

## **Environmental Effects of Living and Working In Agricultural Areas of California: Social and Economic Factors**

Highlights of Address by Don Villarejo, Ph.D.,  
California Institute for Rural Studies, Inc.

California is the nation's leading agricultural state. We now have 60 percent more production of agricultural commodities than does second ranked Texas, as measured by farm cash receipts.

After the economic hardships of the mid-'80s, agriculture has seen a substantial recovery in the last four years. The Bank of America projects that 1990 will be a record \$18 billion year for farm cash receipts and \$7 billion in net farm income in California.

Over the past 20 years, consumers have changed their dietary habits, and California has played a leading role in supplying the growing demand for fresh produce. Our unique position and strength in agriculture has come in good measure from successfully anticipating the trajectory of consumer interest and altering production practices to meet consumer demand.

Today, California produces more than 40 percent of all the vegetables in the United States and is a major world supplier of "speciality crops": vegetables, fruits and nuts, and nursery products.

All of the crops in which California has significantly increased production have substantial labor requirements. Consequently, a major impact of the change and growth in California agriculture over the past two decades has been a substantial increase in labor demand.

### **Distinguishing Characteristics of California Agriculture**

California emerged as the nation's leader about 45 years ago when, for the first time, its output of crops and livestock exceeded that of Iowa. Since that time, California has led the nation, and, of greater significance, its share of national crop production has steadily increased.

**Expanded Production at an Increased Rate of Growth.** With just 2.5 percent of the nation's cropland, California now has 16 percent of all crop production, as measured by farm cash receipts. In contrast, Texas has eight percent of the nation's cropland, and five percent of U.S. crop production.

**Critical Factors.** The major elements contributing to our state's leading role as a producer of crops are our unusual combination of favorable climate, abundance of land, high quality soils, abundant supply of agricultural labor, and irrigation.

Irrigation has been a critical feature in developing California's leadership in agricultural crop production. We have nearly doubled the amount of our irrigated land over the past 50 years. While the total amount of the state's cropland has declined, the fraction of our cropland that is irrigated has increased.

One important consequence of the increase in irrigated cropland is that we have significantly increased the amount of our fruit and vegetable production. Over the past 20 years, vegetable production has increased by 70 percent, and tree fruit production has increased 40 percent.

In recent years, nursery and greenhouse crops have become extremely important. Horticultural production--the fastest growing segment of California agriculture--now accounts for more farm sales in California than does all of our grain and cotton production combined. On a national basis, nursery and greenhouse crop production has a greater value in farm sales than does the combined wheat production in all of the 50 states.

**Crop Diversity and Value.** California leads the nation in high value per acre commodity production. One reason why we are the nation's leading agricultural state is that we produce far more higher value crops than do other states. Our crop production value per acre of harvested cropland is about \$1,207, whereas, for the U.S. as a whole, it is \$209.

Another significant distinguishing feature of California agriculture is that it is highly segmented: production and marketing in a particular crop are, to a great degree, independent of trends in another type of crop. This implies that efforts to generalize about the industry will usually lead to frustration instead of insight. During the farm recession of the mid-1980s, for example, grain producers experienced severe financial stress, but California producers of nursery crops, strawberries, and citrus crops enjoyed excellent financial returns.

Our cropping pattern differs greatly from that of the U.S. as a whole. About two-thirds of U.S. farm production is field crops; about one-third is vegetables, fruits and nuts, and nursery crops. For California, just one-fifth is field crops, while four-fifths is vegetables, fruits and nuts, and nursery crops.

Overall, our state now produces 39 percent of all U.S. vegetables and melons, 53 percent of all fruits, nuts and berries, and 24 percent of all nursery and greenhouse products. We have just two percent of U.S. grain production. While the farm value of grains in the U.S. dropped during the 1980s, the farm value of the other crops increased dramatically.

California has only six percent of all livestock and livestock product output. However, our dairy production is second only to that of Wisconsin, and it now appears likely we will become the leading dairy state early in the next century.

### **Characteristics of California Farms and Farmers**

The great majority of California farm production is accounted for by large-scale farm businesses. The biggest 3.4 per cent of California farms--those with annual farm sales of \$1,000,000 or more--have 60 percent of all of the state's agricultural production. These large farms average \$2,961,600 in cash receipts from commodity sales per farm.

Paradoxically, most California farms are quite small, having annual sales of less than \$50,000; 71 percent of California farms are in this size category, but account for just 4.1 percent of all farm cash receipts. Nevertheless, the aggregate value of production of these small farms comes to \$565,882,000, which is bigger than total farm production of many other states.

California has 83,217 farms, but only 41,906 of farm operators report that their principal occupation is farming. We shall refer to these persons as "farmers."

For the other half of California farms, either a professional farm management company or a part-time farmer conducts the farming activities. Approximately 15,700 California farms are owned by non-farmers and managed by professional farm management companies. The balance of 25,600 California farms are directly operated by persons whose principal occupation is something other than farming (part-time farmers).

Among dairy farms, about 88 percent of the operators report their occupation as farmers. Among fruit and nut farm operators, just 47 percent are farmers. For beef cattle farms, the figure is 45 percent.

**Rise in Farm Management Companies.** Farm management is the most rapidly growing service sector in agriculture. The rise of farm management companies is one of the most important recent developments affecting the typology of farmers in California. At present, about 350 such companies

manage 19 percent of all of the farms in the state. Among fruit and tree nut farms, the share managed by professional farm managers is even higher. We estimate that 9,902 California fruit and nut farms--about 26 percent of the total--are run by professional managers.

**Farmer Profile.** California's farmer population is quite old as compared with other categories of work. The average age of California farmers is 55.6 years. Fully 31 percent are over 65 years of age, and only nine percent are younger than 35. About 89 percent are male. Just four percent are persons of Spanish or Portuguese origin. More than two-thirds of both farmers and farm operators (principal occupation isn't farming) live on their farms.

**Farm Income.** The 41,906 California farms which are operated by farmers account for 87 percent of all of the state's farm production and for 90 percent of the total net cash return from farming: an average of \$63,043 per farm. The remaining 41,607 farms--those operated by non-farmers-- produce just 13 per cent of total farm sales and are far less profitable, averaging only \$7,319 per farm in net cash return. We estimate 1987 average farmer operator income from all sources at \$73,017 and average non-farmer operator income from all sources at \$55,076.

### **Employees of California Farm Businesses**

For each California farmer there are about 18 farmworkers. About 750,000 persons earn a majority of their annual earned income from hired farm work and may be regarded as professional farmworkers. The average farm laborer's annual earnings from agriculture in California are about \$3,000 per year.

