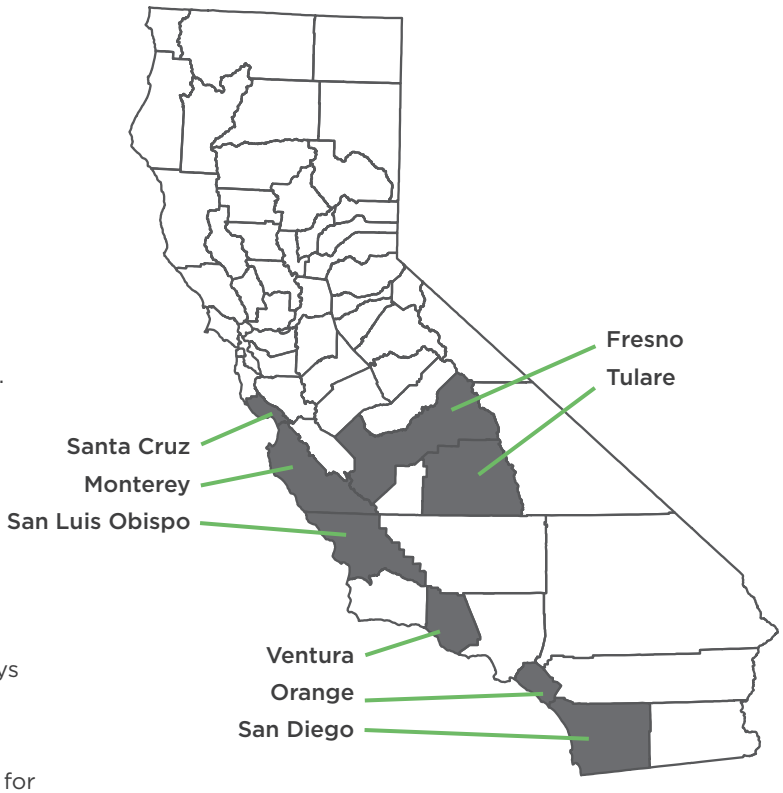
39,000 pounds by Los Angeles. California strawberries, depending upon region and variety, are available somewhere in the state year-round. Most of the six districts purchase and serve locally grown fresh strawberries during the spring season, and identify them as grown in California; they report that fresh strawberries are one of the most popular fruits served in their programs, if not the most popular. Storage is a limiting factor for the use of fresh strawberries; according to one district, they mold quickly. Los Angeles and Davis also serve frozen strawberry cups.

AGRICULTURAL OVERVIEW

California, with 700 growers, produces nearly 90% of all the strawberries consumed in the United States, and represents 27% of the worldwide production. A number of different varieties have been developed and selected for size, color, day-neutral or short-day, early production, and flavor. Many of the varieties have been developed by the University of California, while others (about 40% of the production) are proprietary varieties, developed and owned by individual companies. Strawberries are grown from transplants, most of them from commercial nurseries in Northern California, such as Lassen Canyon Nursery in Redding and Norcal Nursery in Red Bluff, then shipped to the growers according to their planting seasons, typically in spring. Harvest time depends upon the variety.

GROWING REGIONS

There are five major strawberry regions in California: Watsonville/Salinas (harvest April to November); Santa Maria (harvest March to December); Oxnard (harvest January to June and September to December); Orange County/San Diego (harvest January to May); and San Joaquin (harvest February to June).



PROCESSING

All strawberries are picked, sorted, and packed by hand in the field into trays, which normally contain 12 one-pint baskets and weigh between 11 and 12 pounds. From the field, the trays are taken to nearby shipping facilities where they are cooled and then loaded within 24 hours onto refrigerator trucks for delivery. Frozen strawberries and strawberry concentrate are used by other reprocessors and may have sweeteners added, such as sugar or processed fruit juice. Freezing facilities are located in or near the major growing areas.

FEDERAL AND STATE OVERVIEW

The USDA's Agricultural Marketing Service (AMS) does not purchase fresh strawberries. AMS purchased 21.45 million pounds of frozen strawberries — all from California — in school year 2009–2010 for all USDA domestic food assistance programs, including the National School Lunch Program.

For 2009–2010, the Department of Defense ordered 116,288 pounds of fresh strawberries on behalf of California school districts. Of this amount, the California Department of Education (CDE) ordered 49,296 pounds. CDE also ordered a total of 1.03 million pounds of frozen strawberries (including 793,800 pounds of fruit cups). It reports that its purchases cannot be identified as California strawberries.

SCHOOL DISTRICT PERSPECTIVE

The six surveyed districts are purchasing an increasing amount of fresh strawberries, in most cases from local farmers during the spring season. The fresh strawberries are being used mostly in salad bars, prepared salads, and yogurt parfaits. A limiting factor for the use of fresh strawberries is storage because, according to one district, they mold quickly. Los Angeles and Davis are also purchasing portion-controlled frozen processed strawberry cups.

TABLE 1

STRAWBERRIES PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	3,750	1.59	Local strawberry farmer, USDA
Los Angeles	527,950	1.05	Manufacturers, brokers, distributors
Oakland	7,924	0.31	Sysco, FreshPoint
Riverside	9,200	0.30	USDA, DOD, Buying co-op
Ventura	17,814	2.34	Berryman
Winters	600	0.79	Local farm
TOTAL (LBS)	**567, 238**		

* "Student" = Average meal equivalents served daily

TABLE 2

STRAWBERRIES PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	FRESH	FROZEN	HOW USED
Davis	1,725	2,025	Salad bar, fruit cup
Los Angeles	359,950	168,000	Fruit cup
Oakland	7,924	0	Salad bar, side dish
Riverside	9,200	0	Salad bar, prepared
Ventura	17,814	0	Salad bar, yogurt parfait
Winters	600	0	Salad bar
TOTAL (LBS)	**397,213**	**170,025**	

SELECTED QUOTES

"This year [2010-11] our grant is doubling so we will be buying strawberries direct from a local farm, Terra Firma." *Cathleen Olsen, Director of Food Services, Winters*

"We don't label our strawberries as locally grown. Instead, for marketing purposes we name them 'stupendous strawberries.'" *Jennifer LeBarre, Director, Nutrition Services, Oakland*

"Strawberries are a very popular item. The kids are all excited because the strawberries come from a local farm." *Rodney Taylor, Director, Student Nutrition Services, Riverside*

CARROTS

1,920,000,000

Pounds of fresh carrots produced in California in 2009

66 MILLION

Pounds of processing carrots (canned, frozen, and frozen mixed) produced in California in 2009

87%

Percentage of total U.S fresh carrot production supplied by California

1,166,524

Pounds of carrots purchased by the six surveyed school districts in 2009–2010

"We bought 12 cases of local bunched carrots, washed them, and left the greens on. I called them rabbit candy and passed them out in a basket at first as taste tests with students, and they loved them."

Cathleen Olsen, Director of Food Services, Winters

SUMMARY

Carrots are harvested somewhere in California throughout the year. California carrot production is overwhelmingly for fresh carrots, but most USDA school lunch program carrot purchases are for processed

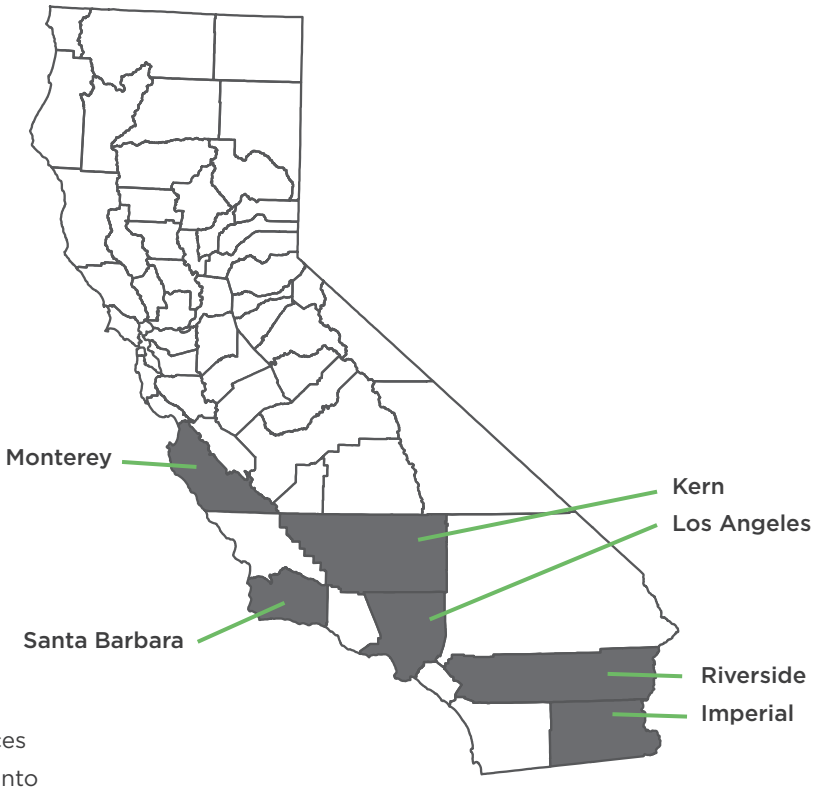
(canned, frozen, etc.) carrots and are not from California. USDA decided to pilot the purchase of fresh produce for school lunches, and USDA and Department of Defense purchased fresh carrots (all from California) for the first time in 2009–2010. The six districts surveyed primarily purchase fresh carrots, using a variety of sources, including the USDA, the Department of Defense, and local farmers.

AGRICULTURAL OVERVIEW

California carrots account for 87% of U.S. domestic fresh carrot production, and a much smaller percentage of U.S. processing carrots (destined for canning, freezing, shredding, juice, and baby food). Two major companies, Grimmway Farms (the largest fresh carrot producer in the world) and Bolthouse Inc., account for almost all the carrot production in California and much of the mini-carrot market. Their processing plants are in Kern County, so carrots grown in the desert are trucked to the plants.

GROWING REGIONS

There are four main carrot production regions in California: the southern San Joaquin and Cuyama valleys (harvest May and July and September to February); the southern desert (harvest December to June); the high desert (harvest from August to December); and the Central Coast (harvest from April to January). Most California carrots are grown in Kern County in the southern San Joaquin area.



PROCESSING

Some varieties are bred and grown specifically for processing, but processing is also a way to use less-than-perfect carrots. Mini-carrots, the largest sector in the surveyed school districts, are made from pieces of larger carrots that are peeled and shaped into 2-inch-long, small-diameter products and treated with a solution to extend shelf life and prevent whitening that comes with age.

Processors are located near production areas.

FEDERAL AND STATE OVERVIEW

Processed carrots (canned, frozen, and frozen mixed) are an entitlement product purchased by the Department of Agriculture's Agricultural Marketing Service (AMS) for the National School Lunch Program. The USDA purchased 3.8 million pounds of canned carrots (none from California) and 3.8 million pounds

of frozen carrots (300,000 pounds from California) for the lunch program in FY 2010. California schools ordered 288,192 pounds of canned and 118,800 pounds of frozen carrots in 2009–2010.

After the USDA decided to pilot the purchase of fresh produce in school lunches, the USDA and Department of Defense purchased fresh carrots for the first time in 2009–2010 (600,000 pounds, all from California). In 2009–2010, California school districts bought 414,000 pounds of mini-carrots, all processed by California vendors, from the USDA and 342,837 pounds of mini-carrots and carrot sticks through DOD Fresh.

SCHOOL DISTRICT PERSPECTIVE

Mini-carrots are the dominant fresh carrot purchased by the six school districts surveyed. They are considered convenient, students like them, and nutrition services directors report that they are an easy way to ensure that students get a fresh vegetable. However, in three of the six school districts surveyed our researchers observed unopened mini-carrots being tossed away and younger students having trouble opening the plastic bags in which they are served. Many bags had carrots so old they had whitened. The two school districts, Ventura and Winters, which served fresh, whole bunch-style carrots with greens attached as a salad bar item said that the students loved them. One district, Ventura, has contracted with a local organic farm to supply the district year-round with organic bunch-style carrots. Another, Winters, buys local bunch-style carrots in the spring with additional local funding. Shredded carrots and coins were popular items used in side salads, bulk salad mixes, and in entrée items. Canned carrots were virtually nonexistent in the districts surveyed (though they are used by other districts in the state).

