



**A CONFERENCE ON  
AGRICULTURAL MIGRANT LABOR IN NORTH AMERICA**

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**The Extent, Pattern, and Contributions of Migrant  
Labor in the NAFTA Countries:  
An Overview**

**NAID Center, UCLA**

**David Runsten**

**Raul Hinojosa**

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# The Extent, Pattern, and Contributions of Migrant Labor in the NAFTA Countries: An Overview

NAID Center, UCLA

## I. Introduction

The North American agricultural labor market is becoming increasingly integrated in a manner parallel to the integration of North American goods and services markets. Whereas the large size of U.S. and Canadian goods and services industries allows them to dominate many of their Mexican counterparts, in contrast the relatively large supply of agricultural labor in Mexico is causing agricultural labor markets in the United States (and to a lesser extent Canada) to become highly interdependent with those in Mexico, yet in increasingly unequal ways. Where the transition to a Latino immigrant labor force was largely confined to high labor demand areas (such as the West and Florida) before the 1980s, it has now spread across the United States.

NAFTA addressed many of the issues related to the process of integration of the goods and services markets, but it pointedly avoided the problems associated with labor migration.<sup>1</sup> This failure to deal multilaterally with migration has of course not halted the process of labor market integration, any more than the failure to have passed NAFTA would have halted economic integration. In fact, we will show that in the United States, the process of “Mexicanization” of the agricultural labor market is occurring at a breathtakingly rapid pace. At the same time, the gaps are widening with those workers that remain in Mexico with respect to wages, productivity, education, gender, child labor and legal immigration status.

This paper attempts briefly to document the current state of affairs in the North American agricultural labor market. For the United States, we rely heavily on data from the Department of Labor’s National Agricultural Worker Survey (NAWS), by far the best source for any of the countries. For Canada, lacking comparable targeted survey data, we utilize mainly census data. For Mexico, we present only a few numbers from the Programa de Jornaleros Agrícolas of the Secretaría de Desarrollo Social. These data are supplemented with information from a variety of sources on the functioning of the agricultural labor markets.

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<sup>1</sup> Proponents of NAFTA, both in the United States and in Mexico, believed that the inclusion of migration issues in NAFTA would cause it to fail in the U.S. Congress. One exception was the creation of specific NAFTA visa categories for certain groups of professional workers, mainly to facilitate the movement of business people across borders.

Though the data inevitably raise important policy issues, it is not our intent to propose policy solutions here. Indeed, several problematic aspects of farm labor markets in the United States have defied policy solutions for many decades. However, the North American Agreement on Labor Cooperation provides a forum in which to begin to discuss these issues, and this paper can serve as a common background for that purpose.

## II. United States

For an overview of the characteristics of farm workers in the United States, we mainly utilize data from the National Agricultural Workers Survey (NAWS) of the U.S. Department of Labor, which excludes livestock workers (estimated to be about one-quarter of the total farm hired labor force). The Department of Labor issues an annual report on the results of the NAWS, which has more detailed statistics than reported here.<sup>2</sup> This survey was begun in 1989 in recognition of the generally poor quality of information about farm workers contained in official government statistics.<sup>3</sup>

### II.1. Total Numbers

Estimates of the number of agricultural workers in the United States are notoriously bad. The Current Population Survey reports about 1 million. The USDA peak estimates are about 1.5 million, and the Agricultural Census estimates about 1 million. The U.S. Commission on Agricultural Workers, extrapolating from the difference between the USDA numbers and California unemployment insurance data, concluded that there were about 2.5 million agricultural workers.<sup>4</sup> Total number of family members working is about 2 million, so at most the agricultural sector employs 1.6 percent of the U.S. population. Since the official estimates are quite stable in the 1990s, it is assumed that the total number of agricultural workers is not changing much. Even though mechanization is proceeding in some crops, and no doubt displacing workers, more labor-intensive fruit, vegetable and horticultural production continues to expand.

The most recent NAWS data estimate the proportion of migrant<sup>5</sup> agricultural workers to be 56 percent of all crop workers, a proportion that is rising. The NAWS also reports that only 14 percent of agricultural crop workers work year-round, so seasonality is the norm.

### II.2. Place of Birth

As shown in Figure 1, in the first few years of the NAWS survey, 1989 to 1991, the foreign-born share of the farm worker population was estimated to be about 60 percent. By 1998, this share had risen to 81 percent. The Mexican-born are now 77 percent, Central Americans (mainly Guatemalans) about 2 percent, Asians 1 percent, and other countries 1 percent. At the same time as the foreign-born share has increased, the non-Hispanic US-born share has fallen during this period from over 30 percent to about 10 percent, and the Hispanic U.S.-born share has fallen

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<sup>2</sup> For the most recent results, see Kala Mehta, Susan Gabbard, Daniel Carrol, and Richard Mines, *Findings from the National Agricultural Workers Survey: A Profile of United States Farmworkers, 1997-98*, Office of the Assistant Secretary for Policy, U.S. Department of Labor, Washington, DC, 2000. We also present some time series of the survey data and some cross tabulations that are not available in the reports. All references to NAWS in this paper are to these sources.