As in the case of commodity production, a relatively small number of agricultural firms account for most of the wages. Of the 31,815 California employers reporting wage payments for agricultural labor, 1,031 (3.2 per cent) account for 53 per cent of all farm wage payments.

Hired farmworkers now perform 80 percent or more of all of the farm work in the state. The share of all California farm work performed by farmers and unpaid family members is now 20 percent, down substantially from 40 years ago, when farmers and their families did almost 40 percent of the work.

Farmworkers are unemployed an average of 27 weeks each year. Unemployment cycles are closely tied to the annual cycle of farm work. For example, in the San Joaquin Valley, the number of unemployed persons reaches its low point during the peak of agricultural labor demand in August

or September of each year, and then steadily climbs to a peak in February or March, the time of lowest agricultural labor demand.

While California agriculture is relying more and more on hired farm employees, unemployment insurance data over the past decade do not reflect an increase in the numbers of farmworkers, raising the issue of underreporting.

**More Demographic Data Needed.** We don't know as much as we need to know about farmworkers. In particular, we need to understand how many farmworkers are migrant, because federal and state policy and programs allocate resources on a fixed per capita basis.

The most recent statewide survey was published in 1986 by Philip Martin and Richard Mines, who interviewed about 1,286 professional farmworkers. More than three-quarters of those interviewed were Mexican citizens or Mexican born. The average age was 34, and the average educational attainment was about six years of school. Annual earned income was about \$4,300 per year from farm work and \$320 per year from non-farm work. More than 60 percent were settled and drove many miles to work. About 37 percent were migrants who followed one of two patterns: back and forth between Mexico and a definite location in the United States, or follow-the-crop migration within the U.S.

A more recent study of the Ventura County citrus harvest shows an increasing reliance on young, single male migrant workers as compared to older, married settled workers. We don't know whether this increased reliance on solo male migrant workers is more widespread or is confined to the citrus industry.

**Decline in Wages.** Agricultural employees haven't shared in the prosperity of the last five years. Real wages, measured by average wages per full-time-equivalent (FTE) farm employee, declined by 8.7 percent during the 1980s, while non-agricultural average wages rose by 11.3%.

We would argue that the price of agricultural labor has declined in the 1980s because there has been a substantial excess supply of agricultural labor.

The large and continuing flow of undocumented workers into the U.S. from Mexico and Central America, many of whom enter the labor market in agricultural work, suggests that this supply is likely to remain quite large. Virtually all immigrant farm workers now possess apparently authentic permanent residence visas. Thus, the intent of the Immigration Reform and Control Act to reduce, and ultimately stop, the flow of undocumented workers has not been realized. Unless immigration authorities devise a method to

stop this flow of people, it appears likely that California agricultural employers will continue to tap this pool of workers.

Another important factor in the decline in farm employee real wages is the increasing tendency of farmers to meet their labor needs through labor contractors. Labor contractors usually do not offer employee benefits, and pay wages about 20 per cent lower than do farm operators who directly hire employees.

The dramatic increase in the use of farm labor contractors in the '80s has been a key development in the pattern of agricultural employment. At peak season in the San Joaquin Valley, when 217,000 hired workers are harvesting crops and performing related tasks, a majority of the work is performed by persons working for farm labor contractors.

Recently published findings based on interviews of 361 agricultural employees in the San Joaquin Valley, conducted by Andrew Alvarado and co-workers in June-October 1989, included the following:

- seven of 10 workers were male, but fully half of workers in grapes, nuts, and vegetables are female;
- mean average age was 35;
- only six percent were born in the U.S.; 87 percent were born in Mexico;
- mean average years of school completed was 5.9;
- interviewees worked for an average of 2.9 agricultural employers during the course of one year;
- 84 percent reported periods of unemployment during the calendar year;
- about one-third were able to find non-agricultural jobs between farm jobs;
- average length of employment in agriculture was 22 weeks;
- on average, farm employees worked in at least two different crops during the 1989 summer season;
- more than three-fourths expect to remain in agricultural work.

Surprisingly, only 50 percent draw unemployment insurance payments during periods of unemployment; about four of 10 workers rely on their own savings for support in this circumstance. Less than one percent obtain support from public assistance or Aid to Families with Dependent Children (AFDC). And just under two percent use food stamps.

Fully 20 percent reported having been injured while working at a farm job within the past five years, and 84 percent of these required medical attention.

Some 40 percent of those reporting on-the-job injury were off the job for more than one month.

Concerning health, 18 percent rated their own health status as "excellent," 25 percent said "very good," 39 percent said "good," 13 percent said "fair," and four percent said "poor." The average number of years since their last physical examination was 1.8. About 30 percent smoke. Only 41 percent received medical insurance coverage as an employer benefit.

When asked to identify the most serious problems faced by farm workers, 33 percent listed "pesticides;" 23 percent listed "low wages;" eight percent listed "work hazards;" and four percent listed "abusive labor contractors."

### **Farm Communities**

Agricultural communities in California are home to a large proportion of the working poor. More than 80 percent of agricultural employees are Mexican-born, and a majority are not U.S. citizens. Therefore, agricultural workers in the state tend to be poor, members of an ethnic minority, and immigrants.

The three leading agricultural counties in the United States are Fresno, Kern and Tulare counties. All three are considered urban counties by the Bureau of the Census because each contains a Standard Metropolitan Statistical Area (SMSA). Thus, the strict Census Bureau definition of rural, being a place of 2,500 persons or less, is not very useful in identifying California communities where agriculture is particularly important. In fact, Californians are 97% urban, the most urban of all of the states, whereas, as we have already noted, the Golden State is also the leading agricultural state!

**High Proportion on Welfare.** Of the 10 SMSAs in the entire U.S. with the highest proportion of residents on welfare, six are in California--and all six are in the Central Valley. They are, in order, with the percent of residents supported by welfare payments also indicated, Visalia (15.9%), Stockton (14.4%), Yuba City-Marysville (12.4%), Fresno (12.3%), Modesto (11.8%) and Redding (11.6%). The remaining four areas in the "top 10" are Jersey City, Atlantic City, and Vineland, New Jersey; and New York City. None of these comes close to Visalia in percentage of residents on welfare.

Dean MacCannell and co-authors have demonstrated that the larger the average farm size in a county, the higher the proportion of the population in poverty, the lower the average family income, and, more generally, the poorer the quality of life. Since California farms exhibit a high degree of size

concentration, agricultural areas of our state fit this description exceptionally well.

