

**California Hired Farm Labor 1960-2010:
Change and Continuity**
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Summary

There have been three major changes in California agriculture and farm labor over the past half century. First is the expansion of especially FVH commodity production. California’s share of US farm sales increased alongside the rising share of high-value FVH commodities in the state’s agricultural sales; today two-thirds of California’s farm sales are from FVH crops. The expansion of irrigated agriculture in the San Joaquin Valley in the 1950s and 1960s and the shift of citrus and dairy into the SJV meant that the SJV replaced southern California as the center of the state’s farm production. Los Angeles county was the number one US farm county in 1950; Fresno county has been number one for the past half century.

Second, despite worries of labor shortages, sufficient farm labor was available to support California’s expanding FVH agriculture. There were major labor worries in the early 1960s when the Bracero program ended, which prompted rising farm wages and a wave of mechanization symbolized by precision planters and herbicides, bulk bins in the fields, and the mechanical tomato harvester. By 1979, when the federal minimum wage was \$2.90 an hour, the general labor wage in UFW contracts was \$3.75 an hour, and the UFW demanded a wage increase to \$5.25 an hour at a time when piece rate earnings in California averaged \$5.15 (NASS). Rising unauthorized migration since the 1980s and the changing structure of agriculture (easy-to-boycott brand names avoided hiring farm workers) allowed real farm wages to fall toward the California minimum wage of \$8 an hour in 2011. Average hourly earnings are 20 to 25 percent more than the minimum wage.

Third, the farm labor market has a revolving door character that slowed during the 2008-09 recession because of shrinking construction employment. Seasonal farm work attracts workers with few other US job options. During the high-wage era of the 1960s and 1970s, the average tenure of workers employed in FVH agriculture lengthened as seasonality declined, benefits improved, and some large farms issued employee handbooks and established job ladders. Today,

average tenure appears to be less than 10 years despite reduced seasonality and a higher share of workers employed in the almost year-round greenhouse and nursery and dairy sectors.¹ If current trends continue, the seasonal farm workers of tomorrow will continue to grow up outside the US, and the children of farm workers educated in the US will shun their parents' jobs.

How would immigration reform affect FVH expansion, earnings just above the minimum wage, and the revolving-door farm labor market? First, the share of foreign-born workers would likely increase from the current 75 percent as unauthorized workers who become legal immigrants drift out of farm work and are replaced by H-2A or unauthorized workers. Second, especially H-2A guest workers may be less "visible" if they are housed on the farms where they work or in nearby towns because most will be in the US without their families. Third, farm worker tenure may *increase* if H-2A workers who cannot earn immigrant status return year-after-year to fill US farm jobs. It appears that, if AgJOBS is enacted farm employers are more likely to invest in housing and the recruitment of H-2A workers rather than raising wages and benefits to retain newly legalized farm workers. Even without AgJOBS, the H-2A program expanded to about 100,000 farm jobs a year, equivalent to 10 percent of long-season jobs on US farms.

Evolution of California Agriculture

California agriculture has always been different agriculture in other states, as exemplified by the aphorism that agriculture in California is a business, not a way of life. Unlike the image of family-farm agriculture expanding operations as technology allowed farm families to handle more acreage, California agriculture began with large land grants for cattle grazing and wheat production on ranchos of up to 50,000 acres or more. Many of California's largest landowners lived in San Francisco in the late 1860s, and some were described as bonanza farmers because they planted wheat in the fall and, if there was sufficient rain, harvested a crop in the spring.

The key development in the evolution of California agriculture was the completion of the transcontinental railroad in 1869, which integrated California into the rest of the US economy and lowered transportation and interest costs. This allowed farmers to switch from wheat to higher-value fruits that could be dried or canned for shipment to distant consumers. However, perennial fruit crops required up-front investments for irrigation and a large seasonal work force, and the question was where to get large numbers of seasonal workers. The answer lay in the mostly solo male Chinese already in California who were laid off when the transcontinental railroad was completed. Many moved to San Francisco, where they became the scapegoats for the California recession in the early 1870s resulting from cheaper manufactured goods arriving by rail from the Midwest.

¹ NAWS surveys find that 15 to 20 percent of crop workers are in their first year of US farm work.

Many of the Chinese driven out of San Francisco and other cities were hired by farmers because they were willing to work when needed and then disappear. Chinese immigration was stopped at the behest of unions in 1882, but the idea that cooperative farm employer actions could generate a sufficient seasonal farm work force undergirded the expansion of labor-intensive agriculture. Over the next century, waves of newcomers to the state filled seasonal farm jobs, including Japanese, South Asians, Mexicans, Filipinos, and Okies and Arkies.

