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Alien Workers and Agriculture: The Need for Policy Linkage

Philip Martin* 
and 
Richard Mines† **

Agriculture is the nation's largest industry. America's farmers and hired workers produce food and fiber worth $150 billion annually, over four percent of GNP. Farmworker employment doubles from a trough of 900,000 in January to a peak of 1.8 million in July.1 This need for one million seasonal workers—more than autos and steel combined—is the root cause of farm labor dilemmas.

The Census of Agriculture defines a farm as any unit of land that sells at least $1,000 worth of farm products annually. Fifty-two percent of the nation’s 2.5 million farms sold less than $10,000 worth of farm products in 1978.2 Farming is a secondary occupation for most of these farmers, who usually do their own farm work. The largest 282,000 farms (twelve percent of the total) that each sold more than $100,000 worth of farm products, account for sixty-nine percent of all farm sales and hire most of America's farmworkers.3

Large farms that hire farmworkers tend to specialize, to produce only livestock or field crops like wheat and corn or fruits and vegetables. The annual farm wage bill of $12 billion is divided almost equally among livestock farms, field crop farms, and fruit and vegetable farms. Each kind of farm has different labor needs. Large livestock, dairy, and poultry farms usually have fewer than ten year-round "hired hands" who are paid a monthly salary and are often provided fringe benefits like housing, meals, and transportation. Commercial field crop farms that spe-

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† Visiting Assistant Research Agricultural Economist, University of California at Davis; Ph.D., University of California at Berkely. B.A., University of California at Berkely.
** This paper is based on research supported by the Rosenberg Foundation.
1. U.S. DEP’T OF AGRICULTURE, FARM LABOR (1982). Farm Labor was a quarterly survey that asked farmers how many workers were employed in January, April, July, and October until 1980. Two surveys were conducted in 1981, and in 1982 only the July survey was completed.
cialize in the production of wheat, corn, or soy beans usually hire seasonal farmworkers to operate equipment for hourly wages during busy periods in the Spring and Fall. Labor-intensive fruit and vegetable farms bring together hundreds and sometimes thousands of farmworkers to harvest citrus, grapes, and vegetables for piece-rate wages (a fixed payment for each unit picked, say one dollar for each box of lemons picked).

This Commentary has four purposes. First, it explains why the "farm labor problem" is confined to fruit and vegetable farms. Second, it explores the contradictions and confusions that surround farm labor statistics. Third, it reviews the importance of alien farmworkers in agriculture and fourth, it suggests an explicit way to link immigration reform and the restructuring of labor-intensive agriculture.

1. Fruit and Vegetable Agriculture

Farmers annually produce fruits and vegetables worth $12 billion. Many of these commodities are labor-intensive. The major fruits and vegetables include potatoes worth $1.7 billion in 1980, oranges worth $1.3 billion, grapes worth $1.2 billion, tomatoes worth $907 million, and apples worth $822 million. Lesser-valued crops like lettuce, onions, peaches, strawberries, sweet corn, plumbs, celery, and broccoli are indicative of the other commodities that comprise the industry. Some of these commodities, such as potatoes, onions, and sweet corn, are harvested mechanically. Some are harvested partly by machine—tomatoes, peaches, and grapes, for example. Others are almost exclusively hand-harvested like lettuce, broccoli, and strawberries.

Commercial fruit and vegetable farms that specialize in commodities which must be hand-harvested stretch from the Pacific Northwest through California to Texas and Florida. These specialty crop farms emerged in California in the 1880’s and developed the "peculiar institution" of seasonal farm labor that persists today. The 12,000 Chinese who built the transcontinental railroad that opened east coast markets for specialty crops became seasonal farmworkers who migrated from farm to farm harvesting fruits and vegetables. Few farmers spoke Chi-

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4. Many midwestern farms combine livestock and field crops in order to keep "hired hands" employed year-round. For example, an Iowa corn and hog farm might concentrate on livestock during the slack winter and summer months and field crops in the Spring and Fall.


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Chinese, so bilingual farm labor contractors (FLC's) arose to act as middle-men in the seasonal farm labor market. The FLC's assumed responsibility for arranging a succession of seasonal harvest jobs as well as for worker housing, meals, and transportation. Farmers hired everyone who wanted to work and paid them piecerates, so their harvest costs were the same whether ten fast workers each picked ten boxes or fifty slow workers harvested two boxes each.