In a study of 42 San Joaquin Valley communities, MacCannell showed that median family income was negatively correlated with employment in farm work. The greater the proportion of the community population in the agricultural labor force, the lower the median family income of the community and the poorer the social conditions.

We have already noted that California agriculture is heavily dependent upon hired farmworkers. Surveys of farmworker family income show that average levels are well below the poverty level. Thus, MacCannell's correlations generate a profile of farmworker communities.

**Agricultural v. Non-Agricultural Communities.** California has 61 cities or communities in which at least 10 percent of the employed population works in agriculture, and 132 cities or communities in which at least five percent of the employed population works in agriculture. The two largest cities of this kind are Oxnard (1980 population equals 108,195), with 15 percent, and Bakersfield (1980 population equals 105,611), with five percent.

Within these 61 communities, the 1980 Census of Population showed that 47 percent of the aggregate population was Hispanic, 48 percent was non-Hispanic white and just over five percent of the population was Black, Asian or Native American. For non-agricultural communities, the median distribution of population in 1980 was 9.2 percent Hispanic, 82.7 percent non-Hispanic white, 1.6% Black, 2.6 percent Asian, and 0.8 percent Native American. This sharp difference between "agricultural" and "non-agricultural" communities is closely related to the previously noted high proportion of Mexican-born persons among the hired farm work force.

**Rapid Population Growth and Relative Decline in Income.** California experienced very rapid population growth during the 1980s: 19.6 percent from 1980-1988. In the 61 agricultural communities mentioned above, the population increase was 27.6 percent, nearly 50 percent higher than for the state. Yet per capita income grew at half the rate of the state as a whole. Between 1979 and 1987, per capita income in the state grew by 59.1 percent. But in the 61 agricultural communities, the median rate of growth of per capita income was just 28.9 percent. As a consequence, agricultural communities lost ground over this period.

In these communities, the higher the fraction of people employed in agriculture, the larger the Hispanic population and the lower the median education level. The community with the highest share of employed persons



working in agriculture is Huron (63%), where the Hispanic population accounts for 91 percent of the residents. In Huron, the median educational level among those 25 or older is 5.9 years.

There are 10 cities where at least 10 percent of the working population is employed in agriculture and in which there are at least 10,000 persons of Hispanic origin: Calexico, Chino, El Centro, Indio, Merced, Oceanside, Oxnard, Santa Maria, Santa Paula and Watsonville. Eight of these cities are located within counties that rank among the top 18 counties in the entire U.S. in agricultural production.

In six communities, more than 50 percent of the working population is employed in agriculture: Cutler, Earlimart, Huron, McFarland, Mendota and West Parlier.

MacCannell and co-workers identified five places in the San Joaquin Valley where over 50 percent of the households included farmers: Dos Palos, Gustine, Los Banos, Patterson and Tranquillity.

These two sets of communities are clearly divided into "farmworker" and "farmer" towns. A longitudinal determination of the tendency of communities toward these extremes would be useful.

### **Access to Health Care**

At a meeting of the planning committee for this conference, Bob Spear remarked that the single most important factor in determining health is socio-economic status. Based on the information just presented, conclusions regarding the health status of agricultural employees are probably predictable. But, in addition, there are problems peculiar to agricultural areas of California today that require attention. We will focus first on those that affect all members of agricultural communities, whether farmers, farm employees or others.

In a recent report, "Health Care in Rural California," Senate Office of Research Legislative Analyst Elizabeth Hill noted:

Access to health care in rural areas is limited, in part due to long distances between isolated communities, rough weather conditions, and depressed economies. Over the years, access has been further restricted by the closure of rural facilities and the failure of rural communities to attract and retain health personnel.

**Insurance.** While we lack direct information concerning the extent of health insurance coverage of farmers in California, their relatively high average income noted earlier and the ready availability of coverage through such organizations as the California Farm Bureau Federation suggests that it is likely that relatively few farmers lack this type of protection.

There is also a paucity of information regarding health insurance protection for farm employees. However, the annual survey of wages and employer-paid benefits conducted by the Farm Employer Labor Service (FELS survey) does report on the fraction of those employers offering health insurance benefits. About half of the 823 farm employers who responded to the 1989 survey provide full coverage for year-round employees and their dependents; only 16 percent provide full coverage for seasonal employees. About 60 percent provide medical insurance for year-round employees only (dependents not covered), while just 19 percent provide that coverage for seasonal employees. Those seasonal employees with coverage are likely to be without health insurance for half of each year. The combination of lack of coverage and low income appears to lead people to cut back on preventive health care.

**Clinics Lack Resources.** Migrant farm worker clinics operate in all major agricultural areas of California and are federally funded with the intention of meeting the medical needs of the state's migrant farm worker population. Generally, these clinics do not have sufficient resources to meet all of the identified health care needs of potential clients in their service area. In part, this reflects the decline in funding, measured in constant dollars, that has been experienced by federally funded migrant services during the 1980s. An important consequence of these resource limits is that unanticipated client needs may be unmet.

**Breakdown in Health Care Delivery.** An important indicator of the breakdown of the health care delivery system to low income recent immigrants is the measles outbreak that has affected thousands of Californians. Of 30 measles deaths reported in 1990 through April 25, nine were in Fresno County, and all of these were among Hmong refugee children. In Salinas, 17 of 20 reported cases this year were among young Hispanics, mostly girls below the age of 10. California requires vaccination as a condition of school admission, and, not surprisingly, most of the reported cases involve pre-school children or adults who do not attend school.

**Health Status of Farmworkers.** There are few empirical studies of the health status of farm employees in California. A 1981 study of 473 farm employee households in Tulare County revealed that:

- although most farm workers think they have health coverage, only about one-fifth avail themselves of it, even in serious cases;
- farm workers with the lowest incomes are the least likely to gain access to government social insurance programs (welfare, food stamps, unemployment insurance, and social security);
- the most commonly cited minor health problems are complaints such as headaches or nervousness, dental problems, skin irritations, respiratory problems, musculo-skeletal problems;
- the most common serious health problems reported are accidents and injuries;
- over half of the health problems occurring on the job are injuries;
- although injuries are the main cause of job-related health problems, farm workers in the sample fear chemicals more than accidents;
- in general, farm workers rarely miss work or seek medical treatment for chemical related problems;
- over 45% of workers said they got rashes, 44% said they got headaches, and 26% said they got eye irritations from agricultural chemicals;
- chemicals used on grapes seem to cause more trouble than any other combination of crop and chemical;
- dental problems are widespread;
- cigarette smoking is below the national average;
- excessive drinking on a daily basis is rare and drinking rarely interferes with work;
- lone Mexican males drink twice as much as Mexican men living with their families;
- of women who completed pregnancies since 1970, 18% had no prenatal exams and over 50% had none in the first trimester;
- the average death rate during the first year for children in the entire sample is 4.5%;
- overall, farm workers pay for most of their health care out of pocket;
- the most common medical provider for people in the sample is the private doctor, with clinics next in frequency of use;
- hospitals are used only about 11% of the time, and hospital visits usually begin in an emergency room where lengthy waits are common and where pre-payment may be required.