TABLE 1

CARROTS PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	7,451	3.15	Local farmers, produce bid, USDA
Los Angeles	676,175	1.34	USDA
Oakland	437,789	17.35	Sysco, FreshPoint
Riverside	16,000	0.52	USDA, local farmers, DOD
Ventura	26,709	3.51	USDA, Berryman
Winters	2,400	3.15	Local farmer
TOTAL (LBS)	**1,166,524**		

* “Student” = Average meal equivalents served daily

TABLE 2

CARROTS PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	FRESH BULK AND BUNCH	FRESH CUT AND PEELED MINI	FRESH COINS	FRESH GRATED	FRESH STICKS	FRESH DICED	FROZEN	HOW USED
Davis	175	5,831	265	130	20	850	180	Toppings, carrot salad, salad bar, hot cooking
Los Angeles	450	610,600	7,305	18,220	0	0	39,600	Salad bar, cooking
Oakland	38,961	331,016	12,395	44,357	0	0	11,060	Coleslaw, prepared cooking, salad bar
Riverside[1]	9,200	1,850	1,950	900	0	0	2,100	Salad bar, snack menu
Ventura	675	13,894	805	1,130	9,770	435	0	Salad bar, snack menu
Winters	240	2,160	0	0	0	0	0	Salad bar, snack menu
TOTAL (LBS)	**49,701**	**965,351**	**20,770**	**64,737**	**9,790**	**1,285**	**52,940**	

[1]Riverside reported the use of canned carrots but did not report amounts.

SELECTED QUOTES

"We purchased 38,961 pounds of bulk fresh carrots, which are prepped in the cooking kitchens and used on the salad bars. Carrots hold up well over the weekend, so you can find them on our menu for Monday and Tuesday. They are prepped Thursday, shipped Friday, and held over the weekend." *Jennifer LeBarre, Director, Nutrition Services, Oakland*

"Packaged mini-carrots are a popular student item and convenient." *Rafaelita Curva, Director of Student Nutrition Services, Davis*

"About the mini-carrots, I like the bags. The kids can take the carrots away and put them in their backpack." *Rodney Taylor, Director, Student Nutrition Services, Riverside*

LETTUCE

7,100,000,000

Pounds of lettuce produced in California in 2009

89%

Percentage of total U.S. lettuce production supplied by California in 2009

14%

Percentage of total world lettuce and chicory production supplied by California

700,000

Pounds of California lettuce purchased by the six surveyed school districts in 2009–2010

"We live with the nation's salad bowl in our backyard. Wonderful varieties of lettuce are available. We've been able to move away from iceberg, and now children enjoy romaine and spinach."

Jennifer LeBarre, Director, Nutrition Services, Oakland

SUMMARY

Fresh lettuce is available somewhere in the state during every month. School districts offer lettuce primarily in salad bars. All the districts surveyed reported that salad bars are increasing in student popularity and are found at multiple school sites in each district; facility limitations are the major obstacle at the school sites

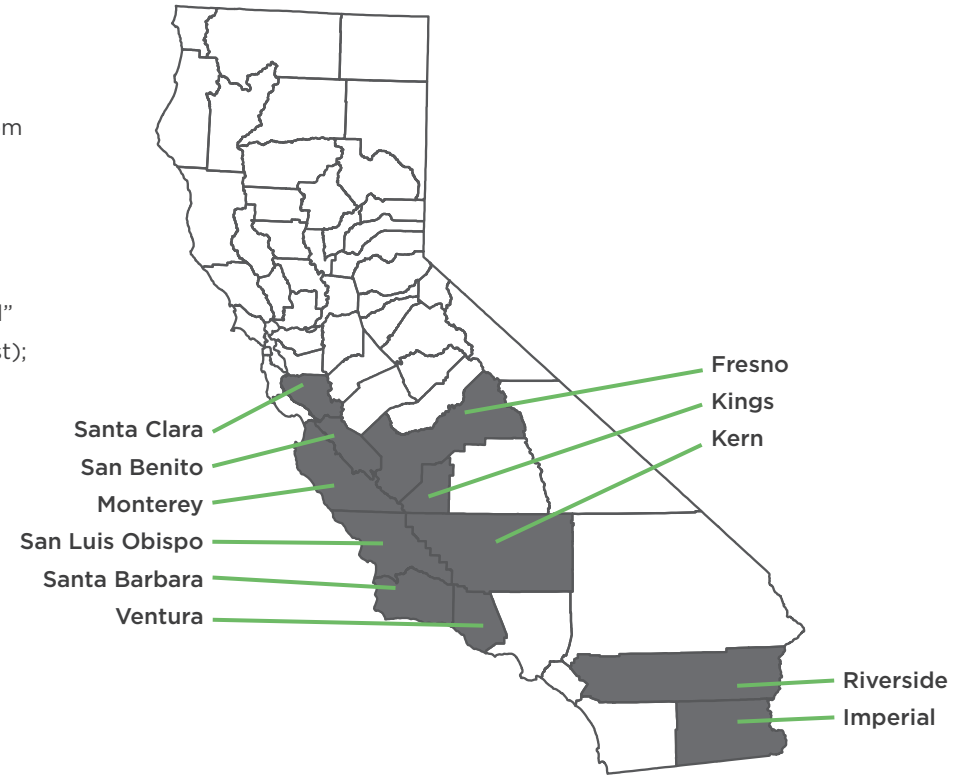
still without salad bars. All the districts report moving away from iceberg head lettuce and increasing their purchases of leaf and mixed leaf lettuce. (The California lettuce industry reports a similar shift among other consumers.) The Department of Defense purchases iceberg/romaine mix for California school districts, but cannot identify it as grown in California. Five of the reporting districts buy lettuce from local farmers directly or through local distributors.

AGRICULTURAL OVERVIEW

California, with more than 250,000 acres of production, produces 89% of the lettuce grown in the United States. Lettuce falls into two main categories: head (iceberg, butterhead, and Bibb); and leaf or loose leaf, which includes red leaf, green leaf, spinach, and romaine. Iceberg lettuce is the dominant salad green, but per capita consumption decreased from 21 pounds in 2005 to 11 pounds in 2008, while romaine and other leaf lettuces and spinach have increased in consumer popularity.

GROWING REGIONS

California's lettuce industry produces lettuce year-round by planting and harvesting from different regions in different seasons. The main growing regions are the Central Coast, including the Salinas Valley, called "the nation's salad bowl" (June through October harvest); the South Coast (harvest April through July); the West Side of the San Joaquin Valley (harvest in October and November); and the desert (harvest from December through March).



PROCESSING

Harvesting is done by hand, and the lettuce is trimmed and usually packed in the field before being taken to cooling facilities. Lettuce destined for mixes is taken from the field to a processing facility where the leaves may be cut, treated with a diluted chlorine wash, and bagged or packed for shipping.

Processing facilities are located throughout the state in the growing regions.

FEDERAL AND STATE OVERVIEW

The USDA's Agricultural Marketing Service does not purchase any fresh leafy greens or iceberg head lettuce. The Department of Defense (DOD), which does purchase some fresh produce for school districts, purchased a total of 112,740 pounds of lettuce mix (80% chopped iceberg and 20% chopped romaine) and almost 115,000 pounds of romaine, spinach, and other salad mixes statewide in 2009–2010. The California Department of Education reports that DOD purchases cannot be identified as California grown. California districts use a variety of sources, including local farmers and distributors, in addition to DOD.

SCHOOL DISTRICT PERSPECTIVE

The six school districts surveyed are increasing their use of lettuce, mostly due to increasing popularity and frequency of salad bars at school sites. Districts report facility limitations as the primary barrier at sites that do not have salad bars. Districts are moving away from iceberg head lettuce and purchasing more dark, leafy greens such as romaine, chard, and spinach; many are preparing their own mixes. Los Angeles is moving to include an organic mesclun mix, which the students reportedly love. Several of the districts are also creating prepared salads, with alternative (vegetarian) protein or as specialty items for adults and students. Some are labeling the greens as California or local; others indicated an interest in doing so in 2011–2012.

TABLE 1

LETTUCE PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	12,790	5.41	Local farmers, produce company
Los Angeles	504,580	1.00	Local farms and distributors
Oakland	46,668	1.85	FreshPoint
Riverside	88,477	2.86	Buying co-op, local farmers
Ventura	29,344	3.85	Local distributor, USDA commodity
Winters	1,000	1.31	Local farmer
TOTAL (LBS)	**682,859**		

* "Student" = Average meal equivalents served daily

TABLE 2

LETTUCE PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	ICEBERG HEAD LETTUCE	CHOPPED OR PROCESSED ICEBERG LETTUCE	LEAF LETTUCE	LOOSE LEAF MIXED	HOW USED
Davis	480	285	4,590	7,435	Salad bar
Los Angeles	10,580	182,000	264,000	48,000	Salad bar, pre-made salad
Oakland	0	24,550[1]	0	22,118	Salad bar
Riverside	0	50,464	35,013	3,000	Salad bar, "Junior Chef" recipes
Ventura	458	4,600	5,403	18,883	Salad bar, or included in recipes
Winters	0	0	1,000	0	As a fruit option
TOTAL (LBS)	**11,518**	**261,899**	**310,006**	**99,436**	

[1]Contains some Romaine

SELECTED QUOTES

"Our lettuce is never cut small. We purchase whole head, baby lettuce. If you cut it, you have to treat it or it turns brown and you can taste the difference." *Cathleen Olsen, Director of Food Services, Winters*

"We purchase sustainably grown greens now that come from a tri-county area through a distributor. Next year we have a local farmer growing our lettuce and greens. We gave the farmer an estimate of our weekly usage this year for planting projection purposes." *Katherine Martin, Child Nutrition Operation Specialist, Ventura*

"For our Farmers Market Salad Bar, we create our own lettuce mix, which is identified as locally grown. We're purchasing the product from a local farmer and looking to the future for a possible contract in that regard." *Rodney Taylor, Director, Student Nutrition Services, Riverside*

TOMATOES

26,630,000,000

Pounds of processor tomatoes grown in California in 2009

95%

Percentage of total U.S. processor tomato production supplied by California in 2009

28%

Percentage of total world processor tomato production supplied by California in 2009

216,172

Pounds of fresh whole tomatoes purchased by the six surveyed school districts in 2009–2010

"When I got to the district … I had 10 semitruck loads of canned product to use first, but now I'm putting whole fresh sliced and diced tomatoes into prepared hot dishes, on top of salads, and in mixes."

David Binkle, Deputy Director, Food Services, Los Angeles

SUMMARY

Fresh tomato season in California is May to late October. Outside those dates, fresh tomatoes are imported primarily from Arizona, Mexico, and Canada. California produces 32% of the fresh tomatoes and 95% of the processor tomatoes grown in the U.S. All the school districts surveyed are increasing their use of fresh tomatoes, which are purchased mostly from local distributors, buying co-ops, and local farmers. The USDA Agricultural Marketing Service rarely purchases fresh product; however it made an exceptional buy of

Florida tomatoes in FY 2009–2010. The Department of Defense purchases fresh tomatoes. Districts are increasingly making their own sauces from scratch, using processed tomatoes as a base.

AGRICULTURAL OVERVIEW

In California, about 100 growers produce just over one billion pounds of fresh market tomatoes on 36,000 acres. Planting and harvest times vary among regions, with first harvest in May and the last in late October. Outside those dates, fresh tomatoes are imported primarily from Arizona, Mexico, and Canada.

Ninety-four percent of the 327,800 acres of processing tomatoes in the U.S. are in California, cultivated by between 200 and 225 growers.