Commercial farmers in the 1880's expected to subdivide their orchards and create family-sized specialty farms after ex-railroad workers drifted out of agriculture and the Chinese Exclusion Acts kept out replacement Chinese. Specialty farms were not broken into family-sized units, however, because an ample supply of seasonal farmworkers remained readily available. Instead of restructuring agriculture to depend on fewer seasonal farmworkers, California farmers relied on a succession of immigrant farmworker groups: the Japanese until the 1906 Gentlemen's Agreement stopped their immigration, then Filipinos, Mexicans during and after World War I, displaced dust bowl farmers in the 1930’s, and Mexicans since. The seasonal farm labor market that emerged in the 1880's was expected to be transitory, but it became a persisting reality because (1) an ample supply of seasonal farmworkers was always available and (2) land prices were soon bid up to reflect this fact. Thus, Midwestern farmers who came to California in the 1890's soon learned that land prices had increased to reflect the profits that could be obtained by a large farmer whose labor responsibilities and costs stopped when the harvest ended. Midwestern farmers could not pay the going price for land, rely on their families for labor, and earn enough to support their families, so relatively few became California farmers. In short, labor-intensive agriculture did not have to be restructured and personnel practices remained unchanged since a flexible labor supply was ready and willing to do seasonal farm work for piecerate wages.

There have been many changes in the seasonal labor market since the 1880's, but its basic features are still intact. Fruit and vegetable farms recruit almost a million seasonal workers for piecerate harvest jobs that last from a few days to a few months. Intermediaries like FLC's, employer labor associations, union hiring halls, and the public employment service struggle to match workers and jobs. However, bad weather, variable markets, and bad luck ensure that few farmworkers succeed in find-

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9. Id.
ing work everyday even during the busy harvest season. Seasonal and intermittent employment, piece rate wages, migrant housing or (unpaid) commuting time to distant fields, and the physical strain of harvest work combine to push farmworkers out of harvest work as soon as an easier farm or nonfarm job is available. Thus, labor-intensive agriculture today relies on a rotating pool of seasonal workers who have few employment alternatives. This pool consists increasingly of legal and illegal Mexican nationals.

2. Who Does Farmwork?

Farm labor debates would have less room for contradictory assertions if farm labor statistics could provide an accurate profile of farmworkers. Unfortunately, farm labor statistics are incomplete and unreliable, so each data series paints a different picture of the farm work force. The profile that emerges from U.S. Department of Agriculture (USDA) statistics is that the typical hired farmworker is a twenty-two year old white college student who does one month of farm work during his summer vacation.

There are two major sources of farm labor data, an annual July survey of farmers and a biennial December survey of farmworkers. The July survey estimates farmworker employment, the number of workers employed during the survey week. The December survey estimates the total farm work force, the number of persons who did farm work sometime during the year. An industry's total work force is always larger than employment at a point in time because workers quit or are fired and then replaced. The relationship between employment and total work force is a crude measure of an industry's ability to attract and retain career workers.

Agriculture has not developed a corps of career farmworkers. Average farmworker employment is about 1.3 million, but the total farm work force is about 2.6 million, implying that a farmer must normally hire two workers during the year to keep one job slot filled. Since many hired hands on livestock and field crop farms stay with their employers year-round, one can reasonably assume that turnover is highest for seasonal workers in seasonal jobs. Indeed, farmers have reported that they hired 200 workers in one month to maintain a twenty-person harvest crew, a monthly worker to job ratio of ten.\(^\text{10}\) Converted to an annual rate, a farmer would have to hire 120 workers to keep one job slot filled for twelve months.