**Children in Agricultural Communities--The McFarland Findings.** Recently, the McFarland Health Screening Project released preliminary findings based on general health screening of children between the ages of one and 12 in 1989. Since more than half of McFarland's labor force works in agriculture, it is likely that this study represents the most thorough health screening ever conducted among farmworker children in the United States. More than 90 percent of McFarland's eligible children were screened, 1,717 persons in all.

Fully 71 percent of the children screened were referred for medical attention: vision problems (40%), dental problems (36%) and anemia (24%). A large share of the children had inadequate immunization status. Over 36 percent lacked evidence of having been seen by a dentist. Untreated tooth decay was found in children of all age levels and appeared to have a frequency inversely proportional to income.

An astounding 44 percent of McFarland families with children between one and 12 are not covered by any health insurance whatsoever (about 10 percent of all U.S. families have no health insurance). Another 21 percent are on Medi-Cal. This means that just 29 percent of the families are covered by employer provided or privately purchased health insurance.

Low per capita income in McFarland (\$4,305) as compared with the state as a whole (\$11,885), together with inadequate insurance, make the cost of health care a nearly insurmountable barrier. Access to health care is also limited owing to the lack of private physicians in the community and lack of awareness about low-cost health care alternatives.

The health status of the children of McFarland reflects these barriers to obtaining health care.

### **Community Health Concerns and Related Issues**

**Pesticide Use.** There is considerable concern that pesticides degrade air and water quality throughout the agricultural areas of our state. The data needed to describe trends in agricultural pesticide use in California are weak. Starting this year, the state will have a much more comprehensive record of pesticide use. Here, with caveats, is what we know.

The use of about 105.6 million pounds of pesticides was reported to the California Department of Food and Agriculture for its Pesticide Use Report, 1988. Approximately 8.7 million pounds of this total represented non-agricultural uses, so the total figure for agricultural use was 96.9 million pounds.

Though required reporting in that year was limited to "restricted use" materials, a substantial share of the reported use was non-restricted. For example, the leading pesticide use reported was sulfur, a non-restricted material, with a total use of 27.1 million pounds, or about 28 percent of all reported agricultural pesticide use in the state. It is somewhat ironic that the leading pesticide use reported to CDFA is sulfur, a pesticide permitted under California's organic certification laws.

Sugar beets used the most pesticides with 13.7 million pounds, followed by cotton, with 12.3 million pounds, and grapes, with 12.0 million pounds. Fresno County, the nation's leading agricultural county, was also the leading county in California in terms of reported pesticide use, with 16.2 million pounds; followed by Kern County, with 11.4 million pounds; and San Joaquin County, with 6.7 million pounds.

In 1977, agricultural pesticide use reported to CDFA was 111.3 million pounds, suggesting that there may have been a 13 percent reduction in statewide pesticide use over the period from 1977 to 1988. However, this observation must be made with great caution because only a portion of all pesticide use is reported to CDFA each year and because CDFA changed its method of computing active ingredient poundage for liquid materials in 1984.

Use of agricultural chemicals is also reported to the Census Bureau, in conjunction with the Census of Agriculture, every five years. These data can be analyzed to identify possible trends.

The number of California farms reporting any use of agricultural chemicals was 52,614 in 1987, a substantial increase over the 43,142 farms reporting chemical use in 1982 or the 46,449 farms reporting chemical use in 1978. However, the acreage on which these chemicals were used in 1987 was lower, in all categories of use, as compared with 1982. This observation must also be treated with caution, since 784,000 acres of cropland were idled in 1987 under federal acreage reduction programs as compared to just 130,528 acres in 1982 and 85,586 acres in 1978.

**Air Quality.** Air quality in the San Joaquin Valley is among the 10 worst in the U.S. The State Air Resources Board has commissioned a San Joaquin Valley air quality study that is due to be completed by July 1991. Fine particulate matter and ozone are of special concern. Major contributing factors include motor vehicle exhaust, burning of agricultural waste (rice straw, grain straw, orchard pruning), and cotton defoliation sprays.

**Water Quality.** Drinking water quality is a major health-related concern of Californians in agricultural areas. Naturally occurring materials, such as

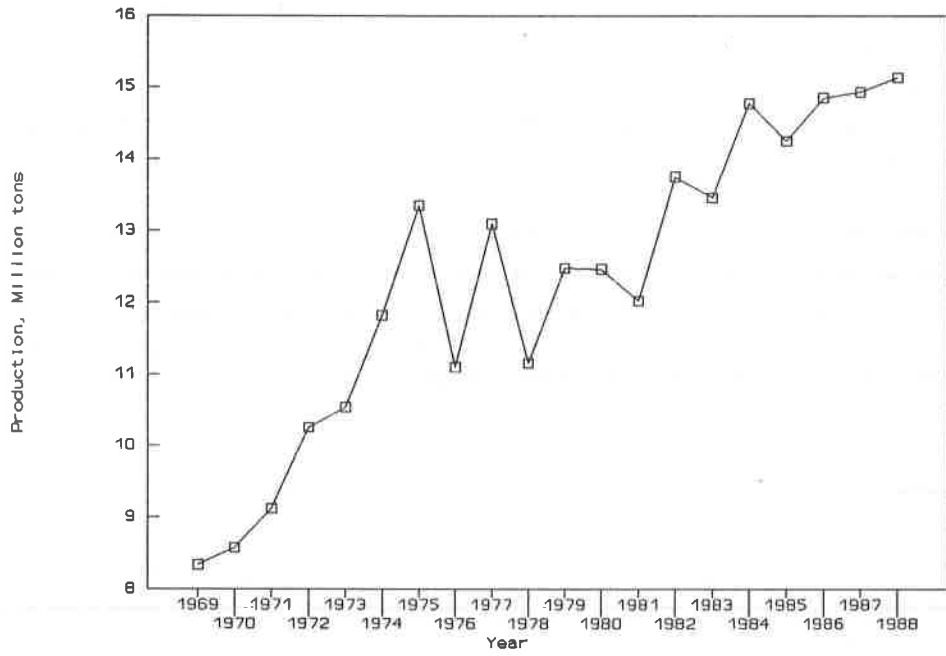
radioactive isotopes of uranium, have been reported in drinking water in Hanford and Tulare. Unsafe levels of nitrates have been repeatedly found in drinking water wells adjacent to areas of intense agricultural use. The widespread presence of DBCP, a pesticide now banned in California, in San Joaquin Valley wells is well documented. Some 15 wells in the city of Fresno have already been shut down because DBCP levels exceed state safety levels. A drought-related problem is salt water intrusion due to increased reliance on groundwater pumping for irrigation in areas lacking surface supplies.