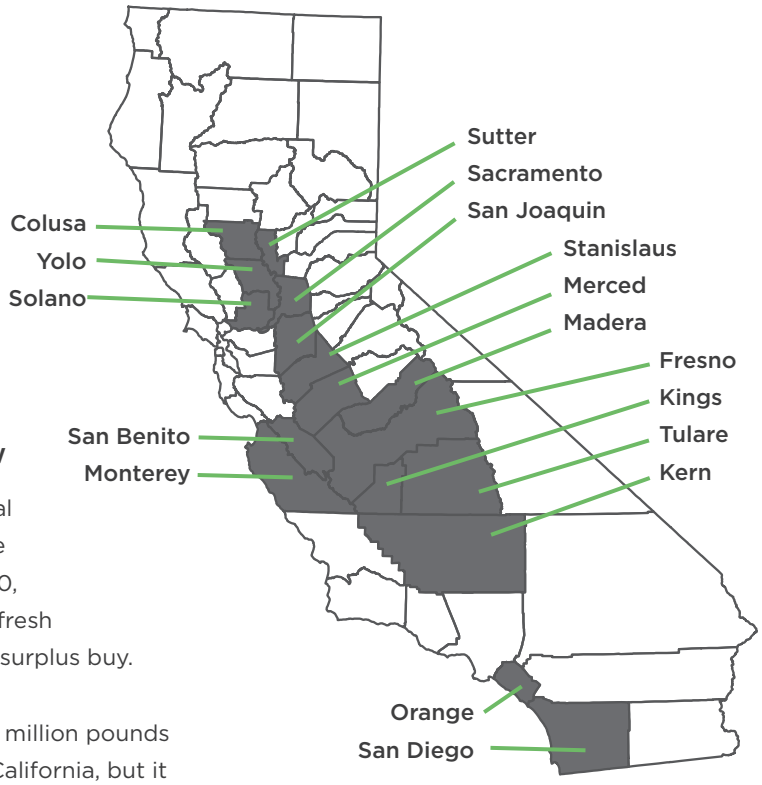
The crop, which in 2009 totaled 26.63 billion pounds, is processed by 16 processors. The tomatoes are machine harvested, loaded onto trucks with double trailers fitted with tomato gondolas, and taken to the canneries. There they are washed, sorted, and cooked into a variety of products such as whole, chopped, sauce, salsas, juice, and paste under a wide variety of labels. The product is packed in a variety of ways, including forklift bins, 55-gallon drums, and retail and food service cans.

Canneries for processing are located in the Sacramento and San Joaquin valleys, stretching from Colusa County in the north to Kern County in the south.

The Morning Star Company and its affiliates operate three tomato-processing facilities in California, processing 25% to 30% of the California crop. It is the largest independent producer in the world of bulk tomato ingredient products (tomato paste and diced tomatoes).

GROWING REGIONS

The primary fresh market regions are the upper and lower San Joaquin Valley, Central Coast, and the South Coast. Processor tomatoes are concentrated in the upper and lower San Joaquin Valley and the Sacramento Valley.



FEDERAL AND STATE OVERVIEW

It is unusual for the USDA Agricultural Marketing Service (AMS) to purchase fresh product. However, in 2009–2010, it purchased 12.68 million pounds of fresh tomatoes from Florida in a one-time surplus buy.

In 2009–2010, AMS purchased 83.68 million pounds of canned tomatoes — mostly from California, but it

can't provide a specific breakdown. The USDA purchases bulk tomatoes (8.8 million pounds in 2009–2010), which are delivered to reprocessors with contracts with agencies such as school districts to process into a variety of items such as pizza. In 2009–2010, the California Department of Education purchased 2.48 million pounds of processed canned tomato products in the form of salsa, spaghetti sauce, tomato paste, and diced tomatoes.

SCHOOL DISTRICT PERSPECTIVE

Most surveyed districts reported increasing use of fresh tomatoes. The districts vary as to whether they purchase year-round and how they use out-of-season tomatoes. They tend to advertise when offering local tomatoes. For instance, Davis — which utilizes a parcel tax to purchase local fresh produce — lists the farm from which it purchases on the district website and on the menu. The six districts seem to be making, or moving toward making, their own sauces, often using a canned plain tomato product as their base to keep sugar levels consistent. Los Angeles bought 1,028 cases of spaghetti sauce in order to experiment with portions, meatballs, and flavor profiles. Tomato is popular in many manufactured, processed items such as pizza, pizza pockets, and some Mexican items (data not captured in this survey).

TABLE 1

TOMATOES PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	5,474	2.32	Local farmers, USDA
Los Angeles	302,832	0.60	Directly from brokers, manufacturers, and distributors
Oakland	45,593	1.81	Sysco
Riverside	22,950	0.74	USDA commodity program, DOD buying co-op, local farmers
Ventura	19,450	2.55	Unknown
Winters	1,000	1.31	USDA commodity program, local produce companies/farms
TOTAL (LBS)	**397,299**		

* "Student" = Average meal equivalents served daily

TABLE 2

TOMATOES PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	FRESH CHERRY	FRESH WHOLE	CANNED: CHOPPED, PUREED, OR WHOLE	SAUCE	HOW USED
Davis	1,047	1,075	834	2,518	Pizza, pasta, salsa, salad bar, prepared salads
Los Angeles	58,000	204,000	0	40,832	Pizza, spaghetti, salad bar
Oakland	4,310	4,360	0	36,923	Unknown
Riverside	11,656	3,800	7,494	0	Pizza, pasta, salad, salsa, sauce, and soups
Ventura	984	2,737	0	15,729	Spaghetti, pizza bagels, salad bar, prepared salad
Winters	300	200	400	100	Pizza, turkey meat, salad bar, prepared salads
TOTAL (LBS)	**76,297**	**216,172**	**8,728**	**96,102**	

SELECTED QUOTES

"I identify California fresh tomatoes on my Farmers Market Salad Bar as cherry, whole, fresh salsa, sliced, or chopped tomatoes. On the hot lunch they are identified as sauce or marinara sauce or pasta sauce. I'm also using fresh tomatoes for BBQ and sandwiches. My salad bar has tomatoes in season only; my hot lunch has them year-round." *Rodney Taylor, Director, Student Nutrition Services, Riverside*

"We're making our own from-scratch marinara sauce this year." *Katherine Martin, Child Nutrition Operation Specialist, Ventura*

"I buy fresh tomatoes and great mixed heirloom tomatoes through my local produce distributor that come from my county and one down the road; I don't serve tomatoes year-round because the quality is terrible when they are out of season. They are rock hard." *Cathleen Olsen, Director of Food Services, Winters*

MILK

39,500,000,000

Pounds of milk produced in California in 2009

21%

Percentage of total U.S. milk production supplied by California

3%

Percentage of total world milk production supplied by California

83,566,878

Total number of 8 oz. milk cartons purchased by the six school districts in the survey in 2009–2010

"Serving flavored milk has been a topic of discussion at our last three Nutritional Advisory Committee meetings."

Rafaelita Curva, Director, Student Nutrition Services, Davis

SUMMARY

California is the highest-ranking milk-producing state in the nation, with almost 40 billion pounds of milk produced in 2009. Sales of milk and cream contributed $4.54 billion to the state's economy in 2009. Fluid milk is the only agricultural product that the USDA specifically requires schools in federal meal prgrams to offer. Milk is served to participating students at breakfast, lunch, and snack times. Almost 70% of the

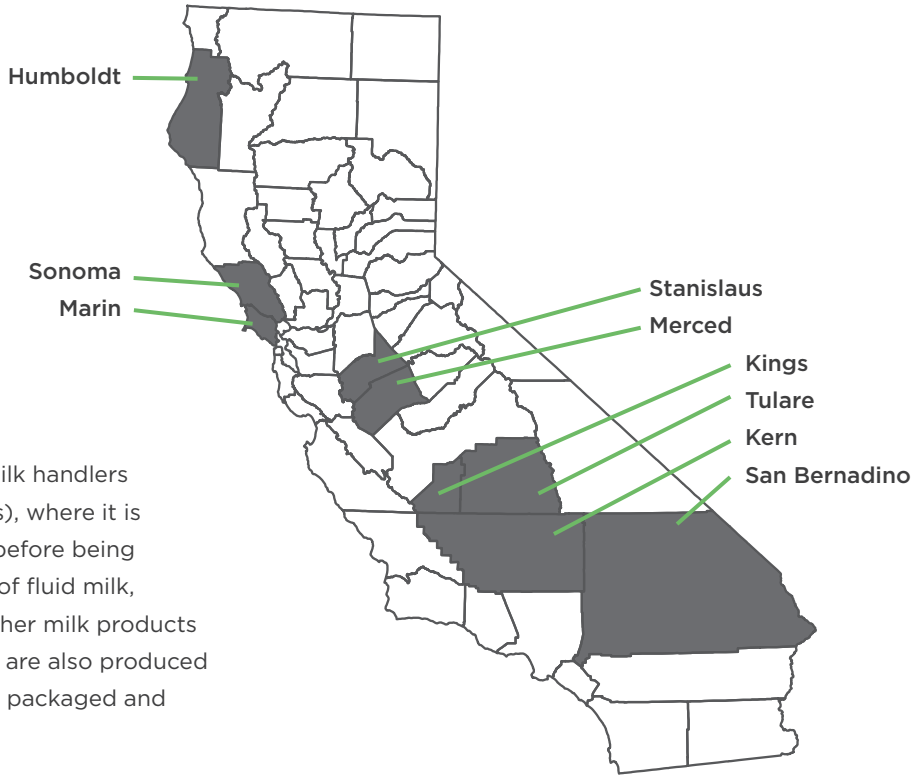
state's milk industry sales are of whole or reduced-fat (2%) milk, but five of the surveyed districts purchased almost none of those two types; schools participating in the National School Lunch Program are required to offer two different kinds of milk, which can be selected from low-fat (1% or less) and fat-free (skim), flavored or unflavored milk. More than two-thirds of the milk purchased by the districts in the 2009–2010 school year was flavored; however, in June 2011 Los Angeles, the largest purchaser, banned flavored milk, and some other districts have removed it for some grade levels or for some meals. If students are drinking California milk, it is not labeled as such on the school menu.

AGRICULTURAL OVERVIEW

California, the largest milk-producing state in the nation, produced 39.5 billion pounds of milk in 2009 at 1,752 dairies. Dairies with milking strings of 1,000 to 2,000 head are common and are usually part of a farming operation that grows alfalfa hay and corn or winter silage to supplement the feed ration. There are also farms that specialize in raising replacement heifers for the dairies. The milking breeds are Holstein, Jersey, Guernsey, Brown Swiss, Ayrshire, and Milking Shorthorns. Reduced-fat milk accounts for about 36% of the sales, whole milk for 31%, and low-fat and nonfat for approximately 15% each. Forty percent of California milk goes to cheese making.

PRODUCTION REGIONS

Although milk was historically produced in multiple regions of California, in particular Marin, Sonoma, Riverside, and San Bernardino counties, today almost 1,300 of the state's 1,752 dairies are in the San Joaquin Valley.



PROCESSING

California milk is shipped to 123 milk handlers and processing plants (creameries), where it is tested, clarified, and pasteurized before being processed into one of the grades of fluid milk, and may have flavoring added. Other milk products like cheese, yogurt, and ice cream are also produced at creameries. The final product is packaged and shipped in refrigerated carriers.

The USDA purchases ultra-high-temperature pasteurized (UHT) milk for the schools; this product does not have to be refrigerated. Flavored milk, which is sweetened with a variety of different sweeteners, is a matter of considerable controversy in school meal programs, and several districts have eliminated or restricted it (see School District Perspective below). The use of bovine growth hormone is also in dispute in some districts.