\(^{10}\) Based on personal interviews with farmers in California and Texas in 1982.
According to the USDA's December survey, the farmworkers who shuttle between seasonal jobs are primarily students and housewives. The 1979 farm work force totaled 2.7 million, but forty-seven percent of these "farmworkers" reported that their "primary activity" during the year was going to school or keeping house (Table 1). Only twenty-nine percent of the total farm work force said that farm work for wages was their major activity, but these committed farmworkers did seventy-three percent of the farm work done by hired workers.\textsuperscript{11}

The USDA farm labor surveys frustrate farmers, farmworker representatives, and observers of fruit and vegetable agriculture. The USDA is criticized for conducting its work force survey in December, missing alien farmworkers who are likely to be out of the United States, and counting students and housewives who did a few days of farm work. The 1979 survey reported that fifty-three percent of the 364,000 farmworkers in California, Arizona, Nevada, and Hawaii were Hispanic, while local observers report that ninety percent or more of the seasonal farm work force is Hispanic. A 1981 survey of 472 farmworker families in California's Central Valley indicates who seasonal farmworkers in fruits and vegetables actually are: over ninety percent of the farmworkers harvesting grapes, citrus, and tree fruits were Mexican nationals (or their children), and a majority of the remainder were Mexican-Americans and Filipinos.\textsuperscript{12}

Local surveys do not necessarily disprove national survey data. However, local studies indicate that most seasonal farm tasks in California are done by Mexican nationals, continuing a pattern of succeeding immigrant groups in fruit and vegetable agriculture. Historically, seasonal farm work has been done by first generation rural immigrants. Many of these immigrant workers themselves have succeeded in moving out of farm work during their working lives and their children have rarely continued in farm work after school. Thus, the finding that at present a predominantly alien labor force continues this pattern of short-term commitment and high turnover in fruit and vegetable agriculture is not surprising.

3. \textit{Alien Farmworkers}

Four kinds of alien workers do seasonal farm work in the United States: immigrants, border commuters, H-2 workers, and illegal aliens.

Immigrants are aliens admitted to live permanently in the United States. Although most immigrants settle in urban areas, ten to fifteen percent find jobs in rural areas. Border commuters are immigrants with "green cards" who maintain homes in Canada or Mexico and commute daily or seasonally to U.S. jobs. There may be as many as one million border commuters, and many of those who maintain homes in Mexico work on U.S. farms. The agricultural portion of the H-2 program admits about 15,000 alien farmworkers annually to cut sugarcane in Florida, pick apples in the mid-Atlantic states, and herd sheep in the West. H-2 workers are only a small fraction of the total seasonal farm work force, although they tend to be the dominant harvest work force in the areas where they work.

The largest alien work force in agriculture consists of illegal aliens or undocumented workers, primarily from Mexico and other Latin American countries. The twenty-two year long bracero program issued almost five million contracts to Mexican farmworkers, and, after the program's termination in 1964, farmers obtained green cards for many of their best workers. The ex-braceros who settled in the United States, and those who continued to commute across the border on a daily or seasonal basis, developed efficient networks that informed friends and relatives about United States jobs and provided advice on how to cross the border illegally. Established networks were soon supplemented by new networks created when a desperate or adventurous worker left another one of Mexico's 75,000 villages, found a U.S. job, and offered advice and shelter to new arrivals. These migration networks are firmly entrenched and can deliver additional farmworkers to U.S. farmers on short notice.13

4. Aliens in California Agriculture

California farmers depend on hired workers to do seventy percent of all agricultural work. An average of 223,000 hired workers are employed on California farms, but the prevalence of micro-climates and micro-labor markets requires local-level analyses to illustrate the use of alien workers in agriculture (Table 2).14

Pole-Tomatoes, North San Diego County. Pole-tomato growers in San Diego County usually lease land from owners who are waiting to develop

14. These examples are drawn from Mines and Martin, Foreign Workers in Selected California Crops, California Agriculture March-April, 1983, at 6.
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farmland for nonfarm uses. The transitional tomato industry plants 4,000 acres in North County and employs 5,000 harvest workers. The workers are 100 percent undocumented, live in the open fields, and are paid the minimum wage only for the hours that they work, although they are available for work seven days a week. The foremen are directly employed by the growers.

Workers are paid the minimum wage but are often asked to work "volunteer" hours, and Social Security deductions are withheld for obviously bogus accounts. Almost all workers have the same fictitious Social Security number (000-00-0000). Workers are paid by the hour, but workers who cannot maintain a fast work pace are quickly fired.

The pole-tomato industry illustrates how legal "commuter" workers can be displaced by undocumented immigrants. In the early 1970's, most tomato acreage was in southern San Diego County and most harvest workers were legal Mexican commuters. By the late 1970's, the industry had moved to North County and the labor force had become 100 percent illegal. Current workers are from "immature" migratory networks that bring workers from central Mexico to the United States. They are not usually related to the displaced border commuter migrants. The new workers are predominantly from Oaxaca, one of the poorest Mexican regions, which recently began sending migrants to the United States.

