Five million Mexican-born farm workers are employed on North American farms sometime during a typical year, including 50,000 in Canada, three million in Mexico, and two million in the US. Most Mexican-born farm workers were raised in rural Mexico.

Mexican-born farm workers who are employed on American and Canadian farms earn at least ten times more than they would earn in Mexico, $15 to $20 an hour versus $15 to $20 a day, whether employed as guest workers, legal immigrants or naturalized citizens, or unauthorized workers. Mexican farm workers who are employed on the Mexican farms in the northern and central states that export fruits and vegetables to the US earn twice as much as farm workers employed on farms that produce for the Mexican market, who often earn $10 to $15 a day.

Bracero 2.0 explores how Mexican-born workers came to dominate seasonal farm workforces of the North American countries, the shift from unauthorized to legal H-2A guest workers in the US, and the fight in the fields between machines, migrants, and imports to produce fresh fruits and vegetables. Will Americans and Canadians buy fresh fruits and vegetables picked inside their borders by machines or guest workers, or will they purchase more avocados and tomatoes imported from Mexico and other lower-wage countries?

Agriculture

The farming industry that creates a demand for seasonal farm relies on biological rather than engineering production processes. Weather plays a major role in determining yields, the need for farm workers, and grower prices. Agriculture is dispersed, so there are farms in almost every state and county, and farmers are well-organized to exert political influence on farm policies.

A familiar adage captures a fundamental difference between the agricultural policies of industrial and developing countries. In industrial countries, where farmers are less than five percent of workers and are richer than nonfarm residents, governments subsidize farmers. In developing countries, where farmers are more than 50 percent of workers and poorer than nonfarm residents, governments often tax farmers via monopoly suppliers that charge high prices for seeds and fertilizers or monopoly buyers who offer lower-than-world prices.

Canada

Canada may have too much geography and not enough people. Some 40 million people are spread over 3.5 million square miles, although three-fourths live within 100 miles of the US border and three-fourths are in the three provinces of Ontario, Quebec, and British Colombia.

Canada is a major exporter of canola, soybeans, wheat, and beef
and pork, but imports most of its fresh fruits and vegetables from the US. Fruits and vegetables are grown in Ontario, Quebec, and British Columbia near the US border; Leamington, the tomato capital of Canada, is just north of Lake Erie. Most Leamington-area farmers rely on guest workers from Mexico and Jamaica to harvest their crops.

Canada has 120,000 hired farm workers, including half who are guest or temporary foreign workers. The Seasonal Agricultural Workers Program (SAWP) has been admitting Caribbean (mostly Jamaican) workers since 1966 and Mexican workers since 1974. The SAWP expanded over time, doubling in size since 2000. Two-thirds of SAWP workers are in Ontario, almost 20 percent are in British Columbia, and 10 percent are in Quebec. Migrant farm workers stay in Canada an average 22 weeks or 5.5 months, and many work 60 to 70 hours a week.

Most farmers advance the cost of airfare and visas and deduct some travel and other costs from worker wages. Employers offer free housing to SAWP workers on their farms or nearby and free transportation between worker housing and farm workplaces. Employers enroll SAWP workers in provincial health insurance programs, and SAWP workers are eligible for health services upon arrival.

Most SAWP migrants work for a decade or more in Canada, which means that most migrants are returning to the same farm year-after year. Farmers name or specify 80 percent of the guest workers they want to hire rather than selecting from work-ready pools in Mexico and the Caribbean. Employers evaluate each SAWP worker at the end of the season, and migrant advocates allege that some farmers and farm organizations “blacklist” particular migrants who complain about wages or working conditions.

The ILO considers the SAWP to be a model bilateral labor agreement, citing the involvement of Canadian, Mexican, and Caribbean governments in periodic reviews of the program as well as the advisory role of employer organizations. However, the United Food and Commercial Workers (UFCW) union calls the SAWP “Canada’s dirty little secret,” citing the power of employers over guest workers who want to be invited to return. The UFCW’s efforts to unionize SAWP workers have often ended in disputes.

Mexico

American and Canadian farming systems evolved from family farms that became fewer and larger as labor-saving technologies allowed one farmer to farm more land. Mexico’s farming system evolved differently. The Spanish government granted land to conquering soldiers and white settlers under the encomienda (to entrust) system that obliged indigenous residents to work on the haciendas or estates of those who received land grants in exchange for protection and conversion to Catholicism. The Mexican revolution between 1910 and 1917 broke these estates into ejidos for
small farmers who could farm but not sell the land allotted to them. There was little incentive or opportunity to invest in ejido land, fueling rural poverty and emigration.

Mexico's agriculture and farm policies changed in the 1990s, expanding the number of large and privately owned farms that have become similar to Canadian and US farms. Modern farms in Sinaloa, Sonora, and other northern Mexican states developed partnerships with US marketers and buyers of fresh fruits and vegetables. These farms import the seeds, fertilizers, and other items needed to produce tomatoes and other fruits and vegetables and export them to Canadians and Americans during the winter months when there is little US production except in Florida.