There were two major threats to large labor-intensive farms reliant on seasonal workers with few nonfarm job options. The first arose in the 1930s, when the arrival of Okies and Arkies made English-speaking workers a majority of the seasonal work force. A wave of strikes, studies, and literature such as the *Grapes of Wrath* convinced many leaders that “something” had to be done about California’s farm labor system, which involved a relative handful of large farms dependent on armies of seasonal workers.

There were two major reform options: acknowledge that California was different, that the state had factories in the fields, and extend factory labor laws to large California farms, or break up large farms into family-sized units and teach seasonal workers how to produce fruits and vegetables. Resistance from farmers to both land reform and the extension of labor laws, combined with the outbreak of WWII that drew some farm workers into the military and factories, allowed the entry of Mexican Braceros rather than reform.

California agriculture expanded in the 1950s and 1960s, when federal and state water projects allowed the amount of irrigated land to expand by 50 percent, from about 6.5 million to 8.5 million acres, where it has remained. California accounted for less than eight percent of US farm sales in 1950; before the run-up in corn and grain prices in 2008, California’s share of US farm sales topped 13 percent. California agriculture gained 60 percent of its sales from crops in 1950, and the crop share of the state’s farm sales rose to 75 percent over the following years. Within crops, labor-intensive FVH commodities displaced field crops such as cotton, rice, and grains. Both the acreage and yields of major fruits and vegetables roughly doubled between 1960 and 2010.

The second farm labor crisis erupted in the early 1960s, when the federal government ended the Bracero program despite farmer protests. Farm worker wages rose, and farmers responded with labor-saving changes, from the systems approach to mechanizing the processing tomato harvest (change the plant so that tomatoes ripened uniformly, develop a machine to cut and sort tomatoes, and modify processing facilities to handle truckloads of tomatoes) to using bulk bins and forklifts in the fields and adopting precision planters and thinners and herbicides to reduce the need for workers. Farm wages began to rise, as exemplified by the 40 percent wage increase won by the UFW in its first contract in 1966, raising general labor wages from \$1.25 to \$1.75 an hour at a time when the federal minimum wage was \$1.25 an hour.

The golden era for farm workers lasted from the mid-1960s to the early 1980s, and is perhaps best bracketed by the two UFW 40 percent wage increases. The

mid-1960s wage increase ushered in what many thought would be a “new era” in farm labor that would see California’s large farms be the factories in the fields imagined in the 1930s, with professional human resource managers dealing with farm workers whose wages and benefits were determined directly or indirectly by collective bargaining. However, the 1979-80 farm wage increase marked the beginning of the end of collective bargaining, as many of the farms that agreed to raise wages from \$3.75 to \$5.25 an hour when the minimum wage was \$3.25 went out of business, giving the UFW a Pyrrhic victory. Most farmers who resisted UFW demands for wage increases ultimately prevailed in the courts.

The 1980s were marked by rising unauthorized migration, the demise of collective bargaining, and a restructuring of farm employment, with more farms turning to intermediaries to obtain seasonal workers. Before IRCA was enacted in 1986, surveys suggested that up to 25 percent of California’s hired workers were unauthorized, and the unauthorized were concentrated in crops that were least likely to suffer losses in the event of enforcement that removed workers, that is, citrus had a higher share of unauthorized workers than vegetables. A decade later, over half of California’s hired workers were unauthorized, and there were few differences in the share of unauthorized workers across commodities ranked by perishability.

Collective bargaining was replaced during the 1980s and 1990s by intermediaries as the main driver of farm labor market changes. Until the 1980s, large vegetable farmers hired most of the workers employed on their farms directly, turning to labor contractors only for crews of short-term and relatively low-skilled workers such as hoers. Tree fruit growers often turned to contractors for harvesting crews, but most were considered the employers of workers brought to their farms by contractors for collective bargaining purposes under California’s 1975 Agricultural Labor Relations Act.

The combination of fears of unions in the 1970s and IRCA’s legalization programs in the late 1980s led to a new era of intermediaries, so-called custom harvesters, who were labor contractors with equipment. Custom harvesters were solely responsible for hiring and supervising workers and responsible for violations of labor and immigration laws, including union laws. In effect, dealing with unions encouraged some farmers to turn to custom harvesters, and immigration reform provided legal workers who could be assembled into crews and moved from farm to farm. As the share of unauthorized farm workers rose, contractors-custom harvesters became risk absorbers for widely acknowledged violations of immigration, labor, and tax laws.

California Agriculture and Farm Labor Today

California agriculture differs from agriculture in other states in three major ways: sales, labor’s share, and seasonality. The place of farm workers in California agriculture can be summarized by the 3 C’s: concentration, contractors, and conflict. Finally, farm employers have unique ways to deal with the 3 R’s of labor markets: recruitment, remuneration, and retention.