It will be difficult to mechanically harvest pole-tomatoes because they do not ripen uniformly and they require staking and tying. If the flow of Mexican workers to the pole-tomato industry in San Diego County were cut off suddenly, the industry could not easily find local workers for these jobs. Some growers might re-establish the corps of legal commuters. But unless U.S. tariff policies limited access to the U.S. market, the Mexican export industry just south of the border, which employs a similar migrant work force, could also expand.

Citrus, Ventura. Ventura County offers stable employment for citrus pickers. In Ventura, only one-third of the citrus harvest is managed by farm labor contractors (FLCs), who rely partially on undocumented workers. Progressive growers' associations actually control over half of the Ventura citrus harvest, and about half of the Ventura workers harvest under union contract. Piecerates determine wages, but most Ventura County workers are offered fringe benefits. Probably less than one-third of the 4,000 Ventura County citrus pickers are undocumented; most documented citrus workers have their families with them in the county.
A sudden cut-off of Mexican workers would be devastating to the citrus industry. Citrus suffers from growing overseas competition and could lose some of its foreign markets if a labor shortage interrupted harvesting. Disruption of the harvest could also harm American workers who pack and transport citrus.

Mechanization of the citrus pick is uncertain. In California, the fresh fruit that has the greatest value must be carefully handpicked. Citrus fruit does not ripen uniformly, so each tree must be picked at least twice each season. Finally, it is difficult to design a machine that can adjust to the differing shapes and heights of citrus trees. Experiments with abscission chemicals that cause fruit to drop to the ground continue, and their eventual success may permit the mechanical harvest of citrus for by-products. Other experiments include shakers to dislodge fruit from the trees and hydraulic platforms from which pickers could harvest fruit. At this time, all mechanical harvesting methods have major problems and none is commercially available to harvest fresh lemons and oranges.

*Table Grapes, Tulare County.* Grape cultivation requires workers to perform a variety of labor-intensive seasonal tasks. A 1981 survey of Tulare County farmworkers found that the workers who both picked and pruned grapes averaged 230 days of work each year. This long season has made the grape work force more stable than citrus pickers. Over two-thirds of the grape workers in the survey were paid by the hour, not by piece rates, at an average 1981 wage of $4.30 per hour. Most of the grape workers were employed directly by growers, and fewer than one-third were undocumented.

A rapidly increasing percentage of wine grapes are machine-harvested. In fact, Gallo, the largest U.S. wine grape crusher, is now accepting mechanically harvested grapes. Mechanization of the table grape harvest may also be possible, but it may be some time before machines can do the other seasonal tasks required in the grape industry.

*Deciduous Crops, Tulare County.* Workers who harvest peaches, plums, nectarines, and cherries work very short seasons. The harvests are managed primarily by labor contractors, but one-third of the picking is directed by grower-appointed foremen. The piecerate predominates, and over half of the pickers are not legally admitted to the United States. Although the season is short, piecerates enable many harvesters to earn $40 to $50 a day at peak periods.

Historically, groups of workers followed the ladder crops. In the 1940’s and 1950’s “fruit tramps” originally from the Midwest formed the main corps of fruit pickers, but Mexicans have replaced the Anglos.
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In the summer, part of the settled Mexican picking population in Tulare County chooses to follow the ladder crops into northern California and beyond to escape the sweltering Valencia orange orchards. Many fruit pickers are undocumented workers who are moved around the Central Valley by FLCs.

There is no immediate indication that the fresh fruit harvest will be mechanized, even though mechanical harvesters have been developed for some varieties of processed fruit. Also, there is less international competition in deciduous crops than in citrus.

*Strawberries, Watsonville.* Strawberries are often grown by sharecroppers who obtain land, fertilizer, and seedlings from the landowner, pay for all labor and baskets, and share profits with the owner of the land. Even small sharecroppers hire workers, and often pay them less than the minimum wage. The 1,500 strawberry workers are mostly undocumented, and many are from new migratory networks that cannot find better jobs for new arrivals from Mexico.