The major creameries are located throughout the center of the state. There are a few in Southern California—in Los Angeles, Riverside, and San Bernardino counties—several throughout the San Joaquin Valley, and also in Marin, Sonoma, and Humboldt counties. They range from very large creameries making different grades of milk, ice cream, yogurt, butter, and cheese, to small, specialty creameries making cheeses.

FEDERAL AND STATE OVERVIEW

In FY 2010 the USDA purchased 11.45 million pounds of UHT milk for schools and received an additional 11.58 million pounds in exchange for nonfat dried milk. Nonfat dried milk is not a commodity purchased for schools; it is a part of a purchased macaroni and cheese product. The USDA does not state where the milk comes from. The California Department of Education purchased 1.17 million pounds of 1% UHT milk for school districts or their purchasing cooperatives in the 2009–2010 school year. It could not identify whether any of it came from California.

SCHOOL DISTRICT PERSPECTIVE

In the districts surveyed, milk was a popular item served at breakfast and lunch. Most districts purchased mainly 8-ounce cartons. All but a tiny amount of the milk purchased by the districts is nonfat or 1%. About two-thirds of the milk purchased in the 2009–2010 school year was flavored chocolate or strawberry. In June 2011 Los Angeles banned all flavored milk. Ventura has banned flavored milk in its elementary schools. Winters and Davis switched the sweetener in their flavored milk from high fructose corn syrup to sucrose. Los Angeles, Winters, and Oakland label all their milk as from California. At least one district, Winters, uses buttermilk salad dressing mixes. Some powdered milk is a part of manufactured product (such as yogurt "grahams" cracker packages).

TABLE 1

MILK PURCHASED AND SOURCE

DISTRICT	TOTAL 8 OZ. CONTAINERS	8 OZ. CONTAINERS PER STUDENT PER YEAR*	SOURCE
Davis	401,237	169.87	Local Distributor
Los Angeles	75,353,700	149.22	Manufacturer/distributor
Oakland	2,617,948	103.73	Unknown
Riverside	4,266,700	137.83	Buying co-op, commercial
Ventura	767,293	100.71	Unknown
Winters	160,000	209.84	Milk company
TOTAL	**83,566,878**		

* "Student" = Average meal equivalents served daily

TABLE 2

MILK PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	8 OZ. NONFAT NON-FLAVORED	8 OZ. NONFAT FLAVORED	4 OZ. 1% NON-FLAVORED	8 OZ. 1% NON-FLAVORED	8 OZ. 1% FLAVORED	8 OZ. 2% NON-FLAVORED	8 OZ. WHOLE NON-FLAVORED
Davis	0	205,693	0	80,900	114,644	0	0
Los Angeles	275,000	36,500,000	80,500	17,800,000	20,600,000	49,200	49,000
Oakland	23,000	519,526	0	2,075,422	0	0	0
Riverside	see note[1]		0	0	0	0	0
Ventura	0	0	0	767,293	0	0	0
Winters	0	130,000	0	30,000	0	0	0
TOTAL	**298,000**	**37,355,219**	**80,500**	**20,753,615**	**20,714,644**	**49,200**	**49,000**

[1]Riverside purchased 4,266,700 8-ounce cartons of nonfat milk, but did not provide a breakdown between flavored and non-flavored.

SELECTED QUOTES

"In June of this year the Los Angeles, Joint Unified School District decided to ban all flavored milks." *David Binkle, Deputy Director, Food Services, Los Angeles*

"My policy is that we don't use flavored milk with high fructose corn syrup." *Cathleen Olsen, Director of Food Services, Winters*

"We won't be serving flavored milk for breakfast [in 2011–2012]." *Rodney Taylor, Director, Student Nutrition Services, Riverside*

CHICKEN

250,000,000

Broiler chickens produced in California in 2009

3%

Percentage of total U.S. broiler chicken production supplied by California

1

Rank of the U.S. in worldwide chicken production in 2009

4,787,165

Pounds of broiler chicken purchased by the six surveyed school districts in 2009–2010

"There has been a change in the last couple of years with our chicken purchasing. We are purchasing more minimally processed products."

Cathleen Olsen, Director of Food Services, Winters

SUMMARY

Chicken is an entrée item on the school lunch menus of all six school districts in this survey. In 2009–2010, they purchased 3.87 million pounds of processed and minimally processed chicken in items such as chicken burgers, chicken dogs, and chicken nuggets, and nearly another million pounds of chicken as whole or

identifiable pieces. All six districts identified changes in their chicken buying patterns over the past few years, including buying less processed product and more raw chicken and identifiable chicken parts for cooking on-site. None of the school districts reporting were able to identify chicken they purchased as California chicken.

AGRICULTURAL OVERVIEW

In 2010, four California broiler chicken producer/processors produced 1.5 billion pounds of chicken, 3% of the nation's total. Eggs from broiler breeder hens (either self-produced on the ranches or procured from commercial hatchery houses) are sent to incubators for 21 days. The hatched young chicks are then moved to growout facilities and fed and watered there for approximately 45 days before being slaughtered and processed.

PRODUCTION REGIONS

Most of the chicken production in California is located in the San Joaquin Valley, with some being produced in Sonoma.

PROCESSING

Four large chicken producer/processors in California are responsible for the slaughter and dressing and may do additional processing such as making chicken corn dogs. Some processed products are more processed than others. For example, districts refer to cooked chicken fajita strips—strips that are cooked and pre-seasoned—as "minimally processed." These can be used as ingredients in a variety of entrée dishes such as rice bowls or burritos. Stickless corndog chicken is considered a "processed product," for example, as are breaded chicken patties and nuggets, and are served as entrée items on their own. The processed chicken is usually moved out in refrigerated trucks to distribution centers and stores within 48 hours.

The four main processors in the state are Foster Farms in Livingston (Merced County), Petaluma Poultry in Petaluma (Sonoma County), Pittman in Sanger (Fresno County), and Fulton Valley in Turlock (Stanislaus County).

FEDERAL AND STATE OVERVIEW

The USDA Agricultural Marketing Service (AMS) purchased 223.26 million pounds of chicken and chicken products for delivery from July 2009 to June 2010 for all domestic food assistance programs,

including the National School Lunch Program. The majority of this (137.74 million pounds) was bulk-pack ready-to-cook whole chicken carcasses weighing over 3.75 pounds each (USDA Grade B) without necks and giblets. “Cooked, battered/breaded” and “cooked chicken fajita strips” accounted for a little over 10 million pounds each.

AMS contracts do not require that vendors provide information to the USDA regarding the location of their source flocks, though products must be of domestic origin. Information on production and processing facilities is required, and it would be possible to trace a production lot back to the growing facility. This information is in many cases considered confidential to the company. AMS does not purchase manufactured products made with chicken. On behalf of states, AMS does purchase bulk chicken, which is delivered to reprocessors that have contracts with recipient agencies such as school districts to process into a variety of menu items, such as tacos and soups. This is how the majority of the bulk pack (large) chicken purchased is used.

In the 2009–2010 school year the California Department of Education purchased 30.14 million pounds of chicken on behalf of participating school districts and their purchasing cooperatives. Of this, 19.97 million pounds was bulk-pack large whole chickens for processing. “Frozen chicken fajita strips” totaled 2.3 million pounds. Frozen identifiable cut-up chicken parts totaled 560,000 pounds.

SCHOOL DISTRICT PERSPECTIVE

In the six districts surveyed, chicken was a very large purchase. More than three-quarters of the chicken purchased was used for processed chicken products such as nuggets, breaded patties, and lunchmeat. The rest was purchased as identifiable chicken parts (legs, thighs, breasts) or manufactured products (tacos, pizza, deli sandwiches, stir fry). In all six districts the chicken was featured in school lunch, snack, or breakfast programs and was identified on the school menus as “chicken,” but the location of its origination was not indicated. Chicken was used in the salad bar and prepared salads in all districts except Los Angeles and Ventura. All six districts identified changes in their chicken buying patterns over the past few years, including buying less processed product and more chicken products, raw chicken, and identifiable chicken parts (though the majority of chicken continues to be purchased in the form of processed products). One district, Oakland, had over 40 such products listed on a vendor sheet.

TABLE 1

CHICKEN PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	16,231	6.87	USDA commodity, distrubutor
Los Angeles	4,448,400	8.81	USDA commodity, manufacturers, brokers, distrubutor
Oakland	269,452	10.68	Sysco
Riverside[1]	4,200	0.14	USDA commodity
Ventura	42,082	5.52	USDA commodity
Winters	6,800	8.92	USDA commodity
TOTAL (LBS)	**4,787,165**		

[1]Riverside data may not include the poundage they have diverted to processor from USDA

* "Student" = Average meal equivalents served daily

TABLE 2

CHICKEN PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	IDENTIFIABLE PARTS	PROCESSED	MINIMALLY PROCESSED	WITHIN MANUFACTURED PRODUCT Y/N	HOW USED
Davis	13,060	196	2,975	N	Entrée, salad bar
Los Angeles	884,200	3,514,000	50,200	Y	Entrée
Oakland	4,035	203,317	62,100	Y	Entrée
Riverside	3,700	500	0	Y	Entrée
Ventura	15,695	20,627	5,760	Y	Entrée, salad bar
Winters	0	3,800	3,000	N	Entrée
TOTAL (LBS)	**920,690**	**3,742,440**	**124,035**		

SELECTED QUOTES

"We don't use fajita strips [a minimally processed chicken product] now, but we are developing ways to move towards using them more." *David Binkle, Deputy Director, Food Services, Los Angeles*

"We've been experimenting with new chicken recipes for the chicken parts we are getting from the USDA. We make Lemony, Mongolian, Thai, and Adobo Chicken. We want to offer Chicken Cacciatore, but are still trying [to find] a recipe the kids like." *Rafaelita Curva, Director of Student Nutrition Services, Davis*

"[As of 2011–2012] we will have no breaded patties." *Katherine Martin, Child Nutrition Operation Specialist, Ventura*

EGGS

663,000,000

Pounds of eggs produced in California in 2009 (5.3 billion eggs)

6%

Percentage of total U.S. egg production supplied by California

5%

Percentage of eggs purchased by the six surveyed school districts that were fresh

646,218

Pounds of eggs purchased by the six surveyed school districts in 2009–2010

"All our eggs can be identified as California eggs."

Jennifer LeBarre, Director, Nutrition Services, Oakland

SUMMARY

California egg producers sell the majority of their eggs fresh, but only 34,215 pounds (or 5%) of the 643,786 pounds of eggs purchased by the six surveyed districts were fresh; the rest were frozen, liquid, or whole-cooked. It is not known whether these were California-produced eggs. Whole cooked eggs are the processed egg item used most extensively by the school districts. Liquid eggs are used in making scrambled eggs or omelets, primarily as breakfast items. Chopped and thawed frozen eggs appear on salad

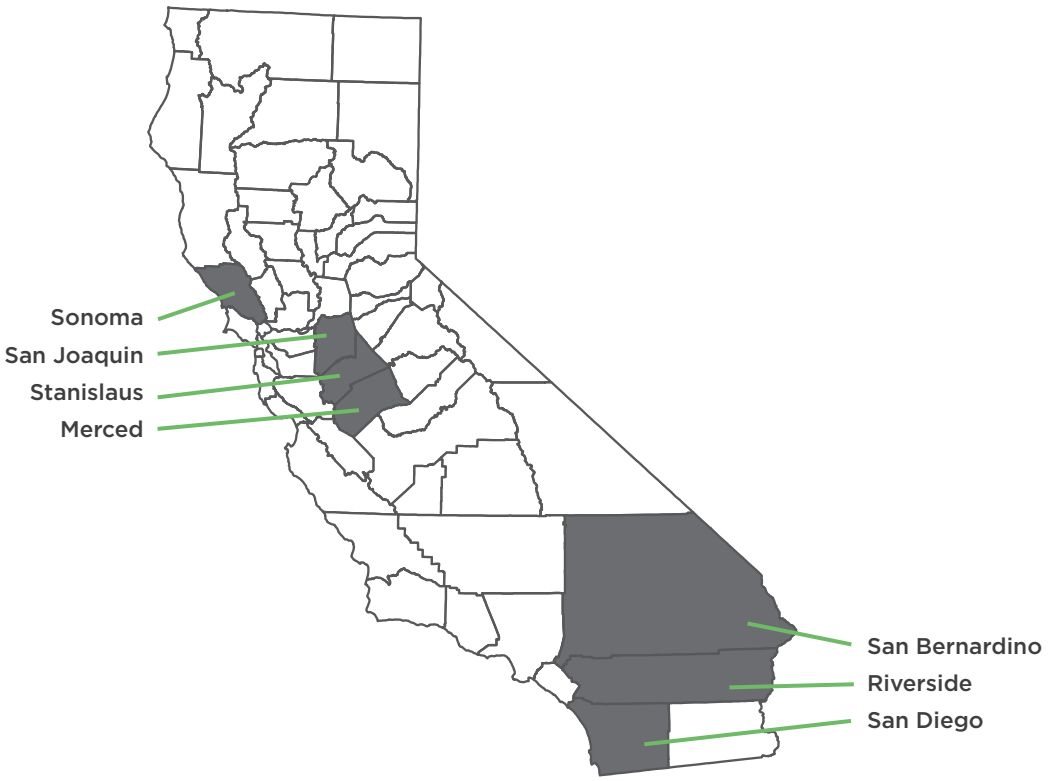
bars in Oakland and in Davis. Los Angeles, the only district to increase egg purchases since 2009, did so after changes in its menus. Only one district, Oakland, could identify its purchased eggs as from California.