California has led the US in farm sales since 1950 because of the importance of FVH commodities. In US agriculture as a whole and in most US states, annual farm sales of \$300 billion (2007) are divided about 50-50 between crops and livestock, and the major US crops are low value-per-acre and mechanized field crops such as wheat, corn, and soybeans. In California, by contrast, crop sales are two-thirds of the \$35 billion in farm sales (2007), and 85 percent of crop sales are high value fruit and nuts (\$11 billion), vegetables and melons (\$5.5 billion), and horticultural specialties such as flowers and mushrooms (\$4 billion). These FVH sales total \$20 billion or almost 60 percent of CA farm sales.

The second S of California agriculture is labor's share of production costs. In mechanized agriculture, land and energy costs are major input costs, while in livestock, feed is the major input cost. In most California's FVH crops, labor is the major input cost, accounting for 20 to 40 percent of production costs. Labor is often considered the most "controllable" expense in the sense that it is easier for a farmer to negotiate whether to pay \$0.25 or \$0.26 cents to have a 25-pound tray of raisin grapes picked than to negotiate the price of fertilizer.

The third S of California agriculture is seasonality, the fact that peak employment on an fruit or vegetable farm can be 5 to 10 times greater than trough employment (the peak-trough employment ratio is about 2-1 for California, meaning that two workers are hired in September for each worker hired in February). Seasonality means that farmers worry about whether there will be enough seasonal workers available when they are needed and seasonal workers worry whether they will earn enough when work is available to support themselves during the off season.

Sales, labor's share, and seasonality help to explain how California agriculture differs from agriculture in other states, while concentration, contractors, and conflict explain the role of farm workers in the state's agriculture. California has over 81,000 farms (2007), but most farm workers are hired by a relative handful of large FVH farms. The largest 10 percent of the state's farm employers, about 5,000, accounted for over 90 percent of farm labor expenditures. Much of the justification for excluding agriculture from labor and other laws, or covering agriculture at different levels, is the assertion that such labor laws would unduly burden small family farms.

The second C is contractors or intermediaries between workers and employers. Contractors have long been a fixture of California agriculture, but they evolved from a bilingual member of the crew in the era of Chinese and Japanese workers to bilingual supervisors and independent businesses whose profit is the gap or wedge between what a farmer pays to have work done and the wages and benefits received by workers. The contractor share of average farm employment has increased, and California UI data suggest that as many workers are brought to farms by agricultural service firms as are hired directly by crop farmers (an average 167,000 for support activities for crop production versus 170,000 in 2009).

The third C is conflict. Employment is the exchange of effort for reward, and this exchange is a continuous or ongoing transaction that assesses a worker's

performance at a particular wage rate, say \$10 an hour, against standards for timeliness, accuracy, speed etc. Employers are generally not required to retain workers who cannot satisfy their standards, which sets the stage for conflict over the appropriate wage and the level of effort required to keep one's job. This conflict can be resolved by employers unilaterally, through collective bargaining, or by having the government regulate wages and benefits, such as setting minimum wages and requiring the provision of unemployment insurance and pension benefits for jobless and retired workers. In agriculture and throughout the US economy, the demise of collective bargaining has been accompanied by more unilateral employer freedom to hire and set wages, subject to government labor, immigration, and anti-discrimination laws.

All labor markets perform recruitment, remuneration or motivation, and retention functions. California agriculture handles these 3 Rs' in unique ways. Recruitment matches workers and jobs. In seasonal industries such as agriculture, where large number of workers must be matched with seasonal jobs, the most efficient matching mechanism would be a central clearinghouse for farmers to list vacancies and for workers to seek jobs. Such a clearinghouse could be operated by (groups of) employers, unions (hiring halls), or the public Employment Service (EDD in California).

Each of these central labor exchanges played roles in the seasonal farm labor market in the past, and each is of negligible importance today. Instead, assembling, transporting, and often supervising and paying seasonal farm workers has become decentralized in the hands of about 1,000 contractors, custom harvesters, and other intermediaries,² which means that labor market information may not be widely shared and farmer and contractor incentives can generate simultaneous labor shortages and surpluses. For example, farmers who do not have to pay workers while they wait for work to begin may request too many workers too soon, while contractors may promise more workers than they have in order to get the farmer's job order. The result may be farmers complaining of too few workers even while another contractor's workers wait for work to begin.