**Urban-Farmer Conflict.** As urban areas expand, increased housing development in predominantly agricultural areas brings new residents into conflict with long-established farm families and normal farming practices. The widespread controversy regarding malathion spraying to control Medflies may be viewed as a metaphor for this conflict.

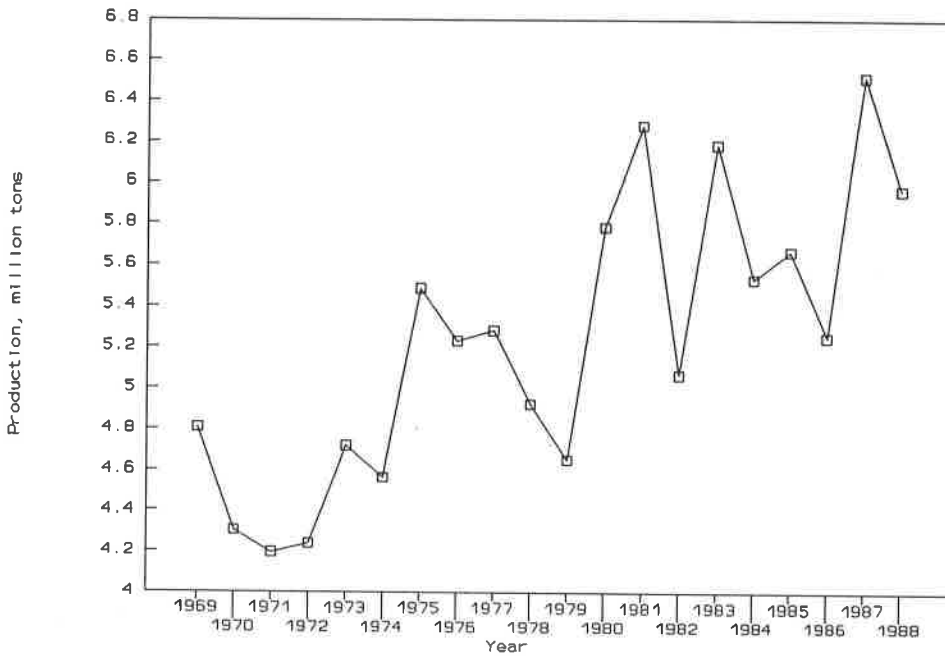
### **Conclusion**

The problems discussed above affect us all. We all breathe the same air, drink the same water, go to the same schools, and reap the benefits that agriculture brings to the state's economy. Conflicts will continue to arise unless we can find common ground for addressing mutual needs.