AGRICULTURAL OVERVIEW

With 60 egg producers and 19.65 million laying hens, California ranks fifth in the nation among egg-producing states. California produced 5.3 billion eggs in 2009, including both eggs produced for human consumption and hatchery eggs, which are produced to grow chickens.

PRODUCTION REGIONS

The main egg production regions in California are Southern California, the San Joaquin Valley, and Sonoma County.



PROCESSING

There is only one egg "breaker" or processor in the state. It is owned by a cooperative of California egg farms and uses eggs from its members most of the time. Eggs in bulk tankers purchased by the USDA are delivered to reprocessors, who have contracts with recipient agencies, including school districts, to process into a variety of menu items such as French toast.

The state's only egg processor is located in Ripon in the San Joaquin Valley.

FEDERAL AND STATE OVERVIEW

For its domestic food assistance programs, including the National School Lunch Program, the USDA Agricultural Marketing Service (AMS) purchases liquid whole eggs by the pound and in bulk by the

tanker, and All-Purpose Egg Mix (dried). The mix includes vegetable oil, citric acid, salt, maltodextrin, and moisture. AMS does not purchase further processed or manufactured products made from eggs; chopped frozen eggs; or cooked, shelled eggs. It does not purchase shell eggs for the National School Lunch Program.

In 2009–2010, USDA purchased 16.74 million pounds of eggs for domestic food assistance programs; two-thirds was liquid whole egg, tanker (bulk). AMS purchased 1.15 million pounds of All-Purpose Egg Mix (dried). USDA does not require egg vendors to provide information regarding the location of source flocks by state; however, product must be of domestic origin.

In the 2009–2010 school year, the California Department of Education (CDE) purchased 720,360 pounds of whole frozen eggs and 1.27 million pounds of eggs as whole liquid bulk on behalf of California school districts and their purchasing cooperatives. They purchased no other form of egg or egg product.

SCHOOL DISTRICT PERSPECTIVE

Out of the surveyed districts, only Oakland identified its eggs as from California. Ventura and Los Angeles purchased more liquid eggs and egg whites than other egg products; eggs purchased in this form are frequently reprocessed into products such as French toast. Storage of eggs did not seem to be problematic for the districts except for Los Angeles, whose egg distributors now deliver their egg products to the schools directly, instead of to the warehouse. The only one of the districts to have increased egg purchases since 2009 was Los Angeles, which did so due to menu changes. For the most part, the districts' main use of eggs is in manufactured products such as egg sandwiches, egg patties, French toast, or egg breakfast burritos which come frozen for breakfast, and egg salad for lunch. Oakland's vendor lists eight different egg products, including diced, whole peeled, liquid scrambled fresh, liquid blend whole, and egg patty. Davis's district received a grant to provide breakfast at several schools, and was preparing fresh eggs. Several districts use hard-boiled eggs as an alternative protein on prepared salads in secondary schools.

TABLE 1

EGGS PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	2,365	1.00	USDA, other
Los Angeles	608,610	1.21	Manufacturers, brokers, distributors
Oakland	25,191	1.00	Sysco
Riverside	6,182	0.20	USDA, buying co-op, commercial
Ventura	3,360	0.44	USDA
Winters	510	0.67	USDA
TOTAL (LBS)	**646,218**		

* "Student" = Average meal equivalents served daily

TABLE 2

EGGS PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	CHOPPED FROZEN EGGS	STERILIZED AND PASTEURIZED LIQUID EGGS OR EGG WHITES	FRESH EGGS	COOKED EGGS	HOW USED
Davis	1,240	0	1,125	0	Breakfast, salad bar
Los Angeles	0	240,000	33,000	335,610	Breakfast, lunch
Oakland	3,317	21,760	90	24	Breakfast
Riverside	0	0	2432	3,750	Breakfast, snack
Ventura	440	2,920	0[1]	0	Breakfast
Winters	0	0	0	510	Breakfast
TOTAL (LBS)	**4,997**	**264,680**	**36,647**	**339,894**	

[1]Ventura purchases a minimal amount of fresh eggs from a produce distributor; data not provided.

SELECTED QUOTES

"We purchase local eggs directly from our local produce distributor for our egg salad served in our secondary schools." *Katherine Martin, Child Nutrition Operation Specialist, Ventura*

"Egg shelf life has been an issue in our district's warehouse, so we moved our egg purchases to our dairy vendor, who now delivers directly to our school sites. We are buying liquid, shelled eggs so that they can be poured into batter and prepared as egg scrambles or egg frittatas and baked on-site." *David Binkle, Deputy Director, Food Services, Los Angeles*

"We only use raw eggs for adults in our café." *Rodney Taylor, Director, Student Nutrition Services, Riverside*

RICE

4,780,000,000

Pounds of rice produced in California in 2009

22%

Percentage of total U.S. rice production supplied by California

.33%

Percentage of total world rice production supplied by California

298,307

Pounds of rice purchased by the six surveyed school districts in 2009–2010

"I said to myself, how far does rice have to travel if it's just right here? We've been buying it locally ever since."

Rafaelita Curva, Director, Student Nutrition Services, Davis

SUMMARY

California-grown rice is used very little in California schools, although the Sacramento Valley region has the capacity to supply the state's school lunch programs. Of the six school districts surveyed, only Davis reported using California rice (purchased from a local organic grower). The other districts in the survey could not trace the origin of their rice; CDE reports it cannot identify rice as from California either. All the surveyed districts are increasing the amount of rice served, and increasing the amount of brown rice. Based

on participating school district interviews, there appears to be room to increase the amount of California-grown rice on the school lunch plate.

AGRICULTURAL OVERVIEW

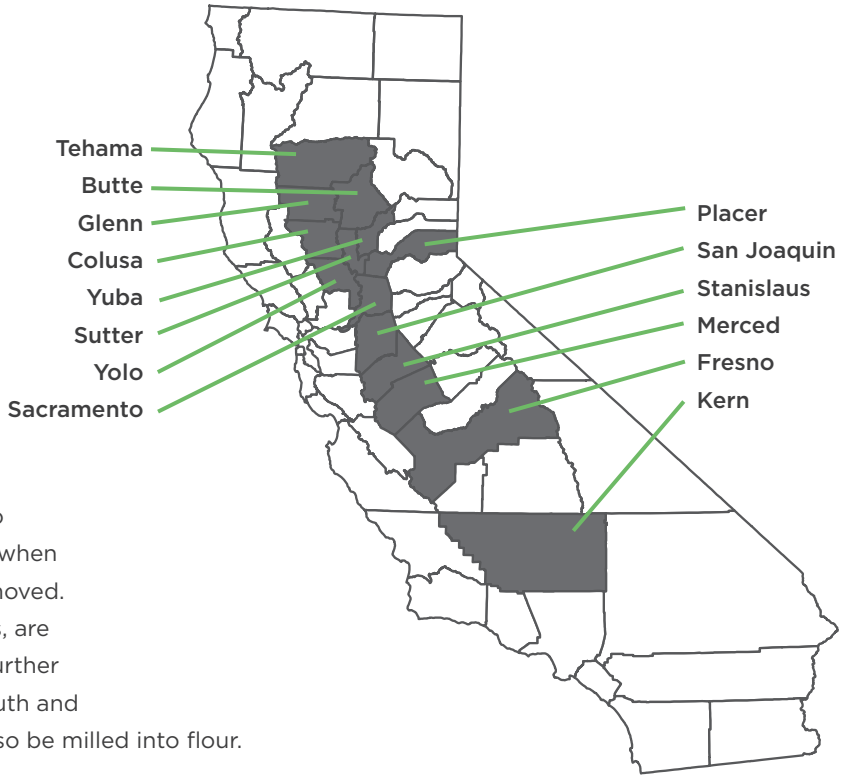
Over 500,000 acres of land are devoted to rice production in California. There are 2,500 rice grower/handlers and 13 major and 12 minor rice mills in the state. Of the over 2 million tons of rice produced annually in California, 91% is medium grain, 8% is short grain, and 1% is long grain. A small percentage of Arborio, jasmine, and basmati rice is grown. Of the varieties grown in California, 90–95% are public rice varieties developed at the Rice Experiment Station in Biggs, California.

GROWING REGIONS

The main growing region is the Sacramento Valley, which grows enough rice to meet the needs of the state's school lunch programs. Five counties in the San Joaquin Valley also raise rice.

PROCESSING

In April and May, fields are flooded 3 to 5 inches and planes disperse the soaked seed over the rice paddies. The crop is grown in paddies filled with slowly moving water; when the grain is ripe in the fall, the paddies are drained to let the ground dry, then the harvesters move in. After harvesting and drying, rice is held in aerated storage until it is shipped to the mill. At the mill the rice is hulled and then milled into brown rice or further into white rice when the outer layer—the rice bran—is removed. Some districts, citing nutrition issues, are increasing their use of brown rice. Further processing, done primarily in the South and Southeast, is parboiling. Rice may also be milled into flour.



FEDERAL AND STATE OVERVIEW

The Farm Service Agency (FSA) of the USDA purchased 924,000 pounds of California rice in 2009, none of which was ordered by California schools. Most of the rice purchased by the federal government comes from the South and Southeast, which produce the majority of rice.

SCHOOL DISTRICT PERSPECTIVE

Davis is the only district purchasing California rice; it is organic, purchased from a local grower, and labeled as such on the menu. The other districts all used rice from the southeastern U.S., purchased through distributors. All the school districts in the survey are increasing the amount of rice served at the schools — primarily in rice bowls and as Spanish rice — and increasing the amount of brown rice used. Los Angeles switched to all brown rice in 2010–2011. Ventura switched to all brown rice, with the exception of Spanish rice, which is made from white rice and is served at the secondary level. Winters started serving plain rice cooked in broth and found the students love it. Oakland and Los Angeles are heavy users of parboiled rice, purchased through distributors. Los Angeles also used a toasted rice cereal in its breakfast program. Davis also used rice in prepared salads, for sushi, pudding, and fried rice. Based on interviews, there appears to be room to increase the amount of California rice on the school lunch plate.

TABLE 1

RICE PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	8,875	3.76	Local grower, Davis Food Co-op, USDA
Los Angeles	205, 125	0.41	U.S. Foodservice, Palmer and Associates, Uncle Ben's (Mississippi), Sysco
Oakland	21,597	0.86	Arkansas
Riverside	43,250	1.40	Commodity
Ventura	19,160	2.51	Sysco (Arkansas)
Winters	300	0.39	Co-op commodity program
TOTAL (LBS)	**298,307**		

* "Student" = Average meal equivalents served daily

TABLE 2

RICE PURCHASED BY DEGREE OF PROCESSING AND HOW USED

(School districts noted the specific degrees of processing, but did not provide a breakdown of pounds purchased.)