Work is the exchange of effort for reward, and remuneration or wages are the major reward for workers. In the past, many jobs in FVH agriculture paid piece rate wages so that farmers would have predictable labor costs without screening workers. For example, if the employer-set piece rate is \$10 a bin, the cost of harvesting a 1,000 bin of applies is a cent a pound whether pickers average one or two bins an hour. A combination of worker homogeneity, a rising minimum wage, and new ways for employers to establish or monitor the pace of work, as with conveyor belts in the fields, have reduced the share of the share of farm jobs that are paid piece rate wages to less than 25 percent. Piece rates, which provide an incentive for workers to work faster in the absence of close supervision, are common when it is hard for an employer to regulate the pace of work, as when

² There were 2,900 establishments providing support activities for crop production in 2009, (NAICS 1151), down from a peak 3,500 in 1999. They included 1,030 farm labor contractors and crew leaders, (NAICS 115115), down from a peak 1,245 in 1999.

workers climb trees to pick fruit (and are thus often out of sight) and when quality is less important, as for picking oranges that will be processed into juice.

The third labor market R is retention, identifying and keeping the best workers in year-round jobs and encouraging the best seasonal workers to return next year. Few farmers have formal evaluation systems that involve supervisors evaluating workers periodically against employee handbooks or other criteria known to workers. Most personnel systems in agriculture are negative, involving one or two written supervisor warnings followed by termination.

Since many farm employers hire crews of workers they consider interchangeable, the incentives of farmers are to maximize the overall pool of workers available to all farmers, a labor strategy analogous to pushing for dams so that there is sufficient water to flood fields. The alternative, making investments to develop a core of workers loyal to a particular farm, has perhaps spread faster with drip irrigation than in farm labor management.

Farm Labor Data and Selected Commodities

The Quarterly Census of Employment and Wages (www.bls.gov/cew) provides detailed data on workers covered by Unemployment Insurance. In 2009, some nine million US establishments paid \$5.9 trillion in wages to 127 million employees, including 8.7 million private-sector establishments with 107 million employees (the others were federal, state, and local employees). The Bureau of Labor Statistics estimated that 92 percent of wage and salary farm workers are included, that is, 1.1 million of 1.2 million.

There are three major types of farm employers: crops, livestock, and agricultural support. The QCEW data reported an average 95,000 US agricultural establishments with an average 1.1 million employees paid a total of \$30 billion, \$500 a week. About 45 percent of the establishments, 46 percent of average employees, and 43 percent of wages were paid by crop farms. There were almost 11,000 fruit and nut establishments with an average 183,000 employees paid an average \$405 a week; 9,000 greenhouse and nursery establishments with an average 150,000 employees paid an average \$505 a week; and 4,200 vegetable and melon establishments with an average 95,000 employees paid an average \$485 a week.

There were 22,500 US livestock establishments with an average 226,000 employees paid an average \$565 a week. About 6,800 were dairies that had an average 86,000 employees paid an average \$520 a week, that is, dairies were 30 percent of livestock establishments, accounted for 38 percent of average livestock employment, and paid 35 percent of livestock wages.

There were about 15,000 US agricultural support establishments. Two-thirds provided support for crop production, and these 10,100 establishments included 2,200 farm labor contractors. Crop support establishments, which also include cotton gins, custom planters and harvesters, and farm management services, employed an average 278,000 employees and paid \$6.3 billion in wages in 2009,

an average \$430 a week. FLCs employed an average 150,000 employees and paid \$2.4 billion in wages in 2009, an average \$315 a week.

Adding the average 530,000 employees hired directly by US crop farmers and the 278,000 brought to crop farms by support establishments suggests average total crop employment of 808,000 in 2009, with a third of this employment provided by support establishments and almost 20 percent provided by FLCs. Employees brought to farms by support establishments (including FLCs) earn significantly less per week than employees hired directly.

California has almost universal unemployment insurance coverage in agriculture. Average agricultural employment (including forestry and fishing) was 394,000 in 2009, down from a peak of 412,000 in the mid-1990s but about the same as in 1990. Average weekly wages were \$470 in 2009, up from \$335 in 2000 and \$250 in 1990. In real terms, average wages rose 14 percent between 1990 and 2009. Most of this increase occurred between 2000 and 2009, when real wages rose 12 percent. The number of farm employers or establishments fell from 27,000 in 1990 to 24,000 in 2000 to 17,000 in 2009.