# California Vegetable Production

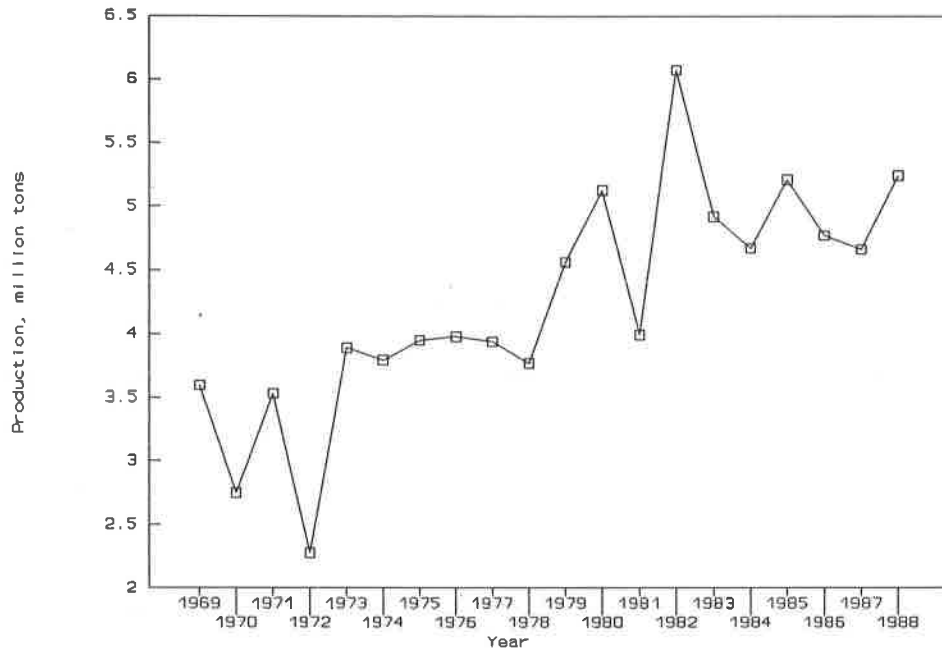


# California Tree Fruit Production

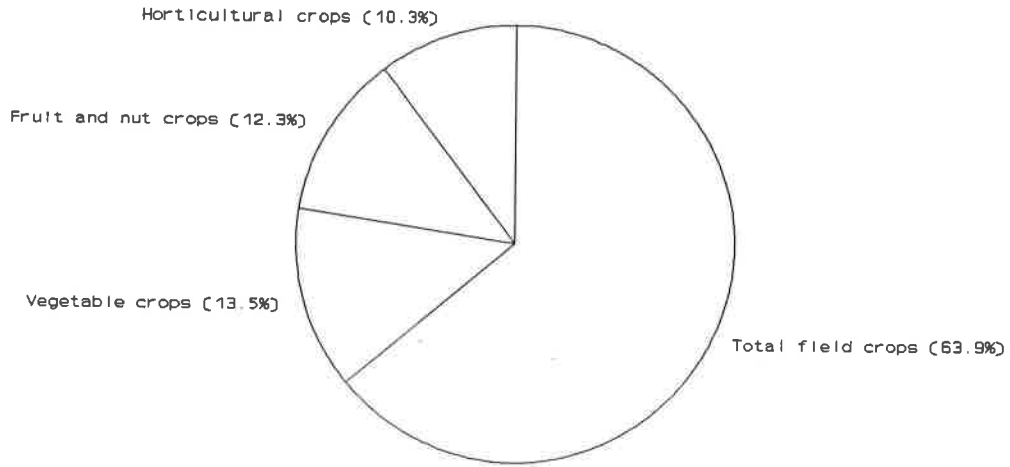




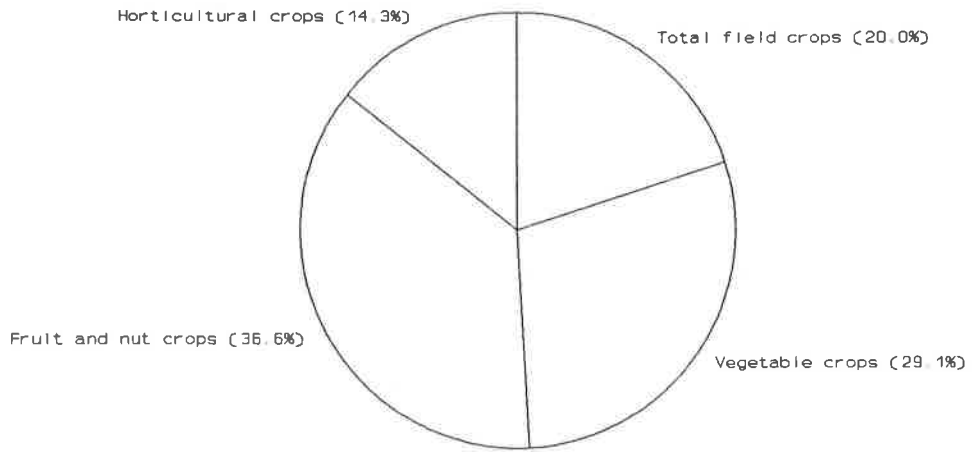
### California Grape Production

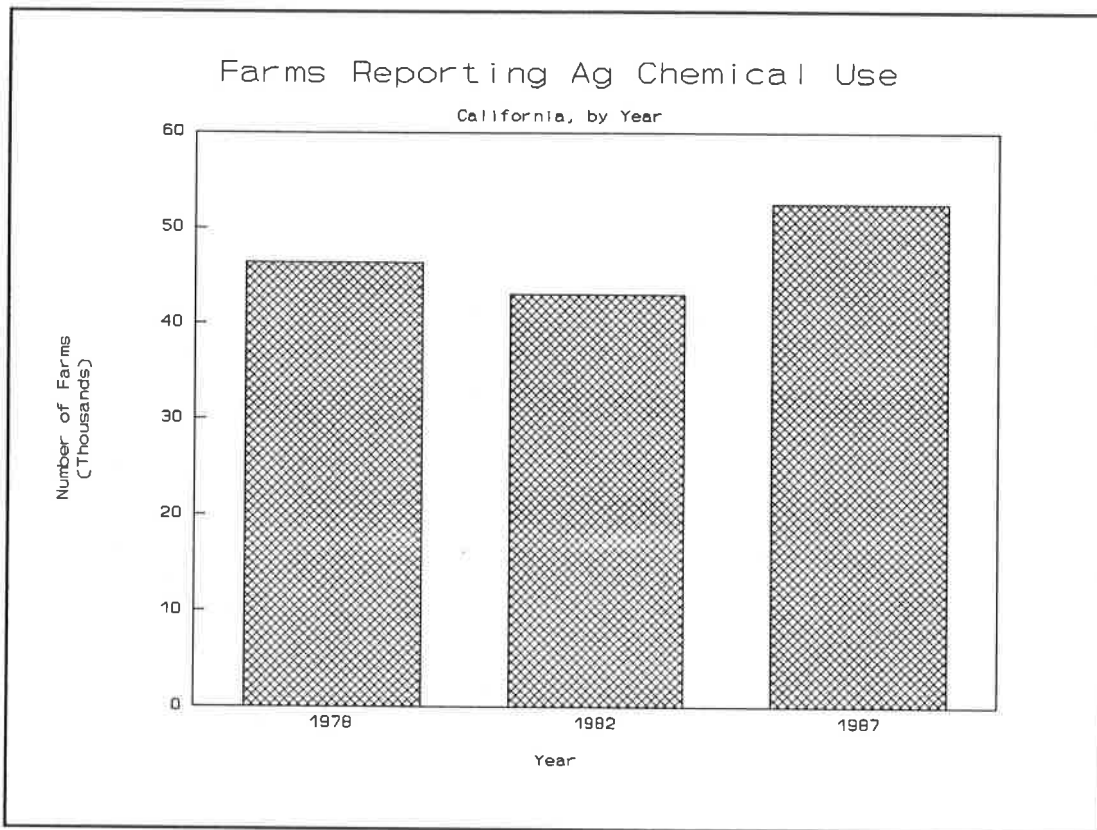