DISTRICT	BROWN	SHORT GRAIN WHITE	MEDIUM GRAIN WHITE	LONG GRAIN WHITE	CEREAL	HOW USED
Davis	●		●		●	Salad bar, fried rice, Spanish rice, rice pudding, rice
Los Angeles	●		●	●		Not known
Oakland[1]	●		●	●	●	Asian, Spanish dishes
Riverside	●		●			Not known
Ventura	●		●			Plain
Winters			●	●		Rice bowl

[1]OUSD additionally purchased processed rice: rice and red bean mix, roasted chicken infused mix, Mexican fiesta, infused rice mix, rice pilaf–chicken fast cooking, rice pilaf–harvest vegetable blend, and Spanish rice (no MSG).

SELECTED QUOTES

"Last year we started serving rice steamed with stock. The kids love rice, but it is hard to serve because it gets everywhere." *Cathleen Olsen, Director of Food Services, Winters*

"We started using locally grown medium grain white organic rice three years ago after we met the representative at a countywide meeting that brought together local producers, buyers, and restaurateurs. When the farmer came into my office to follow up and told me about his product and price, I bought it." *Rafaelita Curva, Director, Student Nutrition Services, Davis*

"As a national leader in providing nutritious school meals, LAUSD recognizes the value of offering brown rice to students. With current menu offerings such as Kung Pao Rice Bowls, Orange Chicken, and Sweet and Sour Soy, rice is a nutrient-dense food that contributes over 15 vitamins and minerals, including folic acid and other B vitamins, iron, and zinc to a child's healthy diet. With only a trace of fat, rice has no sodium and cholesterol, is gluten-free and is an important part of our meal program to give our students the energy they need to be successful learners in the classroom." *David Binkle, Deputy Director, Food Services, Los Angeles*

"We use rice every day for our Asian entrées as well as all of our handmade burritos in our secondary schools. These are our most popular entreés. Each Asian entrée uses 3/4 of a cup of rice and our handmade burritos use 3 to 4 ounces of rice per burrito. We serve between 250 and 300 Asian boxes per day and about 120 burritos per day per high school. The rice growers should love us!" *Rodney Taylor, Director, Student Nutrition Services, Riverside*

WHEAT

2,600,000,000

Pounds of wheat grown in California in 2009

2%

Percentage of total U.S. wheat production supplied by California

1,225

Pounds of flour purchased by the six surveyed districts in 2009–2010

100

Pounds of whole grain or couscous purchased by the six surveyed districts in 2009–2010

"We will be making whole grain salads and serving them in the 2011–2012 school year. We've been testing them this year with the students and we're getting a positive response. We'll be menuing a couscous salad with apricots, as well as a quinoa salad."

David Binkle, Deputy Director, Food Services, Los Angeles

SUMMARY

The USDA recommends increasing the use of whole grains on the school lunch plate. Districts surveyed are interested in using them and want more information on how to use them. None of the districts in this survey

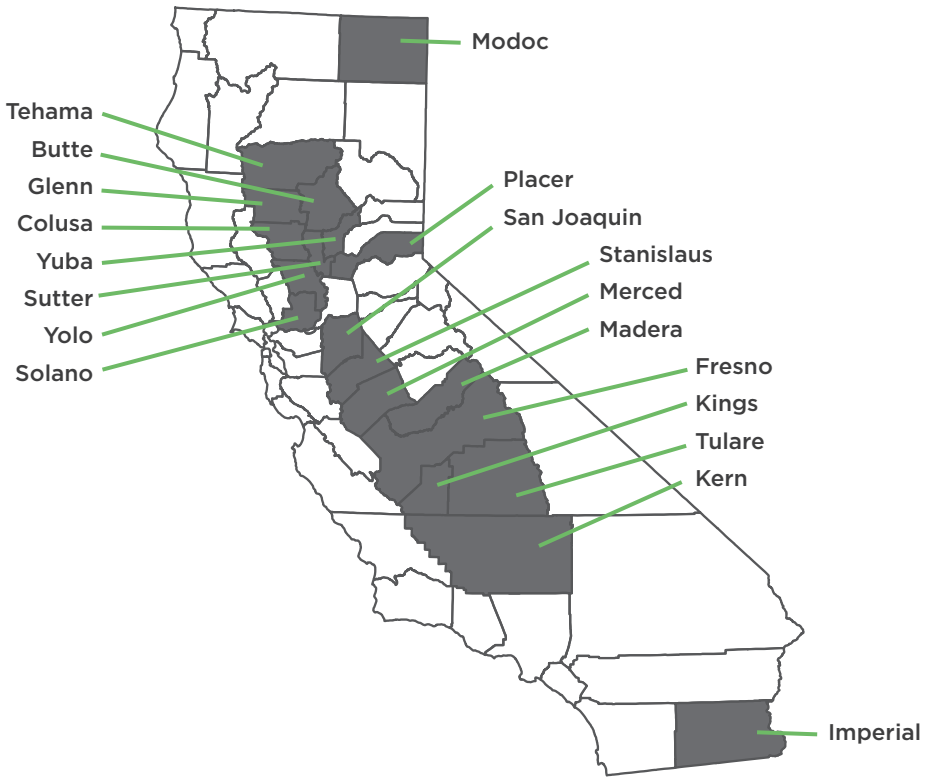
has a bakery, helping to explain why they are not purchasing significant amounts of flour. Only Davis includes whole grains in salads, following a three-year process of introduction to whole grains, tastings, cooking lessons for nutrition services staff, and sampling on school sites. In 2010, Davis began purchasing white enriched and whole wheat flour to make pizza crust from scratch, after determining it would be less expensive and higher quality than purchased dough product. Several districts expressed an interest in purchasing more whole grains for 2011–2012.

AGRICULTURAL OVERVIEW

California produced over 2 billion pounds of wheat in 2010, mostly winter wheat and durum wheat, grown by between 2,000 and 3,000 growers. Winter wheat is used for flour, wheat berries, and other wheat products; durum wheat is specifically used to produce semolina flour used to make pasta and couscous. About 25% of the California wheat crop (primarily the durum wheat) is exported out of country.

GROWING REGIONS

Wheat is very widely grown in California, primarily in the Sacramento, San Joaquin, and Imperial valleys and around Tule Lake. Almost all California wheat is planted in fall for harvest in spring and early summer.



PROCESSING

Approximately 70% of the crop is milled in one of the state's 12 mills. Wheat is stored either on the farms where it is grown or at commercial storage facilities until it is sold and shipped.

Flour mills are spread throughout the state. Since a lot of wheat for flour is historically brought in from out of state, the flour mills were often close to population centers, in Los Angeles or in the San Francisco Bay Area. There are also several large flour mills in the lower Sacramento Valley and the San Joaquin Valley.

FEDERAL AND STATE OVERVIEW

The USDA purchased 43.12 million pounds of white enriched flour for schools, 3.31 million pounds of which came from California. The percentage of white enriched flour purchased by the USDA from California increased from approximately 5% in 2009 to 8% in 2010. Whole wheat flour also increased. USDA does not purchase bulgur wheat, whole wheat berries, cracked wheat, or couscous for schools. In 2009–2010 the California Department of Education (CDE) purchased 1.02 million pounds of white enriched flour from the USDA, none of which can be identified as originating in California. CDE reports no purchases of whole wheat berries, bulgur wheat, cracked wheat, or couscous in the 2009–2010 school year.

SCHOOL DISTRICT PERSPECTIVE

None of the surveyed school districts operates an on-premise bakery, and only Davis and Oakland purchased flour. Davis began some baking of pizzas, desserts, quiches, and tarts after determining it would be less expensive and higher quality than using prepared dough product. Only Davis purchased whole grains; the district began making a couscous salad, tabbouleh salad, and other whole grain salads for its salad bars following three years of introduction to whole grains, tastings, cooking lessons for kitchen staff, and sampling on school sites. Many of the districts expressed an interest in purchasing whole grains for the future.

TABLE 1

WHEAT PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	1,100	0.47	USDA, Sysco
Los Angeles	0	0.00	N/A
Oakland	225	0.10	Sysco
Riverside	0	0.00	N/A
Ventura	0	0.00	N/A
Winters	0	0.00	N/A
TOTAL (LBS)	**1,325**		

* “Student” = Average meal equivalents served daily

TABLE 2

WHEAT PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	WHOLE WHEAT FLOUR	WHITE ENRICHED FLOUR	BULGUR, CRACKED WHEAT, COUSCOUS, WHEAT BERRIES	HOW USED
Davis	500	500	100	Salad bar, pizza, desserts, quiches, tarts
Los Angeles	0	0	0	N/A
Oakland	0	225[1]	0	Unknown
Riverside	0	0	0	N/A
Ventura	0	0	0	N/A
Winters	0	0	0	N/A
TOTAL (LBS)	**500**	**725**	**100**	

[1]Assumed to be white enriched.

SELECTED QUOTES

"We didn't purchase wheat flour in 2009–2010, but [in 2010–2011] we are baking a bread with enriched flour, so we are purchasing flour." *Katherine Martin, Child Nutrition Operation Specialist, Ventura*

"To be in a comfort level to offer whole grains you need some knowledge. Our first introduction to whole grains was through a … "Cooks Camp" where we … tasted whole grains and cooked with them. That was followed by three years of cooking lessons, including whole grain salads using different flavor profiles. We tasted them, were surprised by them, discussed them in terms of what grade span to serve them to and how to serve them, and thought the kids would like them. Taste testing at the school sites helps with the introduction of new foods, but our motto is 'learning to eat and eating to learn.'" *Rafaelita Curva, Director, Student Nutrition Services, Davis*

"I am interested in using whole grains for 2011–2012." *Cathleen Olsen, Director of Food Services, Winters*

WALNUTS

874,000,000

Pounds of walnuts produced by California in 2009

99%

Percentage of total
U.S. walnut production
supplied by California

32%

Percentage of total
world walnut production
supplied by California

965

Pounds of walnuts bought by the six surveyed districts in 2009–2010

"Using walnuts would help students relate to our local agriculture."

Cathleen Olsen, Director of Food Services, Winters

SUMMARY

Although California produces almost the entire domestic walnut crop, walnuts are not served regularly in California school lunches. Walnuts are not currently an entitlement product purchased by the USDA Agricultural Marketing Service. (In FY 2009 AMS purchased 13.3 million pounds of California walnuts as surplus "bonus buy" products; of this, California schools ordered 199,800 pounds.) Most food service directors

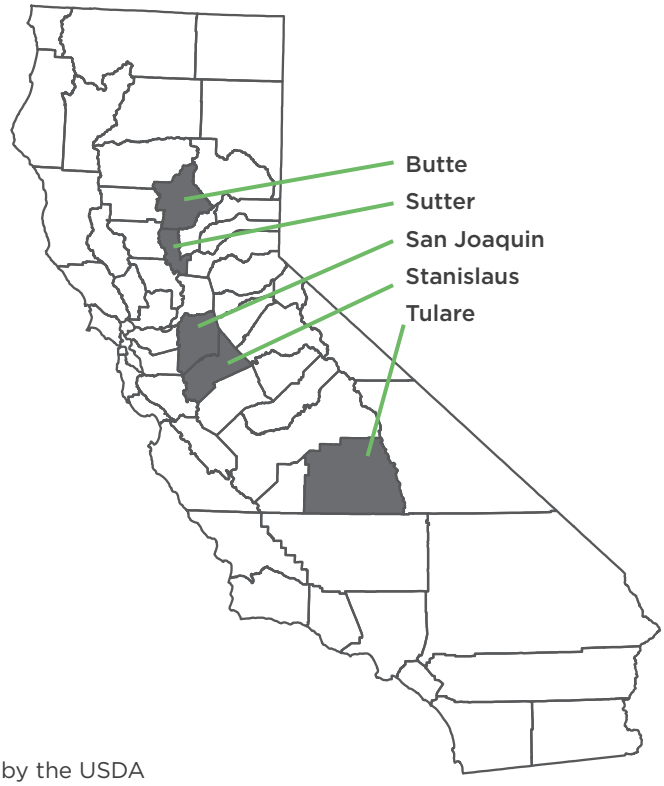
interviewed expressed an interest in putting them on their menus in the future. Some principals request "no nuts" because of allergy concerns. Los Angeles is planning a large buy in 2011–2012, based on a new entrée.

