

Data on Crops, Employment and Farmworker Demographics: A Resource for California Rural Legal Assistance

Richard Mines February, 2006

Introduction:

This paper should be used as a reference for understanding the crops and workers of California's agriculture. Unfortunately, to dominate this material, the reader must study the ample number of graphs and tables while reading the text. One should use the Executive Summary, the Table of Contents and the List of Tables to find one's way through the chapters.

In the first chapter, we discuss the continuities and shifts in California agriculture over the last 30 years. One should notice the stability of some measures but the crucial shift to labor intensive commodities over the years.

In the second chapter, the focus turns to the extreme concentration of commodities by county. Legal service providers should be aware just how concentrated crops are so that coordination efforts can be undertaken. The third chapter provides estimates of population for the state and the leading counties. Again, it is remarkable how a handful of counties have most of the farmworker population. Chapter IV discusses the difficult task of estimating employment levels for the state and the major counties. Despite the volatility of the numbers, it is clear that employment has risen since the 1980s.

Chapter V puts in the numbers for animal employment. Although this sector uses relatively few workers, it is important to understand where they are distributed by geography and by sector. Chapter VI outlines the crucial role played by farm labor contractors. They disburse nearly half of the payroll to crop workers. However, there is much variation by county. In Chapter VII, we change gears to discuss the people themselves. We describe in detail the employment, demographic, service receipt patterns, and the migration patterns of the population. Trend data is used to help understand how the population is changing. Data organized by dividing the workers into areas of California and of points of origin are also used. However, for this section the reader is warned that some of these data derived from subsets of the National Agricultural Workers Survey (NAWS) are based on very small sample sizes and should be viewed as "suggestive" rather than as statistically significant descriptions of the California areas and Mexico source regions. The state-wide NAWS data included in Chapter VII are statistically significant.

Finally, we review 15 counties and the Sacramento Valley in Chapter VIII regarding the major crops and employment patterns in each area. This chapter particularly should be used as a reference for people working in each of these areas.

Executive Summary

I. California Crop Agriculture: Where Labor is concentrated

California Agriculture Consistently Stable in the Following Ways since 1970:

- a. Harvested Acreage at about 9 million
- b. Total Farm Sales about \$25 billion in 2002 dollars
- c. Average Sales per Farm about \$350,000

Since 1970, there has been a shift in acreage from pastureland and field crops to Fruit, Nuts, and Vegetables and Nurseries. Production (in tons) is way up in fruits, nuts and vegetables.

Four Major Labor-intensive Sectors: Fresh Vegetables, Fruit and Nuts, Berries and Nurseries; each sector has a few major commodities that service providers need to have a handle on.

Some crops are up like Wine Grapes and Lettuce, some are down like Raisin Grapes and Pears

II. Concentration by County

There is a high concentration of crop by county which may allow collaboration across county lines.

In each of the 4 major sectors: Fruits & Nuts, Vegetables, Berries and Nurseries a very few counties dominate.

Imperial, Kern, and Monterey have biggest the farms and highest profits per farm

III. Estimates of Population

Two ways of estimating population come out at about 700,000 statewide.

Forty percent of all farmworkers live in 5 counties--Fresno, Monterey, Kern, Tulare and Ventura

Coast Counties appear to have more stable labor forces than Desert or Central Valley Counties. They have a higher proportion of workers that work more than 150 days.

IV. Employment Levels

Employment data is volatile over short periods

On balance, data imply an increase in California farm employment since 1980.

From April to October, the average job slots are 350,000, from November to March, they number 275,000 in California crop agriculture.

Major and minor farm counties have peak months April to October.

V. Animal Employment

Animal employment is only 9% of total but produces 25% of agricultural value.

The top five animal counties in employment are in San Joaquin Valley.

Three counties--Merced, Stanislaus, Tulare each has over 20% animal workers among all the farmworkers in the county.

VI. Contract Labor

The proportion of the labor bill paid by contractors continually rose from 1980-1997; since then it has leveled off.

The proportion of the contractor of total labor payroll is about 30% in the Agricultural Census, and 45% in State Employment Development Department Data.

Farm Labor Contractors (FLC) relative to growers hire more undocumented and unaccompanied workers. FLCs' workers more often pay for equipment and are paid by the piece rate.

Percent hired by contractor varies greatly by county.

VII. Demographic, Employment and Income Traits

Farmworkers are mostly male, Mexican, young and poor. Most are not accompanied by close family members and are not authorized to work.

Historically, periods of the influx of unaccompanied men are followed by periods of family reunification.

A surge of solo men occurred in the 1990s but by 2000 this trend was moderating. The proportion of men, undocumented and solos has been declining.

Most farmworkers (68%) come from four Mexican states--Michoacán, Jalisco, Guanajuato and Oaxaca.

Farmworkers from the indigenous states in the South of Mexico compared to other regions are: younger, have been in the United States less time, have less education, and are more likely to be undocumented.

Higher proportions (and much larger absolute numbers of) farmworkers from the Indigenous South are found along the Coast and in the San Joaquin Valley than in the Desert or Sacramento Valley areas.

Income levels among farmworkers are low--the median for a farmworker is between \$10,000 and \$12,499 while for a family, the median is between \$12,500 and \$15,000.

The unaccompanied farmworkers receive virtually no public services except a small minority who get Unemployment Insurance.

Accompanied farmworkers get some services. Half get Unemployment Insurance, 8% Food Stamps, almost 40% get Medi-Cal and 35% of those with children under 6 get help from Women's and Infant Care (WIC).

Most farmworkers pay rent for single family dwellings.

The housing conditions are very crowded. Often several workers sleep in the same room.

VIII. Details on 15 counties and the Sacramento Valley

The leading 15 counties and the Sacramento Valley are discussed in alphabetical order with respect to acreage, labor demand and 8/17/2010 employment level variations through the year.

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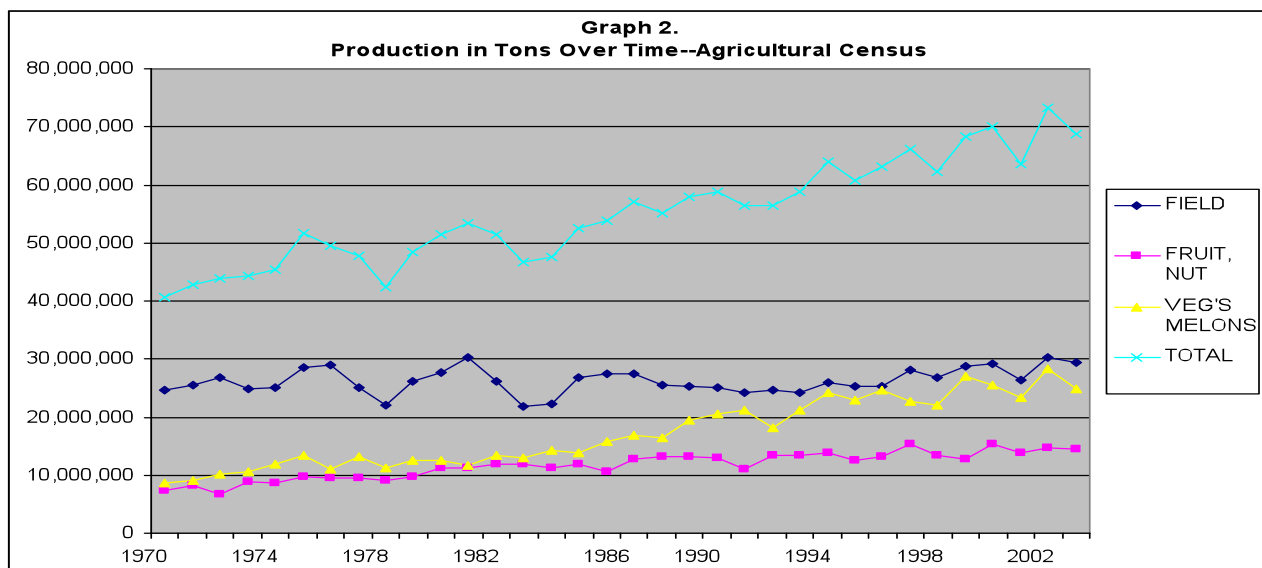
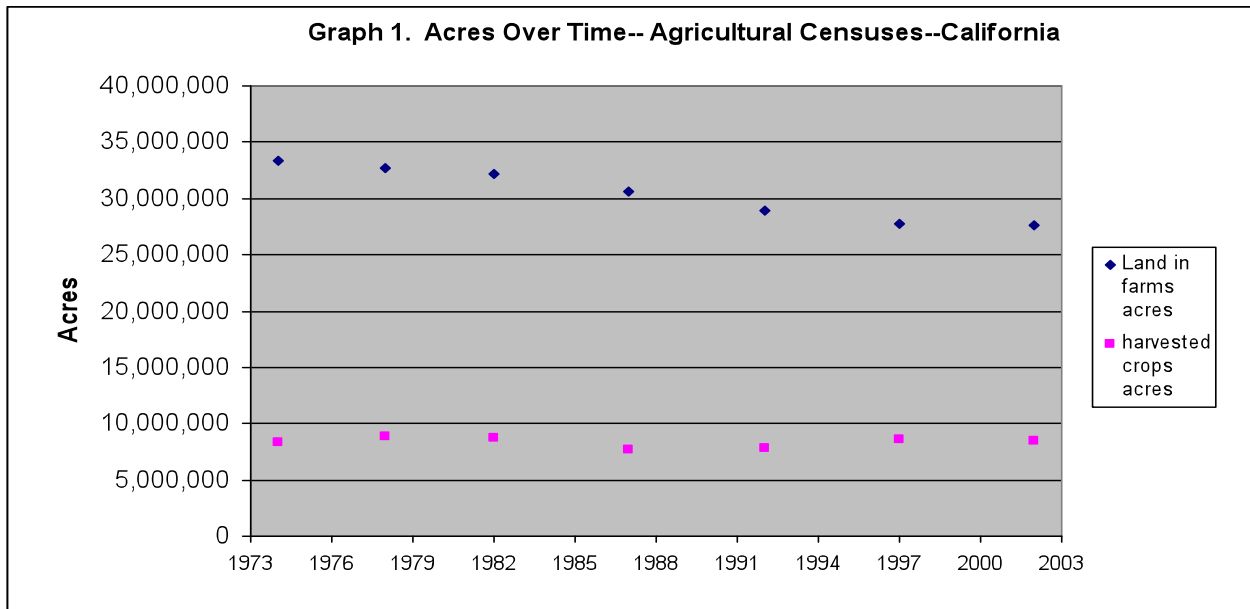
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I. California Crop Agriculture: Where Labor is Concentrated

Trends in Acreage and Production

In the tables below, we demonstrate the trends over the last 30 years in acreages and tonnages in farms and the value of production. With respect to constant value of total and average sales and harvested acreage, stability over time is the main point to take away from this analysis. However, as you will see below, there has been a major shift from field and pasturage to labor intensive fruit, vegetables and nurseries. Although it is difficult to prove, there is a strong implication (described in Chapter IV) from a weighing of the data that employment is expanding.

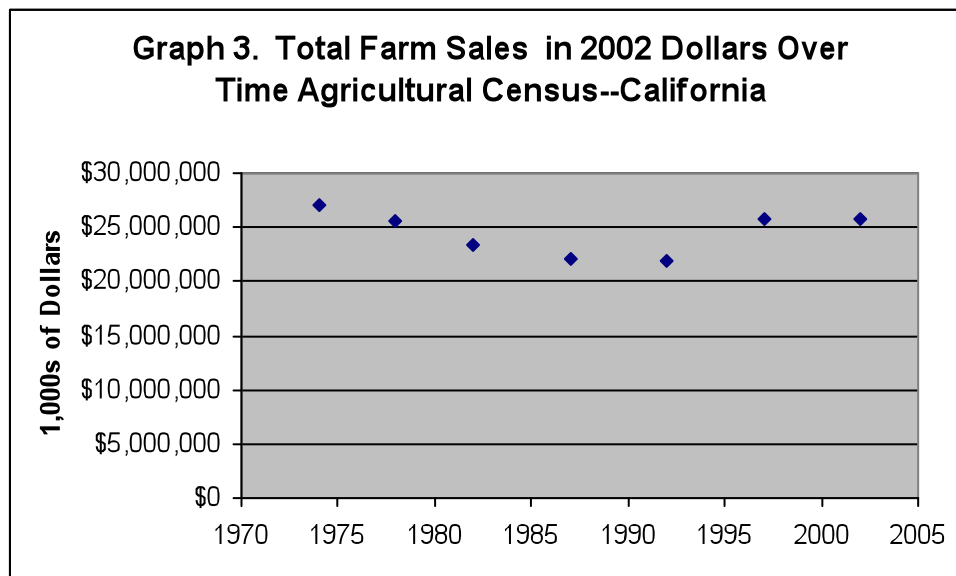


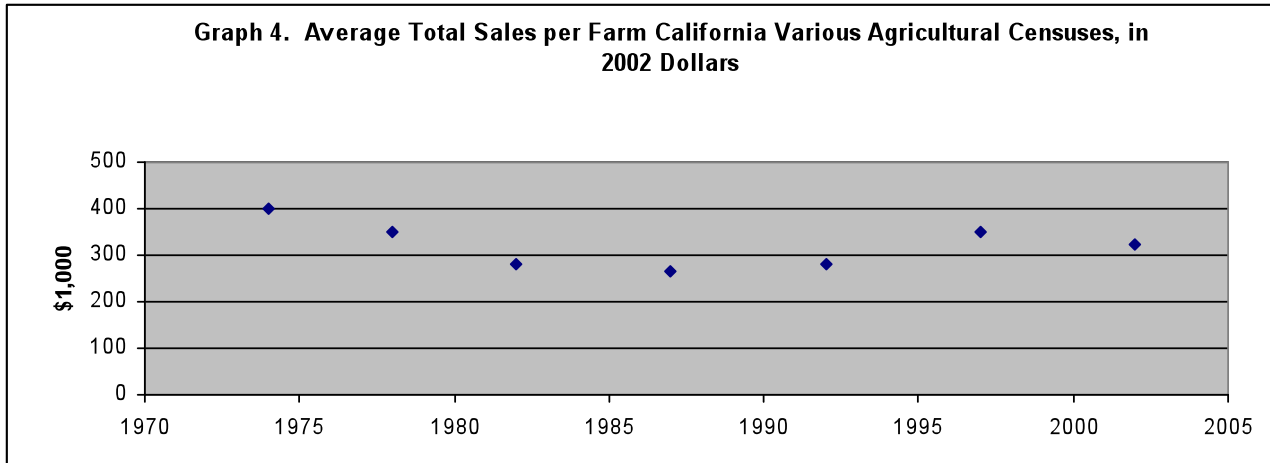
One can see from Graph 1 that total acreage has gone down over the years from about 33 to 28 million acres but harvested acreage has remained constant at about 9 million acres. Decreased pasture land and acreage of field crops accounts for much of this decline. Given the greater yields

per acre, and the shift from field crops and pasturing to fruits, nuts, vegetables and nursery commodities, overall production of labor-intensive crops has continued to increase. In Graph 2 one can see that the tonnage of fruits and vegetable crops are up sharply while field crop tonnage has remained relatively flat. Field crops output (not acreage) increased from 25 to 29 million tons during the 1970-2003 period. Meanwhile, fruit and nuts have doubled from 7 to 15 million tons and vegetables almost tripled from 9 to 25 million tons during this period. Again, there is an implication of expanded employment.

Mechanization has offset labor demand to some degree. But, since the extent that mechanization has diminished labor demand is unknown, we cannot be sure that employment actually went up. You will see below in the employment section (Chapter IV), there are conflicting reports of employment levels.

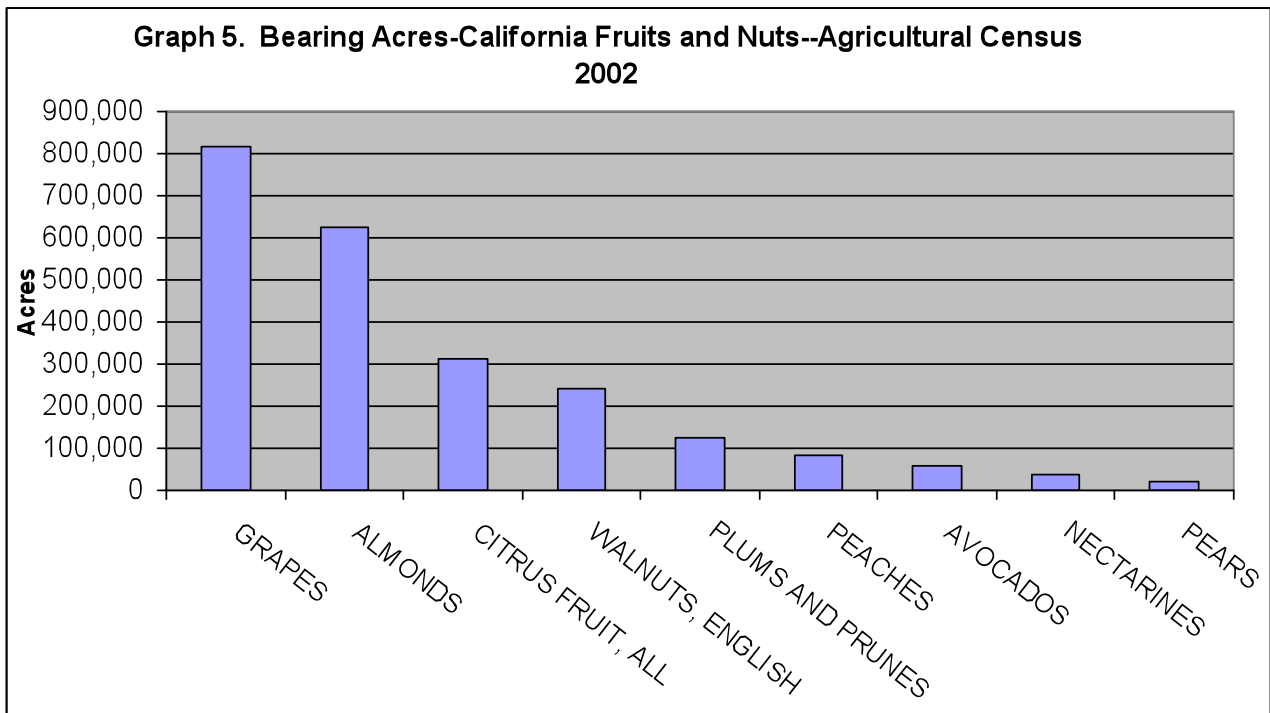
Along with the constant acres of harvested crops, the value of sales also shows the stability of California agriculture. For the analyses that demonstrate these trends, we adjusted the value of sales and income reported by the Agricultural Censuses from earlier years (1974, 1978, 1982, 1987, 1992, 1997) to their dollar values in 2002 dollars according to the Consumer Price Index. The value of total sales has remained fairly steady in constant 2002 dollars at around \$25 billion for all farms in California (see Graph 3). Also, the value of sales per farm is relatively steady at around \$350,000 with a significant dip in the 1980s (see Graph 4). This picture of consistency is reinforced by the Agricultural Censuses' report that the average size of a California farm for harvested crops has been steady at about 155 acres since 1974.



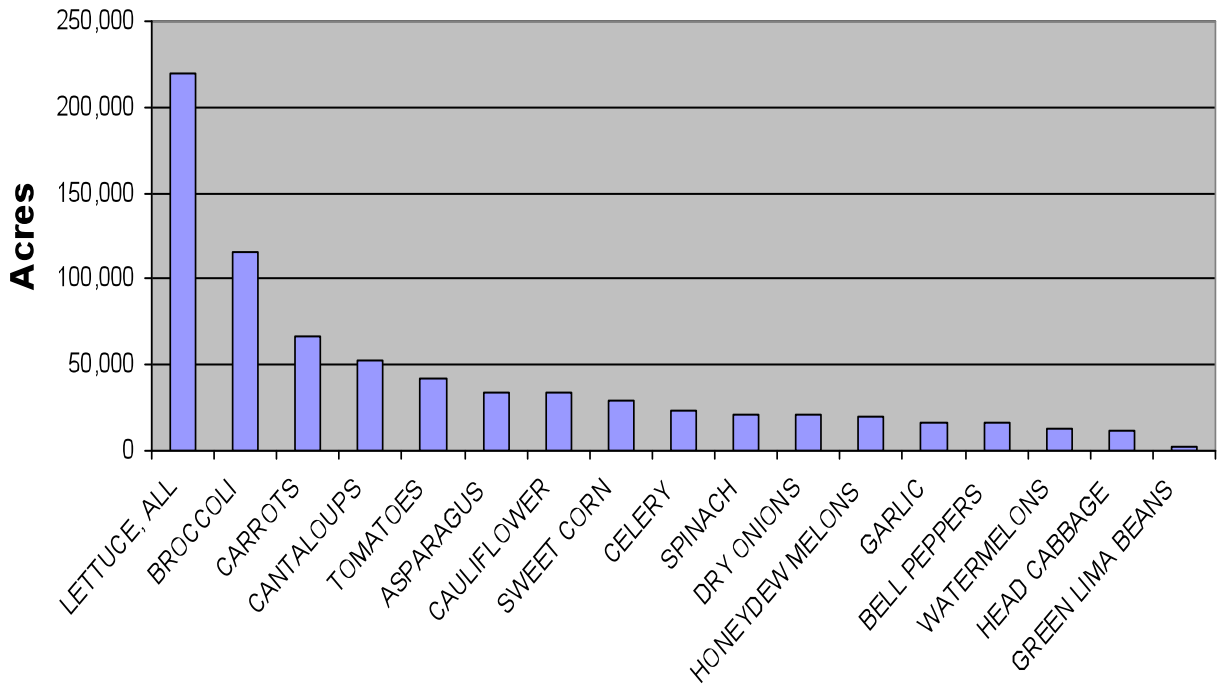


Major Labor-Intensive Crops in California

The major crops grown in California in 2002 are listed below. There are four major areas of labor intensive crops as categorized by the USDA: berries, nurseries, fruits and nuts and vegetables and melons. In addition, there are processing vegetables, grains and field crops that occupy large areas but use much less labor per acre cultivated. It is crucial that those delivering services to farmworkers be familiar with the state's leading commodities in each group, especially in the four labor intensive areas.



Graph 6. Fresh Vegetables, California, Agricultural Census 2002



Graph 7. Berry Acreage in California, Agricultural Census 2002

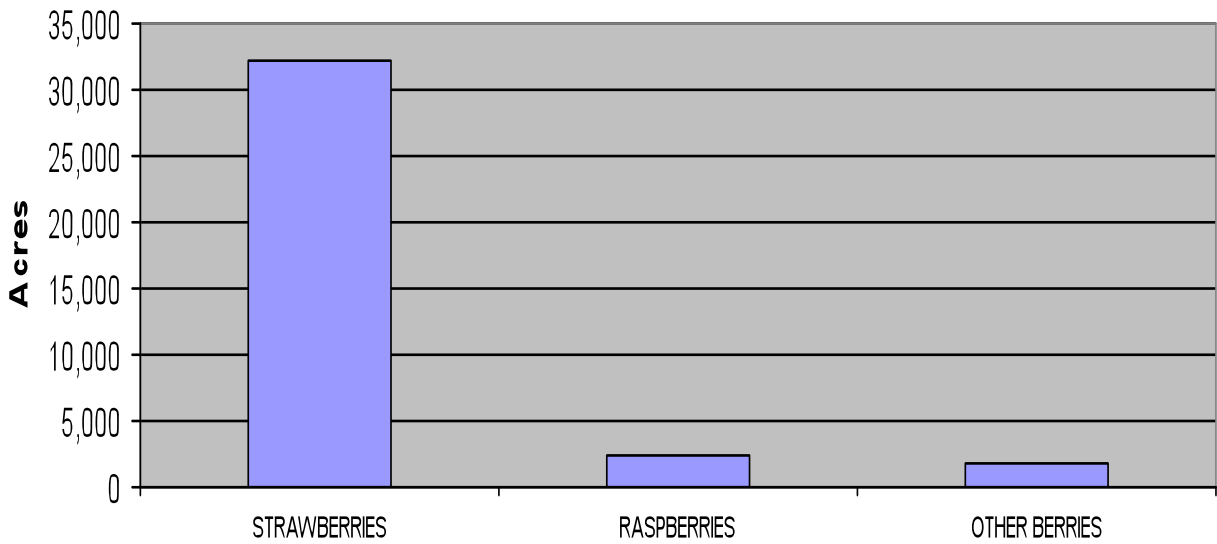


Table 1.	
Nursery Products Agricultural Census 2002	Square Feet Under Protection
CUT FLOWERS AND CUT FLORIST GREENS	59,770,438
BEDDING/GARDEN PLANTS	33,712,945
POTTED FLOWERING PLANTS	33,577,771
Nursery Stock	31,574,891
FOLIAGE PLANTS	19,668,213
GREENHOUSE VEGETABLES	16,455,074
MUSHROOMS	9,250,637
OTHER NURSERY AND GREENHOUSE CROPS	2,814,839
BULBS, CORMS, RHIZOMES, AND TUBERS	542,134
FLOWER SEEDS	390,262
VEGETABLE SEEDS	230,842
AQUATIC PLANTS	182,783

In each category in the exhibits above, there are a few major commodities that use a great deal of labor. For fruits and nuts, the acreages of the processed and fresh product are reported together. For vegetables, we were able to separate out the acreage devoted to processing for these graphs. In fruits and nuts, grapes (wine, table and raisin) with over 800,000 acres are the biggest labor users followed by citrus with over 300,000 acres. It is important for advocates to understand that there are many changes in the subcategories of crops that are not evident by looking at Graph 5. For example, Navel oranges have increased while Valencias have declined in recent decades. The stone fruits--peaches, nectarines and plums that together have over 250,000 acres -- are next in importance after grapes and citrus, followed by avocados with almost 60,000 and pears with almost 20,000 acres. Although largely mechanized, nuts are also big users of labor in production and in processing since the acreage is so large (see Graph 5). There are nearly a million acres of almonds and English Walnuts combined.

Low Labor Using Crops

Below, we list other crop commodities--processed vegetables and field crops--that occupy labor, especially year round labor such as irrigators and tractor drivers. Tractor operators perform various cultural practices, including soil preparation, planting, weeding and harvesting. There are also large numbers of workers involved in field or shed sorting and processing in some of these crops. Notice the huge proportion of processed vegetables occupied by tomatoes (almost 80%, Table 2)

and the proportion of cotton among the field crops (76%, Table 3). Cotton ginning and the field sorting of tomatoes both occupy significant amounts of labor.

Table 2. Processing Vegetables in California, Acreage Agricultural Census 2002		
Crop	Harvested Acres	Percent of State Total
TOMATOES	290,886	79.5%
DRY ONIONS	17,887	4.9%
GREEN LIMA BEANS	12,801	3.5%
GARLIC	11,852	3.2%
SPINACH	6,680	1.8%
BROCCOLI	5,095	1.4%
CUCUMBERS AND PICKLES	4,273	1.2%
SNAP BEANS	3,242	0.9%
BELL PEPPERS	2,974	0.8%
CARROTS	1,850	0.5%
CAULIFLOWER	1,451	0.4%
CHILE PEPPERS	1,368	0.4%
SQUASH	1,289	0.4%
TOTAL	365,706	100.0%

Table 3. Field Crops in California Agricultural Census 2002		
commodity	acres	percent
COTTON	694,653	76.2%
DRY EDIBLE BEANS	58,420	6.4%
DRY LIMA BEANS	44,546	4.9%
POTATOES	48,217	5.3%
SWEET POTATOES	10,007	1.1%
SUGARBEETS FOR SUGAR	55,692	6.1%
TOTAL OF MAJOR FIELD CROPS	911,535	100.0%

Changes in Major Crops Over the Years

It is also important to be aware of the changes in crops over the years. By looking at output measured in tons, we can put forth an approximate measure of labor demand for the new crops, declining crops and expanding crops. Comparisons were made between the agricultural commissioners' reports of 1980 and 2003 for all of California for this analysis. The major new crops that were not recorded in 1980 but were in 2003 are listed below. In Table 4, we see that greens are a major new crop as are raspberries and certain fruits like kiwis and persimmons.

Table 4. New Labor Intensive Crops Sorted by Tons County Agricultural Commissioners Reports 1980, 2003	
Crop	2003 Tons
GREENS TURNIP & MUSTARD	1,683,546
BERRIES RASPBERRIES	35,624
JOJOBA	30,000
KIWIFRUIT	25,874
KALE	18,077
CILANTRO	17,760
ENDIVE ALL	16,188
PERSIMMONS	14,731

As can be seen in the Table 5, below, the biggest labor user that is in decline is raisin grapes. In the last column, one sees that the industry had 54% of the production in 2003 that it had in 1980. Sugar beet production that has been largely mechanized also dropped dramatically to 32% of its 1980 production. But other crops like pears, grapefruit and apricots are also on the decline.

In Table 6 below, we see that there are many significant labor-intensive crops that have grown rapidly in output. One, wine grapes that almost doubled in output (it is 193% as large), has also mechanized its harvest so that job gains are more in the areas of pruners, tractor drivers and processing workers in most areas. However, in Napa county and other high-end wine grape areas demand for hand labor probably increased commensurate with acreage. The other large gainers have undoubtedly had to increase their labor forces to deal with increased tonnage. See Table 6 for huge increases in lettuce (167% of 1980), oranges grew to 123% over 1980 (Navels not Valencias). Stone fruit, apples, celery, cantaloupes and cauliflower also expanded. Broccoli, sweet corn, and strawberries all increased output by more than three times in the 24 years reviewed.

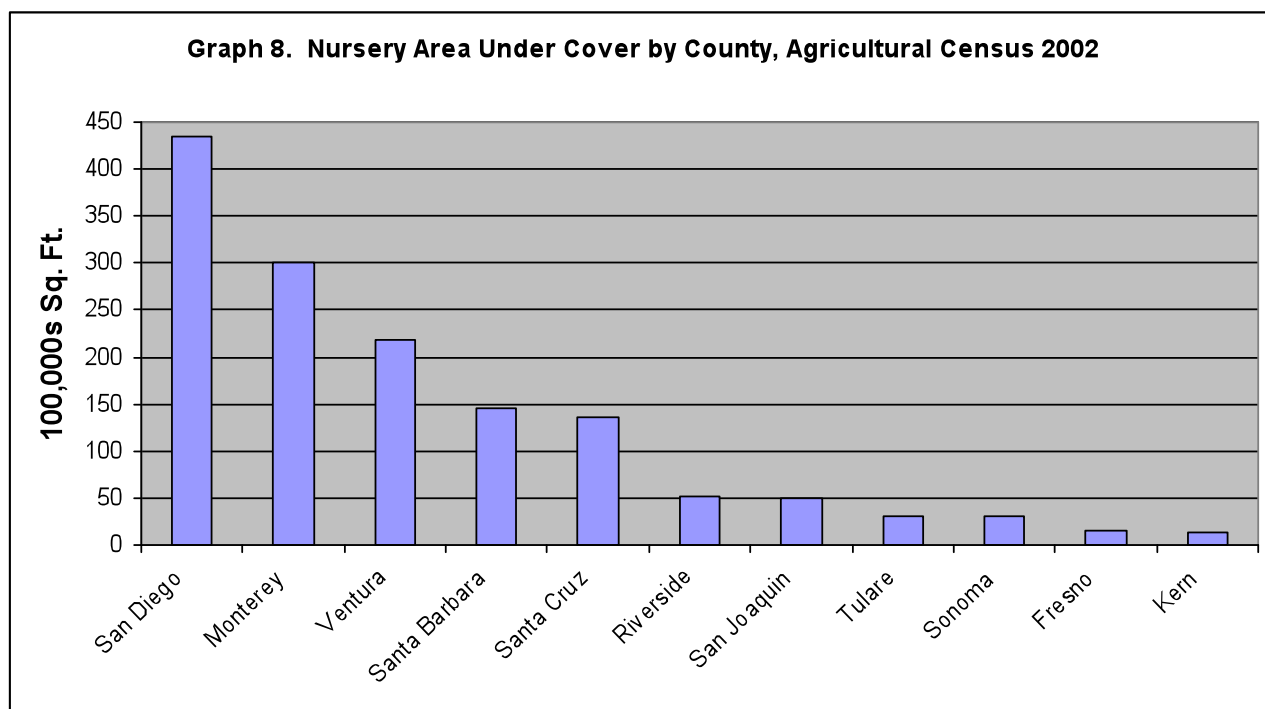
Crop	1980 Tons	2003 Tons	Ratio 1980/2003
SUGAR BEETS	5,987,406	1,866,034	0.31
GRAPES RAISIN	2,662,464	1,431,979	0.54
PEARS all	411,242	238,975	0.58
GRAPEFRUIT ALL	189,001	160,368	0.85
APRICOTS ALL	143,855	107,826	0.75
CUCUMBERS	107,893	40,038	0.37
ARTICHOKES	47,030	38,793	0.82
BRUSSELS SPROUTS	39,720	15,982	0.40
ONIONS GREEN	30,609	15,000	0.49
PEPPERS CHILI HOT	28,614	13,459	0.47

Crop	1980 Tons	2003 Tons	Ratio 1980/2003
TOMATOES PROCESSING	5,637,835	10,712,889	1.90
LETTUCE	2,359,644	3,942,915	1.67
GRAPES WINE	1,787,655	3,451,150	1.93
ORANGES	2,134,256	2,634,454	1.23
CELERY	602,873	958,773	1.59
BROCCOLI	253,804	890,730	3.51
STRAWBERRIES	270,259	857,948	3.17
GRAPES TABLE	484,420	812,571	1.68
CANTALOUPE	422,427	575,451	1.36
TOMATOES FRESH	479,998	549,008	1.14
CARROTS	407,187	428,175	1.05
APPLES	224,050	356,716	1.59
PLUMS	198,742	325,438	1.64
NECTARINES	200,943	322,900	1.61
WATERMELON	159,396	282,351	1.77
CORN SWEET	67,310	278,854	4.14
CAULIFLOWER	160,995	266,216	1.65
CABBAGE HEAD	137,041	197,260	1.44
AVOCADOS	94,992	175,899	1.85
MELONS HONEYDEW	68,368	155,320	2.27

II. Concentration by County:

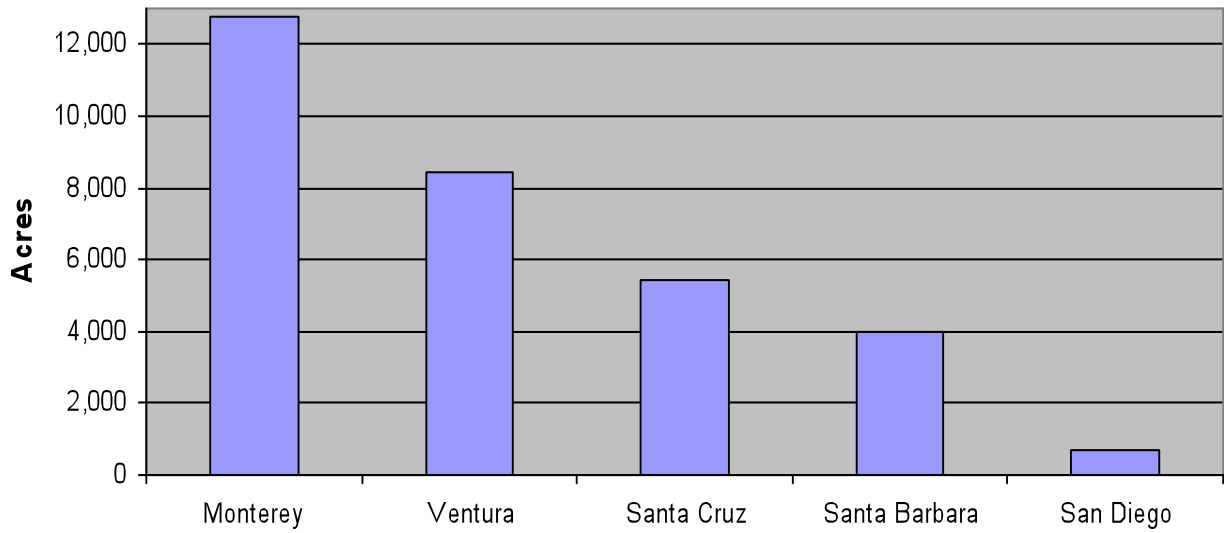
Major Crops by County

It is crucial for service providers to understand how concentrated the labor intensive crops are by county. Workers in a given industry often face similar conditions and challenges that service providers need to be aware of. For example, strawberry workers in Monterey, Ventura and Santa Cruz may have similar problems and even the same employers across the three counties. The high concentration may be an opportunity for collaborative interventions on the behalf of workers working within the same sector but in different counties. In the four major labor intensive commodity sectors (nurseries, berries, fruits and vegetables), we see that a few counties dominate in each area. Still, in each of the four labor-intensive sectors, with the exception of berry production (that has only 5 major counties), in addition to the lead counties in each of these three sectors, there are many other counties who are involved in the production and need to be considered important producers. Please review carefully the major counties in each sector in Graphs 8, 9, 10 and 11.