California had 378 strawberry (NAICS 111333) establishments in 2009; they reported an average 27,211 workers in 2009 and average weekly earnings of \$392. The number of strawberry establishments was stable, but employment peaked at 38,200 in June, when average weekly earnings were \$421. Almost 90 percent of average strawberry employment was in four counties, including almost 40 percent in Ventura county, where 84 strawberry establishments hired an average 10,200 workers and paid an average \$394 weekly wage; the 91 strawberry establishments in Santa Barbara county hired an average 5,200 workers and paid an average \$359 weekly wage. The 65 strawberry establishments in Santa Cruz county hired an average 4,750 workers and paid an average \$427 weekly wage, while the 85 strawberry establishments in Monterey county hired an average 4,000 workers and paid an average \$408 weekly wage.

Immigration Reform: AgJOBS

The major immigration reform proposal that would affect farm workers and farm employers is the Agricultural Job Opportunity Benefits and Security Act (AgJOBS), a compromise negotiated by worker advocates and farm employers in December 2000. AgJOBS would legalize unauthorized foreigners who have done farm work and make it easier for farm employers to hire guest workers under the H-2A program. AgJOBS was included in the 2006 comprehensive immigration reform bill approved by the Senate and in the 2007 bill that was not approved. It has not been re-introduced in the 2011-12 Congress.

AgJOBS has two major components: legalization of unauthorized farm workers and H-2A reform. The May 2009 version of AgJOBS (S1038; HR 2414) would have allowed up to 1.35 million unauthorized farm workers who did at least 150 days or 863 hours of farm work in the 24-month period ending December 31, 2008 to apply for Blue Cards. H-2A workers who did sufficient qualifying work could qualify for Blue Card visas, but not H-2A workers admitted after the enactment of AgJOBS.

The House version of AgJOBS allowed unauthorized workers to qualify for Blue Cards by doing 150 days or 863 hours of farm work or by earning at least \$7,500 from farm work during the 24-month qualifying period.

Unauthorized farm workers would apply for Blue Cards via government-approved qualified designated entities or licensed attorneys, BIA-recognized organizations, or licensed attorneys, including legal aid programs funded by the federal government; the sign-up period would begin seven months after AgJOBS is enacted and last for 18 months. Workers would present evidence of their qualifying farm work, such as employer-issued payroll records, time cards and other work-related documents, or obtain affidavits from contractors or fellow workers that, “by a preponderance of the evidence,” demonstrate they did sufficient farm work to qualify. After paying an application fee and a \$100 fine, they would obtain Blue Card visas with personal biometric data.

Blue Card holders could work and travel freely within the US and enter and leave the US. Unauthorized family members of Blue Card holders in the US could obtain a “derivative” probationary legal status that would allow them to obtain work permits. Family members of Blue Card holders would not have to do farm work, and they could travel in and out of the US with their derivative legal status.

Blue Card holders could earn an immigrant status for themselves and their families by doing additional farm work in one of three ways: (1) performing at least 150 days (a day is at least 5.75 hours) of farm work a year during each of the first three years after the enactment of AgJOBS; (2) doing at least 100 days of farm work a year during the first five years; or (3) working at least 150 days in any three years, plus 100 days in a fourth year (for workers who do not do 150 days in the first three years). Employers of Blue Card holders must provide Blue Card employees with written records of their farm work and submit a copy to DHS (employers may be fined up to \$1,000 for not providing employment records to DHS).

Blue Card holders would be eligible for job-related benefits such as unemployment insurance and the earned income tax credit, but may not be eligible for means-tested benefits such as Food Stamps.

To become immigrants within seven years of first receiving Blue Cards, currently unauthorized foreigners would have to document their farm work, show that they filed income tax returns, and pay an application fee and a \$500 fine; their family members would become immigrants at the same time. Blue Card holders could receive up to 12 months credit for farm work not done due to pregnancy, disease or injury to themselves or a minor child, severe weather conditions that reduced farm jobs, or being fired without “just cause” by a farm employer and unable to find another farm job after a “reasonable job search.” Administrative mechanisms would be established so that injured and unjustly fired Blue-Card workers could receive appropriate work credit.

AgJOBS would make it easier for farmers to employ H-2A guest workers. Most of the changes to the H-2A program would begin one year after the enactment of

AgJOBS, but the 2009 version of AgJOBS would have immediately frozen the AEW at its 2008 level for three years, rolling back wages by \$1 to \$2 an hour.

AgJOBS would change the H-2A program in three major ways. First, attestation would replace certification, effectively shifting control of the border gate from the US Department of Labor to employers, who would make assertions (assurances) to DOL that they have vacant jobs, are paying at least the minimum or prevailing wage, and will comply with other H-2A requirements. Employer job offers, to be filed at least 28 days before workers are needed (down from the current 45 days), would be posted on the internet rather than circulated via the interstate clearance system, the current practice. Not more than 14 days before the employer-specified starting date, the employer must advertise for US workers.