NAFTA encouraged more production in Mexico for export to the US. Many Mexican export farms adopted controlled-environment agriculture (CEA), greenhouses and other structures that fully or partially protect growing plants. CEA makes farms akin to factories, with controlled entrances and exits, higher yields, and often organic production. By protecting growing plants, Mexican farmers can produce more months of the year.

Mexico is a country of 130 million people, and most farm commodities produced in Mexico are consumed in Mexico. However, most of the fresh cucumbers and bell peppers grown in Mexico, as well as most fresh blueberries and raspberries, are exported, as are a rising share of avocados, tomatoes, and other mainstays of the Mexican diet.

Wages are higher and working conditions are better on Mexican farms that export fruits and vegetables than on farms that produce for the Mexican market. The Los Angeles
Times in December 2014 charged that Americans who eat Mexican-produced tomatoes are eating the products of child and forced labor, suggesting that export farms care more about the tomatoes and strawberries they export than the workers who picked them. In response, the Mexican government stepped up the enforcement of labor laws and US buyers required their Mexican suppliers to pay for audits that certified their compliance with Mexican labor laws.

Labor law enforcement and buyer pressure changed labor conditions on Mexican export farms. Over 90 percent of the workers employed on export farms report that their employers have enrolled them in IMSS, Mexico’s comprehensive social security system that provides health and child care as well as pensions and bonuses. However, especially internal migrant workers from poorer southern Mexican states who are employed seasonally in northern Mexico complain that they find it hard to access IMSS health care services, citing long lines and unfriendly staff. Some export farms operate clinics for their employees and their families, thus paying twice, first in payroll taxes to finance IMSS and then for private services that IMSS fails to provide.

One purpose of NAFTA was to allow trade to substitute for migration. Ex-President Carlos Salinas asserted that if Mexico could export more tomatoes to the US, fewer Mexican tomato pickers would migrate to the US. In fact, the US received both more Mexican tomatoes and more Mexican tomato pickers over the past three decades. Today most of the fresh tomatoes consumed in all the three North American countries are picked by Mexican-born workers.

**United States**

The US was settled largely by European immigrants who wanted to own the land they farmed. However, three distinct farming systems evolved to obtain seasonal farm labor:

- family farms relied on large families in the north and midwest,
- plantations based on slavery dominated in the south and
- large farms that relied on migrants emerged in the west.

Slavery ended and family farms became fewer and larger as the western system of relying on seasonal workers with few other US job options spread throughout labor-intensive agriculture.

Farming systems in the west were shaped by Spanish and Mexican land grants that created large ranchos of 25,000 acres or more, many of which were acquired by Americans after California became a state in 1850. The completion of the transcontinental railroad in 1869 transformed agriculture in California, bringing cheaper industrial goods from eastern factories and making it economically feasible to ship Mediterranean fruits such as oranges from California.

The Chinese migrants who had been imported to help to build the railroad were driven out of western cities and soon dominated the California farm workforce. Farmers hired everyone who showed up to work, but expected migrant and seasonal farm workers to fend for themselves during the off season. The low wages paid to Chinese seasonal workers who earned wages only seasonally were soon capitalized into higher land prices, making it hard for European immigrants to become family farmers and do their own work. The value of the time of a farmer doing his own farm work was the same as the low wages paid to the Chinese workers, which discouraged small farmers in California.

Large farms did not have to be broken into family-sized units to obtain seasonal workers because waves of migrants followed the Chinese, including Japanese and Punjabi migrants as well as Dust...
Bowl whites whose plight was described in The Grapes of Wrath. But the major source of migrants for western and eventually US agriculture was Mexico. The US had two Bracero guest worker programs, from 1917-21 and again from 1942-64, and both established networks between rural Mexico and US farms that encouraged unauthorized Mexico-US migration after the programs ended. The farm worker amnesty program of 1987-88 that legalized over a million Mexicans cemented Mexico as the major source of seasonal US farm workers.

Mexican-born workers dominate among seasonal workers on US fruit and vegetable farms, an important but small share of US agriculture that generates $50 billion of total US crop sales of $250 billion a year. Many fruits and vegetables are imported (bananas) or mechanized (potatoes); the major commodities that rely on Mexican-born seasonal workers include apples, grapes, oranges, berries as well as lettuce and other fresh vegetables. These labor-intensive commodities are produced by a relatively small number of grower-shippers, as with the Big 4 in Washington apples, or a small group of marketers with extensive control over growers, as with the Big 4 in California strawberries.

The major trends in US farm labor include:
- a stable demand for hand workers as Americans consume more fresh produce,
- an aging and half unauthorized Mexican-born seasonal workforce that arrived before the 2008-09 recession and
- more H-2A guest workers who are often brought to farms by farm labor contractors rather than being hired directly by farm operators.

The stability in farm employment is noteworthy: as fast as machines replace workers in one commodity, Americans consume more of another that requires hand labor.