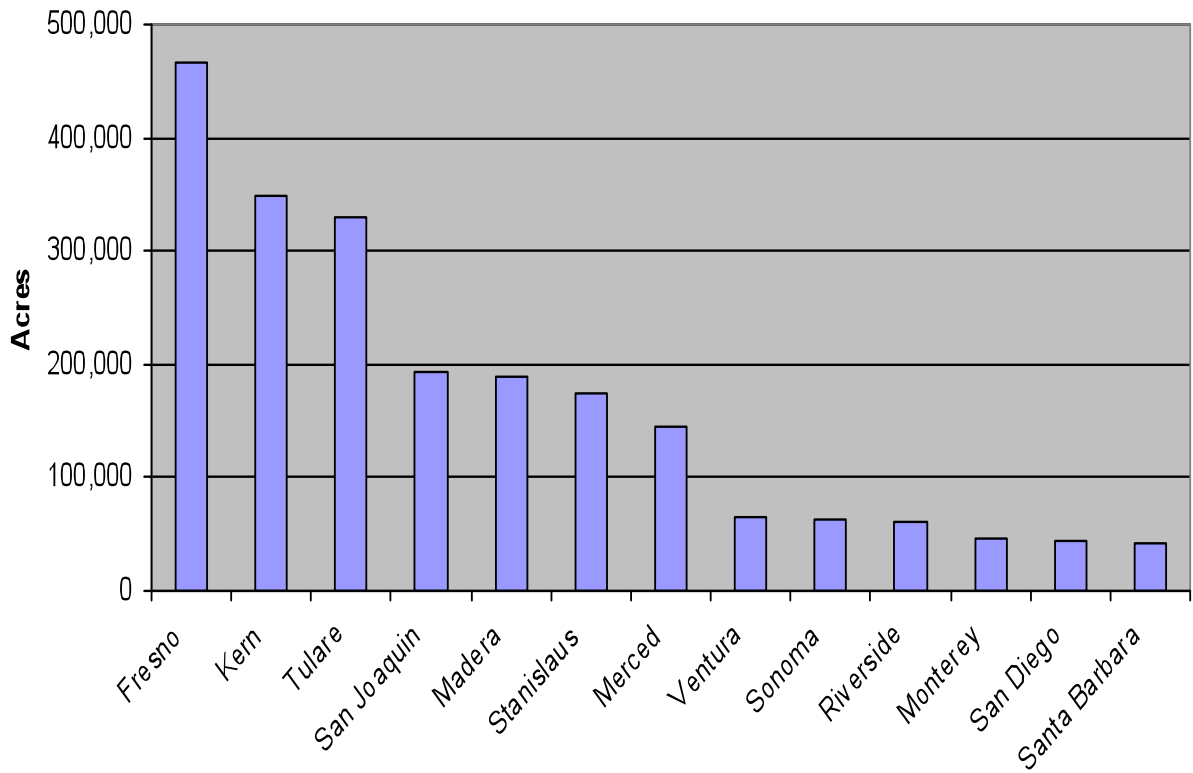


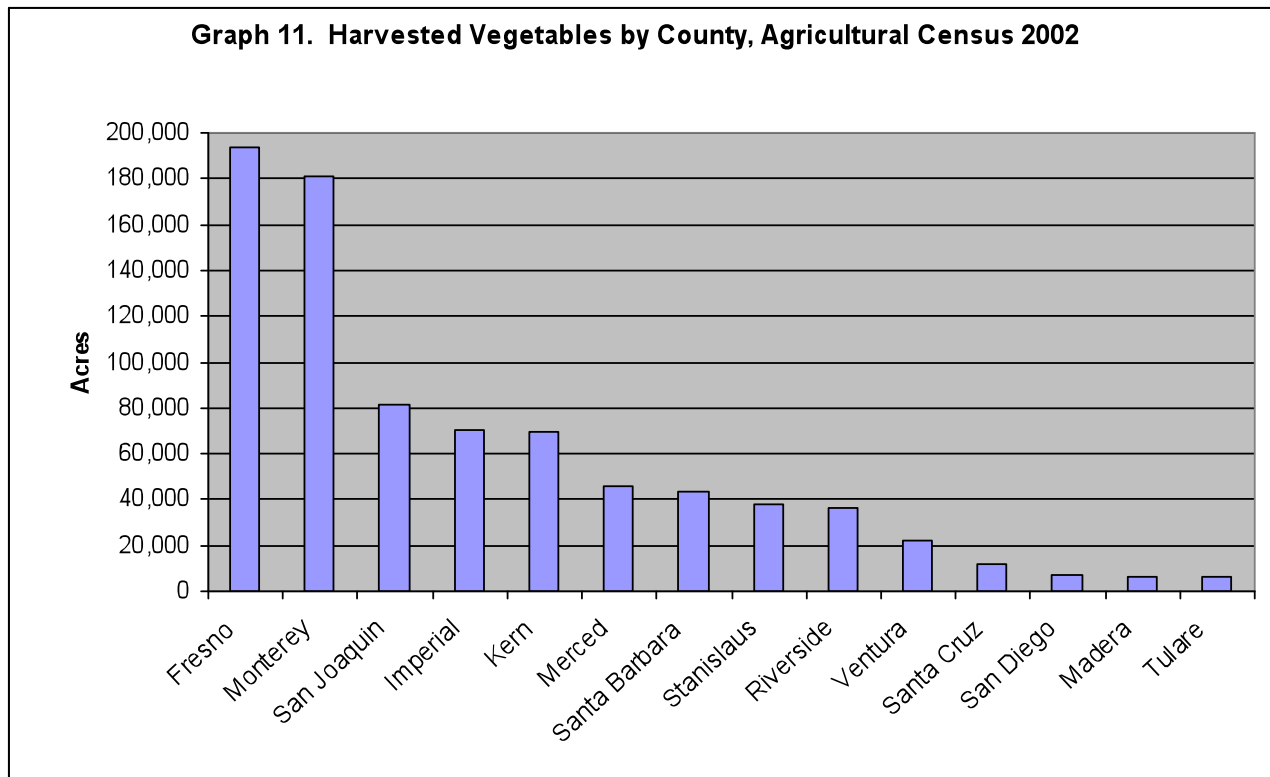
San Diego County has almost a half million square feet of crops under cover (see Graph 8). In berries Monterey has almost 12,000 acres (see Graph 9). In orchards and vines, one county Fresno has almost half a million acres (see Graph 10). And, again in vegetables, including processed vegetables, Fresno has almost 200,000 acres (see Graph 11).

Graph 9. Berry Acreage by County Agricultural Census 2002



Graph 10. Land in Orchards and Vines (Tree Fruits and Nuts) by County Agricultural Census 2002





We can see this concentration very clearly by looking at the counties that have half the total production in each of these sectors (see Table 7). In each part of table 7 below, there is a column for percent and another for cumulative percent. By looking across the row for each county, one reads in the percent column (the 2nd column) the proportion of each county in the California state total in this sector. If one looks across the row for each county one more column to the cumulative percent column (the 3rd column), one can determine the percent of that county in that row summed with the other counties listed in rows above it in the table. For example, in the greenhouse crop table, San Diego has 21% of the area of nurseries in California and Monterey has 14%. Together they have the sum of 35% reported in the cumulative column next to Monterey that sums the two together.

For greenhouse crops, only four counties, San Diego, Monterey, Ventura, and Santa Barbara--all on the coast--have half the area under protection. For berry crops just two coastal counties, Monterey and Ventura, have half the area under production and this doesn't even include Santa Cruz County that has over 5,000 acres of berries. For orchards and vineyards, five counties with Fresno being the largest, all in the San Joaquin Valley, constitute half of the area under production. For vegetable crops, four counties make up half the area under production, again with Fresno the biggest. In the case of vegetables, there are two counties from the San Joaquin Valley, Fresno and San Joaquin, one from the coast, Monterey and one from the desert, Imperial that together have half the vegetables in the state.

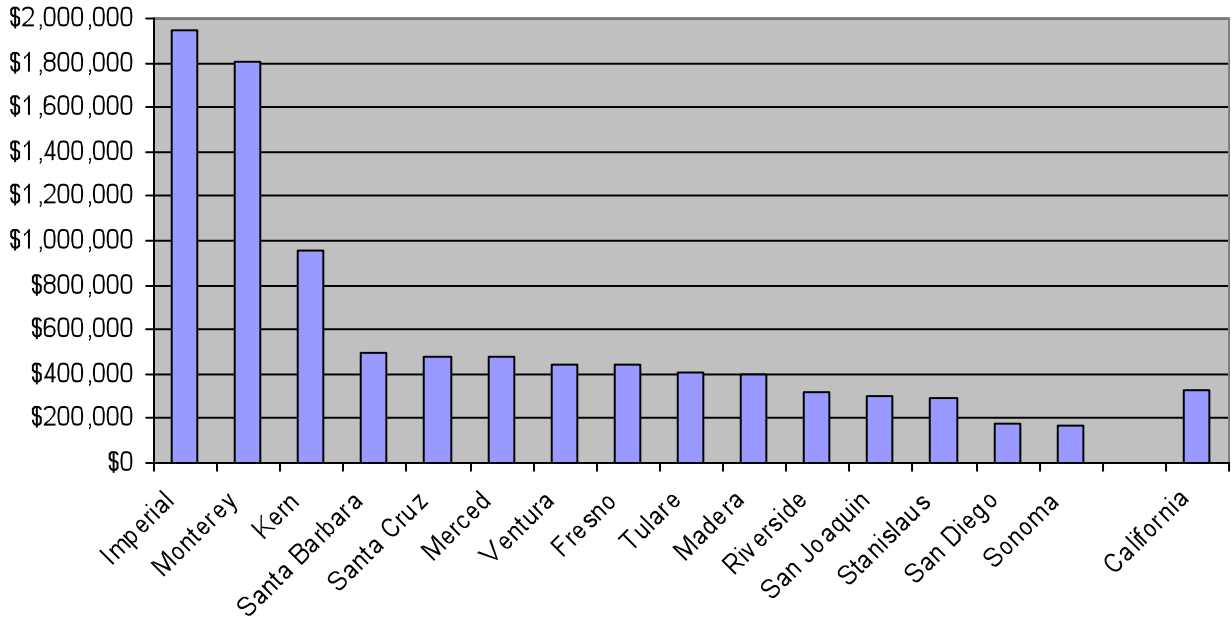
Table 7. Concentration of Crops by County, Agricultural Census 2002

	Percent of California Crop Area	Cumulative percent
Greenhouse Crops		
San Diego	21%	21%
Monterey	14%	35%
Ventura	11%	46%
Santa Barbara	7%	53%
Berry Crops		
Monterey	35%	35%
Ventura	23%	58%
Orchards and Vineyards		
Fresno	16%	16%
Kern	12%	28%
Tulare	12%	40%
San Joaquin	7%	47%
Madera	7%	53%
Vegetable Crops		
Fresno	19%	19%
Monterey	18%	37%
San Joaquin	8%	44%
Imperial	7%	51%

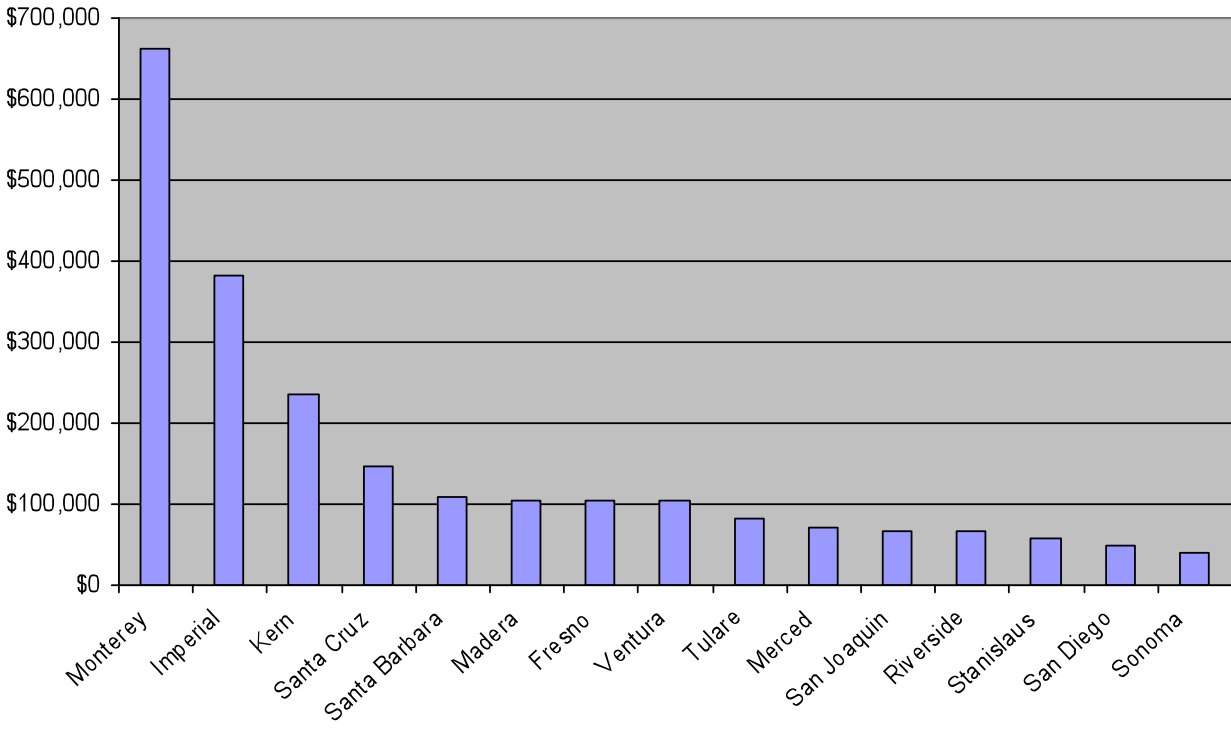
Size of the Farms by County

In planning service interventions for farmworkers, especially for those that involve the cooperation or concurrence of the employers, it is important to recognize the size of firms and their level of profitability. From Graph 12 below, we can tell that Imperial, Monterey and Kern have the largest sales. The average California farmer has average sales of about \$350,000. However, three counties Monterey, Imperial and Kern stand out with average net sales per farm of \$900,000 or more. Perhaps more importantly, we should look at Graph 13 (net farm income) that reports a proxy for profits. This Graph shows us that Imperial, Monterey, Kern and Santa Cruz have the biggest net incomes. In Monterey County, the average farm has a net income of well over half a million dollars per year.

**Graph 12. Average Sales per Farm Top 15 Counties
Agricultural Census 2002**



Graph 13. Net Farm Income Per Farm by County Agricultural Census 2002



Also, service deliverers should be aware of the huge size of farms in certain counties and crops. Large farms clearly have the resources to provide the legally minimum wages and conditions that law requires of workers. Strategies to make them comply may be different than for small farms. Many reach and surpass 1,000 acres in size. As can be seen in Table 8 below, large vegetable farms are found on the Coast, Desert and in the Central Valley. The size of farms in orchards is smaller. However, in Kern County the average orchard or grape farm is over 400 acres.

Table 8. Large Vegetable Farms by Crop and County Agricultural Census 2002		
County	Crop	Ave. Acreage of Farms
Monterey	LETTUCE	891
Stanislaus	CAULIFLOWER	669
Stanislaus	BROCCOLI	547
Riverside	CARROTS	536
Fresno	LETTUCE, ALL	521
Ventura	CELERY	506
Monterey	BROCCOLI	482
Santa Barbara	BROCCOLI	469
Santa Cruz	LETTUCE	420
Imperial	LETTUCE	413
Merced	TOMATOES	382

III. Estimates of Population

It is important for agencies serving farmworkers to have a feel for the size of the community. The numbers used below are counts of all people who engage in farm work anytime during the year. There are no real hard numbers for the count of farmworkers in California or in its major farm counties. However, making the estimate in two totally different ways renders remarkably similar numbers. This gives us confidence that we know the approximate size of the populations for the state and the major farm counties.

First, we took the 2002 Agricultural Census' combined payroll (paid to contracted and directly hired workers) for California and the leading 15 farm counties. We divided the total payroll by the average wage and hours worked per worker in the National Agricultural Workers Survey (NAWS) to obtain an estimate of total workers during the year. The assumption is that the average worker has 32 weeks or 1200 hours of work. We assumed \$7.15 per hour as reported by the NAWS in 2000-2002. Wages for field Workers in 2002 in the USDA's Farm Labor survey of employers is \$8.18/hr. (for CA). We chose the lower NAWS worker-reported wages as a more accurate reflection of the true wage. If one chose the USDA numbers, then all the Agricultural Census estimates would be reduced by 12.6%.) See column 2 (Agricultural Census) of Table 9.

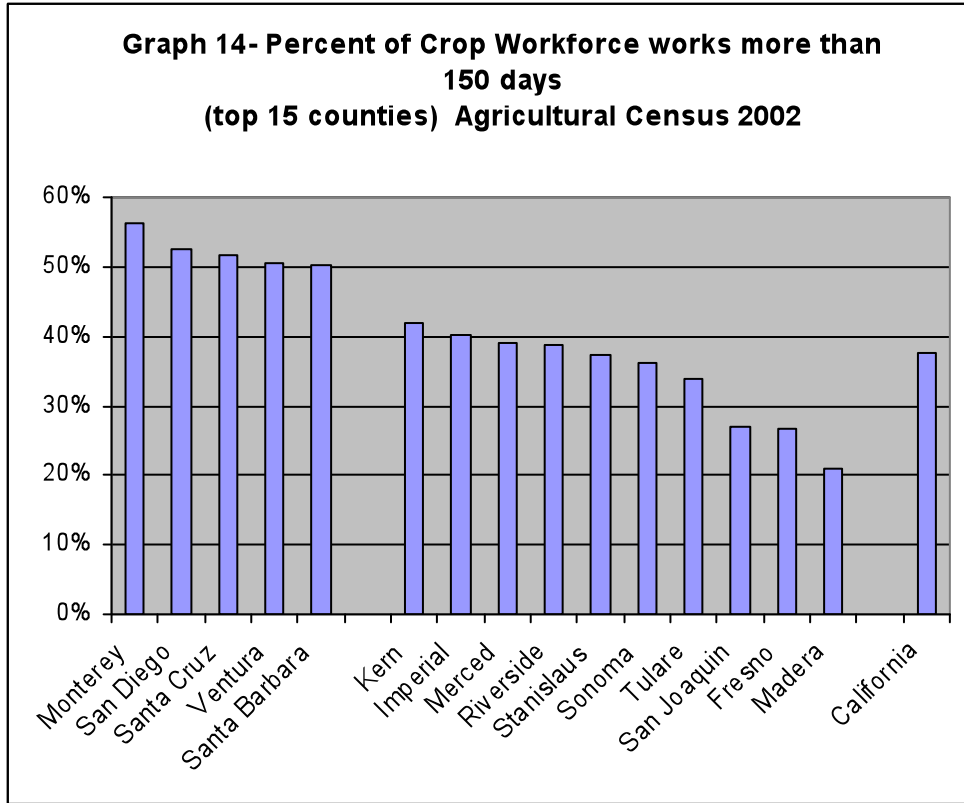
	Ag Census	Percent of State Total	Enumeration Study	Percent of State Total
CA	697,290		732,745	
Fresno	68,759	9.9%	113,741	15.5%
Monterey	66,461	9.5%	67,769	9.2%
Kern	57,668	8.3%	71,823	9.8%
Tulare	54,927	7.9%	57,534	7.9%
Ventura	41,884	6.0%	27,423	3.7%
San Joaquin	32,737	4.7%	46,913	6.4%
San Diego	31,427	4.5%	15,347	2.1%
Riverside	26,600	3.8%	27,275	3.7%
Santa Barbara	26,352	3.8%	24,461	3.3%
Stanislaus	26,330	3.8%	28,623	3.9%
Merced	25,762	3.7%	20,345	2.8%
Sonoma	19,785	2.8%	12,251	1.7%
Madera	18,786	2.7%	23,132	3.2%
Santa Cruz	16,173	2.3%	15,004	2.0%
Imperial	15,958	2.3%	22,869	3.1%

We compared these estimates to ones made by the Migrant and Seasonal Enumeration Study done for the Bureau of Primary Care's Migrant Health Program. This second approach used approximations of labor utilization per acre by crop to obtain its estimates. One can see that the numbers are roughly equivalent. Table 9 shows that the farmworker population is highly concentrated in the top counties. In fact, over 40% is focused in just the top five counties in both estimates. These are Fresno, Monterey, Kern, Tulare, and Ventura.

In the employment estimates of the state Employment Department (EDD), the numbers are even more concentrated. These numbers estimate job slots not people. The same top five counties represent half of all farm employment in the state (see column 4, cumulative percent, Table 10). The cumulative percent of these top five counties is 50.3%. In all three counts, Agricultural Census, Migrant Enumeration and Average EDD the estimates reported here are a sum of the employment of contracted and directly hired workers.

Table 10. Average Annual Employment 2004 EDD			
	Employment	Percent	Cumulative Percent
California	334,126		
Fresno	43,061	12.9%	12.9%
Monterey	41,514	12.4%	25.3%
Kern	38,965	11.7%	37.0%
Tulare	24,316	7.3%	44.3%
Ventura	20,362	6.1%	50.3%
Santa Barbara	15,546	4.7%	55.0%
San Joaquin	14,427	4.3%	59.3%
Riverside	12,768	3.8%	63.1%
Stanislaus	10,736	3.2%	66.4%
Imperial	10,000	3.0%	69.3%
San Diego	9,743	2.9%	72.3%
Madera	7,879	2.4%	74.6%
Santa Cruz	7,424	2.2%	76.8%
Merced	7,290	2.2%	79.0%
Sonoma	4,640	1.4%	80.4%

The fact that there are a few significant differences in Table 9 between the two population estimates (Agricultural Census and Migrant Enumeration Study) argues for caution in their use. Fresno is much higher in the Enumeration Study (15.5%) than in the Agricultural Census estimate (9.5%) in Table 9. Also, San Joaquin is much higher in the Enumeration study than the Census estimate (6.4% vs. 4.7%). One possible explanation is that Fresno and San Joaquin have many more short term workers as opposed to long time workers. This would imply that Fresno and San Joaquin may require more workers per full time job slot than other counties. In fact, only 26% of the workers in Fresno and San Joaquin work 150 days or more compared to 42% in Kern and 56% in Monterey (see Graph 14, below). This may explain in part why Fresno is calculated to have almost half as many more farm workers than Kern and Monterey in the Enumeration Study despite having a similar average annual employment level (approximately 40,000, see Table 10).



This analysis applies equally to San Joaquin county. It has a smaller average employment than Ventura County but has more workers counted by the enumeration study. Again Ventura has a much higher percent of workers engaged 150 days or more than San Joaquin (50% vs. 26%). The numbers of California farmworkers are estimates, there is no way to know the exact numbers of this largely clandestine population.

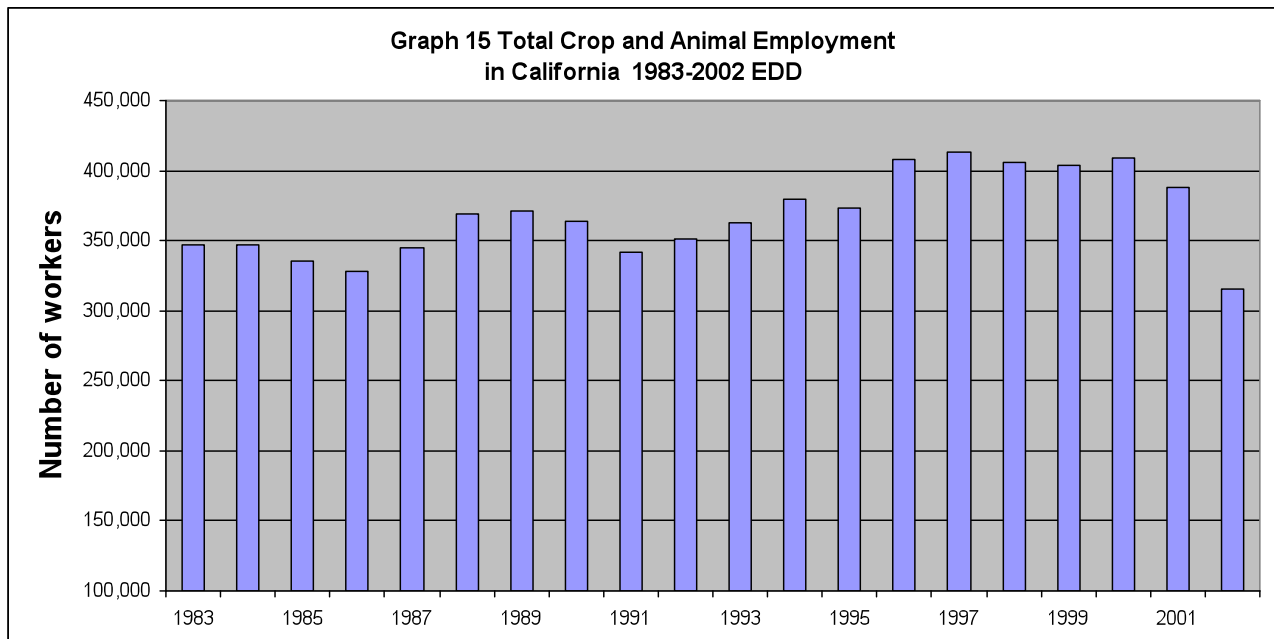
IV. Employment Levels

Employment Changes Over Time

The employment data should be used with caution when discussing short periods of just a few years since they are very volatile. Still, they give some idea about the size of labor demand and trends over periods of several years or decades both at the state and county levels. The most complete information on employment levels derives from the Employment Development Department estimates based on ES-202 data that employers are required to report quarterly to the Unemployment Insurance Program. However, the payroll reported by employers is based on social security numbers, not people, so is somewhat unreliable, especially when dealing with a population that often does not have valid Social Security Numbers.

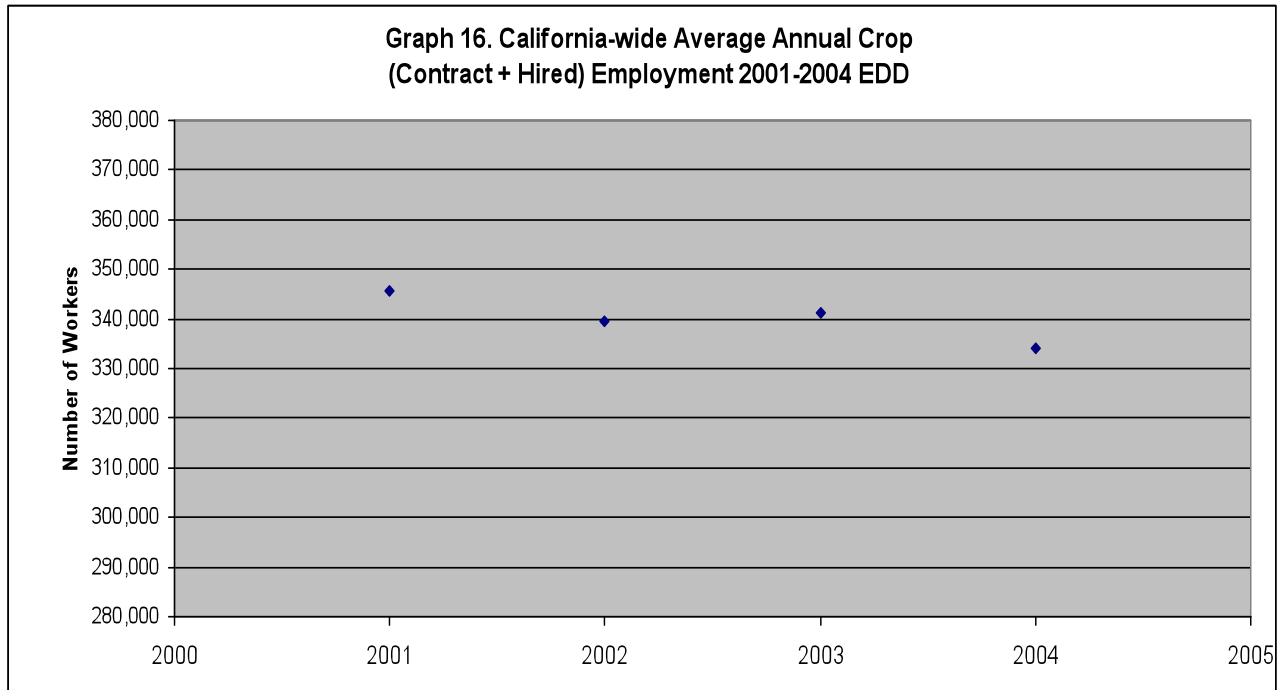
One can see from Graph 15 that average annual employment for both crops and livestock according to the EDD has oscillated between 315,000 and 415,000 over the years. But, it should be noted that there is not a real convincing trend in the data. If anything there is a tendency to show a rise over time. The average numbers in the last 10 years (1993 to 2002) are higher than the average numbers from 1983 to 1992. Average annual employment seemed to go up in the late 1980s and markedly in the late 1990s to over 400,000.

However, this series cannot really inform us on a trend since 2000 because it ends in 2002. More years are needed for this volatile data series. In fact, production data cited above show that total yield of labor intensive crops has greatly expanded making it unlikely that employment has dropped. The other explanation of a drop in employment would be technological change but its labor demand impact is not systematically reported in any reliable source.