DOL would review employer assurances for "completeness and obvious inaccuracies" before approving them within seven days of receipt. Employers would recruit H-2A workers abroad; they would be issued H-2A visas at US consulates, travel to the US and go to work. DOL enforcement of employer assurances would respond to complaints of violations of H-2A regulations, such as the three-fourths guarantee (the employer must offer work for at least $\frac{3}{4}$ of the work period specified in the employer's application). Employers must hire local workers (including Blue Card holders) who respond to recruitment ads until 50 percent of the work period is completed. Finally, employers must reimburse 100 percent of the transportation costs of workers who complete the job.

Second, rather than the current requirement that employers provide free housing to H-2A and out-of-area US workers, AgJOBS would allow farm employers to pay a housing allowance of \$1 to \$2 an hour, depending on local costs to rent two-bedroom units that are assumed to house four workers. State governors would have to certify that there is sufficient rental housing for the guest workers in the area of employment before employers could pay a housing allowance rather than provide free housing.

Third, the Adverse Effect Wage Rate, the minimum wage that must be paid to legal guest workers and any US workers employed alongside them, would be frozen at 2008 levels and studied (www.foreignlaborcert.doleta.gov/adverse.cfm). If Congress failed to enact a new AEW within three years, the AEW would be adjusted on the basis of the three-year change in the Consumer Price Index and eventually rise with the CPI by up to four percent a year.

The H-2A program currently allows only employers offering seasonal farm jobs to participate, although H-2A sheep and goat herders have been allowed to work in the US continuously for up to three years as an exception to this seasonal-job rule. Under AgJOBS, dairy workers would be added to the sheep and goat exception, so that dairies could employ H-2A workers for up to three years. Dairy farms accounted for 15 percent of direct-hire labor expenses in the 2007 Census of Agriculture, about the same as fruit and nut farms, and reported hiring 176,000 workers, two-thirds for more than 150 days on their farms.

Employer job orders become contracts that H-2A and US workers can sue to enforce. Currently, H-2A workers can sue to enforce these contracts in state courts; under AgJOBS, they could sue employers in federal courts. If workers file federal suit to enforce their contracts after AgJOBS is enacted, growers can request mediation from the Federal Mediation and Conciliation Service, and the parties must attempt to resolve their dispute for at least 90 days before the suit can proceed.

Under AgJOBS, H-2A workers would be offered protections comparable to those laid out in the Migrant and Seasonal Agricultural Worker Protection Act of 1983 (www.dol.gov/esa/whd/regs/statutes/0001.mspa.htm), including assurances that the vehicles used to transport workers were safe. Even though many of those who recruit H-2A workers are or should be licensed as FLCs, AgJOBS, unlike MSPA, does not require the disclosure of wages and working conditions to workers at the time and place of recruitment.

Many requirements of the H-2A program would continue under AgJOBS, including (1) employers must reimburse H-2A (and US workers from beyond commuting distance) for their transportation and subsistence costs to reach their farms if they complete their work contracts, (2) employers must hire US workers who seek jobs until half of the work contract period is completed, and (3) employers must guarantee work to H-2A and US workers for at least $\frac{3}{4}$ of the contract period.

How many unauthorized workers would qualify for legalization under AgJOBS? If two-thirds of the estimated 1.4 million workers employed on crop farms sometime during the year are unauthorized, and a third of the estimated 429,000 livestock workers are unauthorized, there were a total 1.1 million unauthorized farm workers in 2007.

Farm workers qualify for legalization if they did at least 863 hours or 150 days of farm work in the 24 months ending December 31, 2008. Based on NAWS data, about 80 percent of unauthorized crop workers would qualify and, if all of the unauthorized livestock workers qualify, up to 880,000 unauthorized workers could be legalized.

There are no national estimates of the number of persons employed for wages on US farms. Instead, a USDA survey of farm employers reports employment and average hourly earnings, and a DOL survey of farm workers reports worker characteristics (including legal status) and earnings. USDA's NASS (<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1063>) estimates employment on US farms four times a year. It reported an annual average 884,500 workers were hired directly by farmers in 2002, when the average hourly earnings of field and livestock workers were \$8.17 (an additional 250,000 workers were brought to farms by contractors and custom operators). In 2007, NASS estimated an annual average 739,800 workers were hired directly by farmers, down 16 percent, and average hourly earnings of field and livestock workers of \$9.49, up 16 percent (an additional 325,000 workers were brought to farms by contractors and custom operators).

DOL's NAWS (www.doleta.gov/agworker/naws.cfm) interviews several thousand workers employed on crop farms each year. The NAWS finds that three-fourths of crop workers were born in Mexico and most are unauthorized. The NAWS survey of workers finds lower hourly earnings than the NASS survey of employers, in part because supervisors are excluded from the NAWS but included in the NASS.