AGRICULTURAL OVERVIEW

The English, or Persian, walnut is the type grown commercially. There are many cultivars. While the native California black walnut is edible, it is very difficult to crack and has small meats. Historically, walnuts have been grafted onto black walnut rootstock, among others, for disease resistance, giving walnut trees their distinctive, heavily barked black base topped by a smooth-barked, silver-gray trunk and branches. A disease is now attacking trees at the graft, so the rootstocks are being reevaluated. Other varieties of rootstock are being used, and some trees are now being grown on their own rootstock. Walnut trees generally need very good, deep soils, so their distribution is limited. Because it can take up to eight years for a walnut orchard to come into full production, it is a crop for well-financed growers. Walnuts also bloom late, further into drier months. As a result, their production does not have the weather risk that other fruit and nut trees experience.

GROWING REGIONS

There are 4,600 walnut growers and 80 walnut handlers in California, primarily located in the Sacramento and San Joaquin valleys.



PROCESSING

Walnuts are minimally processed: dried, cleaned, sorted, and stored. Ninety-five percent of the walnut production is sold shelled as meats.

The processing plants (handlers), with one exception, are located in the Sacramento and San Joaquin valleys where the nuts are grown. The largest independent nut handler in the world, Mariani Nut, is located in Winters, in Yolo County.

FEDERAL AND STATE OVERVIEW

Walnuts are not an entitlement product purchased by the USDA Agricultural Marketing Service. A surplus of walnuts was declared in 2009 by AMS, which then purchased walnuts through its bonus buy program. All the walnuts purchased — 13.3 million pounds — were from California. Of this total, California school districts ordered 6,660 cases (30# each), or 199,800 pounds.

SCHOOL DISTRICT PERSPECTIVE

The six districts surveyed purchased less than 1,000 pounds of walnuts in the 2009–2010 school year. Only three districts purchased walnuts: Riverside (806 pounds), Winters (90 pounds), and Davis (15 pounds). All three used shelled walnuts. Davis and Riverside also purchased walnuts as part of a trail mix. All but one of the districts surveyed indicated interest in pursuing the use of more walnuts, both as a salad bar item and as a possible component in prepared salads or entrée items. Riverside, the largest purchaser of shelled walnuts, is using them in ready-to-eat salads such as Mandarin Orange Chicken Salad with Walnuts. Los Angeles is planning a large buy for the 2011–2012 school year based on a new Asian entrée in which walnuts are a component.

TABLE 1

WALNUTS PURCHASED AND SOURCE

DISTRICT	TOTAL LBS	LBS PER STUDENT PER YEAR*	SOURCE
Davis	15	0.01	USDA
Los Angeles	0	0.00	N/A
Oakland	0	0.00	N/A
Riverside	860	0.03	USDA
Ventura	0	0.00	N/A
Winters	90	0.12	USDA
TOTAL (LBS)	**965**		

* “Student” = Average meal equivalents served daily

TABLE 2

WALNUTS PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	SHELLED	TRAIL MIX	HOW USED
Davis	5	10	Unknown
Los Angeles	0	0	N/A
Oakland	0	0	Unknown
Riverside	700	160	Salad bar
Ventura	0	0	N/A
Winters	90	0	Unknown
TOTAL (LBS)	**795**	**170**	

SELECTED QUOTES

"These questions have got me thinking about buying more walnuts. I try to offer nontraditional fruits and vegetables. I think we could do better. We're going to take a look at what the cost of them is and how they fit our lunch parameters." *Rodney Taylor, Director of Student Nutrition Services, Riverside*

"We had some support last year from the California Walnut Commission. They provided walnuts at no charge for recipe development and tasting. The kids liked them, and we'll be using them in a new Asian rice bowl dish." *David Binkle, Deputy Director, Food Services, Los Angeles*

"Salad bars might be a way to expose students to walnuts. I might even make up my own trail mix for snacks and the salad bar." *Jennifer LeBarre, Director, Nutrition Services, Oakland*

"We use walnuts in our prepared-from-scratch salads, such as Broccoli Salad, Shredded Carrot Salad, and Couscous Salad, at both primary and secondary schools. In some cases a principal limits his/her site with a "no nuts" request due to student allergies." *Rafaelita Curva, Director, Student Nutrition Services, Davis*

OLIVE OIL

870,000

Gallons produced in California in 2009

94%

Percentage of total U.S olive oil production supplied by California in 2009

0.09%

Percentage of total world olive oil production supplied by California in 2009

25

Gallons of California olive oil purchased by the six surveyed school districts in 2009–2010

"I want to buy olive oil for vinaigrette. I want to make more salad and I want to improve the flavor, and olive oil is the way to do it."

Cathleen Olsen, Director of Food Services, Winters

SUMMARY

California produces virtually all the extra virgin olive oil produced in the United States, the state's olive oil industry is rapidly expanding, and price is becoming competitive with imports, yet very little California olive oil was used during 2009–2010 in the schools surveyed. One district, Davis, is using California extra virgin olive oil. Another district, Oakland, used an Italian 80/20 blend of soybean oil and olive pomace oil.

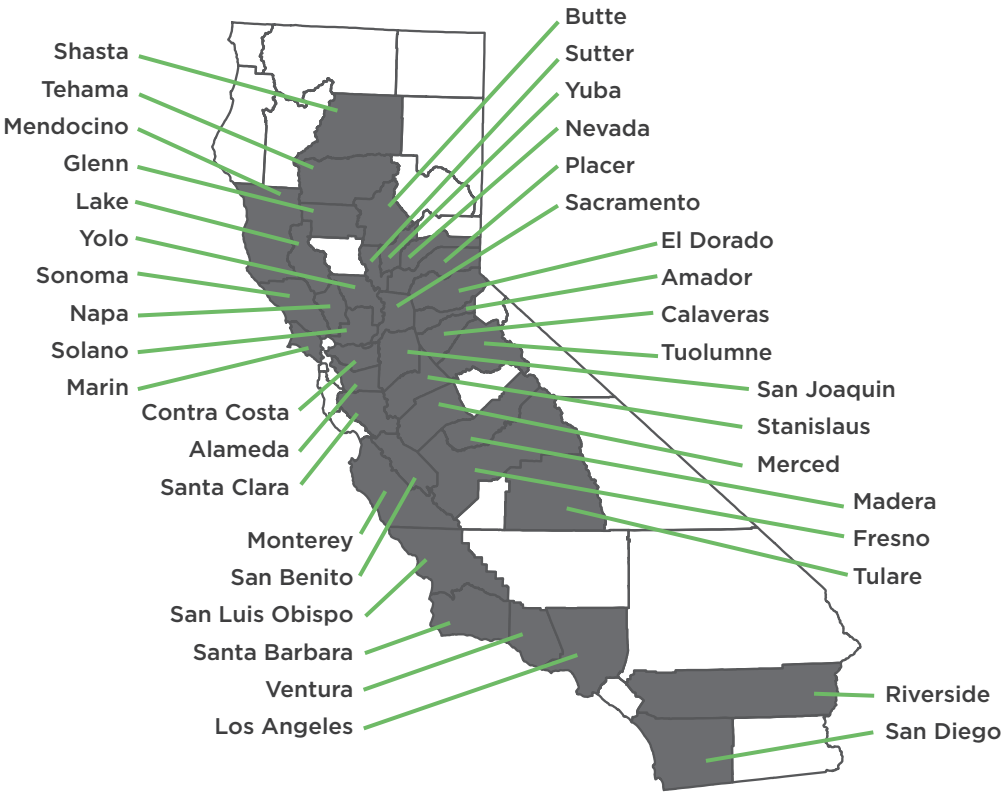
Nutrition services directors mentioned price as prohibitive, but expressed interest in learning more about using higher-quality olive oil and in experimentation if they could secure grants or other additional funding.

AGRICULTURAL OVERVIEW

The price of California extra virgin olive oil is becoming competitive with imports, due largely to the adoption of planting methods developed in Spain that allow for up to nine times the number of trees per acre. The olive oil industry in California is rapidly expanding. As of 2008, there were 25,000 acres planted with olive trees for oil production. Dan Flynn, executive director of the University of California, Davis Olive Center, projects an increase of 4,500 acres per year over the next decade, and an annual production of 15 million gallons by 2020. Olives are harvested in late fall and early winter.

GROWING REGIONS

There are six main California growing regions comprising 37 counties, all with Mediterranean climates. The largest producers are the San Joaquin Valley and the Sacramento Valley regions, where the largest producers (California Olive Ranch, Oroville, Corto Olive Oil, Lodi, and Cullen Creek, Sanger) are located. These producers, along with 50 medium-sized producers, are responsible for 85% of the state's production.



PROCESSING

The few large growers harvest hedgerow-planted olives mechanically with specially designed over-the-row picking machines. Most growers handpick their crop. The olives are taken directly to a mill where they are separated from leaves, washed, crushed, and pressed or centrifuged into olive oil. After milling, the oil is stored in stainless steel tanks until ready to ship. Extra virgin olive oil has a shelf life of 18 months to two years.

Extra virgin olive oils are the high-quality oils obtained from the fruit with excellent flavor and odor and a free fatty acid content of 8 grams or less per 100 grams oil. No solvents are used in this process and no additives of any kind are permitted. Olive pomace oil is the oil obtained by treating olive pomace (product remaining after mechanical extraction) with solvents or other physical treatments to extract the oil.

Mills of different sizes are located throughout the state near production areas, with the two largest located in Lodi and Oroville.

FEDERAL AND STATE OVERVIEW

The USDA Agricultural Marketing Service has never been asked by the state school authorities to purchase olive oil. According to Robert Keeney of AMS, "I would expect that some schools throughout the nation purchase on their own, since we only purchase less than 20 percent of [the food that] schools receive. One of the reasons they may not [be ordering] is the per-unit cost is probably quite high. In a tight budget situation that may inhibit their purchases."

SCHOOL DISTRICT PERSPECTIVE

Five of the six school districts considered here are not using extra virgin olive oil and had not previously thought about using it. Davis uses it in house-made pizza, whole grain and vegetable salads for the salad bar, and entrées made from scratch. After a staff comparative tasting of California extra virgin olive oil and an olive oil blend, Nutrition Services decided to buy the former and found a distributor who carried it. Oakland used what it reported as "olive oil" and wasn't aware of the composition of the blend (80% soybean oil and 20% olive pomace oil.). Ventura reported using the same "olive oil' blend in 2010–2011 (outside the scope of this study), and was also not aware of the composition This blend does not meet the International Olive Oil Council's definition of olive oil: "the oil obtained solely from the fruit of the olive tree, to the exclusion of oils obtained using solvents or re-esterification processes."

Several districts mentioned the price of extra virgin olive oil as a prohibitive factor. Others mentioned that it is not offered through the commodity program, but said that they might be able to purchase it locally through local grant funding and would like to experiment with the flavor of it in a salad dressing. There was general interest in the fact that California is doubling its olive oil production and that imports have been found by UC Davis Olive Center studies to be below international standards for olive oil. There was general interest in learning how to use a higher-quality California olive oil and in learning more about the health-giving properties. Los Angeles uses 100,000 gallons of canola oil yearly, giving some indication of potential demand for olive oil.