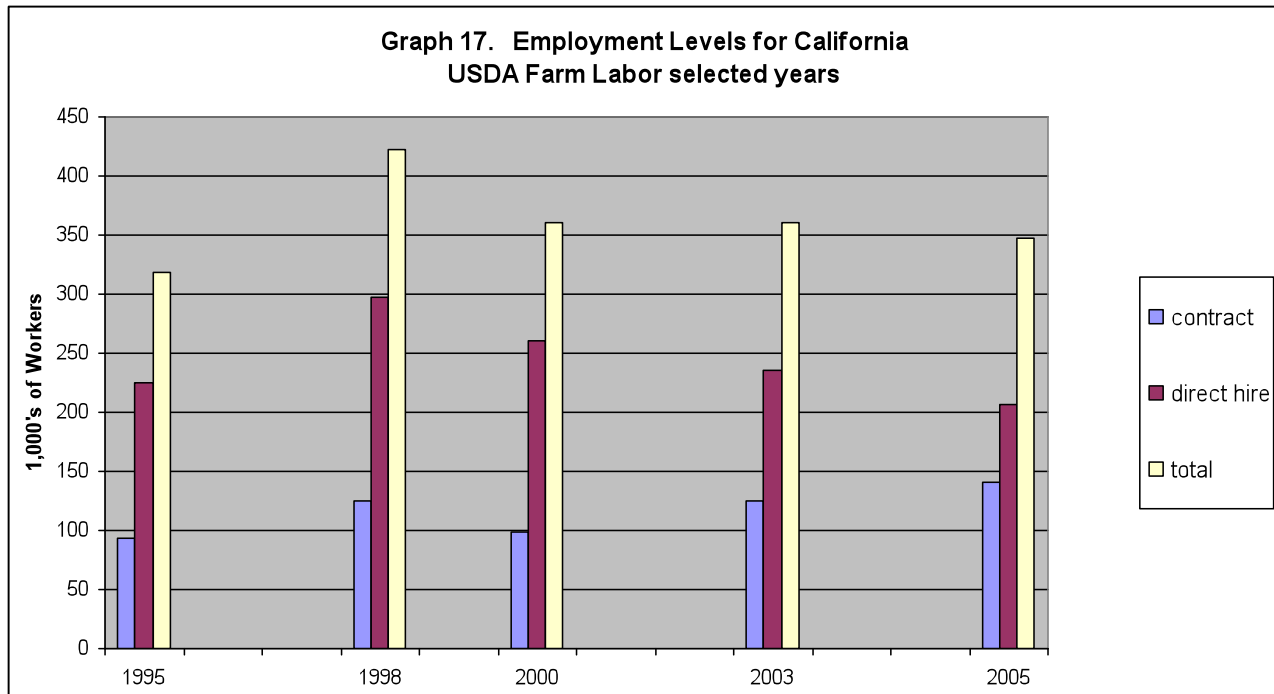


In fact, if we look at recent years (2001-2004) of crop employment carefully adding contract plus directly hired labor from the same source--EDD statistics, we find very little evidence of a tendency

toward decline in employment levels in recent years. Graph 16 shows about 340,000 crop workers for all four years.



Since the EDD ES-202 data does not give us a conclusive story, we looked also at data from the USDA's Quarterly Agricultural Labor Survey (QALS). The report from this survey based on a random sample of employers is called Farm Labor. Below, in Graph 17, we picked the employment estimate of crop and livestock workers combined for July for California for selected years from 1995 to 2005. One can observe the estimate for contract labor (blue), directly hired (maroon) and the total (yellow). The Farm Labor reports an increase in employment in July, 1998 to over 400,000. However, like the other sources of data, the QALS does not show a clear trend in employment growth or decline. The QALS reinforces the reality that estimates of labor are volatile from year to year. The QALS does seem to validate that about 350,000 farm job slots exist on average in California over the course of a single year and that this has not changed in measurable ways over the years.



Seasonal Variations in Employment

Graph 18 shows that most work in California is focused in the late spring, summer and the early fall. For the state as a whole, from April to October the demand for crop labor is relatively constant at about 375,000 workers while from November to March the average numbers drop to around 275,000 workers. Statewide, the peak month is may and the trough is January.

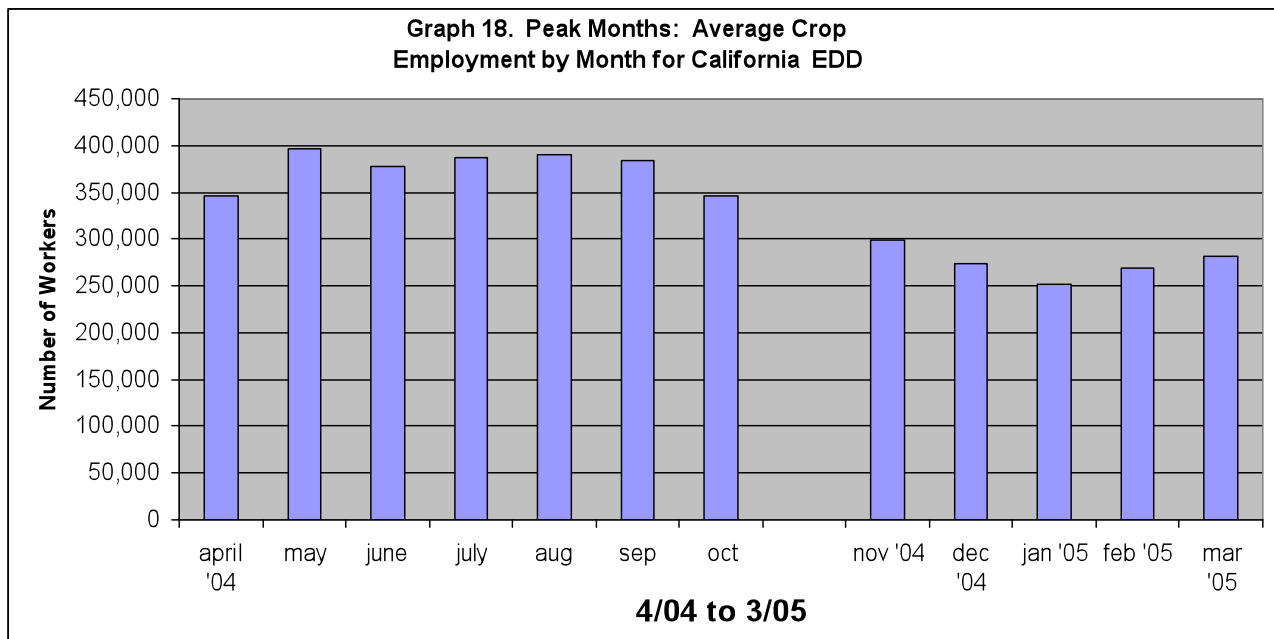


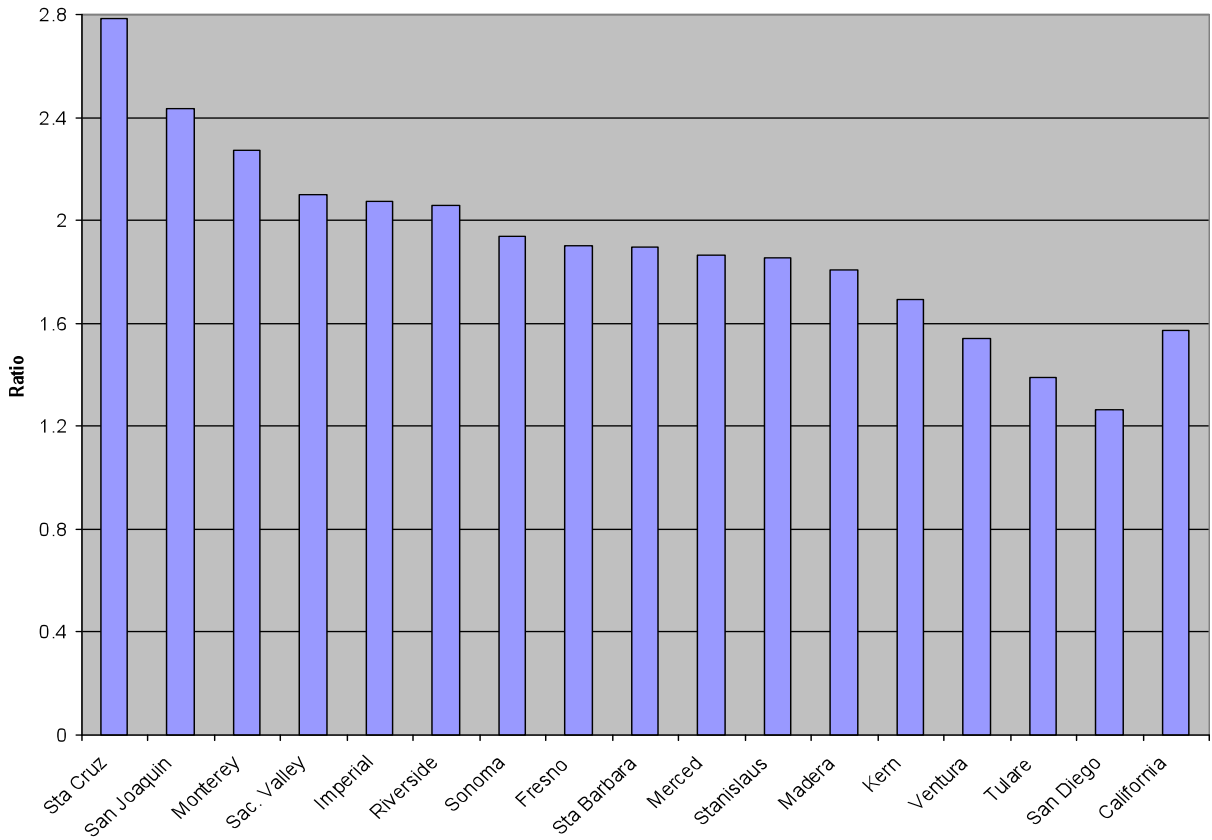
Table 11, below, highlights the high and low points of labor demand in the leading 15 counties and the Sacramento Valley. The peak months are in gray and the troughs are highlighted in white.

Graph 20a, below, shows a ranking of the top 15 counties and the Sacramento Valley as a whole relative to peak month employment. Notice that eight individual counties have higher peak month employment than all 8 counties in the Sacramento Valley. The San Joaquin Valley counties the Sacramento Valley have their peaks in the May to October period, while the troughs are in the winter except for Tulare with a trough in November. Each county has a somewhat unique peak depending on the crop mix of fruits, nuts, nursery crops and vegetables. This can be observed in the variation in peak to trough ratio seen in Graph 19, below. You can see graphs of the monthly employment variation in each of the 15 counties and the Sacramento Valley in Chapter VIII, "Details of 15 Counties", below.

The Central Coast counties have their peaks all in the summer except for the most southerly, Ventura County that has its peak in the Spring. The low points for these counties are in the November through January period that often coincides with the period of heavy rainfall that interferes with the vegetable and berry crops. The nursery production on the coast tends to even out the demand for labor throughout the year.

The Desert/Southern California counties have their peaks in the Spring. Two of these, Riverside and Imperial, have their troughs in August. San Diego with a year-round temperate climate and a very even labor demand owing to its predominantly nursery mix of crops and has a very mild trough in the winter. By looking at the peak to trough ratios in Graph 19 below, one observes that the counties with the most steady labor demand through the year are San Diego, Ventura and Tulare. The year round nursery industry and temperate climate explain this stability for these two southern coastal counties. For Tulare, the many tasks related to the long demand for table grape workers and the dual season for Valencia and Navel oranges explains the even year round demand. All these three have peak to trough ratios of less than 1.6. The areas with the greatest variation between peak to trough are the Sacramento Valley and Santa Cruz, Monterey, San Joaquin, Imperial and Riverside--all have a ratio greater than two between peak and trough.

**Graph 19 Comparison of Ratio of Peak to Trough Months
Crop Workers 15 Counties and Sacramento Valley EDD 2004**



**Graph 20a.
Peak Monthly Crop Employment by 15 Counties and Sacramento Valley EDD 2004**

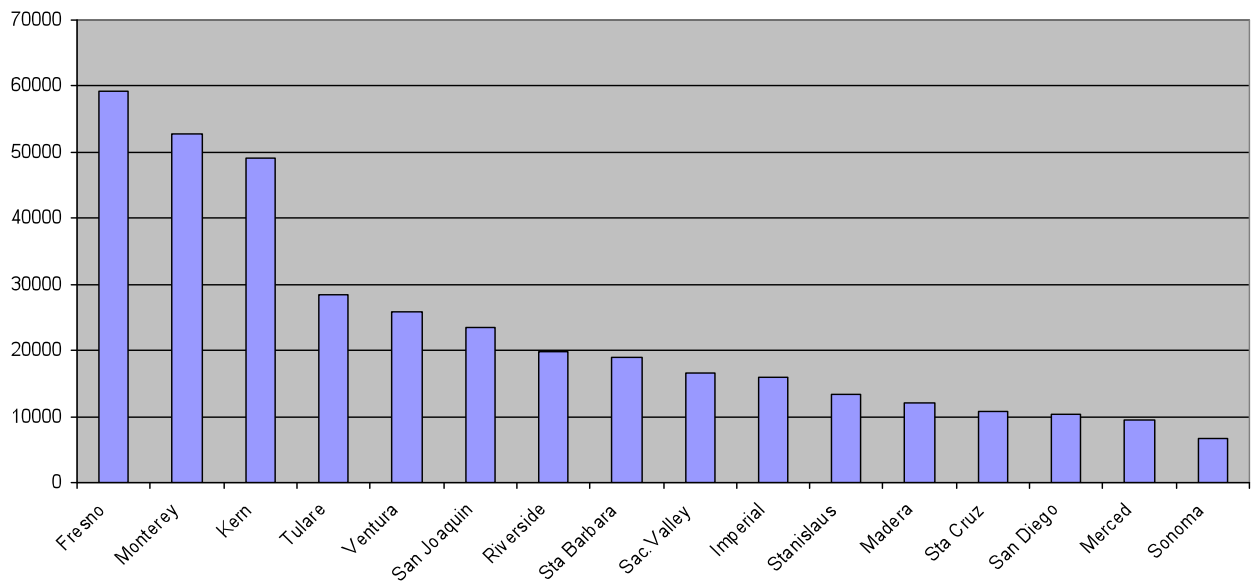


Table11. Peak to Trough Employment –Peak Month in Gray, Trough Month in White (top 15 counties and the Sacramento Valley)												
2004- 2005	april '04	may	june	july	aug	sep	oct	nov	dec '04	jan '05	feb	mar
Central valley												
Fresno					59,337							31,230
Kern				49,099								29,018
Tulare				28,333				20,406				
San Joaquin		23,513								9,659		
Stanislaus			13,413							7,233		
Merced							9,417			5,044		
Madera	6,728					12,169						
Central coast												
Ventura	25,952								16,864			
Monterey					52,800					23,253		
Sta Cruz				10,852						3,898		
Sta Barbara				19,055						10,062		
Sonoma						6,686		3,453				
Desert/So. California												
Riverside			19,867		9,657							
Imperial		15,863			7,650							
San Diego		10,281								8,118		
Sacra- mento Valley					16,498					7,921		
California												
		396,673								252,009		

In addition to the leading 15 counties, many other counties in California have agriculture. In Table 12 below, we show the employment level for each month of the year for the next 23 leading counties. In this, we sum direct and contracted hired workers as reported by the EDD's ES-202 data. The peak months are highlighted in gray. Because of the importance of nursery agriculture, we find that Los Angeles and Orange are actually first in peak employment among these other counties. Two other urban counties, Santa Clara and San Mateo also have some nursery employment. Apart from these mostly urban counties, there are a group of counties known for their agriculture even though their employment levels are not high compared to the top farm counties. The small Kings county is the only one from the San Joaquin Valley in this group. The other important ones are coastal counties like Napa, Mendocino, and San Luis Obispo. Napa, though it has a relatively low peak employment of 6,000 workers, produces a higher value specialty wine crop than the much more labor-using Sonoma County.

Another important group that also have relatively low employment levels are those that make up the Sacramento Valley--Sutter, Colusa, Tehama and Butte. Three others that might be called the "Delta" counties also have modest crop employment--Sacramento, Solano and Yolo. Again, the

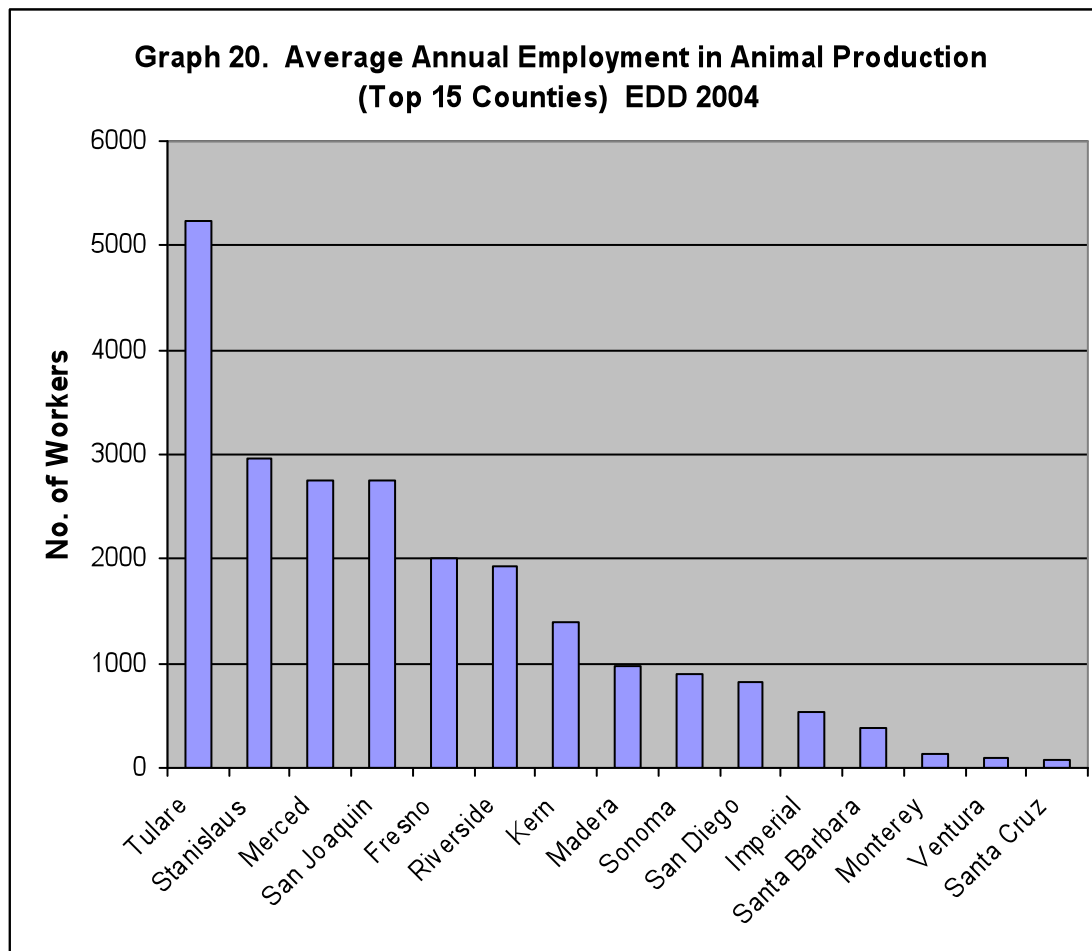
peak months are from April to October. Some counties such as Los Angeles and Orange have relatively stable employment through the year.

Table 12. 23 Other Counties Peak Employment Month in Gray Sorted by September Direct and Contract Hired Labor Crop Agriculture												
	april '04	may	june	july	aug	sep	oct	nov	dec '04	jan '05	feb	mar
Los Angeles	7,559	7,453	7,436	6,916	7,265	7,117	6,751	6,166	5,987	5,836	6,484	7,003
Orange	8,523	7,913	7,083	6,452	6,574	6,446	5,817	5,173	4,935	4,186	5,023	5,690
Napa	5,447	5,805	5,965	5,278	5,543	6,255	4,541	2,869	2,797	3,253	3,974	4,083
Kings	5,832	7,370	6,811	6,308	5,917	5,377	5,797	4,896	4,225	3,539	4,689	4,730
San Luis Obispo	3,583	3,915	4,244	3,698	3,761	4,802	3,976	3,126	2,973	2,828	3,681	3,882
Sutter	2,899	3,675	3,689	5,392	5,654	4,429	2,508	2,158	1,653	1,235	1,236	1,499
Santa Clara	3,740	3,804	4,044	4,020	4,364	4,232	4,231	3,720	3,653	2,896	2,962	3,067
Mendocino	1,685	1,937	1,780	1,956	3,063	3,130	2,853	1,743	1,923	1,589	1,539	1,581
Colusa	2,301	2,548	2,350	2,339	2,389	2,849	2,700	2,190	1,875	1,386	1,624	1,864
Butte	2,460	2,496	2,445	2,475	2,699	2,816	3,196	2,648	2,145	1,930	2,076	2,140
Solano	1,711	2,177	2,296	2,259	2,381	2,554	1,742	1,516	1,314	1,291	1,542	1,538
Sacramento	2,194	2,418	2,580	3,357	2,609	2,552	1,854	1,713	1,738	1,933	2,128	2,203
Yolo	4,241	4,693	4,371	4,323	4,398	2,248	3,625	2,532	2,218	1,961	2,208	2,468
San Mateo	2,014	2,022	2,037	1,934	1,966	2,015	1,968	1,915	1,949	1,790	1,573	1,622
Glenn	995	1,087	1,131	1,146	1,275	1,886	2,057	1,297	1,339	1,046	992	941
San Benito	943	1,159	1,405	1,777	1,652	1,665	1,505	1,192	1,013	748	820	866
San Bernardino	1,506	1,514	1,470	1,516	1,476	1,532	1,478	1,485	1,468	1,342	1,374	1,399
Tehama	776	836	1,089	960	1,216	1,302	2,050	1,328	1,106	1,108	883	818
Yuba	726	1,169	783	1,207	1,346	1,002	1,093	1,051	820	638	628	567
Lake	705	836	747	1,445	1,901	774	555	479	398	506	677	869
Lassen	261	265	288	292	281	279	1,128	477	364	616	152	182
Shasta	373	362	406	412	379	70	1,933	908	331	929	123	210

V. Animal Employment

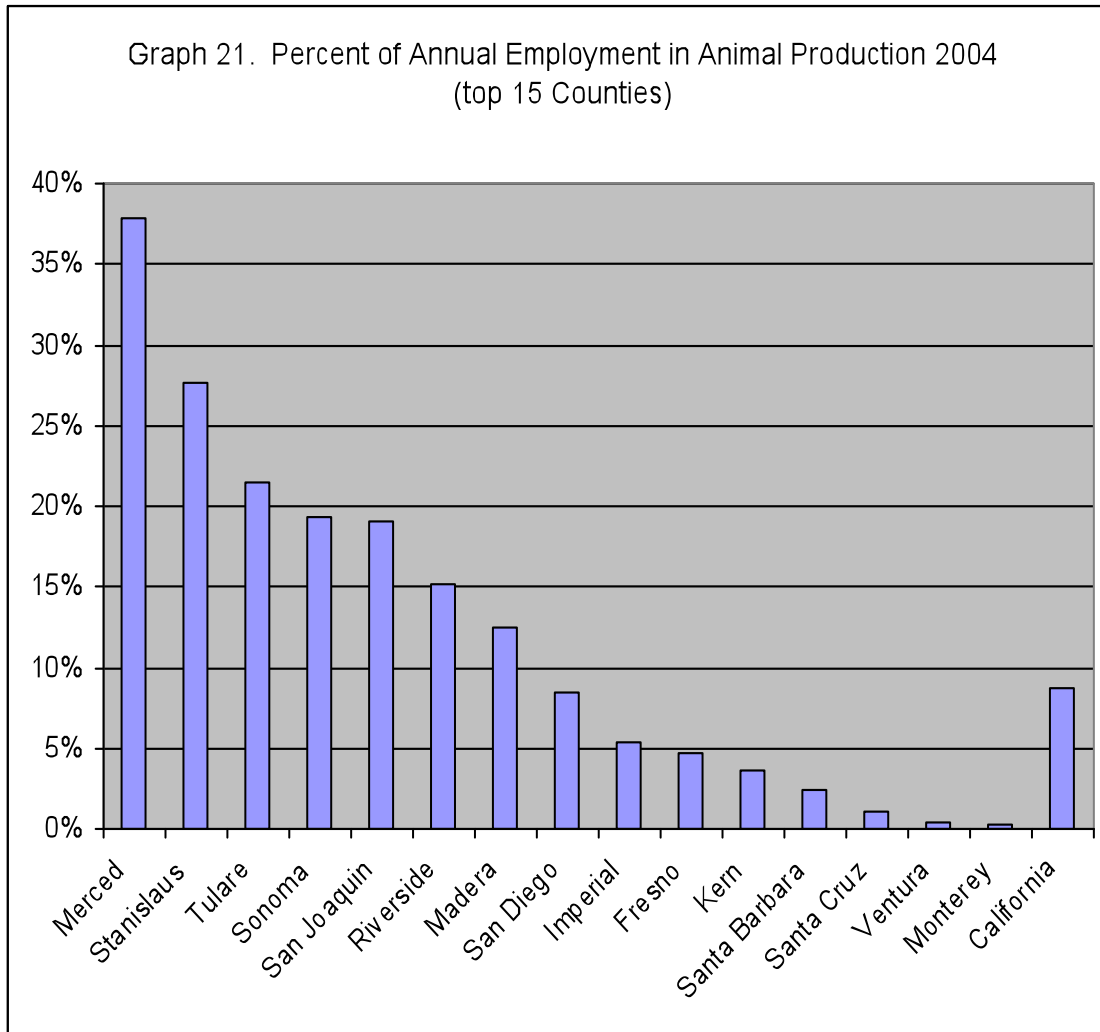
Despite the fact that the value of animal production is about one-fourth of all agricultural value, the proportion of estimated average annual employment in animal products is relatively small, only about 30,000 workers or 9% of total annual agricultural employment statewide. This proportion of animal workers among all farmworkers is actually considerably smaller than that since many animal workers are employed year round. Namely, the total number of workers in crop employment is higher per full time equivalent job than in animal employment because more workers contribute to fill each full time position in crop than in animal work.

A small group of counties have large animal production work forces. The top five are in the San Joaquin Valley--Tulare, Stanislaus, Merced, Fresno and San Joaquin--and each has more than 2,000 workers (see Graph 20 below). Riverside, Kern and Madera also have over a thousand animal production workers. With respect to numbers, Tulare county stands out with over 5,000 annual employment level for animals.



Some counties have a particularly high proportion of animal workers among their total farm labor force. Thirty-eight percent of Merced's annual average farm employment is in animal work. In both Stanislaus and Tulare, over one fifth of the farm employees on average work with animals (see

Graph 21, below). Surprisingly, Sonoma, known for its wine grapes, has almost one fifth of its annual average labor force working with animals.



In planning for working with animal workers it is useful to take note of how they are concentrated by the leading counties. Milk workers are the most numerous with cattle second and poultry and eggs third. Tulare leads in both cattle and dairies, with Riverside leading in the number of poultry and egg workers (see Table 13). Merced, Stanislaus, San Bernardino, Kings, Fresno and San Joaquin all provide over 1,000 job slots in milk production. Stanislaus and San Joaquin both provide significant employment in poultry as well. Also, Merced and Imperial provide over 500 jobs in cattle ranching.

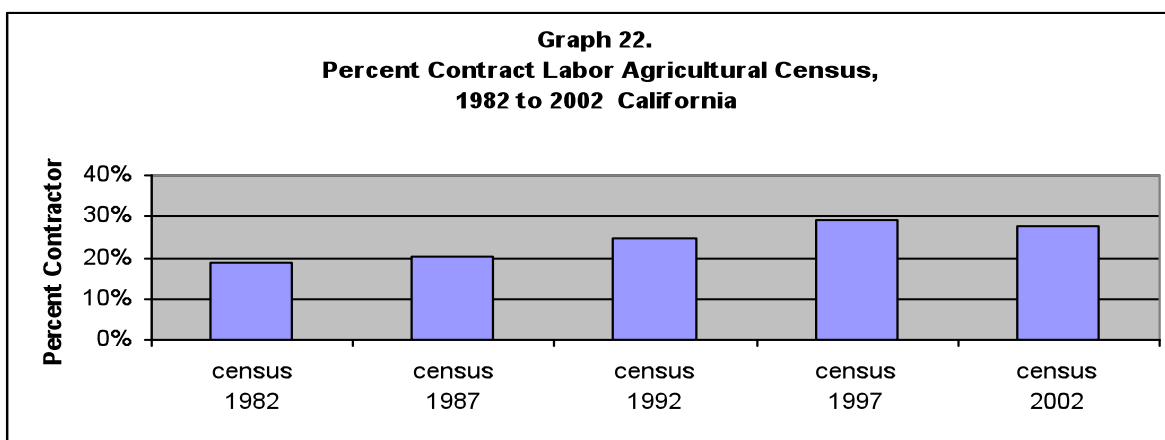
**Table 13. Leading Counties in Animal Production:
Cattle, Dairy and Poultry
EDD 2004 Annual Average Employment**

Industry	county	No. of Workers	Industry	county	No. of Workers
Cattle	Tulare	881	Milk	Tulare	3,939
	Merced	648		Stanislaus	1,904
	Imperial	395		Merced	1,830
	Fresno	348		San Bernardino	1,419
	San Diego	282		Kings	1,310
	Stanislaus	272		Fresno	1,268
	Riverside	236		San Joaquin	1,037
	Kern	192		Riverside	791
	Santa Barbara	126		Kern	756
	San Joaquin	98		Madera	612
Monterey	67	Sonoma	486		
Poultry and Eggs	Riverside	729			
	Stanislaus	612			
	San Joaquin	493			
	Sonoma	341			
	San Bernardino	285			
	Merced	259			
	Madera	196			
	Tulare	135			

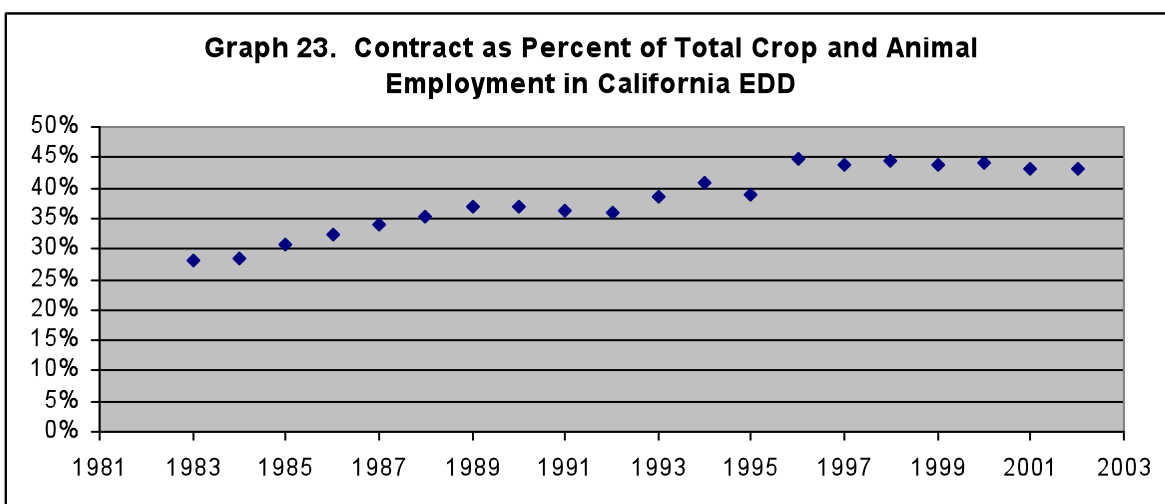
VI. Contract Labor

Proportion of Contractors in Payroll

The proportion of the labor bill that is paid by contractors as opposed to the proportion paid directly by producers has risen by many measures in the last two decades. This process occurred because of many factors. One important incentive was that employers were able to shift the burden of record keeping and compliance with labor and immigration law to contractors. This process probably accelerated after the Immigration Reform and Control Act (IRCA) of 1986 that (1) legalized many farmworkers who later became contractors and (2) criminalized the hiring of undocumented workers. Another factor was the substitution of contract labor for workers hired by grower associations. In Graph 22 below, one sees that, according to the Agricultural Census, the proportion paid to contractors rose from below 20% to over 30% in the 1982 to 1997 period but by 2002 the proportion had leveled off.



This same trend of increasing use of farm labor contractors until the late 1990s and then of a leveling off is noted by looking at the EDD numbers in Graph 23. However, the numbers collected by the EDD are much higher. At the maximum, EDD measured 45% of farm employment was in the hands of contractors.



It should be noted that the contract payroll includes not just farm labor contractors but custom firms such as cotton ginner, custom pesticide applicators and many others. However, it is estimated that two thirds of the bill is for farm labor contractors. In 2004, according to EDD figures the farm labor contractors represented 66.2% of the total contract employment for crops.

The proportion reported by the Agricultural Census may understate the true number. The employers may have a disincentive to report the full amount to the Census since census reports are driven by income tax records. The EDD records based on ES-202 data may better reflect the true proportions. In effect, the Census data report a much lower proportion of contractor payroll than the ES-202 reports. Perhaps the most reliable numbers come from the NAWS data over time. They show that the percent of contractor employment as a proportion of all workers has grown from 25% in the late 1980s to 47% in the early 21st Century (See Table 14.)