One way to estimate the number of farm workers who may be eligible for legalization under AgJOBS is to divide the crop and livestock labor expenditures of farmers in each state by the average hourly earnings of farm workers in that state. Dividing almost \$18 billion in crop labor expenditures by average field worker earnings, which ranged from \$8.30 to \$10 an hour across NASS regions in 2007, yields 1.9 billion hours worked on crop farms. Dividing these 1.9 billion hours by the 1,384 average hours worked by crop workers (40.7 hours a week, according to the NASS survey of employers, and 34 weeks of farm work a year, according to the NAWS survey of crop workers), yields 1.4 million crop workers.

If the \$8.5 billion in livestock labor expenditures are divided by employer-reported average hourly earnings, and assuming that 70 percent of the combined field and livestock wage in each state is attributed to crop workers and 30 percent to livestock workers, there were 873 million hours worked on livestock farms in 2007. Livestock workers were employed more hours than crop workers, an average 2,035 a year based on the NASS report of 40.7 hours a week times 50 weeks. The result is an estimated hired livestock work force of 429,000.

No one knows how many farm workers are unauthorized. If two-thirds of the estimated 1.4 million crop workers and one-third of the estimated 429,000 livestock workers were unauthorized, there were 1.1 million unauthorized farm workers in 2007. If 70 percent of crop workers and 40 percent of livestock workers were unauthorized, about 63 percent of US hired workers, some 1.2 million, were unauthorized.

Unauthorized farm workers would be eligible for legalization under AgJOBS if they worked at least 863 hours or 150 days in the 24 months ending December 31, 2008. NAWS data suggest that 80 percent of the crop workers interviewed were employed more than 74 days. Using the 2/3 crop and 1/3 livestock unauthorized shares, and assuming that 80 percent of the 923,000 unauthorized crop workers qualified and all of the 142,000 unauthorized livestock workers qualified, yields 880,000 eligible unauthorized farm workers. For some unauthorized workers, it may be easier to find a W-2 statement that shows farm earnings during the previous year(s) rather than evidence of farm days worked. Based on NAWS estimates of worker earnings, W-2 statements with combined 2007 and 2008 earnings of \$7,000 or more should have included almost all eligible farm workers.

Conclusions

California agriculture exhibits continuity amidst change. A large fruit or vegetable grower transported from the 1950s to today would marvel at laser-

guided ground-leveling equipment, drip irrigation, and computers, but be very familiar with crews of Mexican-born farm workers picking fruits and vegetables. A growing US population and technologies and transport systems that allowed fresh fruits and vegetables to be produced and distributed almost year-round help to explain the growth of California agricultural production, sales, and farm worker employment. Meanwhile, Mexico-US migration explains the persistence of Mexican-born workers in California fields.

During the 15-year golden era for farm workers between the mid-1960s and late 1970s, there were fundamental changes in California's farm labor market and expectations of more. Higher wages stimulated mechanization and other labor-saving changes, including management changes aimed at using more expensive workers more efficiently. Fringe benefits such as health insurance and pension benefits for seasonal workers became common on large farms with union contracts or seeking to avoid unions. The extension of unemployment insurance to California farm workers in 1978 prompted some to predict that seasonal farm labor markets would resemble construction labor markets, with relatively high hourly earnings when there was work available and unemployment insurance benefits during the off season.

Rising illegal migration and the changing structure of farm employers changed this new era for farm labor within a decade. By the late 1980s, labor contractors and custom harvesters became the major dynamic actors shaping the seasonal farm labor market, as agribusinesses that traditionally hired workers directly shifted to intermediaries to limit their liability for violations of labor, immigration, tax, and other laws. In some cases, the shift to intermediaries was mutually beneficial for farmers and farm workers, but in many cases, intermediaries who had more power over workers than farmers made their profits from newcomers unsure of their rights.

AgJOBS promises another jolt to the farm labor market. Legalization would likely speed up the revolving door that sees newcomers arrive in the US to fill seasonal farm labor jobs for less than a decade, and their children educated in the US shun their parents' seasonal farm jobs. The streamlining of the H-2A program included in AgJOBS would likely maintain or increase the share of foreign-born workers in the seasonal farm labor market, make farm workers less visible if they are housed on farms or in nearby farm worker cities, and perhaps slow the revolving door if H-2A workers return year-after-year. AgJOBS could produce a farm labor market in California and other states similar to that of Florida sugar cane, where hired farm labor was a minor issue for the CEOs of major sugar mills until a lawsuit alleging underpayment of wages prompted mechanization.

