California Farm Labor in the 2020s

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Highlights

California's farm sales of $51 billion in 2021 were almost twice the farm sales of Iowa, the #2 farm state; over $20 billion worth of CA commodities are exported. California has led among states in farm sales since 1949 by specializing in FVH commodities: fruits and nuts (worth $21 billion in 2019), vegetables and melons ($8 billion), and horticultural specialties ($6 billion).

Almost 90 percent of California's 850,000+ workers were born in Mexico, have little education (an average 8 years), are aging (average 42), and are half unauthorized. By contrast, H-2A guest workers are typically 32-year-old Mexican men who cost more than US workers, at least $25 an hour including wages, housing and transportation, versus $18 to $20 for US workers including wages and payroll taxes. Most H-2As are more 15 to 30 percent more productive than US workers, and their contracts provide insurance that workers will be available.

The covid pandemic accelerated three trends: faster adoption of labor-saving mechanization and mechanical aids that raise the productivity of hand workers, more H-2A guest workers, and rising imports of fruits and vegetables. Farm wages are rising than nonfarm wages (1) for market reasons, as stable demand confronts a shrinking supply of US workers, (2) as a result of new state regulations including overtime, and (3) due to increased reliance on H-2A workers and associated transportation, housing, and AEWR requirements.

Farm Employment

California specializes in high-value and labor-intensive commodities. An acre of midwestern corn or soybeans typically generates $750 to $1,500 in revenue, while an acre of strawberries can generate $100,000 or more, highlighting the high investment requirements and risks associated with FVH commodities. Labor costs are 30 to 40 percent of variable production costs for most fresh fruits and vegetables.

California agriculture employs an average 410,000 hired workers; employment peaks at 460,000 during the summer months and falls to less than 350,000 in January, a peak-trough ratio of 1.3. Seasonality and worker turnover mean that more twice as many unique workers, 850,000+, are employed for wages sometime during a typical year on California farms. An full-time farm worker would have earned almost $800 a week or over $40,000 in 2021, but typical farm workers receive only half as much, $20,000, because most are employed seasonally.

California is unique among states in having more workers brought to farms by nonfarm crop support employers, mostly farm labor contractors, than are hired directly by farmers. In US ag, two workers are hired directly by farmers for each worker brought to farms by crop support-service firms such as FLCs. In California, 1.5 workers are brought to crop farms by nonfarm crop support businesses for each worker who is hired directly.

Farmers and Farm Workers

Farmers and farm workers differ in characteristics and income. Farmers in their late 50s are older than average US workers, are mostly white and are often the 3rd, 4th, or 5th generation to farm. There has been an upsurge in investment into farming with goals that range from (1) restructuring farms to reduce costs and raise profits to (2) anticipating land-price appreciation and (3) retirement and hobby farming.

Most farm workers are younger and more likely to be Hispanic than the average US worker; many are first-generation immigrants who settle in one area and have one farm employer a year. CA field worker earnings averaged $18.65 an hour in 2022, suggesting farm earnings of $18,655 for 1,000 hours of work and $37,310 for 2,000 hours. Most farm workers drift out of farm work in their 40s due to the physical demands of many farm jobs, and they are increasingly being replaced by H-2A guest workers who are almost 20 percent of US and 10 percent of California crop workers.

The H-2A program could expand faster if the Farm Workforce Modernization Act were enacted. FWMA would allow unauthorized farm workers to become Certified Agricultural Workers (CAWs) with 5.5 year work visas and, after four or eight more years of US farm work, CAWS could apply for immigrant visas. The H-2A program's Adverse Effect Wage Rate of $18.65 in California in 2023, when the minimum wage is $15.50, would be frozen and studied. The

FWMA would likely increase the US farm labor supply in the short term and expand the H-2A program in the medium term.

MMI: Machines, Migrants, and Imports

Rising farm labor costs and covid accelerated three major trends: labor-saving mechanization, more migrant H-2A workers, and more imports. Human history is the story of productivity improvements in agriculture that allow fewer farmers to feed more people, and labor-saving mechanization remains the major response to rising farm labor costs. Mechanization is easiest for crops that ripen uniformly, as with processing vegetables and tree nuts.