Employer	1989-1990	1991-1993	1994-1996	1997-1999	2000-2002	Total
Direct Hire	75.0%	71.8%	64.0%	62.1%	53.2%	
Contract Hire	25.0%	28.3%	36.0%	37.9%	46.8%	
Total	1200	1774	2417	2508	2432	10332

Contractors as Setters of Working Conditions

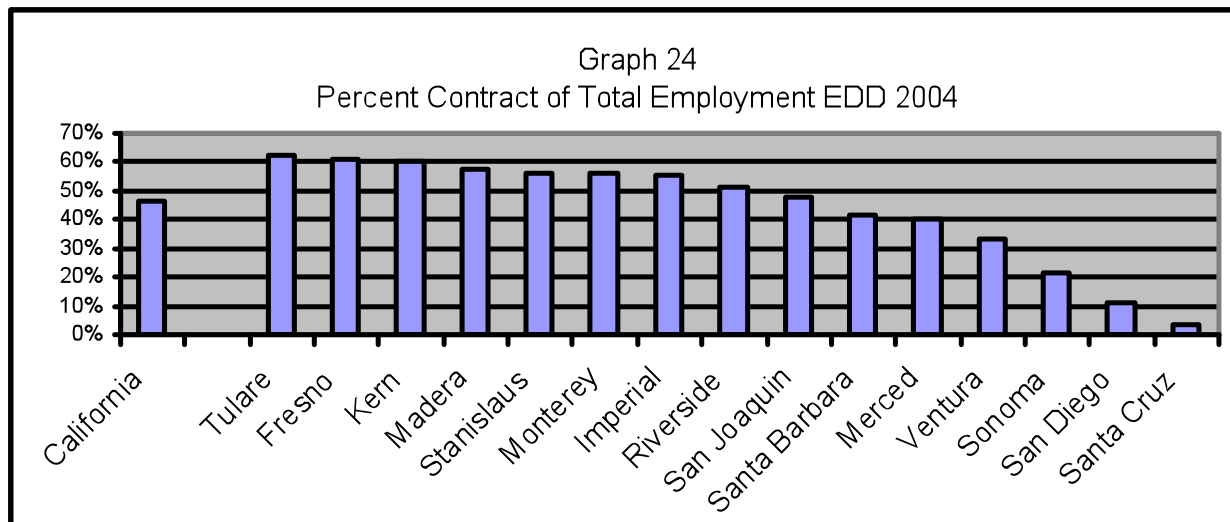
The farm labor contractors, whatever percent they represent, are a critical group in setting the working conditions in California. Despite the existence of many excellent contractor employers, survey research indicates that contractors as a group are associated with a series of inferior conditions for farmworkers. They pay less per hour, are more likely to charge for rides, equipment, as well as other items sold at the work place. For example, the NAWS respondents who work for contractors are twice as likely (19% vs. 9%) to pay for equipment than those who work for growers (see Table 15). Furthermore, contractors are more than twice as likely to pay by the piece (23% vs. 11%) as shown in Table 16. Contractors also hire workers that are more desperate than directly hired workers. In Table 17, one sees that a much higher percent of the FLC employees are unaccompanied by their family than the directly hired (68% vs. 57%). Also, according to data from the 2000-2002 NAWS, the FLCs hire a higher percentage of undocumented employees (68% vs. 58%) than the growers and packing houses.

	Paid for Equipment		Total
	employer paid	worker paid	
Direct Hire	91.0%	9.0%	
FLC Hire	81.5%	18.5%	
Total	2,089	324	2,413

Table 16. California NAWS 2000- 2002	Hourly	Piece	Combination	Salary	
Direct Hire	85.6%	10.6%	2.1%	1.8%	
Contractor Hire	63.0%	23.4%	13.6%	0.0%	
Total	1,825	403	181	23	2,432

Table 17. California NAWS 2000-2002	UNACCOMPANIED FARMWORKER	ACCOMPANIED FARMWORKER	Total
Direct Hire	57.0%	43.1%	
Contractor Hire	67.6%	32.4%	
Total	1,507	926	2,432

Service providers should be aware of the different proportions of contractors in different areas of the state. This proportion varies greatly across counties. As seen in Graph 24 below, contractors are the clear majority in most of the San Joaquin Valley and Desert Counties. However, with the important exception of Monterey, the coastal counties tend to have a lower proportion of contract employment.



An understanding of where the contractors are working is crucial for the protection of farmworker rights in California's fields, orchards, and vineyards. The farm labor contractors are distributed all over the state but are concentrated in more numbers in certain areas. From Table 18 one can see

that well over half are in the San Joaquin Valley. Most of the others are in the Central Coast area and in the Desert. There are a few registered in Yuma and several others in cities or up in the grape growing areas of the Sierras. Their addresses are available on line at the Department of Labor Standards Enforcement.

Table 18. Location of Contractors Department of Standards Enforcement	
Location of Contractor	Number of contractors
Southern San Joaquin	298
Fresno/ Madera	222
Stockton/Merced	141
Salinas	87
Santa Maria, Paso Robles	68
Desert	57
Sacramento Valley	56
Santa Barbara, Ventura	51
Napa	33
San Joaquin Delta	18
Turlock/Riverbank	17
Watsonville	12
San Diego	12
Los Angeles, West Riverside	12
Patterson I5 Corridor	8
Sonoma	26
Other Areas	31
Total	1149

VII. Demographic Characteristics of California Crop Workers

Below, we describe crop workers surveyed by the California NAWS. We focus on data gathered mostly in fiscal years of 2000-2002; however, we also use information going back to Fiscal Year 1989. One has to remember that the NAWS only interviews crop workers. The less than 9 percent of California farmworkers, who are animal production workers, have yet to be surveyed accurately for their demographic traits. The NAWS has demonstrated over the years that crop workers in California are disproportionately Mexican born, male, unaccompanied by their families, young, poor and receive few services. First, we summarize a group of these characteristics that have not changed very much over time. Then we review traits that have changed. Looking at the changing characteristic gives us an additional insight into the nature of the population. Finally, we discuss housing, income and social services in a special final section.

Some Constant Traits

The first point to emphasize is that 95% of crop workers in California are Mexican born. The second and third largest groups at about 2% each are U.S. Hispanics and other Latin American immigrants. The small group of US-born Hispanics are mostly the children of Latin American (mostly Mexican) farmworkers. These overall percentages have not changed very much since the NAWS began in 1988. At the beginning of the survey about 86% were Mexican. This has gradually increased to 95% as the proportion of U.S.-born Hispanics declined. Namely, fewer children of farmworkers born north of the border are in agriculture today than 15 years ago. Another trait that has not changed at all is the level of education of farmworkers. The median has remained at 6 years of school throughout. In a related area, English language ability has been consistently poor among farmworkers throughout the last decades. Actually, the data show that the self-identified ability to speak English well among farmworkers actually dropped from 12% in the 1989-1990 period to only 4% in the 2000-2002 period. Again, this reflects that the percent of U.S. born has declined.

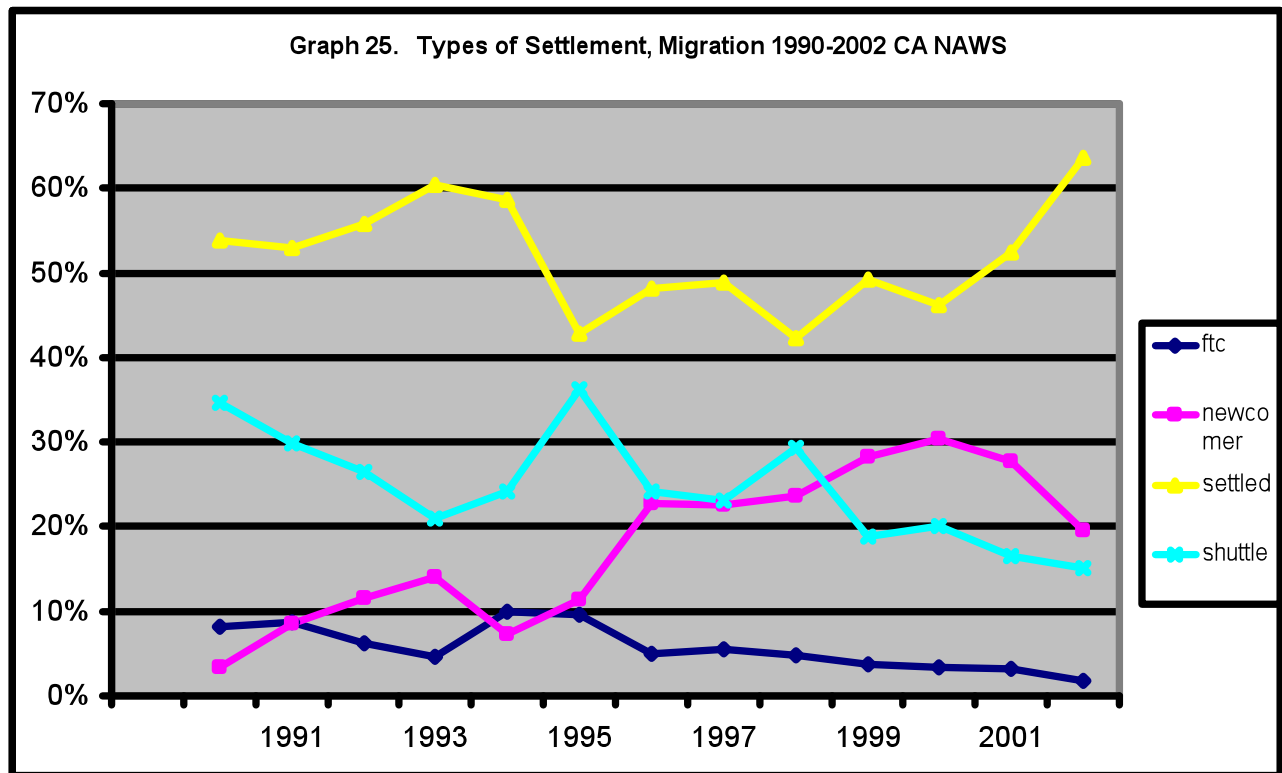
Farmworker Characteristics through the Prism of Changes Over Time

Farmworker history is characterized by cycles of influxes of solo males (those unaccompanied by parents, spouses or children) and by periods of family unification. The traditional pattern is for male farmworkers to come unaccompanied for their first one or more sojourns north and are later joined by a wife and children. Many come as single men and return to marry in their home areas. During the period of the NAWS survey (it started in October, 1988) for which we have detailed demographic data over time, there are clear patterns of change. (The argument of change here is confirmed by a recent study of the NAWS called "The California Farm Labor Force Overview of Trend from the NAWS," Aguirre International, 2005. That study brings up to date some numbers mentioned here from the 1989-2002 data).

After the Immigration and Control Act of 1986, there was a period of legalization for farmworkers and others from 1987 to 1990. Most of the legalized farmworkers were Mexican men. In the early to mid 1990s, many women and children joined up with their legalized spouses and common-law partners north of the border. Some crossed legally, many did not. We see during these years signs of relative stability discussed below. Starting in 1994 and gradually increasing over the ensuing years, stricter border enforcement came into play. This change may have discouraged shuttling back and forth across the border and may have for some years discouraged the crossing of

undocumented females north of the border. In other words, the measures of stability actually worsened in the 1994-2000 period. However, in recent years, there seems to have been signs of a return to a somewhat more settled pattern. Still, despite these fluctuations, overall, the period since 1989 has been characterized by a huge surge in solo male migration.

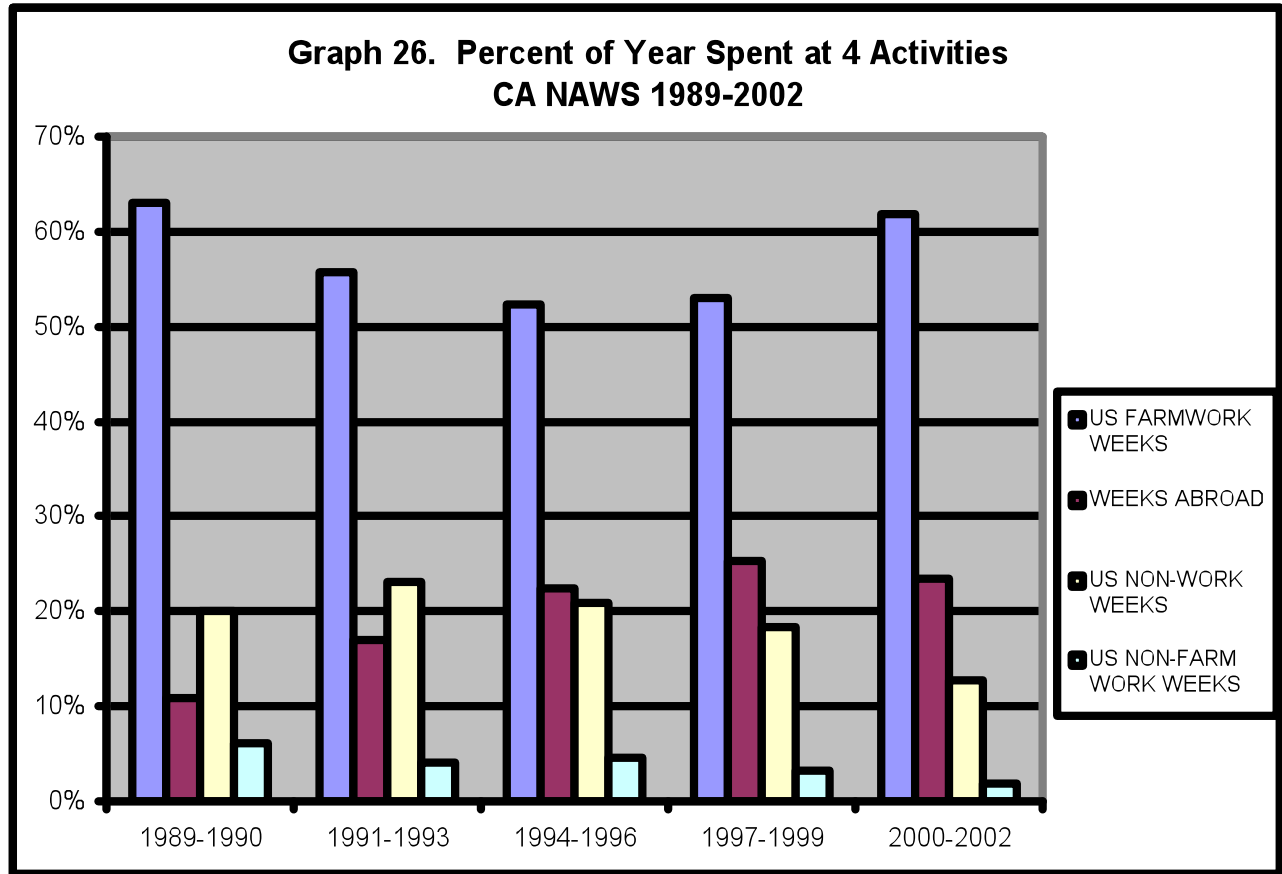
Below, we show a series of changes of demographic traits over time. By explaining these graphs one by one, we hope to make clear the changes that have occurred. These changes have crucial implications for service providers of this population.



First, let's look at the trends of migration and settlement patterns over the years (see Graph 25 above). There are four types of migrant and settlement patterns described by this graph. The lowest dark blue line shows the percent of the Follow-The-Crop migrants (FTC). This relatively small group goes from one U.S. farm area to another one during the year. The green line which is the second lowest in recent years represents the Shuttle migrant. These are workers who work in one place in the United States but spend a large part of the year living elsewhere, usually Mexico. The next, pink, line represents the Newcomers, people who are in the U.S. agriculture in their first year. They haven't been here long enough to fit into one of the other categories. And, finally, the yellow or top line represents the Settled farmworkers or those that stayed in one U.S. domicile for the entire year before the interview.

In the early years of the survey there was an increase in the percent of settled migrants and of shuttle migrants (please follow discussion in Graph 25). This makes sense since the huge numbers of newly legalized could choose between either settling down or shuttling legally between Mexico and the United States. Also, newcomers (mostly undocumented) immediately started to come in larger numbers. After the border enforcement began, the amount of shuttle and settled workers fell

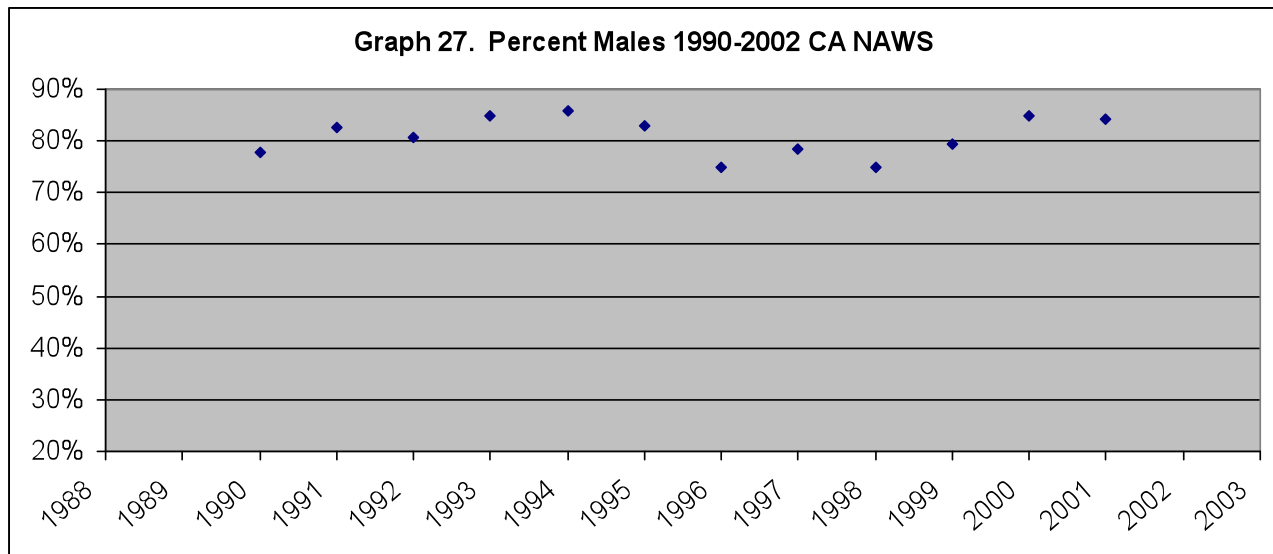
off while a surge of increasingly male newcomers continued to accelerate. This pattern lasted until the late 1990s. Starting in 2000, again the settlement begins to rise and the number of newcomers starts to fall. The proportion who are shuttle migrants also falls as fewer men want to risk going back and forth so the undocumented and men unaccompanied by their families stay for longer periods as well. Throughout, one observes a decline in the follow-the-crop migrants.



This same pattern is evident by studying Graph 26. But, first let's get familiar with this graph. It describes an average of all farmworkers. Of course, there is great variation from individual to individual but summing and averaging across the population, we can divide up the typical farmworker's time in four categories. In Graph 26, you can see that a bit more than half the time farmworkers are in the United States working in agriculture (blue bar). About a fifth of the time they are abroad, almost always in Mexico (maroon bar). Also, about 15-20% of the time they are in the United States but not working (usually unemployed-yellow bar). A small percent of the time they are working for a non-farm employer in the United States (green bar).

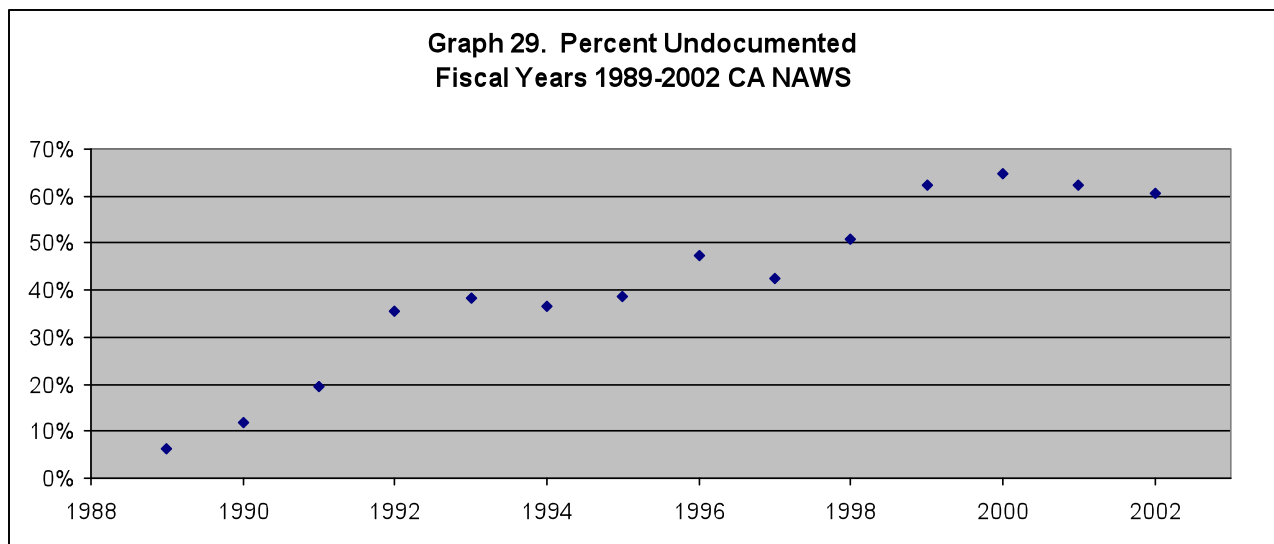
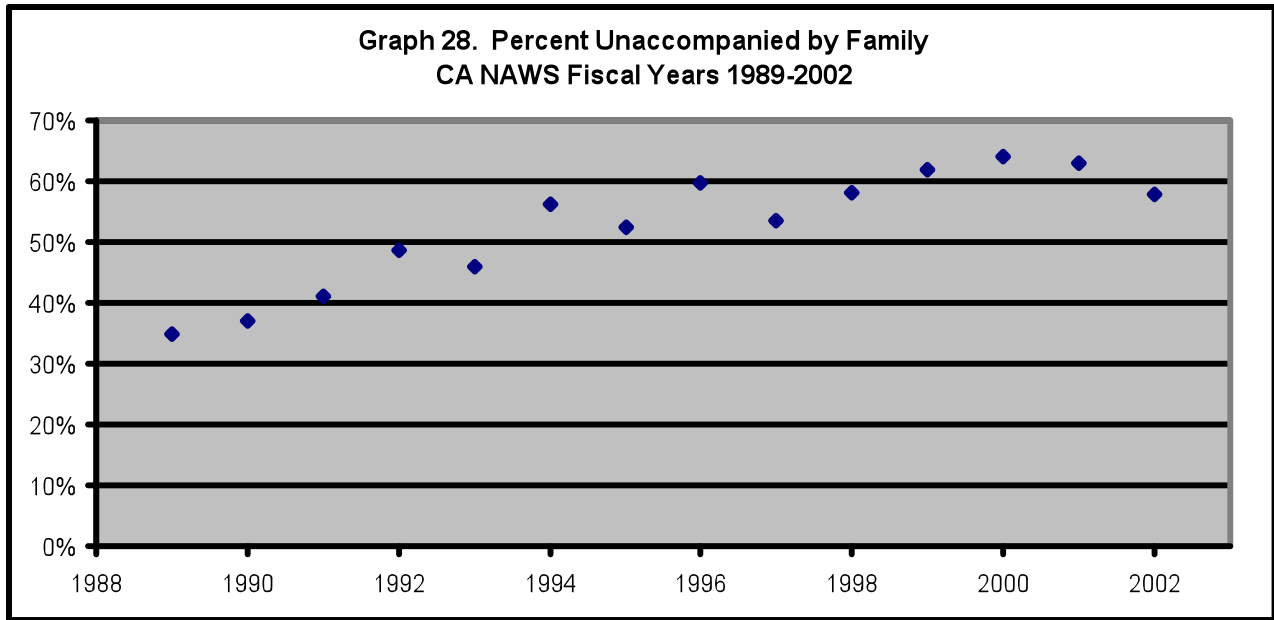
Again, this graph shows that right after IRCA (the survey began in FY1989), there was a period of more stability as measured by greater weeks of farm work. Farmworkers worked more than 60% of their time or 32 weeks at U.S. farm work. This declined in the 1990s to 50% or 26 weeks. Then again, early in this decade (2000-2002), time spent working at farm work seemed to increase again up to the 32 week average.

This same pattern of relative settlement is also observable by looking at gender. In Graph 27 below, one sees that the always high percent of males in the farm work force rose to 86% in 1994, dropped back to 75% in the late 1990s, rose again in 2000 and then began dropping. In the 2003-2004 period, it had dropped back to 73% (see Aguirre, 2005). This supports the hypothesis that there is a relative settlement occurring since 2000.



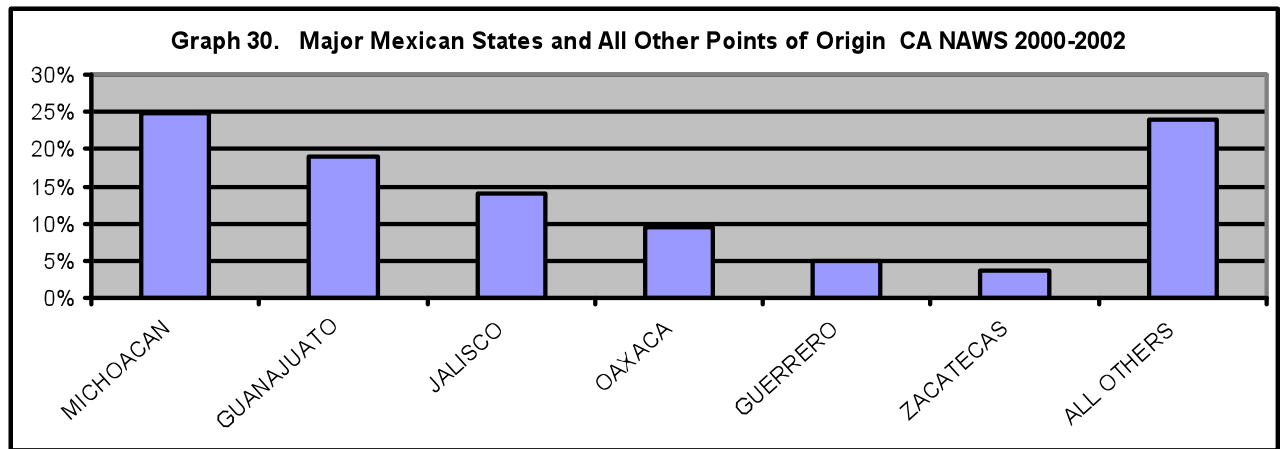
Finally, in graph 28 and 29 one can see that until about 2001, there was a tendency for the population to become more undocumented over time and less accompanied by parents or wife and children. In Graph 28, we see that at the beginning of the period, farmworkers were unaccompanied only about one third of the time; but by 2000, an amazingly high 64% were here unaccompanied by close family. In recent years, this began to decline. In 2002, only 58% were unaccompanied. This trend of decline continued into the 2003-2004 period (see Aguirre, 2005). In Graph 29 below, we see that there had been an almost constant increase in the proportion of undocumented during the time of the survey. Right after IRCA legalized over a million farmworkers, only 6% were undocumented in 1989; but by 2000, the number had reached 65%. Since this peak, it is dropping down again (60% in 2002). According to the Aguirre 2005 study, the percentage is now below 60%.

Overall, this review of the history of farmworkers' demographics over the last 15 years reveals that the population is heavily male, undocumented, and unaccompanied. It shows that only about half are settled in one spot on average and that farmworkers only work about 30 weeks a year on average. It also shows that these numbers vary over time depending on immigration policies and pressures for family unification. Service providers should be intimately aware of these demographic facts and of the trends over time in order to understand the family and community trends of their clients.



Farmworkers by Region of Origin, California Region and Indigenous Workers

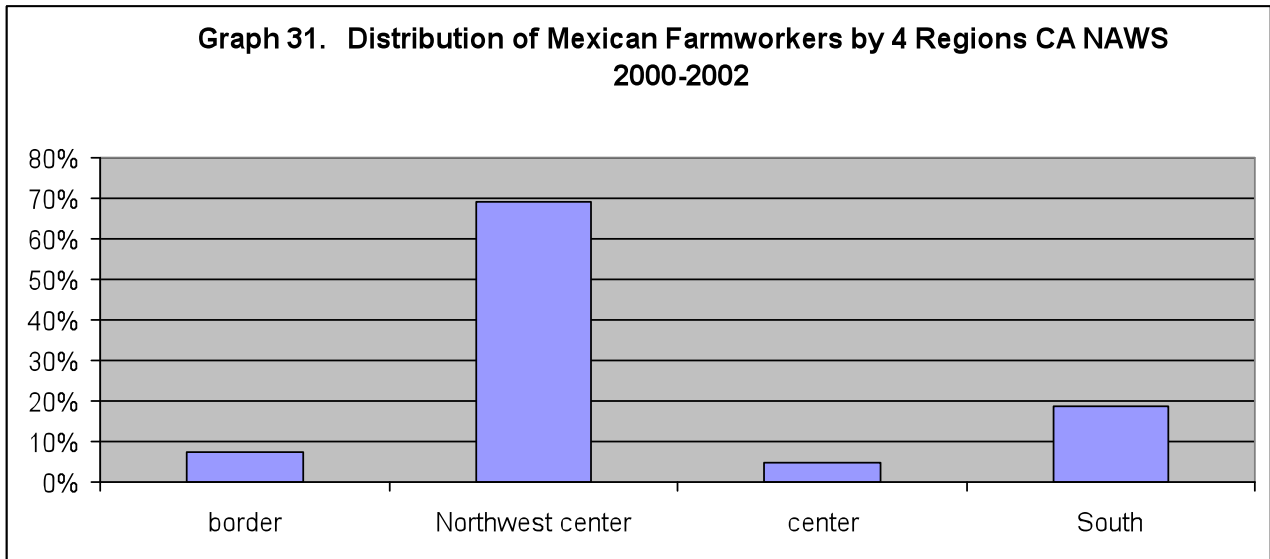
First, it should be noted by those who work with farmworkers that just a few states dominate as points of origin. Just four Mexican states are the point of origin of 68% of all farmworkers from all countries. Michoacán 25%, Jalisco 19%, Guanajuato 14% and Oaxaca 10% are the leading four (see Graph 30).



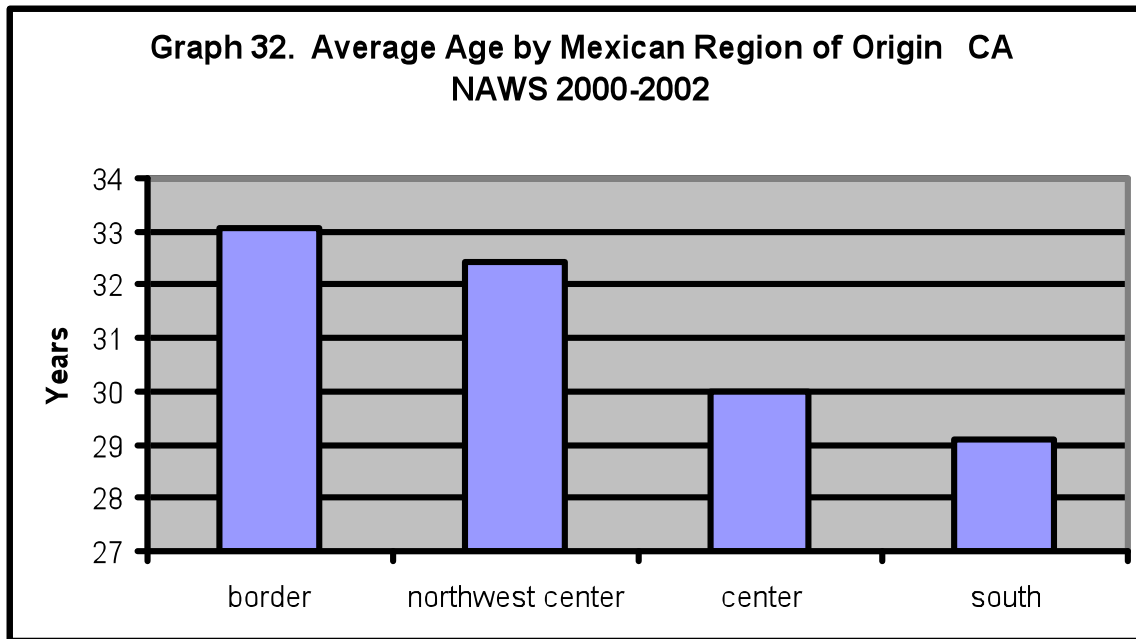
There is a great interest in those farmworkers that are considered indigenous. And, indeed those who identify themselves as indigenous are far worse off than those that do not. But, very few workers (about 2%) choose to make this identification. These self-identified indigenous are younger (average age 23 vs. 32 for others), less educated (average years of school is 3 vs. 6 for other farmworkers), and even earn a lower wage (90% as high as other workers). However, we know that many other non self-identified workers also from indigenous regions, often speak their ancestral language (even if as a second language), have parents who are monolingual indigenous speakers and have the customs and practices of indigenous people.

The self-identified indigenous people in the survey almost all come from the South of Mexico. In fact, most of these self-identified people come from Oaxaca. In order to give just due to the regional cultural differences, we have divided the country into four regions of origin. The South which has much indigenous influence (19%), the Center (5%) that is the place of origin of a recently-arrived somewhat better educated group, the border (8%) that represents an old source region and finally the Northwest Center (69%) that has always been and remains the main source of Mexican immigrants (see the distribution in Graph 31 below). In Table 19 below, you can observe how the 30 states mentioned by farmworkers as states of origin were divided up into the four regions. It should be pointed out that the South is not the only region that has indigenous U.S. farmworkers. The Purépecha speakers of Michoacán are probably the largest of these other groups. However, migrants from the non-southern regions are predominantly not indigenous.