In the 1950's and 1960's, the Watsonville strawberry growers relied on braceros. During that period, the Mexican strawberry industry grew while California's industry contracted. In the 1970's, the Mexican industry contracted, and California acreage expanded rapidly with the development of improved varieties and better soil management practices. However, a crucial element in the resurgence of California strawberries was availability of low-cost Mexican labor.

Technology does not promise a successful harvester for fresh market strawberries in the near future, because the fruit matures unevenly and the plants are very delicate. A sudden cut-off of Mexican labor might drive the industry back to Mexico. The same firms that market California fruit also handle Mexican strawberries, so the middlemen are poised to move with the industry.

*Lettuce, Salinas.* The lettuce industry depends on a corps of well-paid cutters and packers. About half of the 7,000 harvest workers cut and pack lettuce under a piece rate schedule that permits many workers to earn $15 to $20 an hour at peak periods. The other lettuce workers are mostly women and older men who thin and hoe or wrap the lettuce at wages of $4 to $6 dollars an hour.

The lettuce industry is highly concentrated, dominated by a few grower-shippers. The cutting and packing crews are self-regulating, minimizing the grower's supervisory responsibilities. The work of the entire crew determines the piece rate of each individual, so all crew members maintain a fast pace. Salinas lettuce growers depended on
contract labor during the bracero period, after which the industry legalized its ex-bracero crews and replaced the hourly pay scale with the present piece-rate crew system after 1964.

Lettuce cutting machines, though expensive and imperfect, are available. Problems with post-harvest activities such as wrapping and bulk handling, could be overcome. However, growers will be slow to switch to mechanical harvesting because transportation costs to east coast markets often equal production costs, and mechanical harvesting cannot ensure that the lettuce shipped east is 100 percent salable. In addition, lettuce harvesting, as the highest paying seasonal farm labor task in California, would attract workers from other crops if needed.

5. Immigration Reform and Mechanization

The 1983 Simpson-Mazzoli Immigration Reform and Control Act would make it a federal crime to knowingly hire or employ an illegal alien, grant amnesty to some aliens living illegally in the United States, and modify the current H-2 program for agriculture. The assumptions behind these three related changes are that sanctions will reduce the influx of new alien workers, that amnesty will encourage some current farmworkers to leave agriculture for nonfarm jobs, and that a modified H-2 program will be necessary to prevent disruptions in agricultural production.

The basic administrative question in the H-2 program is simple: where does the duty of a farmer to secure an American work force stop and the obligation of the federal government to open the border gates start? Clearly, if farmers have to scour the United States looking for workers, and offer high wages, transportation, quality housing, and meals and other amenities, farmers will find more American workers and need fewer foreigners (they will also have a greater incentive to mechanize). On the other hand, if farmers face few recruitment, wage, and housing obligations, they may find it easier and less costly to simply hire alien farmworkers. The H-2 program is controversial because it is trying to strike a balance between the conflicting goals of protecting American farmworkers and assuring plentiful supplies of low-cost food.

The American fruit and vegetable industry is increasingly dependent on aliens to perform critical seasonal tasks, especially harvesting. Farmers, farmworkers, and government have three broad policy choices: (1) preserve the status quo by approving an open-ended temporary permit program; (2) reduce the workforce by granting amnesty to illegal aliens; or (3) mechanize harvesting.

worker program, (2) influence the size of the American fruit and vegetable industry and, hence, its demand for seasonal alien workers by encouraging or discouraging exports and imports, or (3) restructure the fruit and vegetable industry to limit its need for farmworkers with mechanization.

Reliance on a seasonal alien labor force will only delay the inevitable mechanization of the American fruit and vegetable industry. Instead of the moral, administrative, and socioeconomic dilemmas inherent in an open-ended temporary worker program, immigration reform should be linked explicitly to a plan to restructure the fruit and vegetable industry. One way to forge such a link is with an H-2 Trust that levies a tax on the wages earned by alien workers in order to collect funds to restructure production.

H-2 Trusts could be established in each commodity whose growers requested alien workers. An administrative committee that includes farmers, farmworkers, and government representatives could determine exactly how the H-2 taxes should be spent so that the commodity will not remain dependent on alien workers.