Mechanizing hand-harvested and fragile commodities such as lettuce and strawberries requires a systems perspective, cooperation between biologists and engineers, and trial-and-error refinements. A systems perspective can require new farming systems to facilitate mechanization such as planting dwarf fruit trees whose limbs are trained to produce fruiting walls, making apple orchards resemble vineyards. Cooperation means breeding plants that produce uniformly ripening produce able to withstand damage from machines. The need to refine production systems means that the first machines are rarely those that dominate a decade later, a first-adopter disadvantage.

The mechanization question is how much (more) to invest to reduce labor costs. Mechanization investments are most likely when market-driven changes are underway, as when growers are replanting apple orchards with new varieties, and is often easier for pre-harvest tasks, including pruning and thinning. The decisive factor is payback time, how soon does the new tree or vine architecture and machine pay for itself in reduced labor costs?

Migrants are the second option. The US Bracero program between 1942 and 1964 admitted a peak 455,000 Mexican guest workers in the mid-1950s, when 20 percent of US crop workers were Braceros. Farm labor costs jumped in the late 1960s as the United Farm Workers won 40 percent wage increases in table grape contracts and other farmers raised wages to avoid unionization and accelerated labor-saving mechanization. After IRCA in 1986, unauthorized Mexicans provided an ample supply of workers in the 1990s and early 2000s. The H-2A program began to expand after 2012. H-2A workers are the highest share of farm workforces in the southeastern states of FL, GA, and NC, but the H-2A program is expanding fastest in the Pacific Coast states of CA, OR, and WA, the three states with half of US crop workers, the highest AEWRs, and high housing costs.

The third response to higher wages is more imports. Over 60 percent of the fresh fruit available to US residents, and 35 percent of the fresh vegetables, are imported. Mexican farm wages are a tenth those of California, and Mexico provides half of US fresh fruit imports and three-fourths of US fresh vegetable imports. Many Mexican fruits and vegetables are from controlled environment agriculture (CEA), protective structures that range from plastic-covered hoop structures to greenhouses and result in higher yields, longer seasons, and better food safety. Workers in Mexico's export ag earn 2x or 3x the 2023 Mexican minimum wage of 207 pesos ($11) a day in most of the country and 312 pesos ($16.50) near the US border.

California pioneered the separation of the production and consumption of fresh and perishable commodities in the 1960s and 1970s, displacing New Jersey as the US garden state due to improved farming systems, cooling and packing technologies, and refrigerated transportation over interstate highways. This same separation of production and consumption is spreading to lower-wage countries, where growers often use CEA rather than open-field production methods and pay a tenth of wages. US and CA agriculture have traditionally been free traders, anticipating more opportunities to export rather than perceiving threats from farm imports; ag protectionism may spread from the southeast states as fruit and vegetable imports rise.

California's farm labor story over the next five years likely involves rising farm labor costs that prompt more mechanization, more H-2A guest workers, and more farm imports. Rising labor costs are likely to:

- shrink US production of open-field fresh tomatoes and cantaloupes as imports rise,
- speed the switch from hand to machine harvesting of blueberries and raisin grapes where imports keep a lid on US grower prices,
- encourage more mechanical aids such as conveyor belts and robots that raise the productivity of US and H-2A workers in strawberries, leafy green vegetables, and table grapes and

- speed the replacement of ladders with lifting platforms in tree fruits such as apples and cherries.

Producing labor-intensive commodities as labor costs rise requires more investment, raising the question of where to invest: in machines to replace workers, aids to make workers more productive, housing for H-2A workers, and/or production in lower-wage countries? Growers and marketers are investing in all three options, machines, migrants, and production abroad, until the winning strategy for their commodity is clear.

Labor costs are the major driver of the MMI choices confronting the fresh produce industry, but a range of factors and policies influence the ultimate outcome. CA has an ideal climate and infrastructure to grow strawberries almost year-round. Will machines that pick into lugs and move packing indoors replace workers who pick directly into clamshells, that is, are H-2A workers and conveyor belts cheaper than machines and electronics? Will policy changes make H-2As cheaper or more expensive? Will plant varieties developed for CEA abroad provide high-quality produce for Americans?

There is likely to be more mechanization, more migrants, and more imports in 2030. However, the speed of change will likely vary by commodity. For some of CA's commodities, from leafy greens to strawberries, the most likely outcome is a short-term increase in migrants followed by mechanization. For other commodities, there may be more H-2As followed by less production and rising imports.