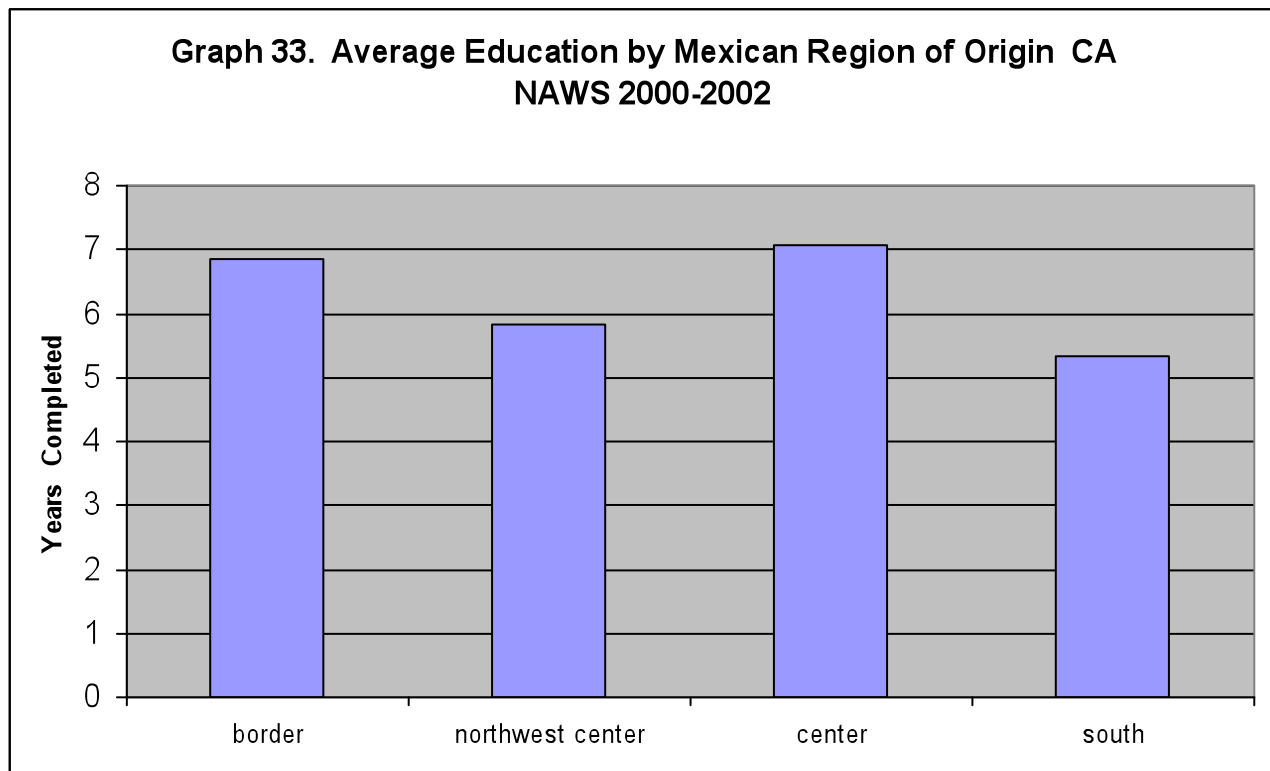
Table 19. 4 Regions of Origin			
Border	Center	Northwest Center	South
BAJA CALIFORNIA	HIDALGO	AGUASCALIENTES	CAMPECHE
CHIHUAHUA	MORELOS	COLIMAS	CHIAPAS
COAHUILA	ESTADO DE MEXICO	DURANGO	GUERRERO
NUEVO LEON	QUERETARO	JALISCO	OAXACA
TAMAULIPAS	SAN LUIS POTOSI	MICHOACAN	PUEBLA
SINALOA	TLAXCALA	GUANAJUATO	TABASCO
SONORA	DISTRITO FEDERAL	NAYARIT	VERACRUZ
		ZACATECAS	YUCATAN



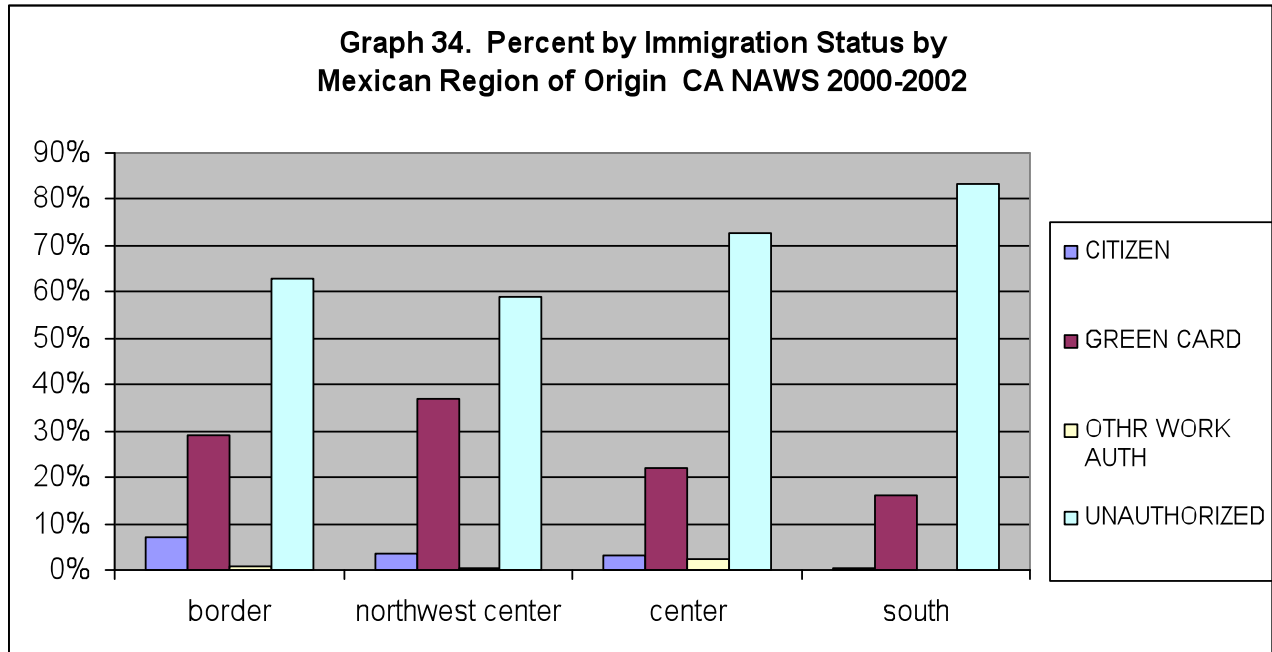
Below, we investigate whether the Southern states, where most indigenous workers come from, have different patterns than the Center states that are also made up of more recent arrivals, and the Border and Northwest Center states that are more traditional sources of immigrant farmworkers. In Graph 32, one sees the South has the youngest workers at 29 years of age. The Center, that also has many recently-arrived workers, has a bit older average age at 30, whereas the traditional sources of immigrants, the Border and Northwest Center, have workers averaging over 32 years of age.



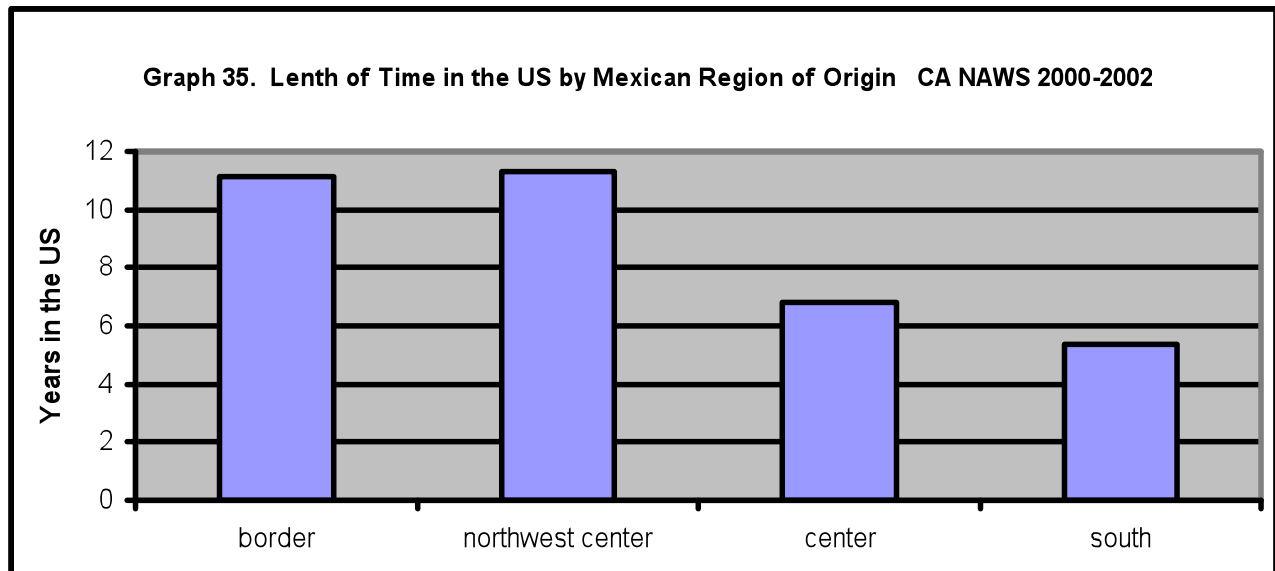
For education, the pattern is a bit different. The South is the lowest with a bit over 5 years of school. However, the Northwest center with less than 6 years of school, although it is a traditional migration source, is a source region that is made up of poorer and less educated people on average than the Border and Center regions that have average education levels of about 7 years (see Graph 33).



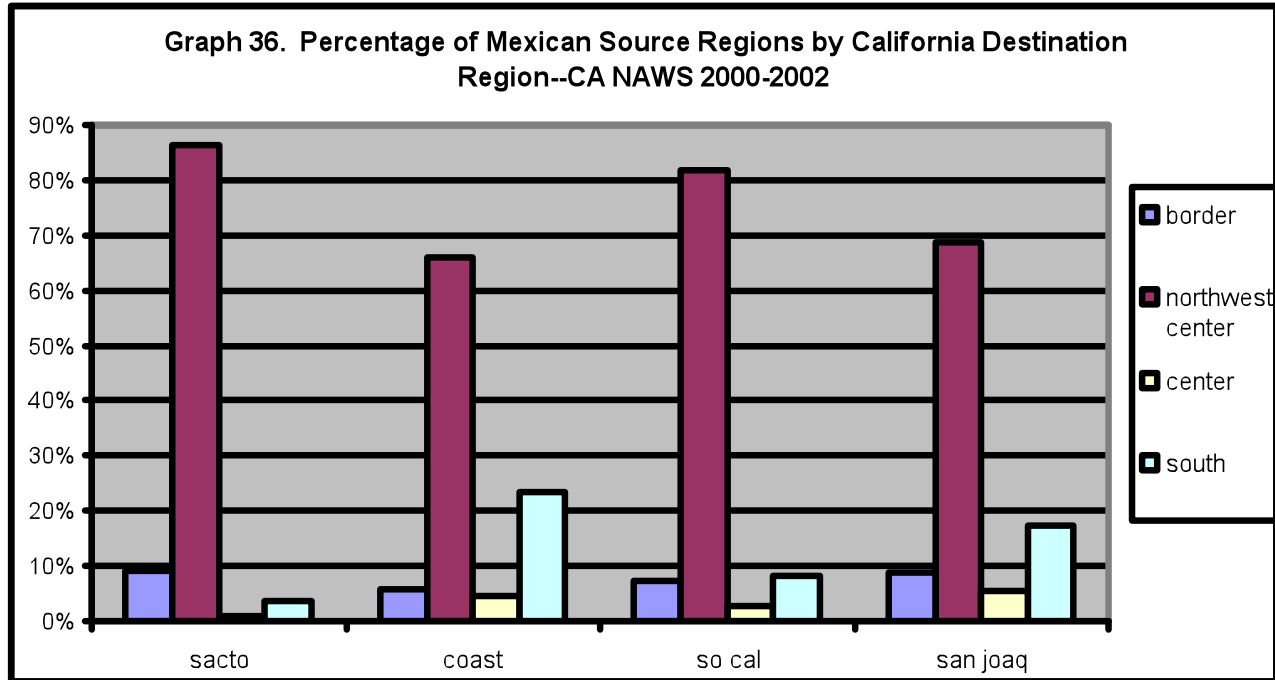
With respect to immigrant status, the pattern is quite predictable. The indigenous South has the most undocumented with over 80%, the recently-arrived people from the Center are second with over 70%, the Border is third with about 60% while the most deeply rooted migration region, the Northwest Center, is lowest with under 60% (see Graph 34). The largest proportion of green card holders are in the Northwest Center (35%) whereas the biggest percentage of citizens (7%) are along the border.



Again, the time in the United States follows the expected pattern (see Graph 35). The workers from the South has an average of about 5 years in the country, from the Center 7 years, while the workers from the Border and Northwest Center have about 11 years. Actually, about half of all those from the South have been in the United States less than 2 years.



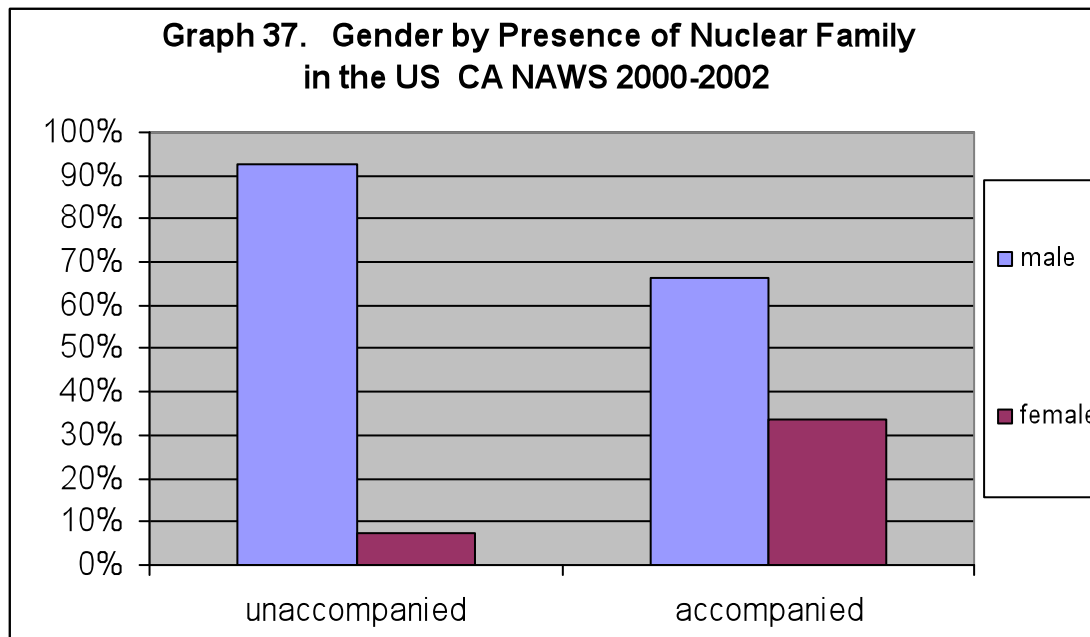
Finally, it is interesting to note where the southerners go (see Graph 36). The highest percent of southerners among Mexican farmworkers are found along the coast and in the San Joaquin Valley and much less in the Sacramento Valley and in Southern California according to the NAWS.



Income, Services and Housing

In the 2000-2002 period about 62 percent of the farmworkers were unaccompanied by a parent, spouse or children. These solo workers are almost all (93%) men (see Graph 37). And, about 40% of these men have a wife and about 30% have children in Mexico. On the other hand, the accompanied workers are two-thirds men and one third women. About 85% of the accompanied of both sexes have children with them in the United States; the others are married and don't have children or are themselves living with a parent. Overall, about one third of all farmworkers have children living with them in the United States. The median number of children for those with offspring in the household is two and the average is about 2.4. Many of these parents are young and will have more children. Many, who have children in Mexico, will be joined by them later.

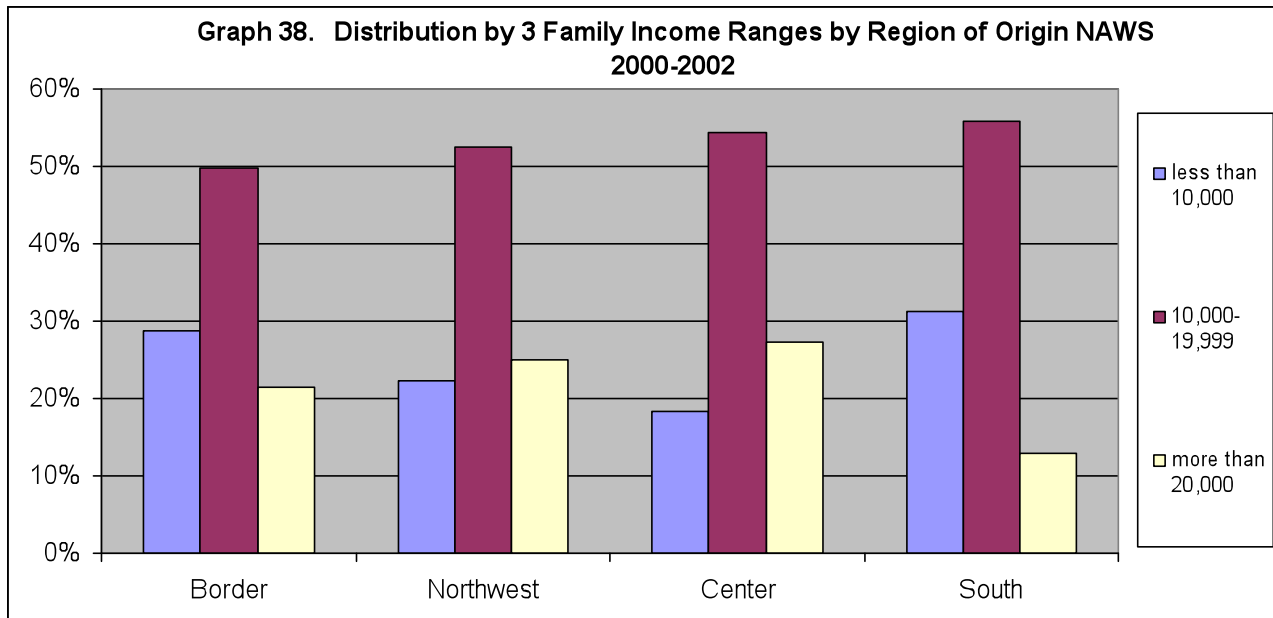
Another important distinction is that the average accompanied worker has been in the United States for 16 years, while the average unaccompanied worker only 6 years. The median age for the accompanied worker is 36, while the unaccompanied workers have a median age of only 26. Since the two groups have such distinct household compositions and income demands, we will be careful to analyze them separately with respect to income, services and housing.



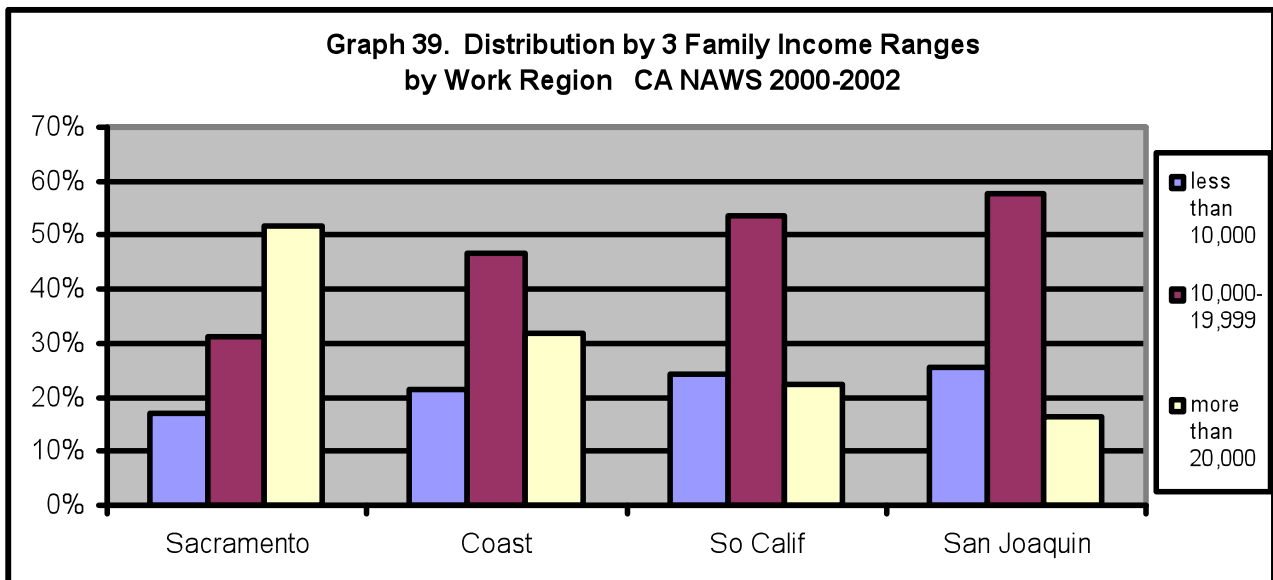
Incomes of Farmworkers

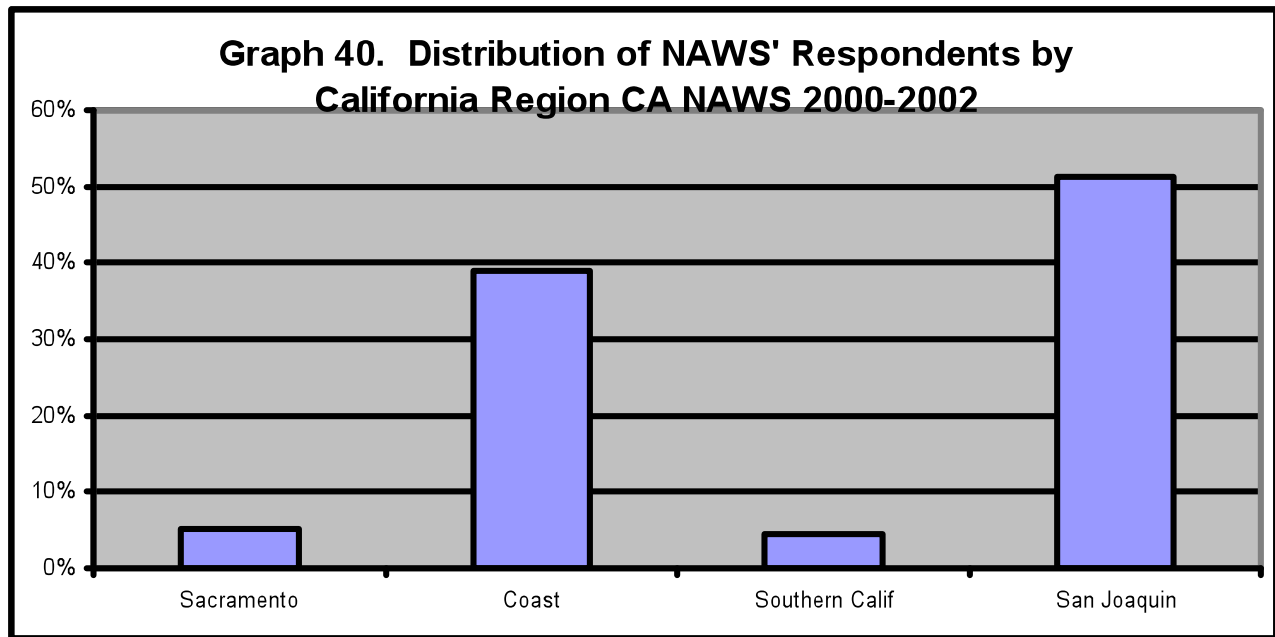
If you figure that farmworkers average about 1,280 hours a year (32 weeks) at about \$8 an hour, one would expect the average worker to earn about \$10,240 per year. In this context, the family earnings reported by the workers seem believable. The unaccompanied workers report earnings as a median (half more, half less) of between \$10,000 and \$12,500 a year; the ones living with a parent, spouse or children (the accompanied) earn as a median between \$12,500 and \$15,000 a year. The accompanied workers often have another person working, at least part time, to contribute to family income. It is clear from these income levels and the cost of living in California that many farmworkers live on the edge of subsistence.

Income varies not only by whether the family is with the worker but also by place of origin and where the work takes place in California. In Graph 38, we divide up the income scale into less than \$10,000 a year of family income (blue bar), between \$10,000 and \$19,999 (maroon bar) and above \$20,000 (yellow bar). Not surprisingly, the South (region of Mexico) has the highest percent (32%) less than \$10,000 and the least greater than \$20,000 (13%). The Northwest Center (the immigrant group with the deepest U.S. roots) and the Center (a group of recently arrived but somewhat better educated workers) appear to have the best paid workers. Both report 25% or more earn greater than \$20,000 a year.



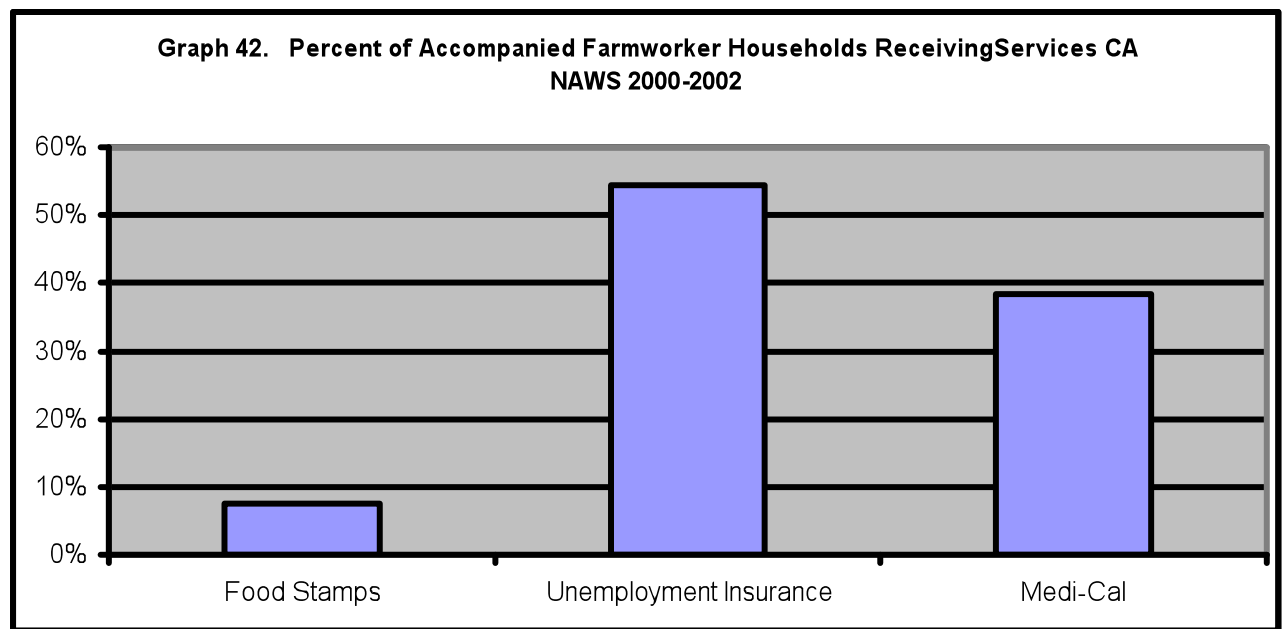
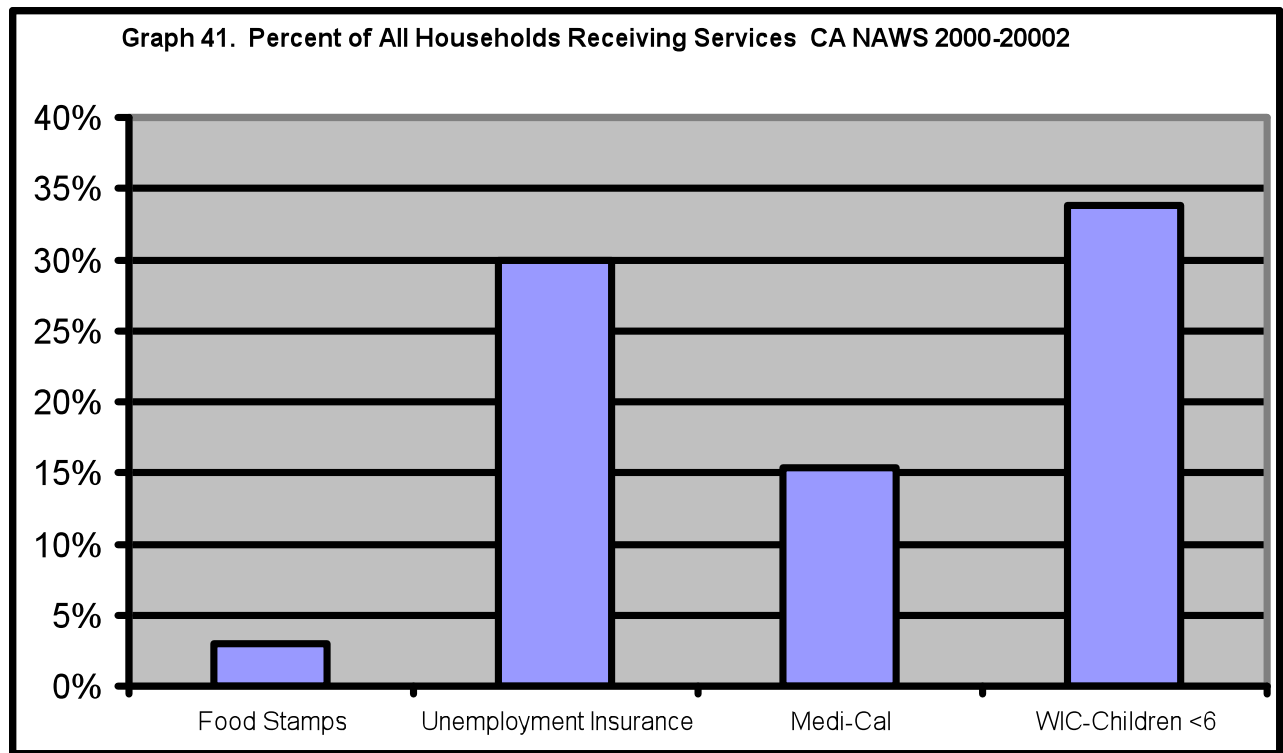
Graph 39 shows some interesting differences across the areas of California. The best paid area (possibly due to a high proportion of skilled machine operators) is the Sacramento Valley. Over half earn \$20,000 or more. The coastal area has over 30% who earn that much, while Southern California and especially the San Joaquin Valley have far fewer workers who earn \$20,000. In the San Joaquin Valley only about 16% earn \$20,000 or more. Please recall that most workers are on the Coast and in the San Joaquin Valley. See Graph 40 below for the distribution of the NAWS' respondents.





Government Services Received by Farmworkers

Despite the low incomes of this working poor population, relatively few receive government services. The NAWS asks if anyone in the family has received any of a series of services in the two years before the survey. According to the NAWS, four programs have significant numbers of farmworker clients. In Graph 41, we observe that for those with children less than 6 years old living with them in the United States (about 17% of all farmworkers have small children) more than one third receive the food program for Women and Infants (WIC). For all farmworkers, 3% receive Food Stamps, 15% receive Medi-Cal and 30% receive Unemployment Insurance (UI). If we limit the respondents just to workers accompanied by their spouse, children or parents, we get higher percentages (see Graph 42). For these accompanied workers and their families, 8% collect Food Stamps, 38% get Medi-Cal, and 54% receive Unemployment Insurance. For the unaccompanied farmworkers almost none receive any services with the exception of Unemployment Insurance; 15% of the unaccompanied received these payments in the two years before the interview.

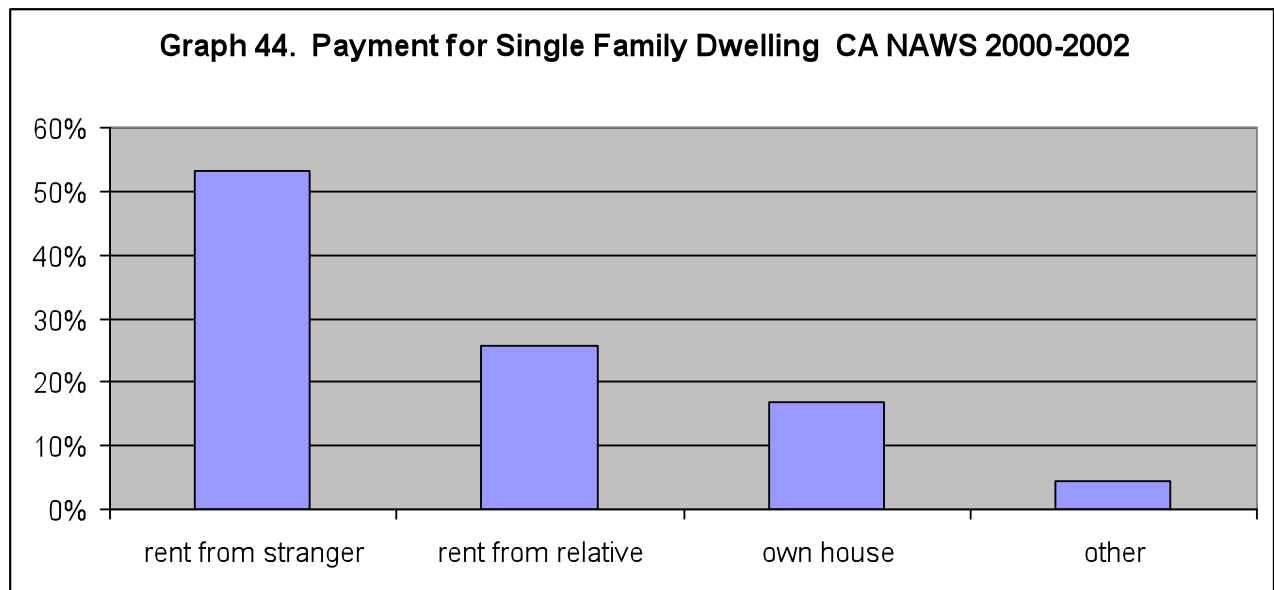
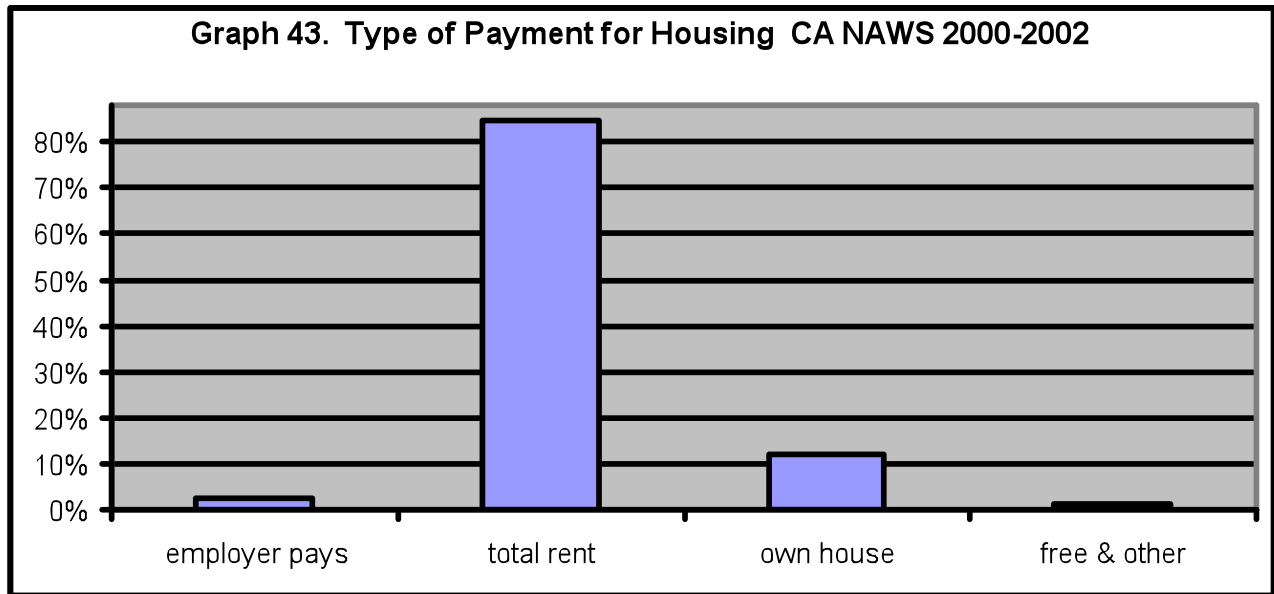


Living Conditions

Data on farmworker housing is difficult to gather in a national survey. Often the interviewer is not at the house and it is difficult to pin down the respondent on his exact living conditions. However, the NAWS does establish certain crucial facts about farmworker housing. First, very few (5%) farmworkers in California actually live on the farmer's land while another 2% rent from the grower but off of his land. Fully 93% live in a situation independent from the employer. The employer only provides free housing for the farmworker less than 3% of the time and this rarely includes

family housing. The overwhelming majority (85%) rent, while 12% own their dwelling place (see Graph 43). A small percentage are living free with relatives.