United States Crop Production, 1988



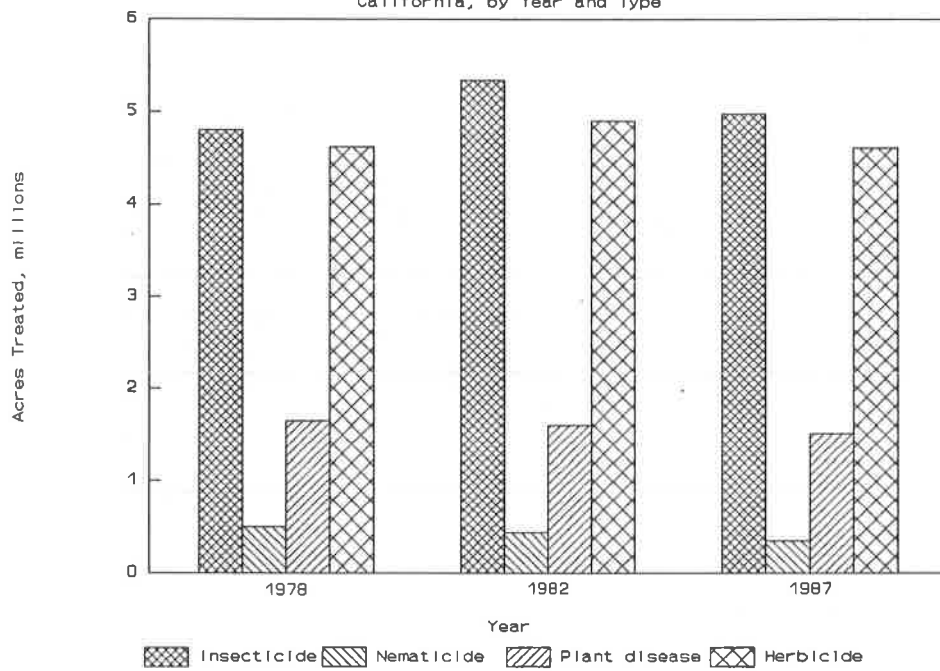
California Crop Production, 1988





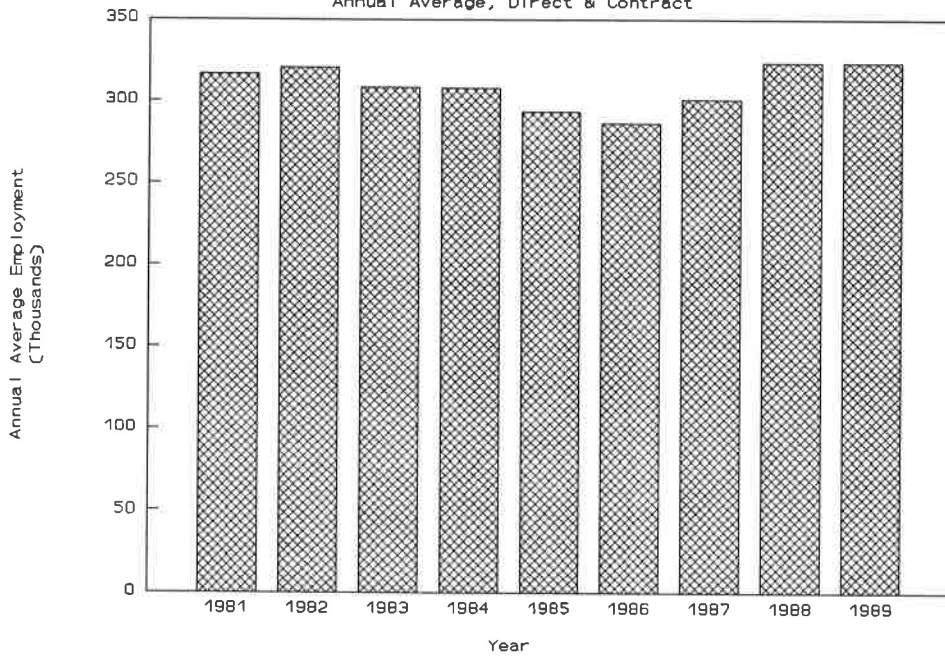
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California, by Year and Type