The amount of money available to each H-2 Trust will be determined by the level of the payroll tax and the commodity's dependence on alien workers. Employers do not have to pay the 6.7 percent Social Security tax and the 0.8 percent federal Unemployment Insurance (UI) tax on H-2 workers wages. In addition, most states exempt H-2 workers' wages from the three to six percent UI tax that farmers must pay on the wages earned by American farmworkers. These payroll tax exemptions suggest that an H-2 wage tax of at least ten percent is justified. A ten percent tax on the $34 million paid annually to H-2 sugarcane harvesters in Florida would generate $3.4 million to end dependence on alien workers each year.16 If a modified H-2 program admitted 300,000 alien farmworkers annually and if each H-2 worker earned an average $5,000 in the United States, the various H-2 Trusts would collect ten percent of $1.5 billion, or $150 million annually.17

The major advantages of H-2 Trusts include: farmer familiarity with the concept of commodity assessments; the commodity-by-commodity approach, which is sensitive to labor market differences between com-

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17. This is a conservative estimate, since former Senator Hayakawa (R-CA) talked about the 500,000 Mexican workers that would be admitted for agricultural jobs under his compañero program. His replacement, Senator Pete Wilson (R-CA) asserted that up to 300,000 foreign workers are required to harvest U.S. crops, and that he believes "there is a legitimate need for foreign workers in agriculture." *See The Packer*, February 26, 1983, at 7a.
modities; and the direct link between a commodity’s use of H-2 workers and the amount of Trust money available to end alien worker dependence. The farmers, farmworkers, and government representatives on administrative boards could end this dependence in a variety of ways. For example, they could develop harvesting aids like conveyor belts or hydraulic lifts that encourage current farmworkers to continue doing harvest work; or they could upgrade the skills of farmworkers.

Objections to taxes on the wages of H-2 workers in order to generate monies to end a commodity’s dependence on alien workers begin with the notion that H-2 workers will not benefit from the taxes that are paid to eliminate their jobs. This objection is dismissed most easily by asserting that no American industry should become dependent on alien workers. If an American industry can survive only with alien workers, then there appears to be little justification for a continuing alien labor subsidy just to maintain that industry in the United States. American land, water, and management skills would best be redirected to produce commodities in which the United States does have a long-term comparative advantage. As for the H-2 workers themselves, the benefit of U.S. wages that are six to ten times higher than wage levels prevailing at home should be enough of an incentive to come and work in the United States. In any case, H-2 workers do not remain in the United States jobless and available for work, so they would not qualify for UI benefits, and few H-2 workers return to the United States often enough to qualify for Social Security benefits.

An H-2 Trust does not eliminate the need to make regulations that require farmers to search for American workers before aliens can be admitted, to provide adequate housing and low-cost meals, to establish minimum worker qualifications and probationary periods so that Americans are not capriciously discharged, to regulate H-2 worker admissions when American workers strike, and to avoid inevitable wage stagnation if alien workers are readily available. The H-2 Trust is not a substitute for administrative regulations; it is a self-destruct tax that links farmers’ dependence on H-2 workers with monies and a strategy to end dependence.

Employers who currently rely on H-2 workers will object to an H-2 wage tax because it will be an additional cost. To meet this objection, current H-2 users who have satisfied present H-2 regulations could be given a grandfather exemption. Alternatively, all H-2 employers could be required to pay the H-2 tax under a modified H-2 program.

A transitional H-2 program would be practical and acceptable only if it were enacted in conjunction with comprehensive immigration reforms.
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that include amnesty and employer sanctions. A generous amnesty is necessary in order to legalize the current work force. An effective prohibition on employers who use undocumented workers is necessary or else the newly legalized H-2 workers could be underbid by illegal workers. In addition, the legalized H-2 workers in an expanded program should be limited to the immediate relatives of the newly amnestied population or of present immigrants with permanent legal status. Otherwise, new migratory networks could be created by employer recruitment, exacerbating immigration enforcement problems. H-2 workers could be given preferential access to eventual permanent resident status to discourage them from deserting their contracts and seeking shelter with established friends and relatives.

6. Conclusion

America’s $12 billion fruit and vegetable industry must be warned that continued dependence on alien workers spells long-run disaster. Most seasonal hand-harvest workers in fruits and vegetables are legal and illegal Mexicans. The fruit and vegetable industry has two choices: try to prolong the typical five to fifteen year farm work “careers” of the current legal and illegal alien workers by adopting modern personnel practices and harvesting aids while mechanizing or obtain access to a rotating pool of alien farmworkers with another bracero-type program.