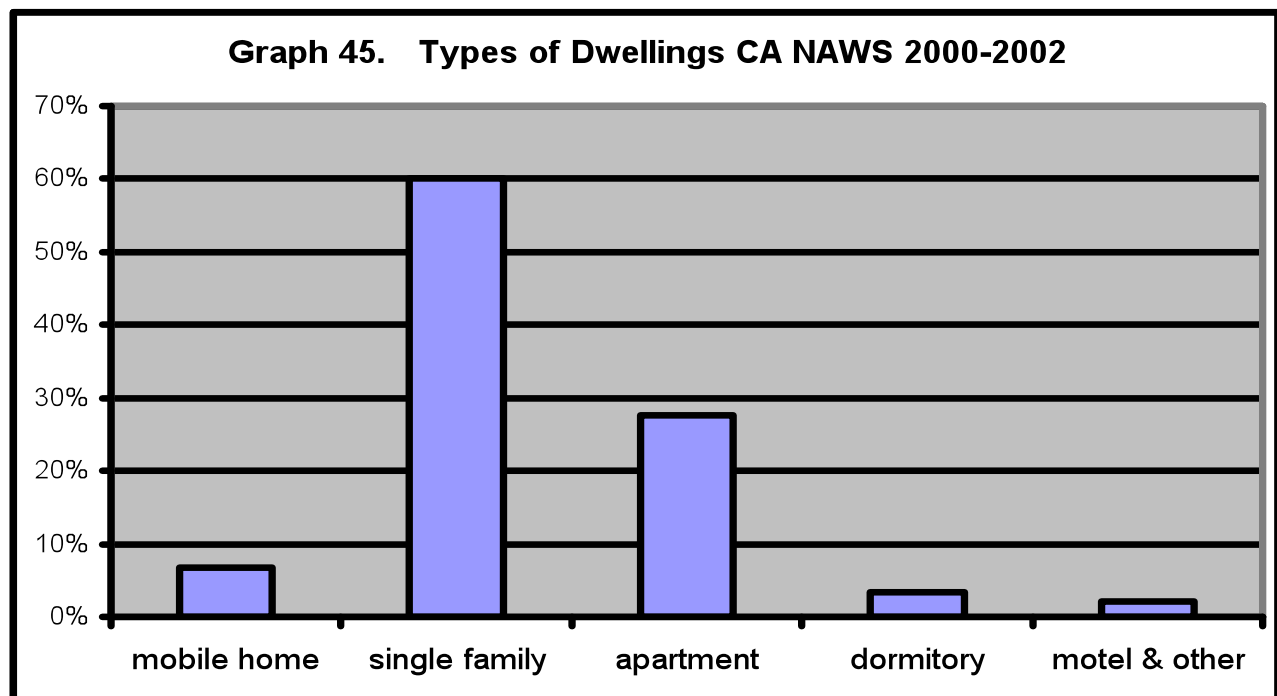
The renters include the majority who rent from private landlords, but also those who rent from relatives, their employers or live in government-subsidized lodgings. Although 12% own homes, crowded conditions may prevail in these dwellings. There is much evidence of doubling up families and of lodging many solo males in farmworker dwellings. You can see in Graph 44 that about one fourth of those occupying single family dwellings rent from a relative, 54% rent from a stranger and only 17% actually own their single family dwelling. Even in the apartments, almost one fifth of farmworkers who rent an apartment do so from a relative. This implies doubling up of families and individuals



Although the vast majority of farmworkers are renters, the majority (60%) actually live in single family dwellings. Another 28% live in apartments or multiplex buildings while 7% live in mobile homes and 4% live in dormitories. Another 2% live in motels or in other dwellings (see Graph 45). Some unknown percent lives without shelter. Again, the increasingly crowded nature of farmworker housing is not shown by these numbers but has been shown by other studies (see Mines, R. slide show on the town of Mendota).

Table 20. People per Room		CA NAWS 2000-2002					
		2002					
	All Workers		Unaccompanied		Accompanied		
	Mean	median	Mean	median	Mean	Median	
9 or less	2.3	2.0	2.6	2.3	2.0	2.0	
10 or more	4.6	3.3	5.0	3.3	2.8	2.5	

The NAWS asks how many people sleep at the dwelling and how many rooms are used for sleeping. Admittedly, this is a very crude measure of crowdedness. Still, the results are suggestive. In those households with 9 or fewer people, the median is two people per room but the mean or average is higher, 2.3 people (See Table 20, columns 2 & 3). For the dwellings with 10 or more residents, the people per bedroom is much higher--the median is 3.3 and the mean is 4.6. If we look at unaccompanied workers than we see even worse crowding--for groups of 10 or more the average is 5 people per room (Table 20, columns 4 & 5). Not surprisingly, the accompanied workers (those living in nuclear families) have lower averages but still the crowding is remarkable in these settings too--they average of 2.0 per room with fewer than 9 people in the dwelling (see Table 20, columns, 6 & 7).



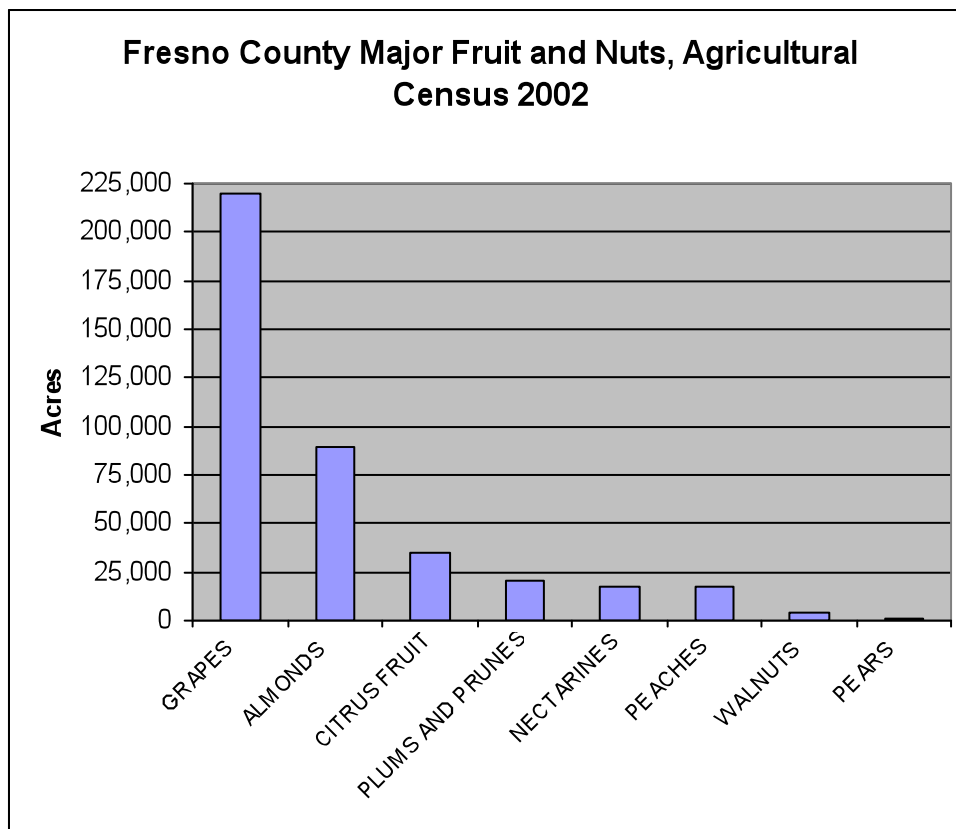
VIII. Details on 15 Counties and the Sacramento Valley

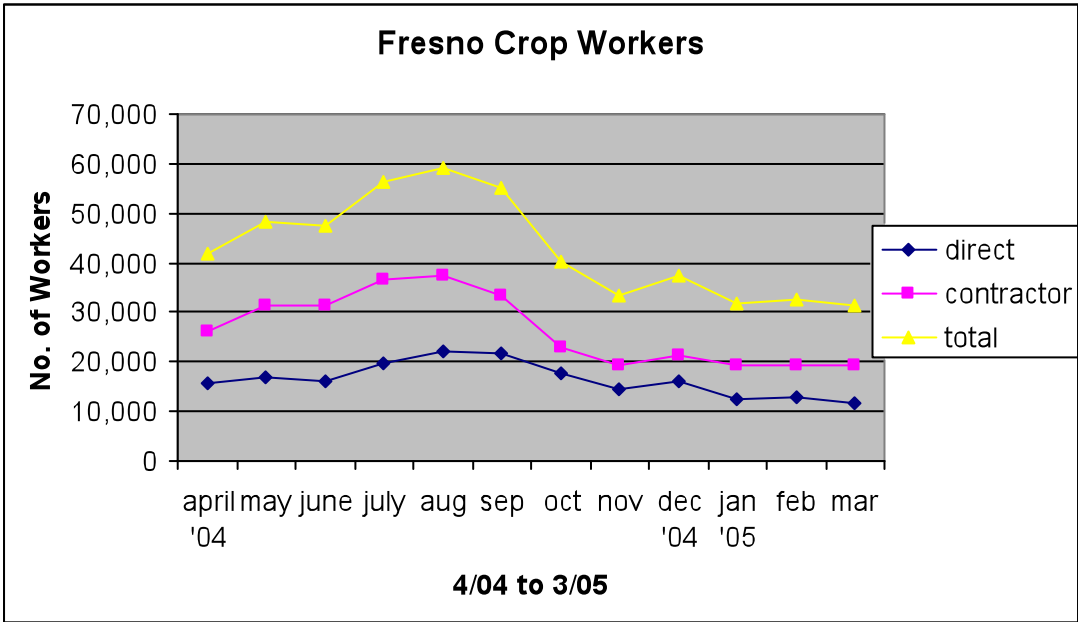
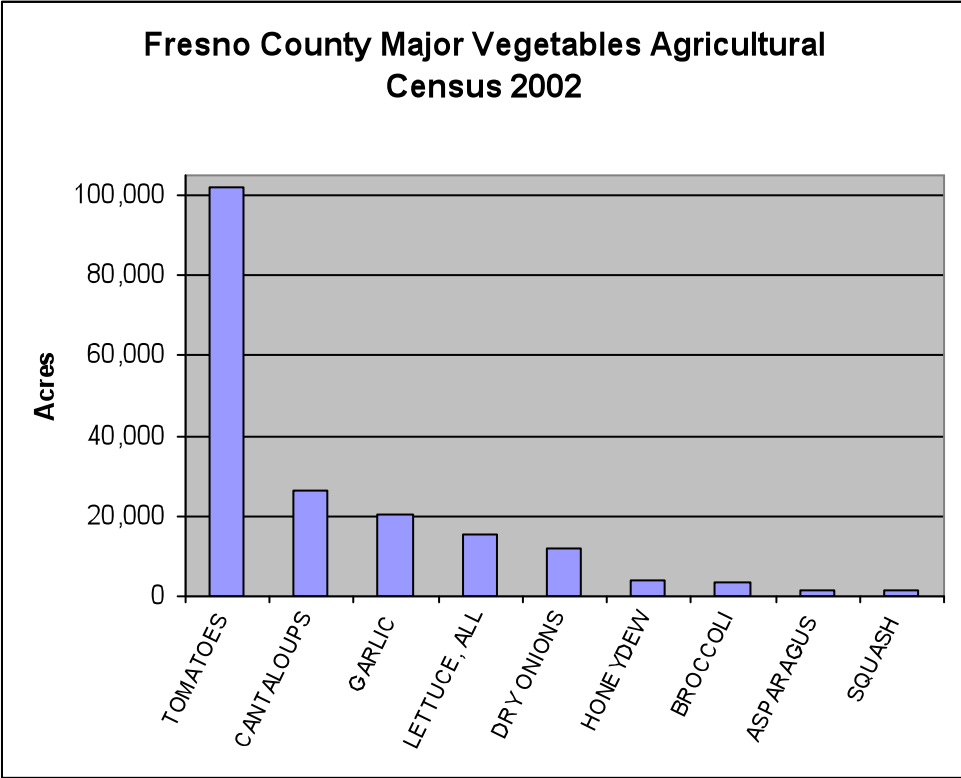
Introduction to Chapter VIII.

In each of the 15 alphabetized county sections below the reader will see two types of graphs. First, in the cases where production exists, graphs that show the acreage of fruit and nut and vegetable production are shown to provide insights into the major crops in the county. Then, a graph showing the labor demand in the area through the year is shown. The year chosen is the most recent available from EDD, October 2004 to March 2005. The final section is on the Sacramento Valley that also includes acreage graphs on grains and field crops. Text accompanies the graphs to explain the sources of labor demand in each area.

Fresno County

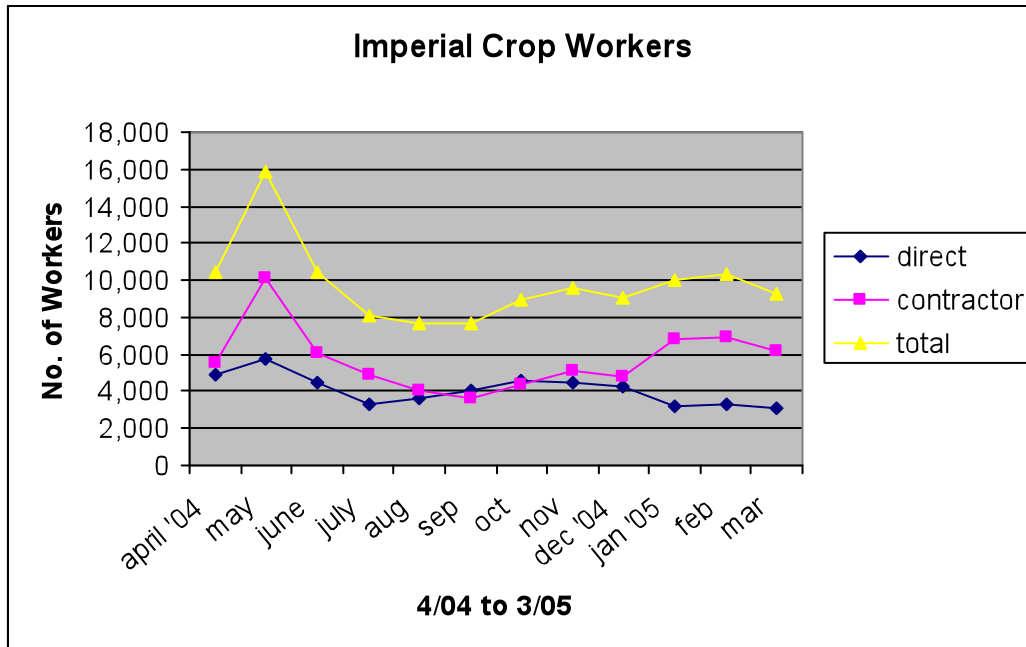
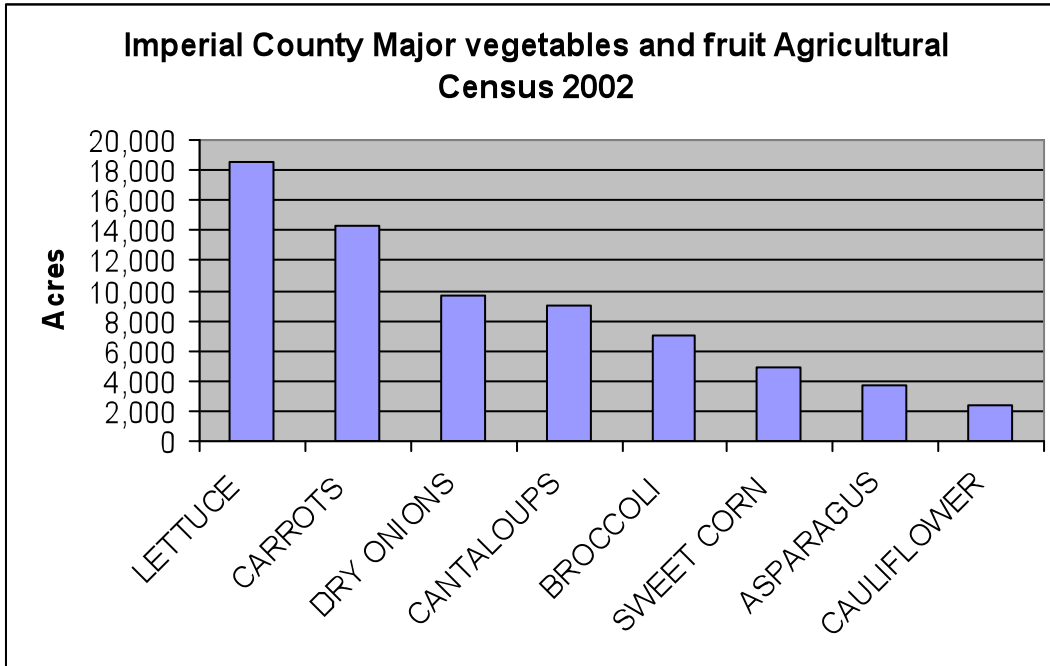
Fresno's main labor intensive crops are fruits and nuts and vegetables. It also has a limited amount of berries. The main fruit labor users are grapes and citrus; peaches, plums and nectarines are also important. The large nut production is not labor intensive but its huge acreage uses a mostly long term labor force. In vegetables, the fresh melons in the fall and lettuce in the spring and fall are important. There are over 7,000 acres of fresh tomatoes--a big labor user. The more than 90,000 acres of processing tomatoes also use substantial labor. There are limited amounts of broccoli, asparagus and squash. Garlic and tomatoes also use labor though these crops are mostly for processing. The county uses mostly contractors with peaks in August.





Imperial County

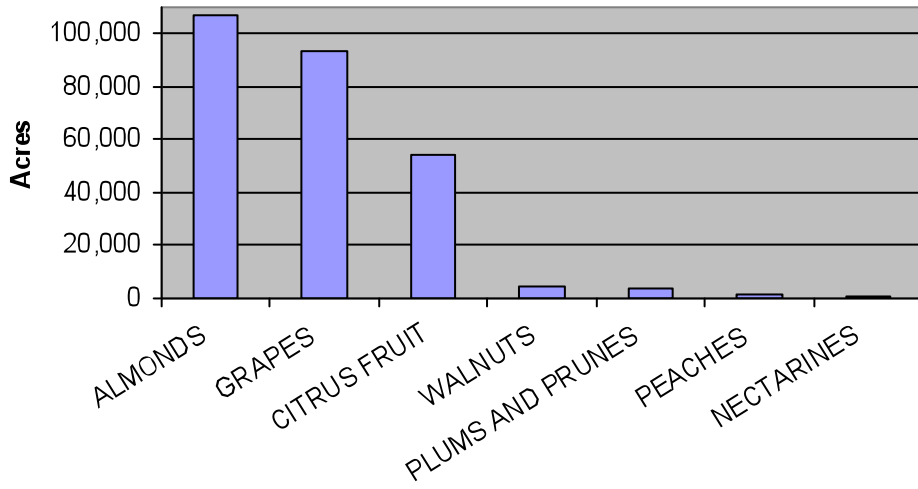
Imperial has big production in labor intensive vegetables such as lettuce, carrots, broccoli, asparagus and cauliflower. These have long seasons but are not harvested in the summer months. Cantaloupes also have winter/spring cycle. Onions are in part machine harvested and use less labor. There is also almost 5,000 acres of citrus.



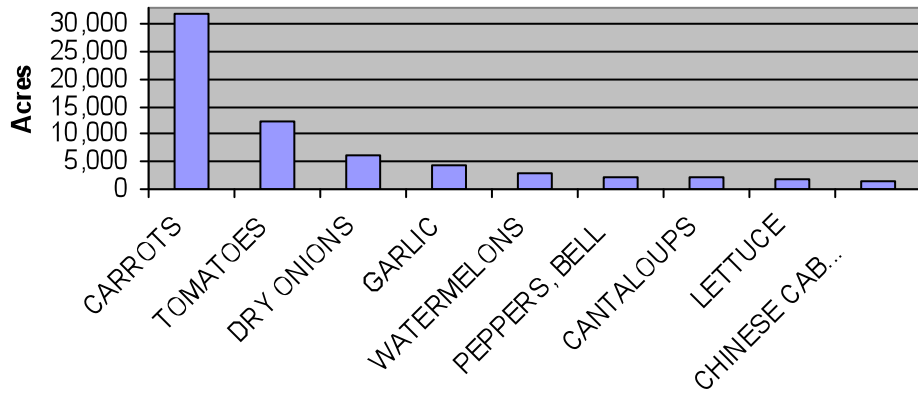
Kern County

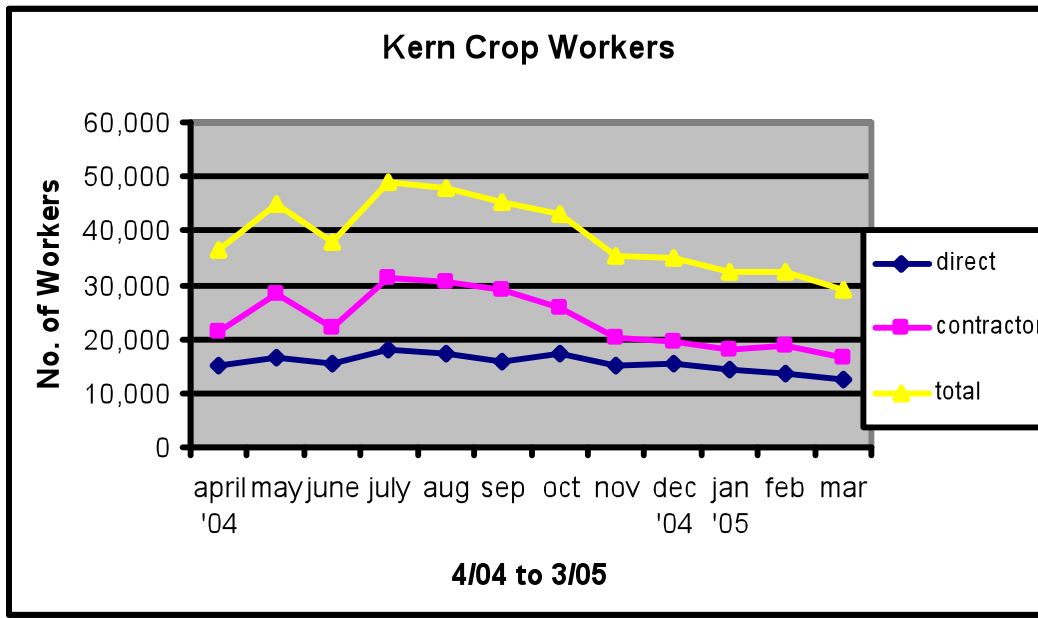
Kern County's major labor intensive crops are huge acreages of citrus and grapes. Although not labor intensive per acre, almonds by virtue of their expanse are also important labor users. In addition, vegetables are important, especially carrots. There are also over 800 acres of fresh tomatoes. The demand for directly hired workers on Kern's large farms is fairly constant while the contracted labor stays high from May to September.

Kern County Fruits and Nuts, Agricultural Census 2002



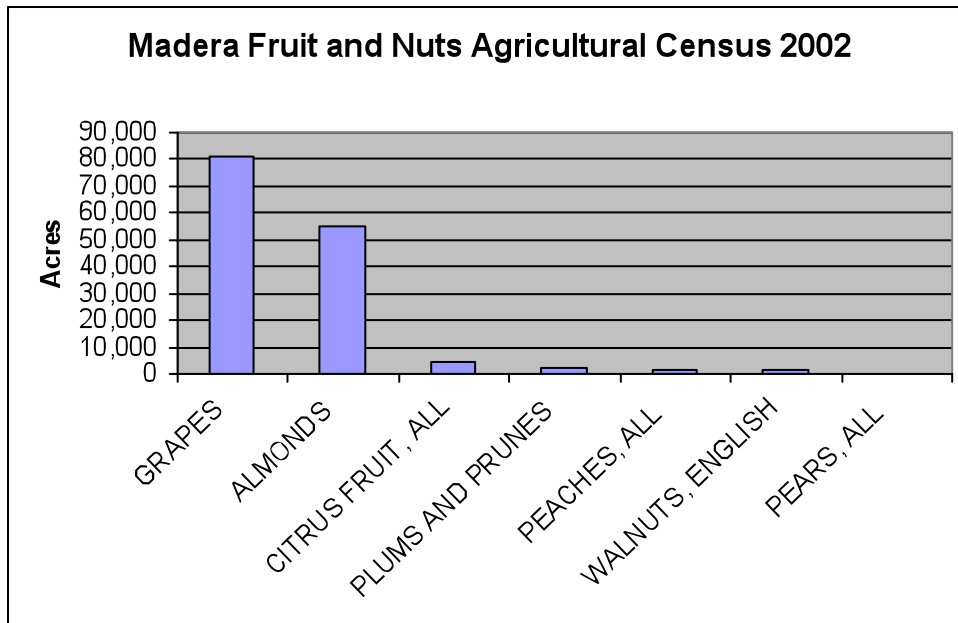
Kern County Vegetables, Agricultural Census 2002

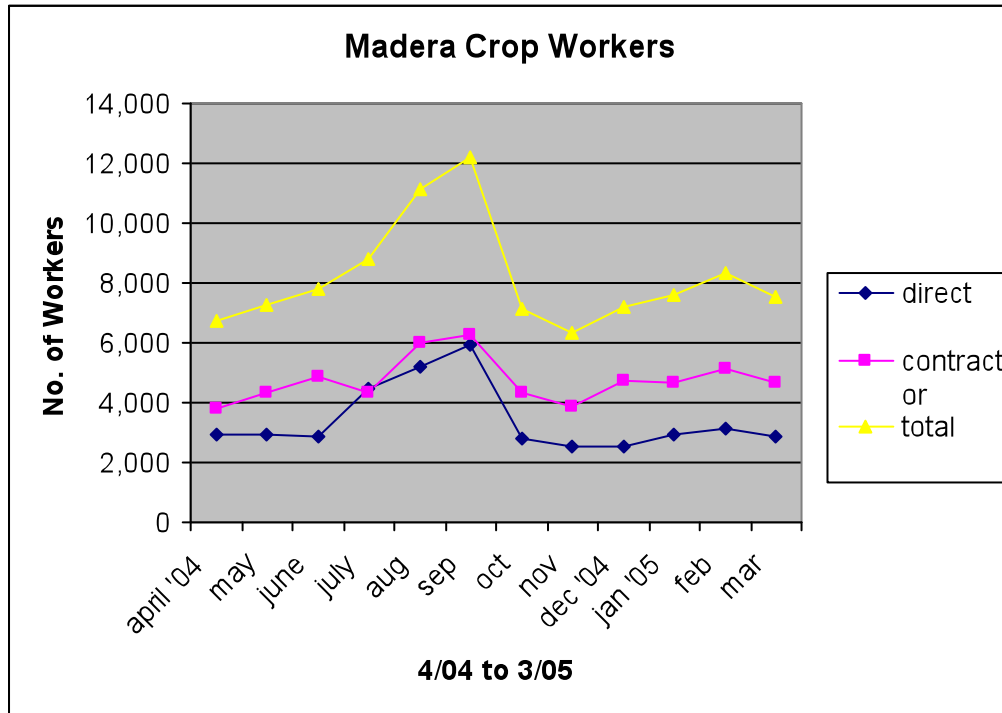




Madera County

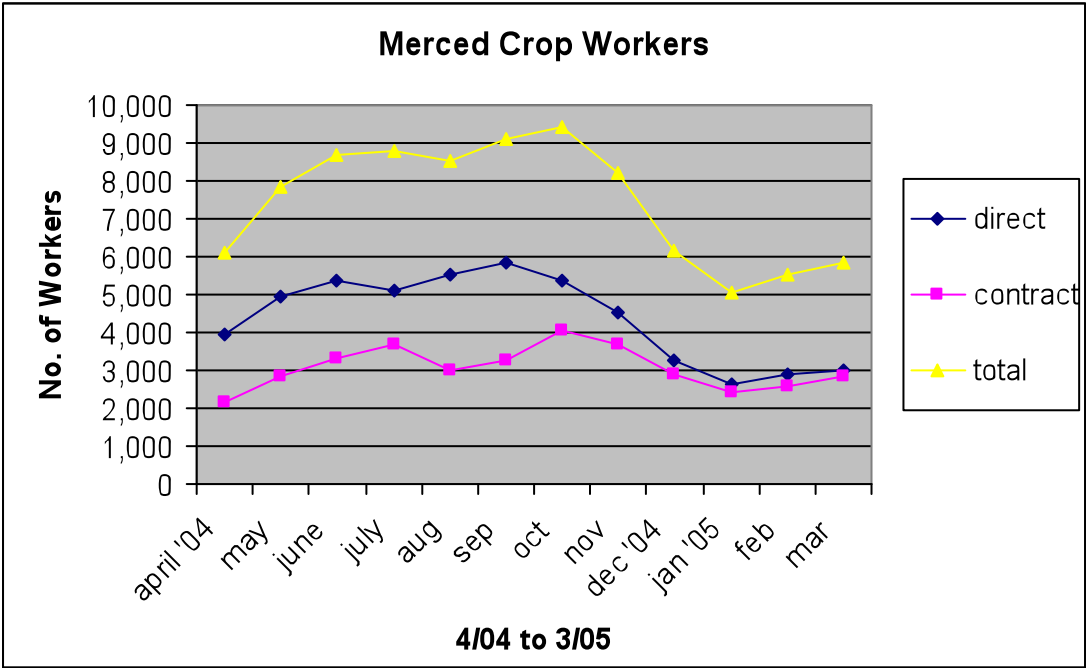
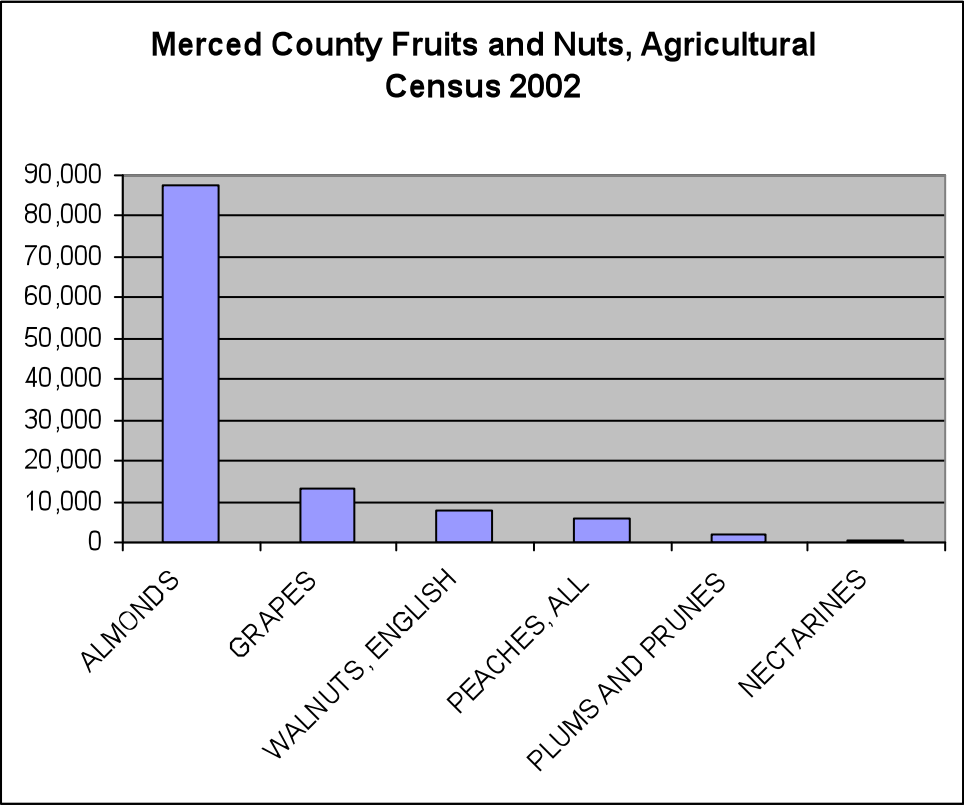
Madera County has large numbers of grape workers. In addition, almonds occupy many year round workers. It has small quantities of peaches, plums and pears that are very labor intensive. Its main vegetables are sweet corn and tomatoes. It has over a thousand acres of fresh tomatoes that are quite labor intensive. It uses mostly contract labor with a peak in September for the grape harvest.