IRCA amnesty and economic crises in Mexico unleashed a wave of Mexico-US migration in the 1990s that peaked before the 2008-09 recession, spreading Mexican-born workers throughout US agriculture. Large-scale unauthorized migration did not resume in the 2010s, and the Central and South American families seeking asylum in the US over the past decade mostly go to cities and find nonfarm jobs.

H-2A guest workers from Mexico are filling the farm labor gap. The number of jobs certified to be filled by H-2A workers quadrupled over the past decade to almost 400,000. About 80 percent of these certifications turn into guest workers because some H-2A workers fill two US jobs, but 300,000 H-2A workers who are in the US an average six months means that H-2A workers account for 20 percent of average employment of hired workers on fruit and vegetable farms and half or more of employment to harvest apples and oranges.

The expansion of the H-2A program coincides with another trend, relying on farm labor contractors to bring seasonal workers to farms. Instead of hiring workers directly and diver-
sifying the crop mix so that a farm offers work for eight to 10 months a year, most fruit and vegetable farms specialize in one or a few commodities and rely on contractors to bring workers to farms to perform seasonal tasks such as pruning and harvesting tasks for several weeks or months. This means that a farm worker can have one employer during the year, a labor contractor, but be employed on many farms.

Contractors should be a win-win for employers and workers. They provide employers with seasonal workers when they are needed and arrange a series of jobs for workers who want to maximize their earnings when work is available. However, contractors have a very mixed record, and are more often been associated with exploiting vulnerable workers rather than protecting and helping them to climb the US job ladder. An aphorism captures this experience: the best way to help seasonal farm workers to achieve higher earnings is to help them obtain nonfarm jobs.

**Machines, Migrants, Imports**

Rising farm labor costs are spurring efforts to replace hand workers with machines. The falling cost of electronics and the availability of venture capital has fueled startups that are developing robots that use cameras to locate ripe apples and strawberries and grippers to pick each fruit and berry carefully. Both the efficiency of these machines, the share of the crop that they detect and pick, as well as the speed of the cameras and robotic picking arms, are improving rapidly. However, robots are not yet a match for hand workers.

Instead of replacing workers, some growers provide workers with mechanical aids that make them more productive. Mobile platforms can replace ladders to pick apples, and robots or conveyor belts can carry trays of picked strawberries or bins of table grapes to the end of the row, allowing hand workers to pick more fruit. Slow-moving conveyor belts that travel in front of workers who cut heads of lettuce or stalks of broccoli allow workers who ride on the machine to pack produce in the field. Machines substitute for hand workers, while aids make workers more productive and, by reducing carrying and lifting, can make harvesting jobs more attractive to women and older workers.

A second option is to employ H-2A guest workers, typically young Mexican men selected for their ability to work fast. H-2A workers must be paid a higher-than-minimum Adverse Effect Wage Rate (AEWR), but they provide labor insurance because they are tied to their US employers by contracts. Farm employers must provide housing and transport H-2A workers at no charge, but H-2A worker wages are exempt from social security and often unemployment insurance taxes, reducing the gap between the higher cost of H-2A workers and the lower cost of US workers.

The third way to provide Americans with fresh fruits and vegetables is to import them from lower wage countries. The US imports 60 percent of its fresh fruit and 40 percent of its fresh vegetables. The share of fresh produce imports is rising as countries from Chile and Peru to Mexico...
and Central America combine modern farming and packing technologies with lower labor costs.

Mexico is the major supplier of imported fresh fruits and vegetables, providing half of US fresh fruit imports and three-fourths of US fresh vegetable imports. Mexican farms that produce fruits and vegetables for Americans are like their US counterparts, using the same growing and packing technologies and sending the fresh produce by truck to US consumers. Labor costs on Mexican export farms are a tenth of US labor costs.

**What's Next**

Fresh fruits and vegetables are expensive to produce. Farmers invest $100,000 or more to plant and harvest an acre of strawberries, versus less than $2,000 for an acre of corn or soybeans. Producing fresh produce in the US is becoming more costly, requiring farmers to decide where to invest: in machines to replace workers and aids to make them more productive, in housing for H-2A guest workers, or in partnerships abroad to take advantage of lower labor costs. Deciding where to invest is hard because many factors affect farm labor costs. How fast will robots and other labor-saving machines improve, and can they be used with existing farming systems or do they require new plant varieties and growing and packing systems? Will aging workers stay in farm work longer if mechanical aids make farm work easier?

Policies also affect decisions on where to invest. Will the H-2A program change to raise or lower the cost of guest workers? Will fresh produce continue to enter the US easily or will concerns about disease, dumping produce at low prices in the US, and labor conditions abroad impede imports?

Farm labor will change over the next decade. The demand for hand workers is likely to decrease unevenly as growers embrace labor-saving machines at different rates within and between commodities, faster in raisin than table grapes. Mechanical aids and H-2A guest workers may act as a bridge to robots in apples and other tree fruit, while rising imports may reduce the demand for hand workers in tomatoes and melons.

References


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