TABLE 1

OLIVE OIL PURCHASED AND SOURCE

DISTRICT	TOTAL GALLONS	GALLONS PER STUDENT PER YEAR*	SOURCE
Davis	3.48	<0.01	Produce company, Sysco
Los Angeles	0	0.00	N/A
Oakland[1]	0	0.00	N/A
Riverside	0	0.00	N/A
Ventura[2]	0	0.00	N/A
Winters	0	0.00	N/A
TOTAL (GALLONS)	**3.48**		

[1]Oakland purchased 102 gallons of an olive oil "blend" (80% soybean, 20% pomace olive oil) through Sysco. Since this does not fit the criteria for "olive oil" it was not included in the data. Oakland uses an olive oil "blend" purchased through Sysco.

[2]Ventura has purchased olive oil "blend" (80% soybean, 20% pomace olive oil) through Sysco for the 2010–2011 school year.

* "Student" = Average meal equivalents served daily

TABLE 2

OLIVE OIL PURCHASED BY DEGREE OF PROCESSING AND HOW USED

DISTRICT	EXTRA VIRGIN	BLEND	HOW USED
Davis	25	0	Cooking and salad dressing for vegetables and whole grain salads
Los Angeles	N/A	N/A	N/A
Oakland	0	102	Various recipes, Asian stir fry
Riverside	N/A	N/A	N/A
Ventura	N/A	N/A	N/A
Winters	N/A	N/A	N/A
TOTAL (GALLONS)	**25**	**102**	

SELECTED QUOTES

"I didn't know there wasn't more real olive oil in this blend. I'd be interested in seeing what California extra virgin olive oil blends Sysco might carry." *Jennifer LeBarre, Director, Nutrition Services, Oakland*

"Extra virgin olive oil is a taste we can develop for the kids to become accustomed to. For some it will be a foreign flavor." *Cathleen Olsen, Director of Food Services, Winters*

"I started using a local California extra virgin olive oil carried through my produce distributor after my staff and I were introduced in our regular cooking classes to the difference in tastes between the oils, including what we had been using, olive oil blends, and California extra virgin olive oil. Once we tasted the difference, we decided we needed to start using the Cal EVOO." *Rafaelita Curva, Director Student Nutrition Services, Davis*

"We should try olive oil instead of our current oil in our quick bread recipe." *David Binkle, Deputy Director, Food Services, Los Angeles*

APPENDIX: OVERVIEW OF THE NATIONAL SCHOOL LUNCH PROGRAM

School food programs (both voluntary and governmental) have a long history in the United States. As early as the nineteenth century, volunteer efforts to combat childhood hunger led to school feeding programs in large cities. The first federal governmental program for school lunch was indirectly created in the Depression era as part of efforts to support farmers by taking farm surpluses off the market. In 1935, Section 32 of the Agricultural Adjustment Act authorized the federal government to donate to schools "surplus" food that had been purchased with federal funds. In 1946, following World War II, Congress formalized the school lunch program (partly as a national security measure in reaction to the fact that tens of thousands of young men had been rejected for military service during the war because of poor health due to malnutrition). The program was expanded (and the National School Breakfast Program was launched) through the 1966 Child Nutrition Act as part of Lyndon Johnson's "war on poverty." The program was expanded again in 1998 to include reimbursement for snacks in after-school educational and enrichment programs.

With modifications through successive reauthorizations, the National School Lunch Program has continued its dual purpose of supporting both children's health and American agriculture. It is a complex web of federal, state, and local programs in which the public, voluntary, and private sectors are all involved.

PROCUREMENT IN NATIONAL SCHOOL MEAL PROGRAMS

Nationwide, schools purchase 80 to 85 percent of their food on the open market, and obtain 15 to 20 percent as government commodities (see "Federal Food Purchasing" below). The largest source of funds for food purchase is government reimbursements for subsidized school breakfasts, lunches, and snacks. Children from families with incomes at or below 130 percent of the poverty level are eligible for free meals. Those with incomes between 130 and 185 percent of the poverty level are eligible for reduced-price meals, for which they may be charged no more than 40 cents for lunch or 30 cents for breakfast.

In 2011–2012, the federal government reimbursement rate is $2.77 for each free lunch, $2.37 for each reduced-price lunch, 26 cents for each fully paid lunch, and smaller amounts for breakfasts and snacks. In addition, the state of California reimburses districts about 22 cents for free or reduced-price breakfasts or lunches. California schools received about $1.6 billion in federal reimbursements and $134 million in state funds for school meals in fiscal year 2010.

School districts operate their school food service programs under their business services divisions as "enterprise funds," meaning that they are often expected to be financially self-sufficient from government reimbursements, meals sold, and other income, including sale of "a la carte" foods, vending machines, and businesses such as catering for community organizations. Some districts subsidize their food service departments from general funds in order to improve school meals. School Food Focus estimates that districts have about a dollar to spend on food for the average school lunch after deducting all the other expenses of running their food service operations.

ADMINISTRATION AND PURCHASING: FEDERAL LEVEL

CHILD NUTRITION ACT ADMINISTRATION: USDA The U.S. Congress authorizes and funds the Child Nutrition Act and directs the United States Department of Agriculture (USDA) to administer the National School Lunch and Breakfast Programs. USDA does this through two agencies: The Food and Nutrition Service (FNS) is responsible for program administration, including oversight of eligibility for reimbursements and adherence to nutritional standards. The Agricultural Marketing Service (AMS) is responsible for purchasing.

FEDERAL FOOD PURCHASING The USDA has purchased commodity products on behalf of the National School Lunch Program since 1935. Several principles guide AMS purchasing. Products must be of 100 percent domestic origin. When AMS makes a purchase, the procurement must not cause the price to go up for the general consumer, and the price must be fair market value. All products procured by AMS must be purchased competitively, with the low bidder typically receiving the contract. School districts are not able to specify commodity food produced in a specific geographical region or particular brands or producers.

The Department of Defense purchases fresh produce through its DOD Fresh program; it began distributing to the National School Lunch Program in 1994 in response to the closing of military bases, which had left the Department of Defense with a purchasing and distribution system capable of handling more produce than the military required.

There are three kinds of purchases by school agencies: entitlements, bonus buys, and pilot programs. Districts are assigned entitlements annually, based on the number of lunches they served the previous year. (For 2011–2012, districts are credited with 22.5 cents per lunch served in 2010–2011; they do not receive credits for breakfasts or snacks served, but can use commodities acquired through this program for those meals.) This amount functions as an account against which districts can draw to acquire commodity products from AMS or DOD Fresh. (Districts are also permitted to use cash to purchase produce from DOD Fresh.) California school nutrition programs received $32 million worth of commodities in 2009–2010.

Entitlement food products (such as chicken; beef; rice; wheat; and manufactured products made from them such as chicken nuggets, beef burritos, pocket pizzas, and Spanish rice; as well as canned and frozen fruits and vegetables) are typically purchased every year, popular with children, and readily available. They are purchased on a fairly regular schedule every year, and must be ordered over a year in advance. Because of long lead times and extensive warehousing in state and regional facilities, entitlement purchasing tends to emphasize items that travel well and have a long shelf life, as well as higher-priced items such as meat and cheese.

Bonus foods are periodically offered over and above entitlement foods, at a considerable discount. The process for determining a bonus product is more complex. An industry must demonstrate to AMS that there is a temporary surplus of the product which is having an adverse affect on prices. After a bonus has been announced in a particular year, AMS will ask FNS to seek orders from states/schools and other programs that use the product. After orders are received from FNS, AMS will make a purchase.

AMS has done pilot purchasing of some fresh products in recent years (for instance, carrots in 2009–2010) in an effort to increase the amount of fresh produce in the National School Lunch Program.

Commodity offerings are shipped to warehouses designated by states. Further distribution from the warehouses to the schools is handled by the states, and is not the responsibility of AMS. Distribution systems vary widely from state to state and city to city.

ADMINISTRATION AND PURCHASING: STATE AND SCHOOL DISTRICT LEVEL

California Department of Education. Each state determines which department will administer the National School Lunch Program and DOD Fresh. In California, it is the California Department of Education (CDE), Nutrition Services Division, which operates State Distribution Centers in Sacramento and Pomona for this purpose. Each year, the USDA prepares a master list of available commodities. Based on surveys of food director preferences, each state compiles a shorter list from which participating districts in that state select the commodities they wish to order. CDE coordinates purchasing, and can store and distribute the produce or product as directed by the participating school districts.

SCHOOL DISTRICTS The USDA and CDE refer to school districts as "recipient agencies" for entitlement, bonus, and pilot purchases. Districts receive information on what is available, and send their orders to their state agencies. In an exception to the rule, due to a pilot program that was never defunded, some school districts receive "in lieu cash" in place of commodities. One of the six school districts surveyed here, Oakland Unified School District, is an "in lieu" district.

The district school food service is the entity in charge of collecting household economic data to determine student eligibility for free and reduced meals.

Purchasing Cooperatives. In addition to ordering directly through the CDE, a California school district may be a member of a purchasing cooperative, in which several schools are organized as one purchasing entity to increase volume purchased and obtain lower pricing.

ENDNOTES

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ACKNOWLEDGMENTS

This project was made possible by the generous support of the TomKat Charitable Trust.

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Many thanks to the following individuals and organizations who participated in the project

Rob Alamo, Dave Wilson Nursery; Dennis Balint, California Walnut Marketing Board; Rex Barnes, USDA Poultry Programs; Amy Bell, California Department of Education Nutrition Services Division Food Distribution Program; Jim Bogart, Growers-Shippers Association of Central California; Mark Bolda, Monterey & Santa Cruz counties; Phyllis Bramson, California Department of Education Nutrition Services Division; Marilyn Briggs, UC Davis Center for Nutrition in Schools; Ira Brill, Foster Farms; Lana Dayne, Franklin College student; Lorna Bush, Fineman PR/Foster Farms; Janice Cooper, California Wheat Commission; Patricia Darrough, California Olive Oil Council; Lana Dayne, UC Davis student; Dave Eddy, American Vegetable Growers; Stephanie Ewing, California Department of Education Nutrition Services Division Food Distribution Program; Bill Ferreira, Apricot Producers of California; Dan Flynn, UC Davis Olive Center; Lorelei Grenon, California Tomato Growers Association; John Harrington, Bengard Ranch; Hinode Rice; Shirley Jorgenson, Nucal Foods, Inc.; Bob Keeney, USDA; Jack Mariani, Mariani Nut Co.; Bridget Mazet, Trinity College student; Tim McCarthy, Central California Tomato Growers; Craig McNamara, Sierra Orchards; Mike Montna, California Tomato Growers Association; Jerry Munson, Fresh Market Advisory Board; Debbie Murdoch, Pacific Egg & Poultry Association; Rayne Pegg, Agricultural Marketing Service USDA; Jackie Pisenti, Dept. of Animal Science U.C. Davis; Bill Plourd, El Toro Export; Richard Scola, Nulaid; Jim Schrupp, agronomist; Brian Star, Petaluma Poultry Processors; Nicole Sturzenburger, University of California Olive Oil Center; Dr. Daniel Sumner, Dept. of Agricultural Economics U.C. Davis; Hatley Thompson, Birmingham College student; Andy Valdez, California Department of Education Warehouse; Rob Vanderheuvel, Milk Producers Council; Brady Whitlow, Corto Olive.

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The California Food for California Kids™ initiative is part of the Center's food-related Rethinking School Lunch suite of publications and projects, including a comprehensive online *Rethinking School Lunch Guide*, workshops and professional development seminars, and consulting with schools and districts. Among Rethinking School Lunch publications are the cookbook and professional development guide *Cooking with California Food in K–12 Schools*, a conceptual framework for integrating learning in K–12 classrooms (*Big Ideas: Linking Food, Culture, Health, and the Environment*); discussion guides for films such as *Food, Inc*. and *Nourish: Food + Community*; and essays on the Center for Ecoliteracy website.

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