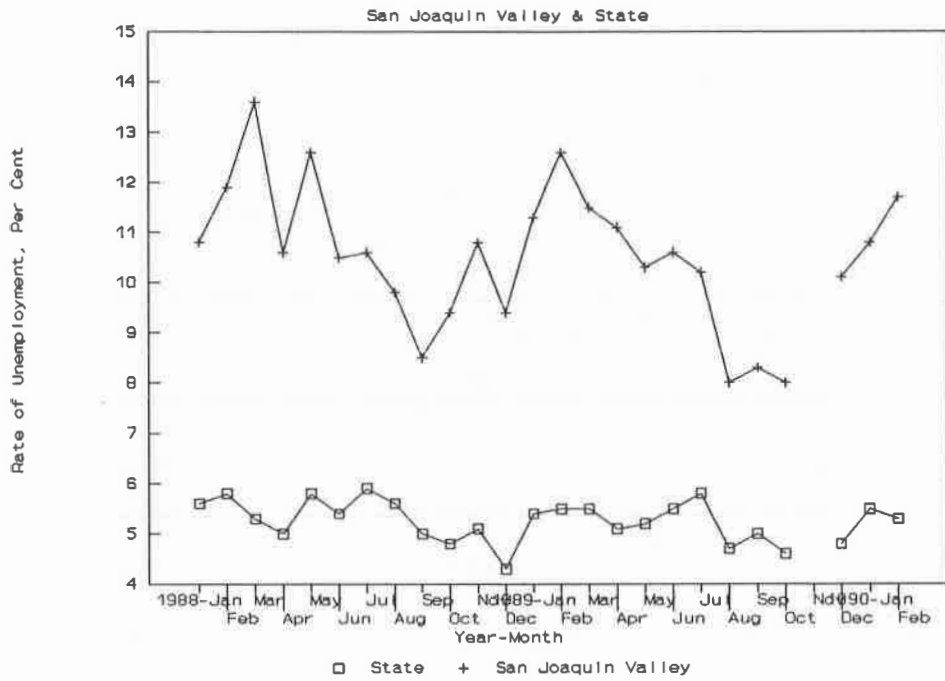


# California Farm Employment, by Year

Annual Average, Direct & Contract

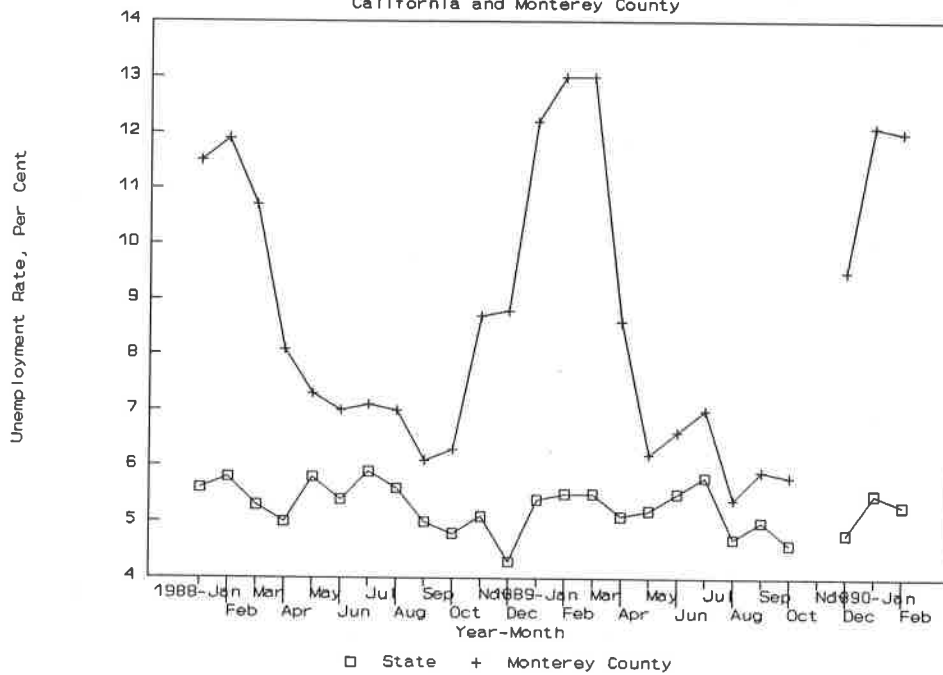


# Unemployment Rate, by Year-Month



# Unemployment Rate, by Year-Month

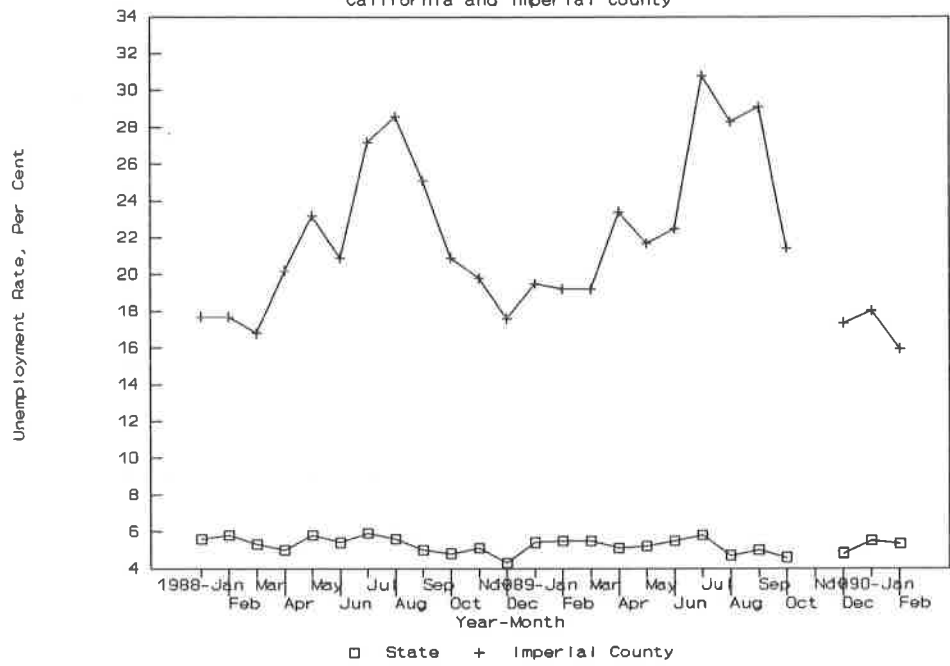
California and Monterey County





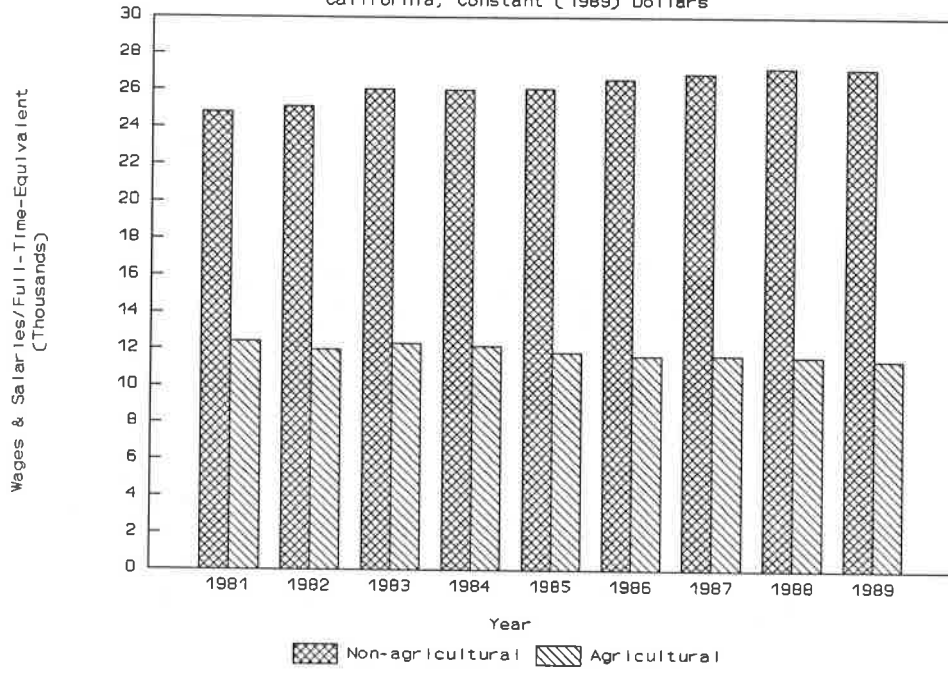
# Unemployment Rate, by Year-Month

California and Imperial County



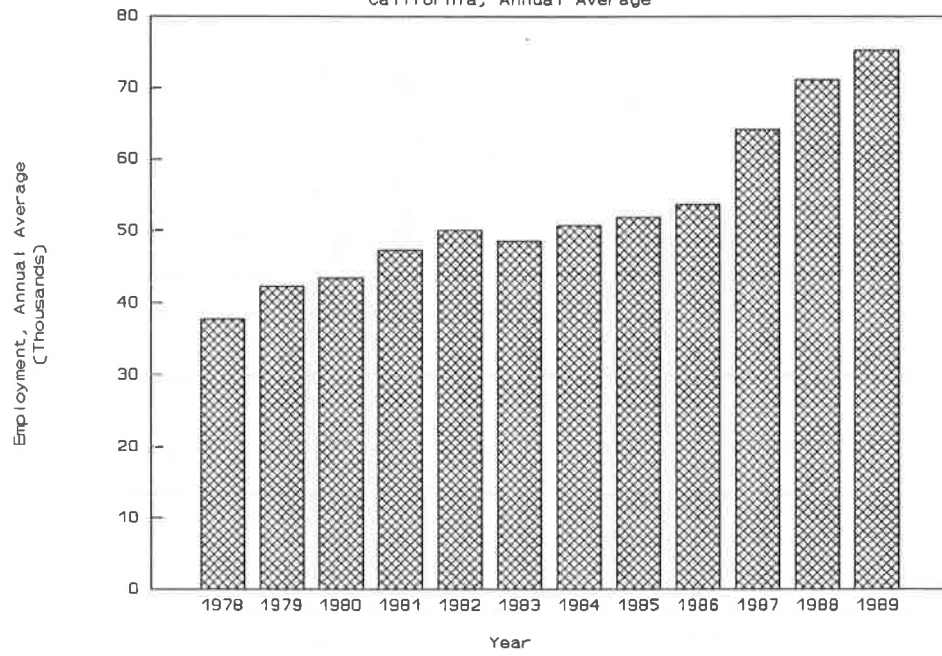
# Average Wages per F.T.E. Employee

California, Constant (1989) Dollars



# Farm Labor Contractor Employment

California, Annual Average



# California Farm Income, by Year

Cash Receipts & Net Income, Current \$