Mechanization is the long-run answer to the productivity, labor, and immigration dilemmas in fruit and vegetable agriculture. Without mechanization, American agriculture will not be able to compete with Brazilian oranges, Greek and Turkish raisins, and Latin American tomatoes unless the United States accepts an isolated, alien-dominated labor market for seasonal hand-harvesters. If farmers successfully oppose immigration reforms, they could win the short-run labor battle but lose the long-run war for survival in the increasingly competitive international fruit and vegetable economy.
<table>
<thead>
<tr>
<th>Primary employment status²</th>
<th>Total Workers</th>
<th>Total annual earnings</th>
<th>Annual farm earnings</th>
<th>From farmwork only Workers</th>
<th>Annual farm earnings</th>
<th>From both farm and nonfarm work Workers</th>
<th>Total annual earnings</th>
<th>Annual farm earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>In labor force</td>
<td>1,393</td>
<td>6,602</td>
<td>3,789</td>
<td>732</td>
<td>5,573</td>
<td>661</td>
<td>7,740</td>
<td>1,813</td>
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<tr>
<td>Hired farmwork</td>
<td>759</td>
<td>6,089</td>
<td>5,843</td>
<td>656</td>
<td>6,042</td>
<td>103</td>
<td>6,388</td>
<td>4,579</td>
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<tr>
<td>Other farmwork³</td>
<td>90</td>
<td>3,406</td>
<td>1,879</td>
<td>54</td>
<td>1,580</td>
<td>36</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Nonfarm work</td>
<td>496</td>
<td>8,348</td>
<td>1,210</td>
<td></td>
<td>496</td>
<td>8,348</td>
<td>1,210</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>48</td>
<td>2</td>
<td>4</td>
<td>22</td>
<td>4</td>
<td>26</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Not in labor force</td>
<td>1,259</td>
<td>1,510</td>
<td>956</td>
<td>792</td>
<td>1,029</td>
<td>467</td>
<td>2,327</td>
<td>834</td>
</tr>
<tr>
<td>Keeping house</td>
<td>176</td>
<td>1,215</td>
<td>890</td>
<td>139</td>
<td>896</td>
<td>37</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Attending school</td>
<td>956</td>
<td>1,434</td>
<td>839</td>
<td>558</td>
<td>917</td>
<td>397</td>
<td>2,162</td>
<td>729</td>
</tr>
<tr>
<td>Other</td>
<td>127</td>
<td>2,484</td>
<td>1,935</td>
<td>95</td>
<td>1,883</td>
<td>32</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>All hired farmworkers</td>
<td>2,652</td>
<td>4,185</td>
<td>2,444</td>
<td>1,524</td>
<td>3,212</td>
<td>1,128</td>
<td>5,501</td>
<td>1,408</td>
</tr>
<tr>
<td>Migrants</td>
<td>217</td>
<td>4,852</td>
<td>2,277</td>
<td>98</td>
<td>3,258</td>
<td>120</td>
<td>6,155</td>
<td>1,476</td>
</tr>
</tbody>
</table>

Dashes indicate not applicable.
1 Numbers may not add to totals due to rounding.
2 Refers to respondent's major or chief activity during this year. See Appendix.
3 Includes operating a farm and unpaid family labor.
4 Averages not shown where base is less than 50,000 workers.

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### TABLE 2

Seasonal work forces by crop

<table>
<thead>
<tr>
<th>County and crop</th>
<th>Undocumented</th>
<th>Peak number of workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego, pole tomatoes</td>
<td>100%</td>
<td>5,000</td>
</tr>
<tr>
<td>Ventura, citrus</td>
<td>80%</td>
<td>4,000</td>
</tr>
<tr>
<td>Tulare, citrus</td>
<td>60%</td>
<td>7,000</td>
</tr>
<tr>
<td>Tulare, table grapes</td>
<td>30%</td>
<td>7,000</td>
</tr>
<tr>
<td>Tulare, deciduous</td>
<td>60%</td>
<td>8,000</td>
</tr>
<tr>
<td>Monterey, strawberries</td>
<td>80%</td>
<td>1,500</td>
</tr>
<tr>
<td>Monterey, lettuce</td>
<td>25%</td>
<td>7,000</td>
</tr>
</tbody>
</table>