Merced County

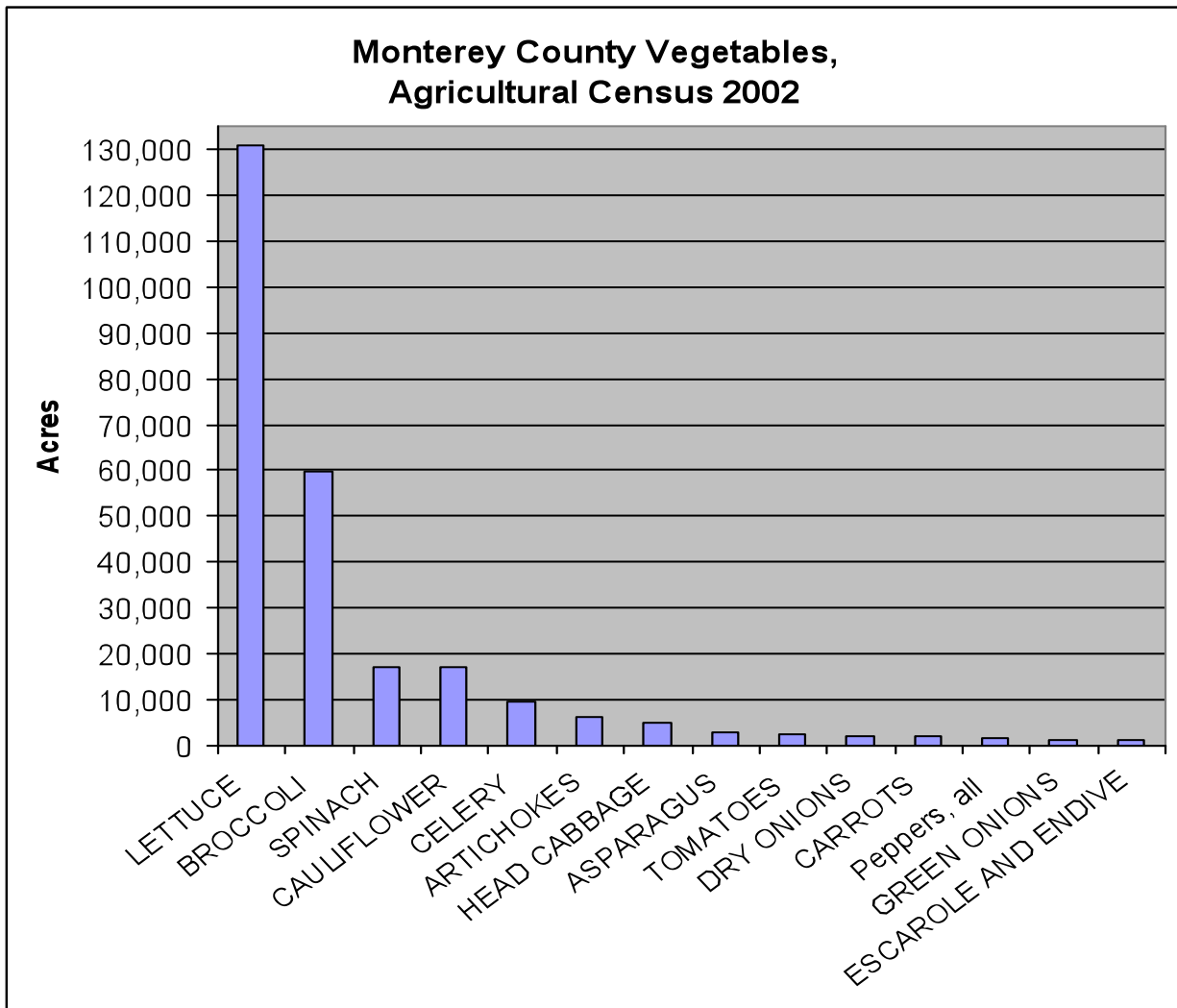
Many year round workers in Merced County are involved in the enormous almond production. There are also substantial acreages of labor intensive grapes, peaches, plums, and nectarines. There is a very large fresh tomato industry over 12,000 acres in Merced, plus over 4,000 acres of cantaloupes. The 22,000 acres of processing tomatoes also occupies labor. Merced also has over 300 acres of berry crops. As we pointed out above, there are large dairy and beef industries in Merced. Contractors make up the minority of workers in Merced county.

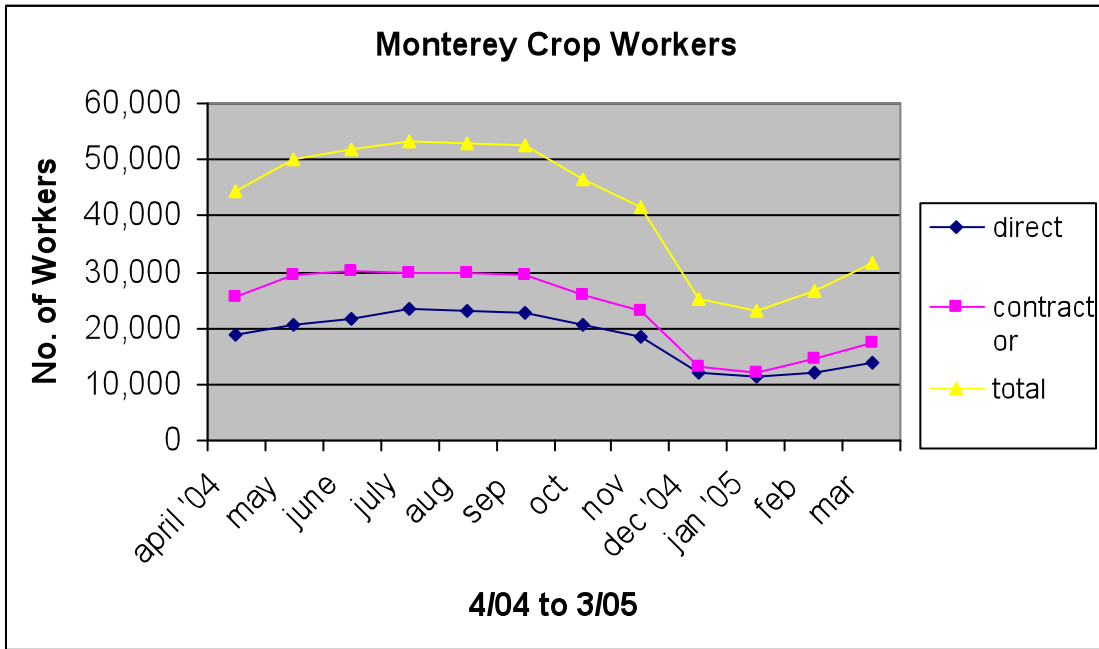


Monterey County

Monterey County specializes in vegetables but has some vineyards and orchards. It has almost 40,000 acres of grapes and a bit less than 400 acres of avocados. Both of these are labor intensive

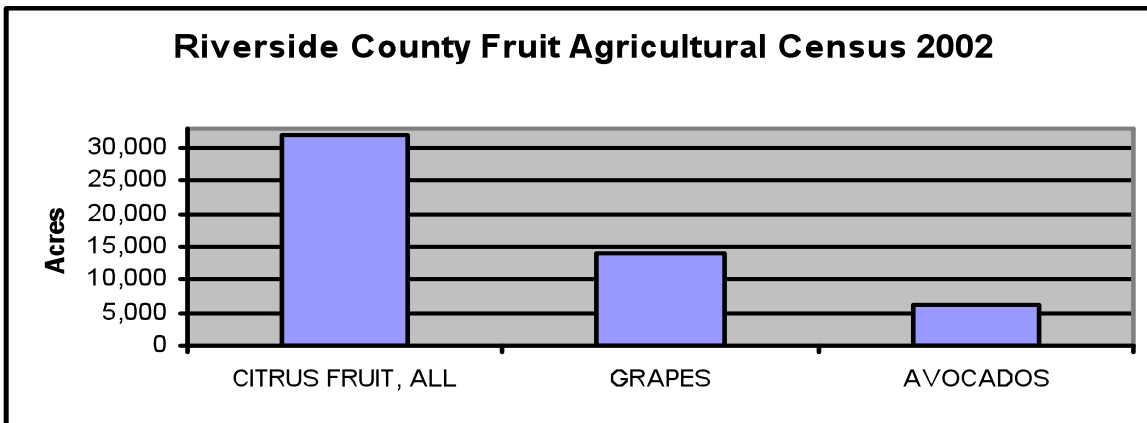
although the wine grapes are mostly mechanized for the harvest tasks. The vegetable acreage is huge and varied. The biggest ones are lettuces, cabbage family, spinach and celery. Lettuce alone is over 130,000 acres. The size of the farms are huge, lettuce and broccoli average over 1,000 acres each. In addition, Monterey has a huge berry industry with almost 13,000 acres of production, over a third of the state total. The production of the commodities benefiting from temperate weather is fairly constant from April to October but falls off in the winter. By March, demand for labor is climbing again. Peak season labor is mostly contract workers. There are a large number of workers as well in the nursery industry in the county. The county has 3 million square feet of covered production.

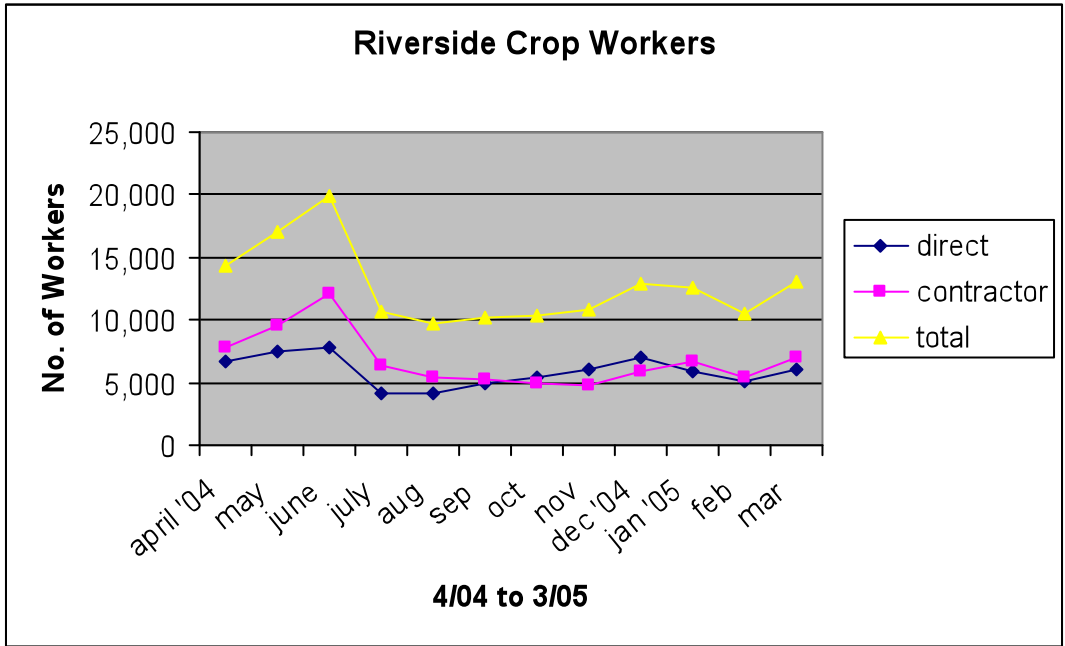
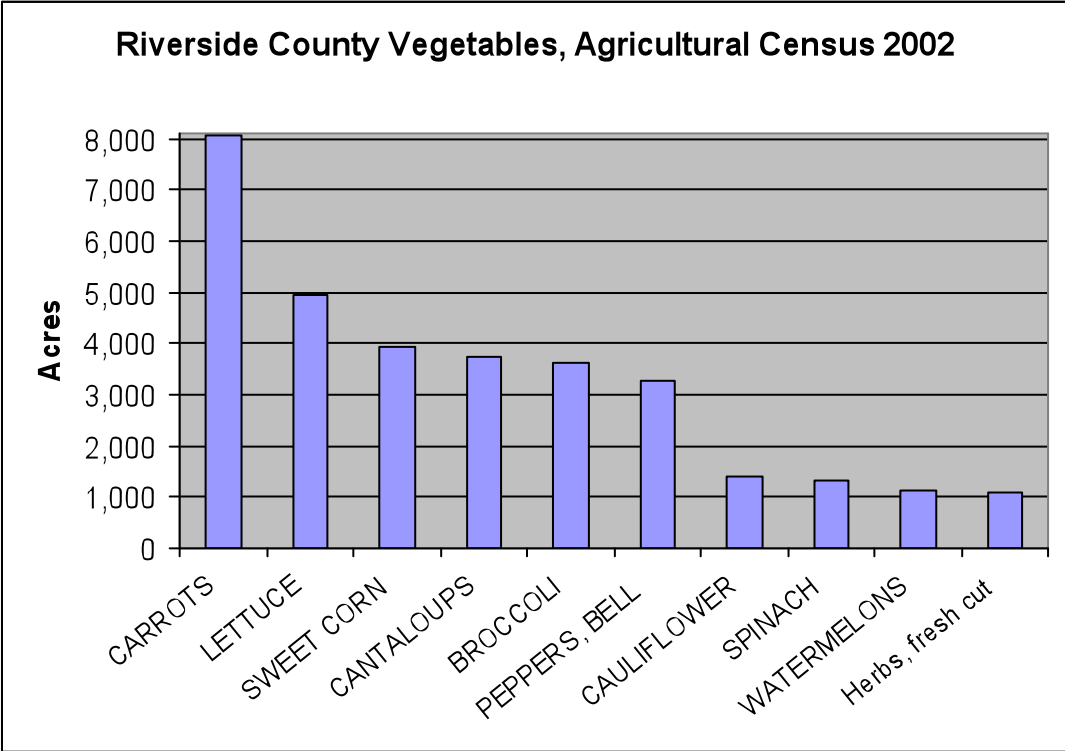




Riverside County

Riverside county has two major production areas in West County and another in the Coachella Valley. In the Coachella Valley, the table grapes are very labor intensive. In both sections, avocados and citrus are grown. Vegetables and melons are also big crops. There are over 8,000 acres of Carrots but lettuce, sweet corn, cabbage family, melons, peppers, spinach and even fresh cut herbs are also major labor users. The season has a definite peak in April and May which reflects the heavy labor using table grape harvest in East Coachella. Riverside also has a significant nursery industry with over 5 million square feet of covered production.

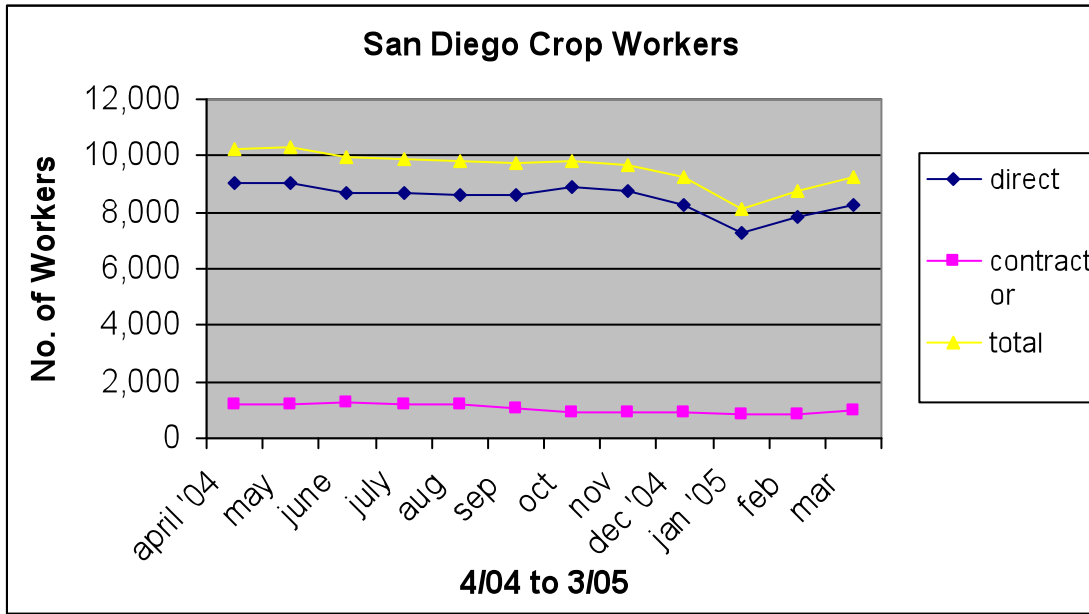
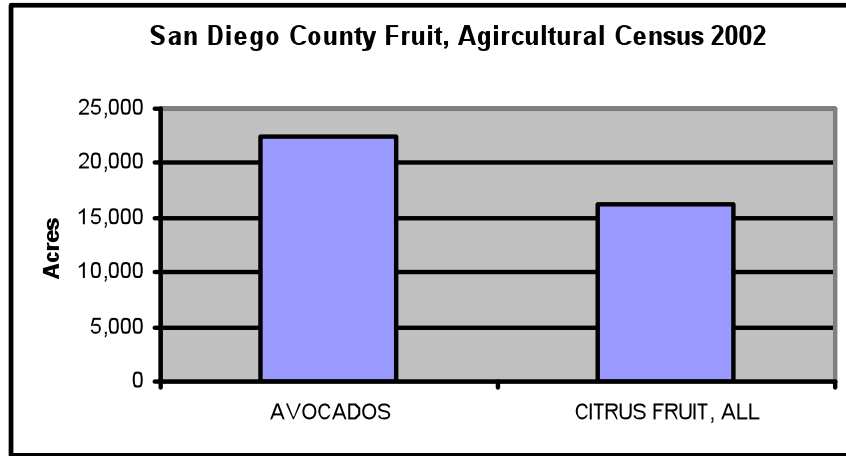




San Diego County

San Diego uses farm labor mostly in its nurseries along the coast. With 43 million square feet under cover, it is by far the biggest nursery county. It also has significant orchards of avocados and citrus that are located mostly inland. In addition, near the coast are small amounts of strawberries and

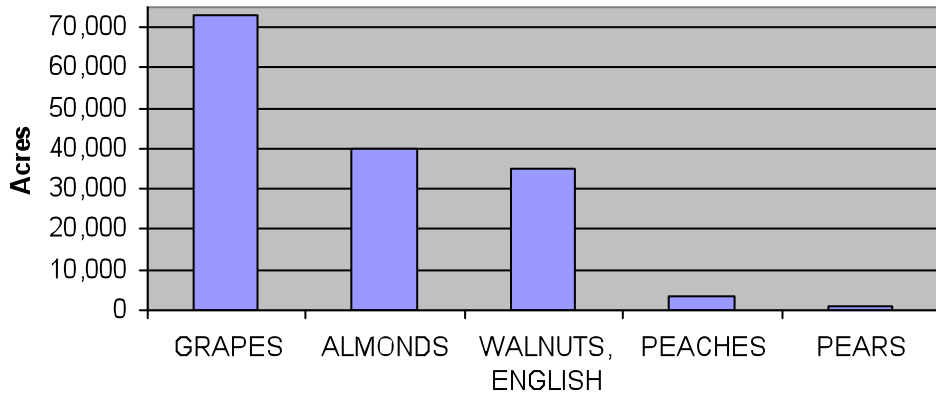
fresh tomatoes. These latter have some of the worst labor conditions in the state. Few contract workers are used and there is little seasonal variation in labor demand in San Diego.



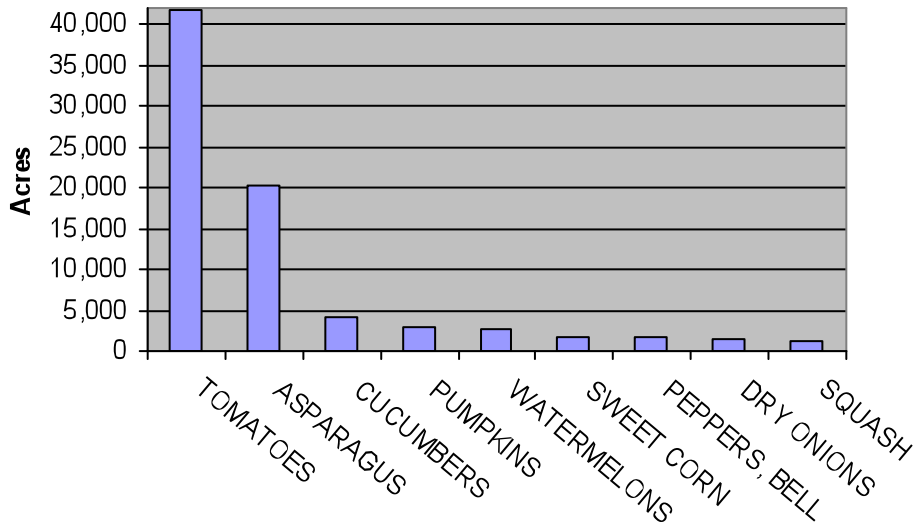
San Joaquin County

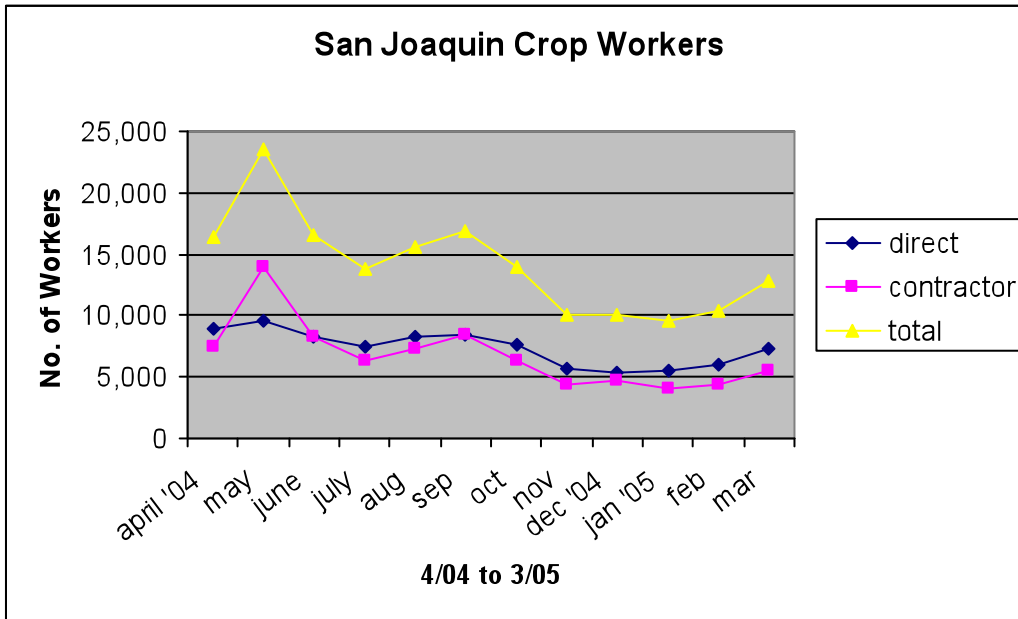
San Joaquin County has a large variety of crops. Grapes are large labor users and peaches and pears are also significant. Almonds and walnuts are important and occupy mostly year round labor. In addition, there are an array of vegetables including 20,000 acres of asparagus mostly in the Delta region plus cucumbers, squash, peppers and sweet corn. It has over 8,000 acres of fresh tomatoes, plus 17,000 acres of processing tomatoes that use a significant amounts of labor. There is a large nursery industry with almost 5 million square feet of covered space. The labor is over half contract with a peak in May.

San Joaquin County Fruits and Nuts, Agricultural Census 2002



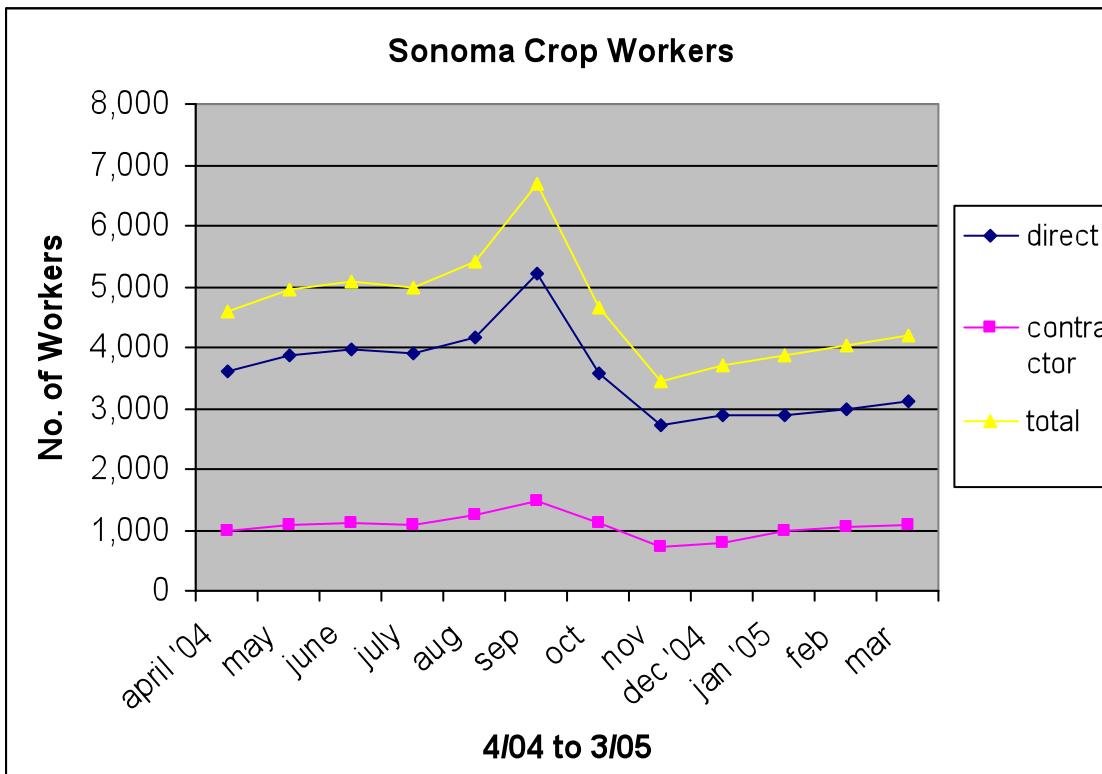
San Joaquin County Vegetables, Agricultural Census 2002





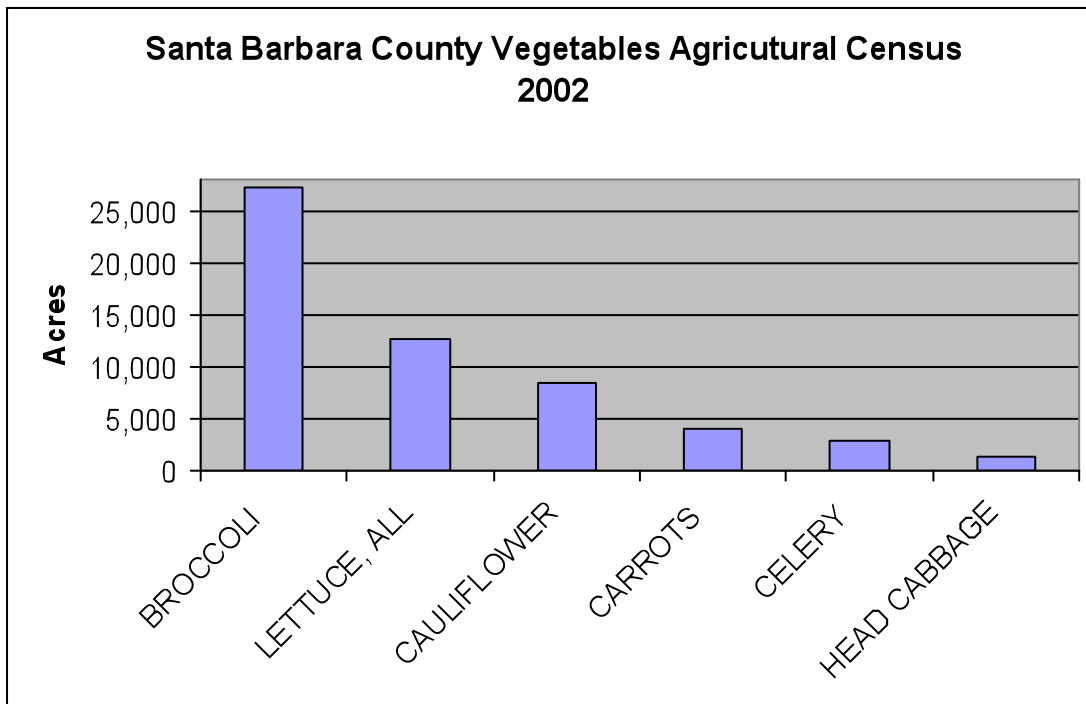
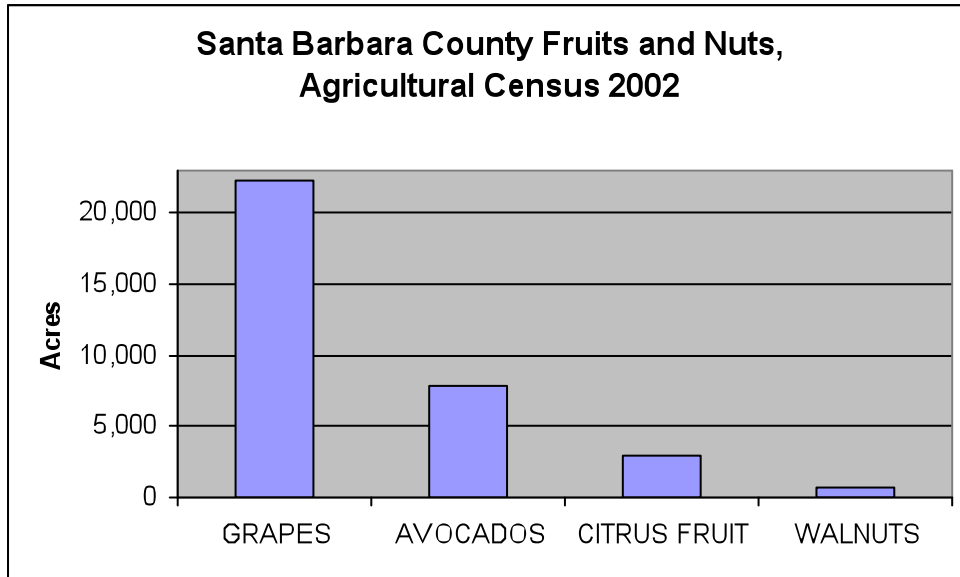
Sonoma County

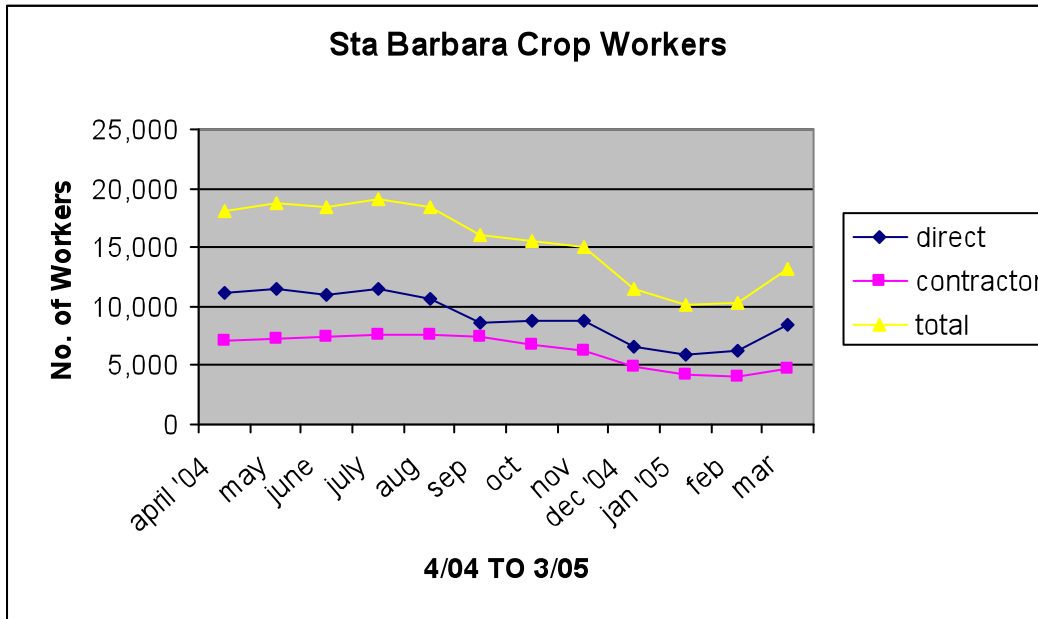
Sonoma has farmworkers employed primarily in wine grapes and in the nursery industry. It has over 3 million square feet of nurseries and over 45,000 acres of wine. Mostly directly hired workers are used with a peak in September.