Bibliography

Calvin, Linda and Philip Martin. 2010. The US Produce Industry and Labor: Facing the Future in a Global Economy. USDA. Economic Research Report No. (ERR-106). November. <http://www.ers.usda.gov/Publications/ERR106/> and www.ers.usda.gov/AmberWaves/december10/Features/LaborIntensive.htm

Carter, Colin, Philip Martin and Alix Peterson Zwane. 2005. Trade and North American Agriculture: Assessing NAFTA at 12. ARE Update, Vol. 9, No. 2, Nov/Dec

Goldsmith, Peter and Philip L. Martin. 2006. The Future of Animal Agriculture in North America: Community and Labor Issues. Choices. Vol 21. No 3. Pp183-187. www.choicesmagazine.org

Green, R., P. Martin, and J. E. Taylor. 2003. Welfare Reform in Agricultural California. Journal of Agricultural and Resource Economics, Vol. 28, No. 1, April pp. 169-183

Khan, Akhtar, Philip Martin and Phil Hardiman. 2004. Expanded production of labor-intensive crops increases agricultural employment. California Agriculture. January-March. Pp35-39. <http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v058n01p35&fulltext=yes>

Lloyd, Jack, Philip L. Martin and John Mamer. 1988. The Ventura citrus labor market. Berkeley: University of California, Division of Agriculture and Natural Resources (Giannini Foundation: Giannini information series 88-1

Martin, Philip and Linda Calvin. 2010. Immigration Reform: What Does It Mean for Agriculture and Rural America. Applied Economic Perspectives and Policy. Volume 32, Issue 2. Pp. 232-253

Martin, Philip. 2009. Importing Poverty? Immigration and the Changing Face of Rural America. Yale University Press.

Martin, Philip. 2009. Immigration Reform: What Does It Mean for Agriculture? Choices. P15. September. Pp1-6. www.aaea.org/publications/policy-issues

Martin, Philip, Michael Fix, and Ed Taylor. 2006. The New Rural Poverty: Agriculture and Immigration in California. Urban Institute Press. www.urban.org/books/ruralpoverty

Martin, Philip. 2003. AgJOBS: New Solution or New Problem?" International Migration Review. Vol 37, No 4, Winter 127-141.

Martin, Philip. 2002. Mexican Workers and US Agriculture: The Revolving Door. International Migration Review. Vol 36, No 4. pp1124-1143.

Martin, Philip L. and J. Edward Taylor. 2000. California Farm Workers. California Agriculture. Vol. 54, No 1, 19-25. <http://danr.ucop.edu/calag/>

Martin, Philip. 1998. The Endless Debate: Immigration and US Agriculture. 79-101 in Peter Duignan and Lewis Gann. Eds. The Debate in the United States over Immigration. Stanford. Hoover Institution (www-hoover.stanford.edu/).

Martin, Philip and Jeffrey Perloff. 1997. Hired Farm Labor. In Jerome Siebert. Ed. California Agriculture. Issues and Challenges. UC-DANR. Pp 151-174.

Martin, Philip L. 1994. Agriculture. Chapter 12, pp491-528 in Voos, Paula.Ed. 1994. Contemporary Collective Bargaining in the Private Sector. Industrial Relations Research Association

Martin, Philip. 1994. Good intentions gone awry: IRCA and U.S. agriculture. The Annals of the Academy of Political and Social Science, Vol 534: 44-57. July

Martin, Philip L. and Gregory P. Miller. 1993. Farmers increase hiring through labor contractors. California Agriculture, Vol. 47, no. 4. July: 20-23

Martin, Philip L. 1990. The outlook for agricultural labor in the 1990s. U.C. Davis Law Review, 23, 3: 499-523

Martin, Philip L. and Daniel L. Egan. 1989. The makewhole remedy in California agriculture. Industrial and Labor Relations Review, vol. 43, no. 1. (October): 120-131

Martin, Philip L. and Stephanie Luce. 1988. The immigration reform and control act: IRCA's effects on large farms. California Agriculture, Vol. 42, no. 3. May. 26-28

Martin, Philip L., Richard Mines and Angela Diaz. 1985. A profile of California farmworkers. California Agriculture (May): 16-18

Mines, Richard and Philip L. Martin. 1986. A profile of California farmworkers. Giannini Information Series 86-2, Berkeley: University of California, Division of Agriculture and Natural Resources

Thompson, Gary D. and Philip L. Martin. 1991. "Immigration reform and the agricultural labor force." Labor Law Journal, 42, 8: 528-536

Vaupel, Suzanne and Philip Martin. 1987. "Evaluating employer sanctions: Farm labor contractor experience." Industrial Relations Vol 26. No 3. November. 304-313