Santa Barbara County

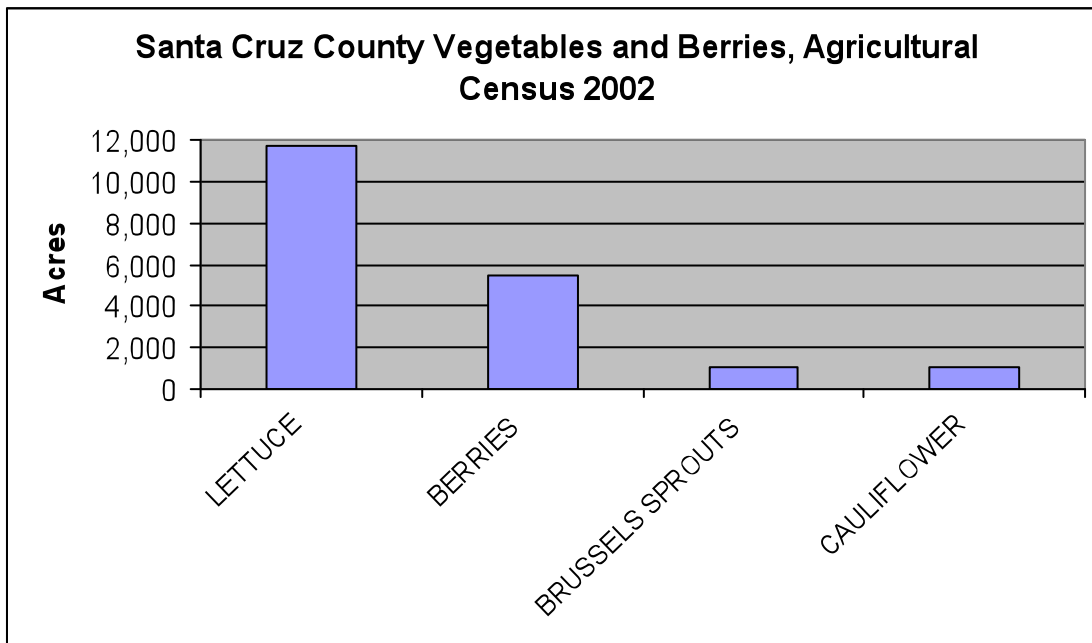
Santa Barbara uses workers in major acreages of grapes, avocados, citrus fruit. It also has major plantations of cabbage family, lettuce, carrots and celery. Berries are important in Santa Barbara with almost 4,000 acres harvested a year. In addition, nursery crops are large with over 14 million square feet of covered production. Contract labor is in a minority. Labor peaks in the spring and summer.

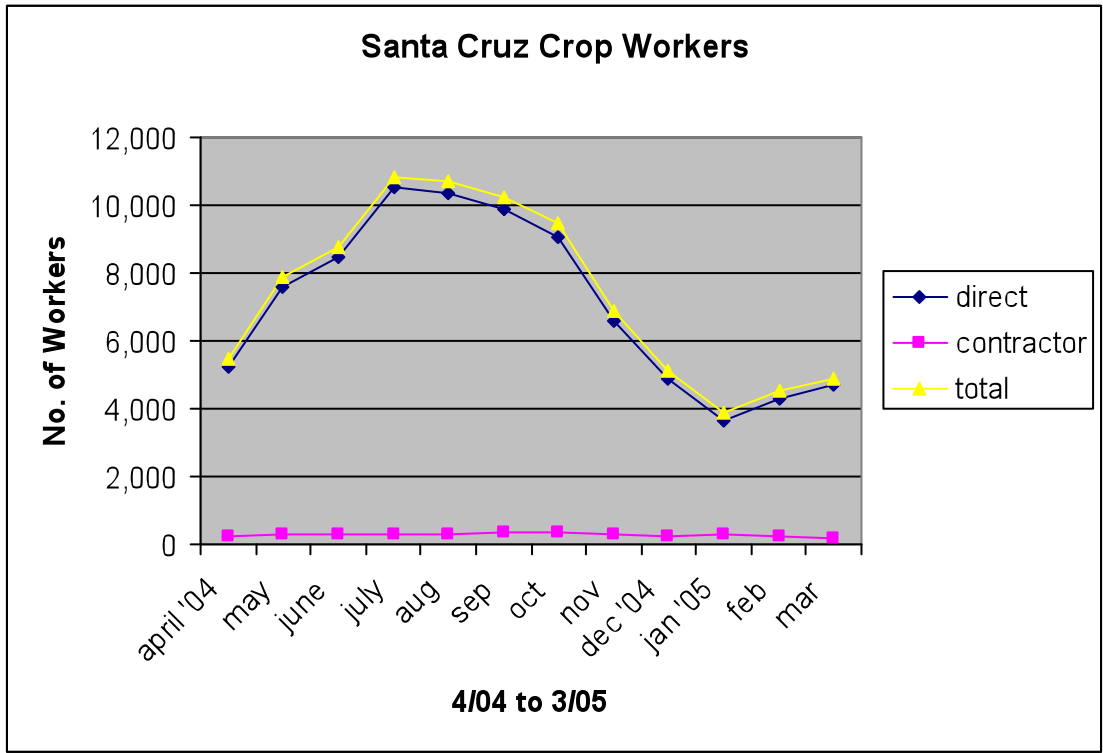




Santa Cruz County

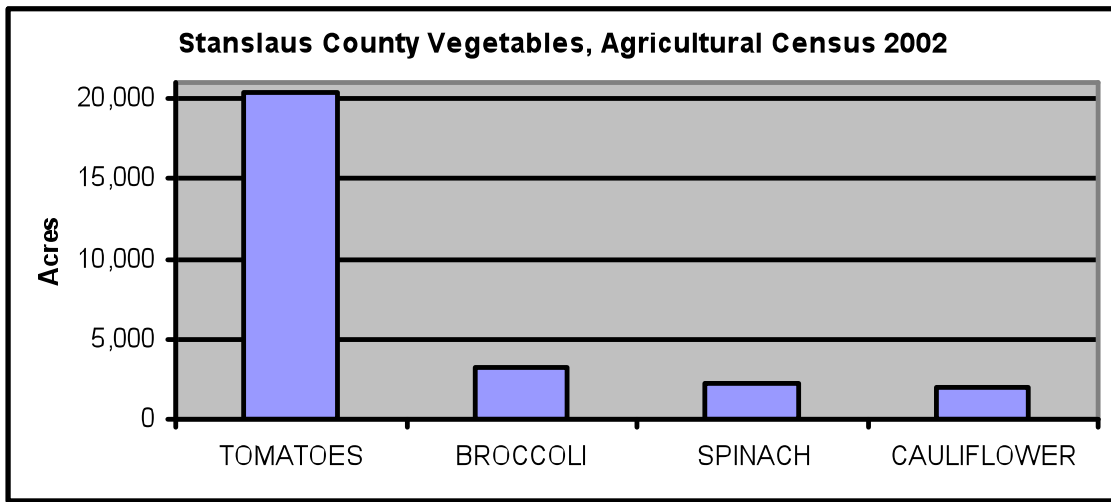
Santa Cruz qualifies as one of the top fifteen due to its vegetables and berries. It also has a large nursery industry with almost 14 million square feet. It has its seasonal peak of labor demand with very few contract workers in the Spring and early Summer.



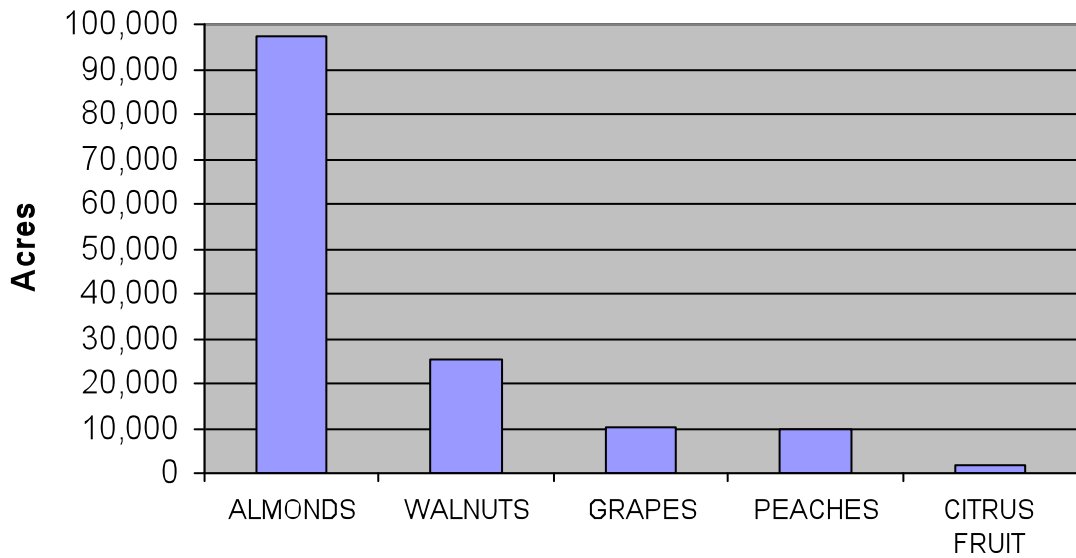


Stanislaus County

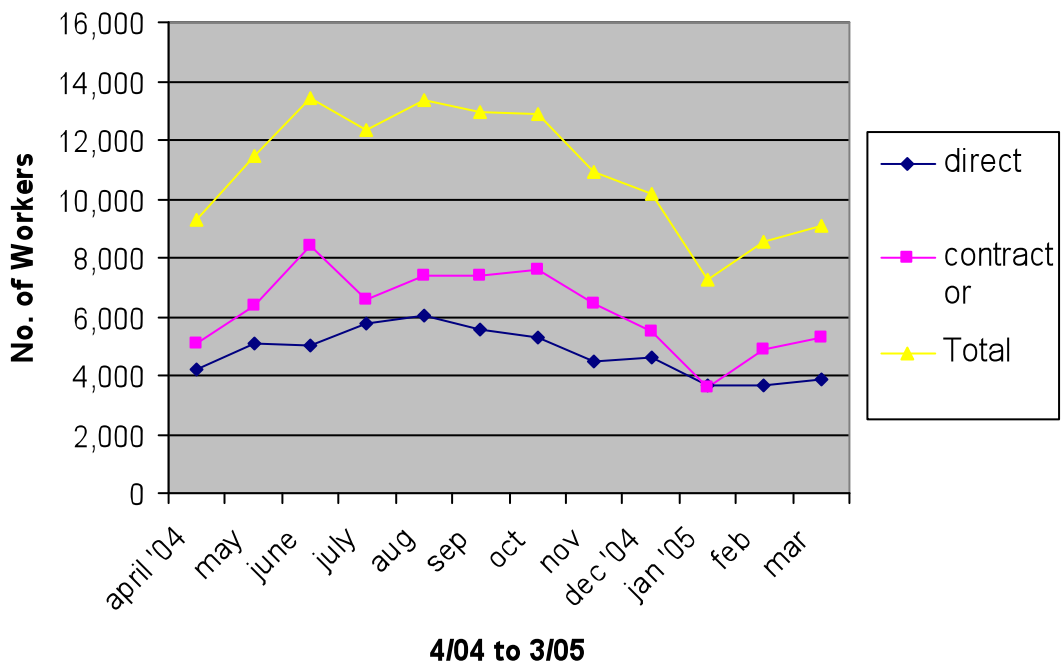
Stanislaus County has varied employment. Large numbers work year round in the nut industries because of the large acreage. But, also grapes, peaches and citrus fruits and tomatoes, broccoli, spinach, spinach and cauliflower provide seasonal work. Over 800 acres of processing tomatoes provide employment as well. Most work is done by contractors with a fairly constant peak through the Spring and Summer.



Stanislaus County Fruit and Nuts, Agricultural Census 2002

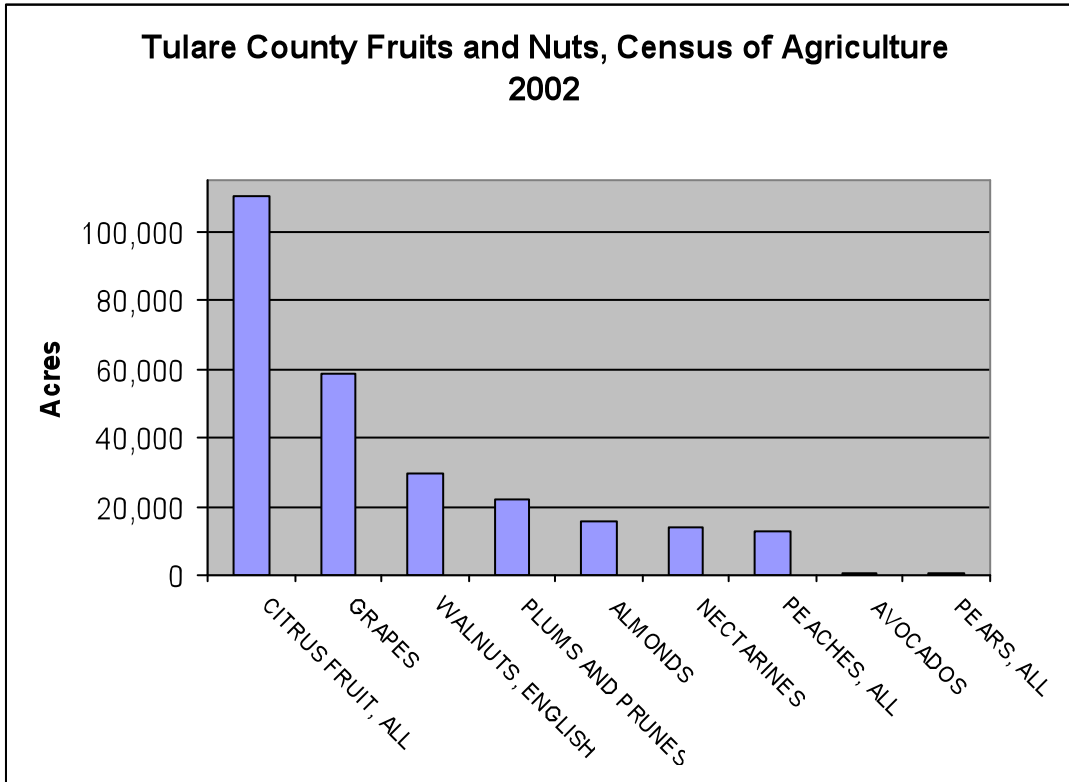


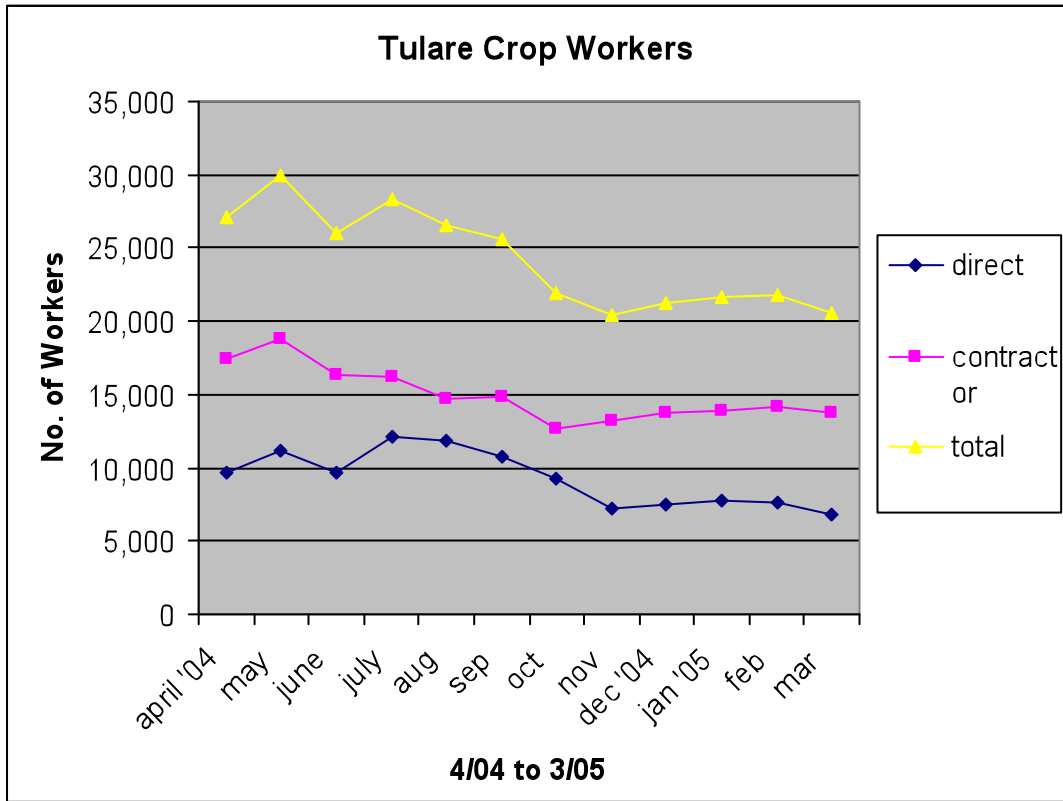
Stanislaus Crop Worker



Tulare County

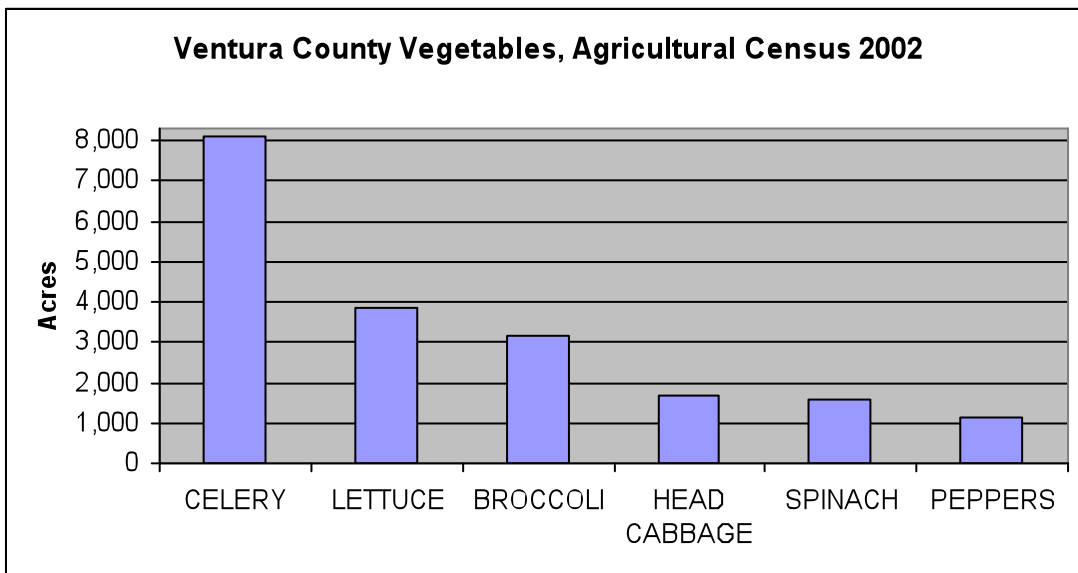
Tulare County is one of the oldest agricultural areas. The Kaweah Delta had a substantial farming sector in the late 19th Century. Citrus work is done both winter and summer (Navels and Valencias) and the table grapes have several labor demanding tasks throughout the year. Other orchard crops like plums, nectarines, and peaches are big labor users. There are some vegetables, broccoli and spinach both having over 1,000 acres. Contract work represents the majority of workers. There is also a large demand for dairy and other livestock workers. The demand for labor is fairly flat through the year with a peak in the Spring.

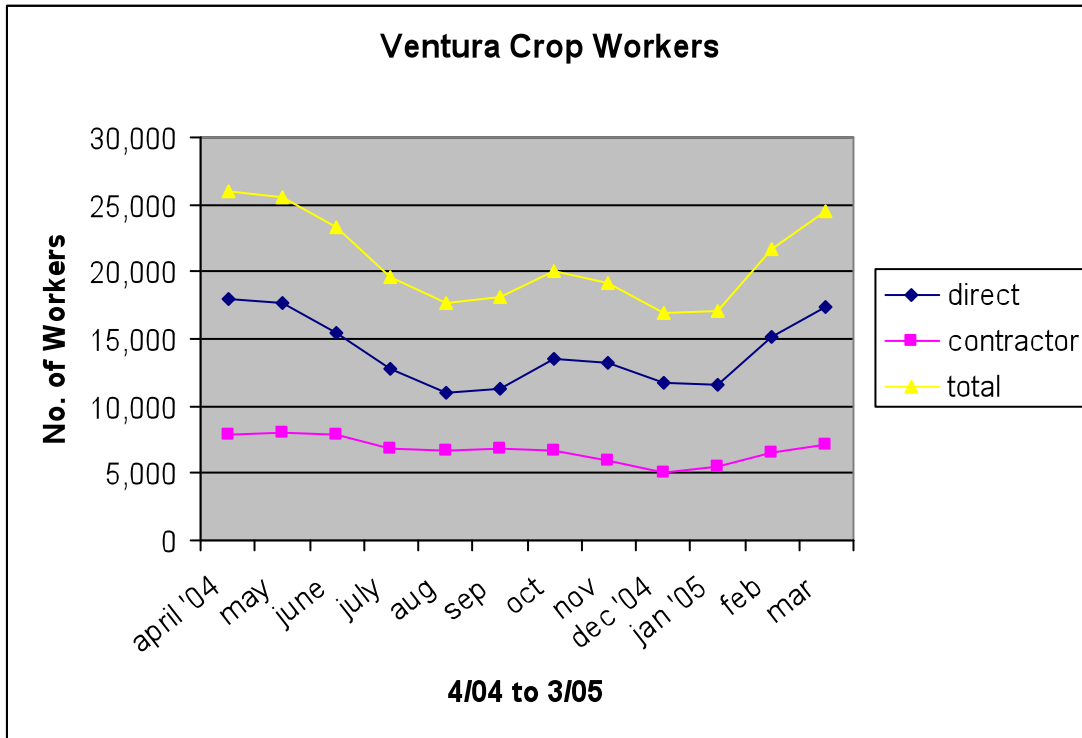




Ventura County

Ventura has four sources of labor: berries, nurseries, vegetables plus citrus and avocados. Citrus has more than twice the acreage of avocados. There are also several labor-intensive vegetable crops. Celery with 8,000 and lettuce with 4,000 acres are the two biggest users of labor. Ventura also has 11% of the nursery area in the state with over 20 million square feet of protected nursery production.

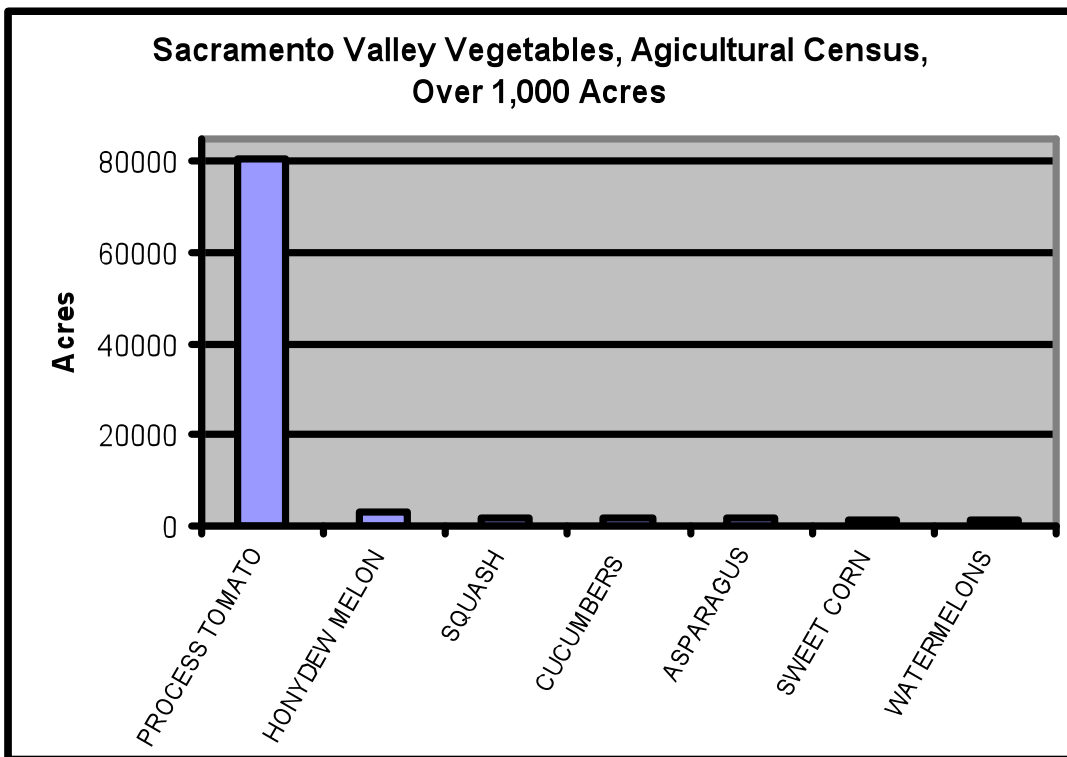
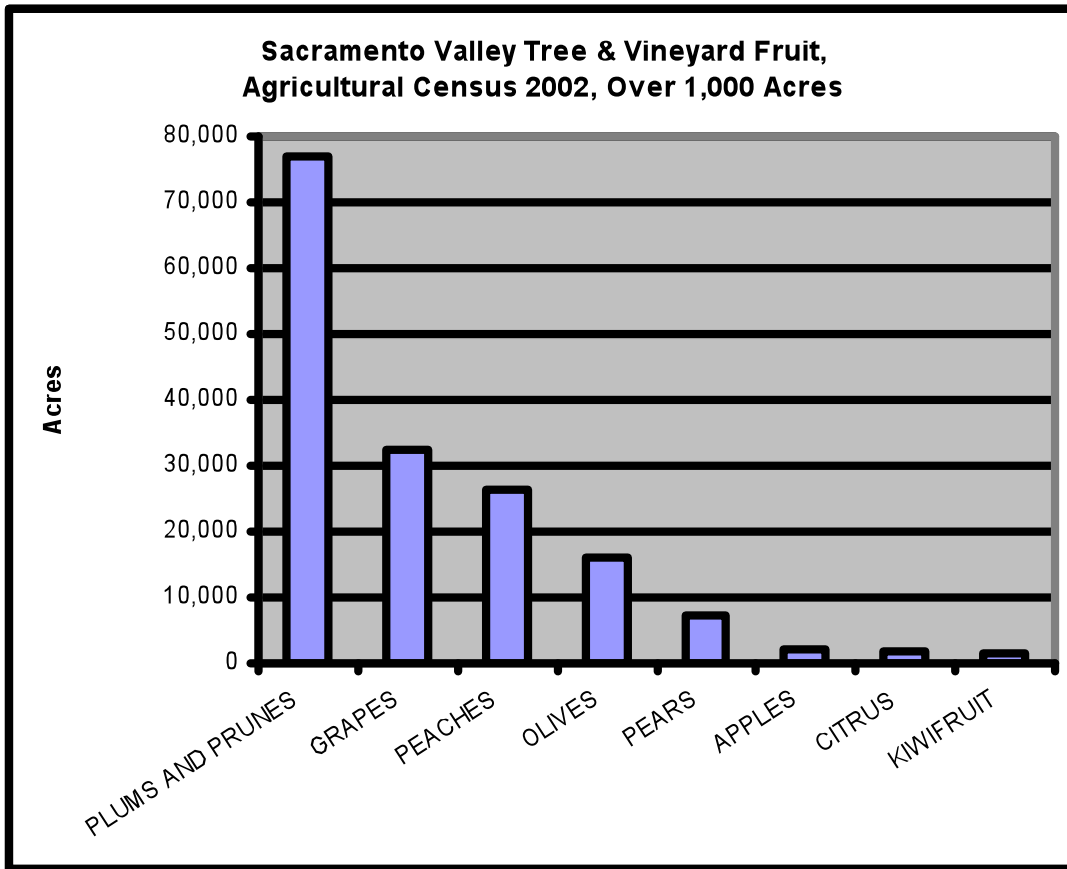




Sacramento Valley

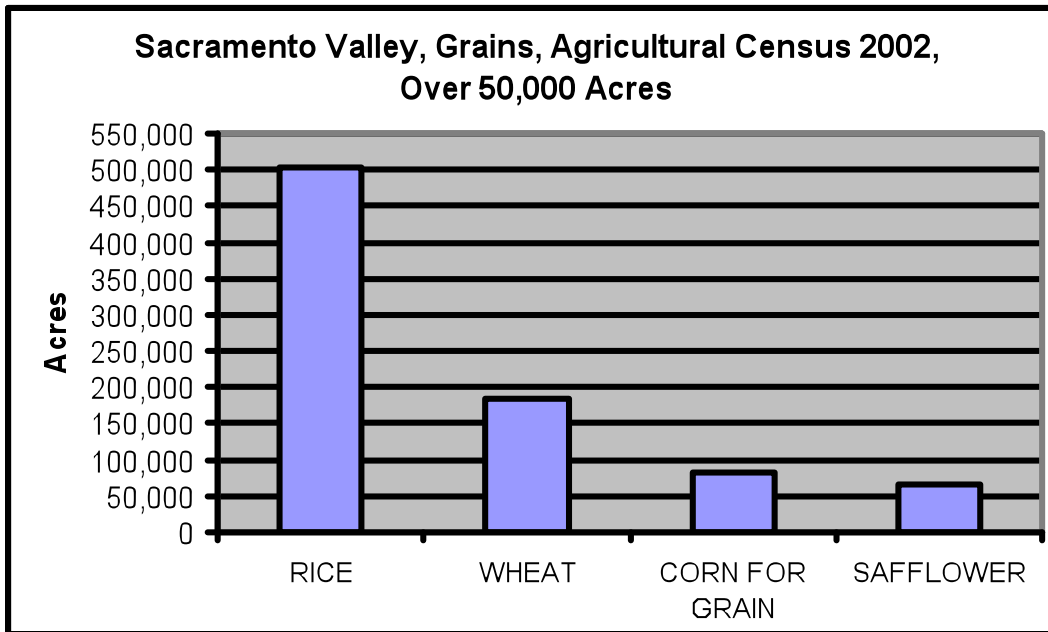
One area covered by the CRLA, but not represented in the top 15 counties, is the Sacramento Valley. Although no county in the Valley reaches the top group, the eight agricultural counties, Yolo, Sacramento, Colusa, Glenn, Sutter, Yuba, Butte, and Tehama together constitute a major farm area. Below, we report these as a group but mention leading counties by crop sector. Of the top four crop categories, tree fruit are probably the biggest user of labor. Then, vegetables lead by processing tomatoes, are second. Grains are also very important in acreage as are tree nuts. Both of these use mostly machine operator labor.

There are over 175,000 acres of tree fruit and vineyards (see Graph below). Plums and prunes are the biggest labor user and are focused in Tehama, Butte, Yuba, Glenn and Sutter. Peaches are mostly in Yuba and Sutter counties while olives are concentrated in Tehama County. Grapes are mostly in Sacramento and Yolo in the southern part of the Valley.

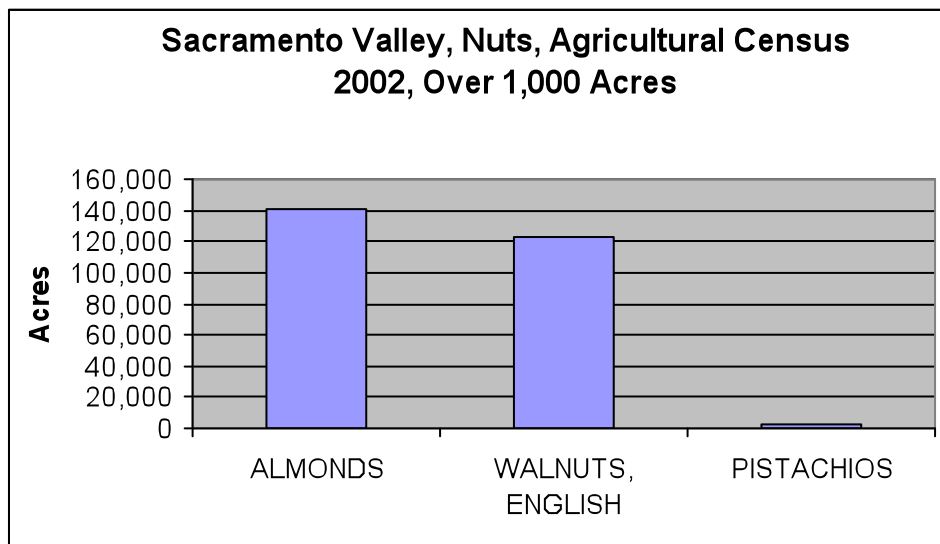


In vegetables (see graph above), there is not much labor demand in field labor though there is considerable work in sorting on the harvest machines for processing tomatoes. There are only 10,000 acres of labor intensive fresh vegetables. Most of the processing tomatoes are in Yolo and Colusa counties. Colusa has over a thousand acres of cucumbers.

There are almost a million acres of grains in the Valley (see graph below). Colusa, Glenn, Yuba, Yolo, Sutter and Butte counties have almost all of the rice. Rice has several tractor tasks during the year and therefore demands considerable hired labor.



The nut production (see graph below) is also extensive, over 275,000 acres in total, and requires considerable labor in grove maintenance, harvest and in the packing houses. Most of the almonds are in Glenn, Butte, and Colusa while the walnuts are spread out across the Valley.



In nurseries, most of the production is in Sacramento County that actually has the sixth largest county production in the state (see table below). The other Sacramento Valley counties have relatively small nursery production facilities.

Greenhouse Production Sacramento Valley, Agricultural Census 2002	
	square feet under cover
Other Counties	2,185,852
Sacramento	5,358,355
Total under Cover	7,544,207

In the Sacramento Valley berry production is very low. There are less than 200 acres under cultivation. Also, animal production workers are not numerous in the Sacramento Valley.

As you can see in graph below, there is considerable variation in peak to trough crop employment demand. At peak, the demand is over 16,000 workers in August, more than twice the trough in January.