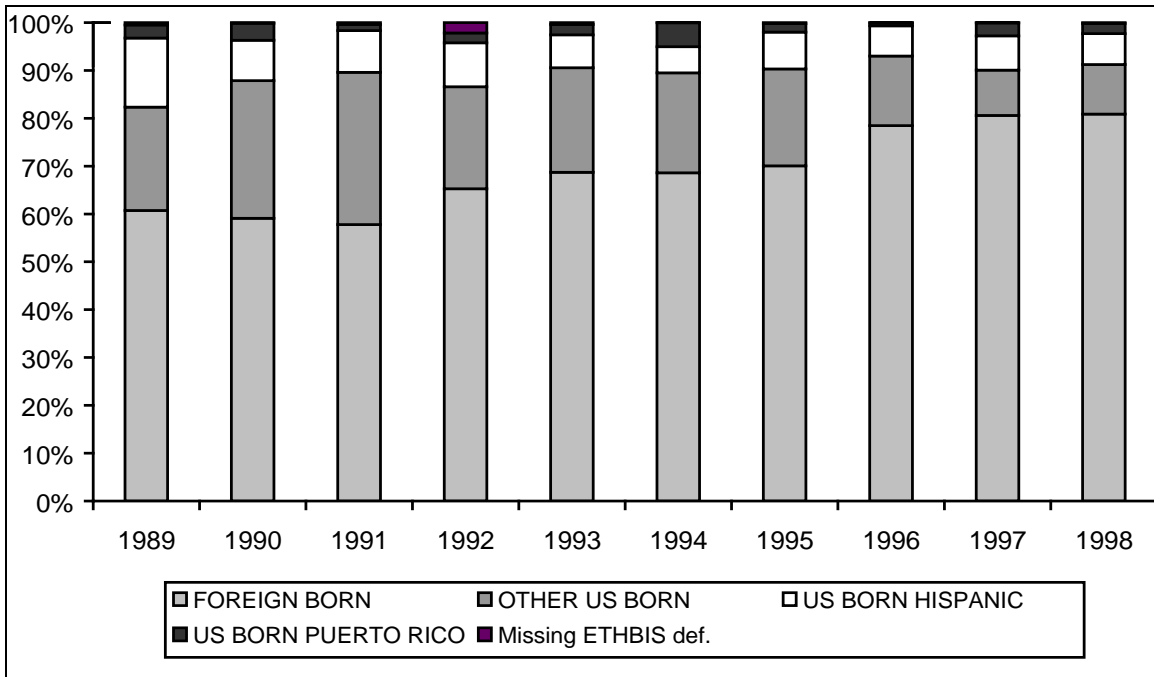
<sup>3</sup> The 1990 U.S. Census is estimated to have undercounted farmworkers by 60 percent.

<sup>4</sup> U.S. Commission on Agricultural Workers, *Report of the Commission on Agricultural Workers*. Washington, D.C., 1992.

<sup>5</sup> The NAWS defines migrant as a worker who travels more than 75 miles to a job.

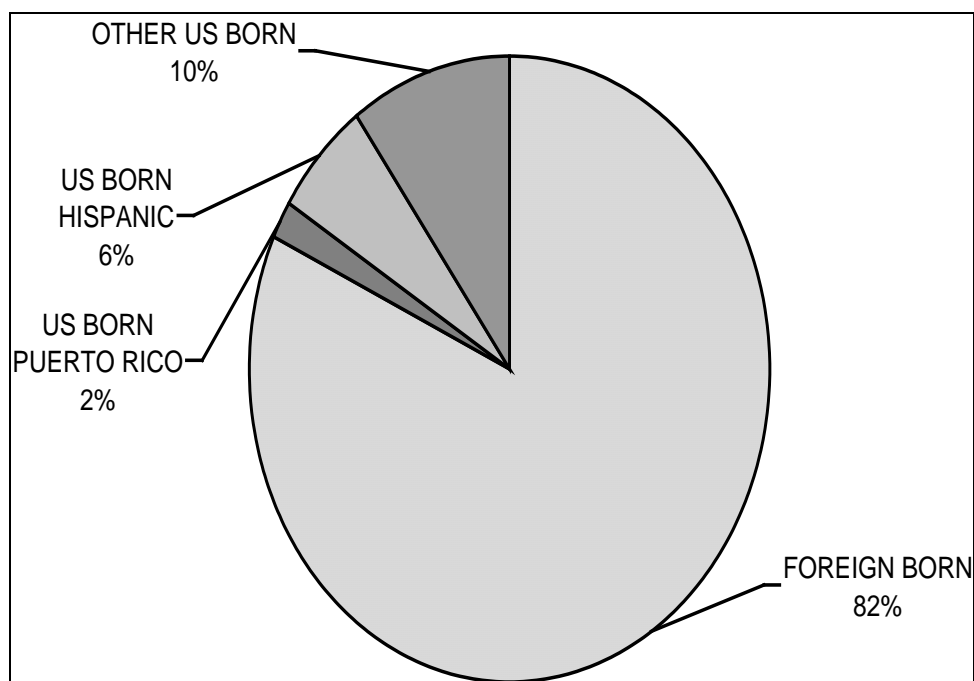
from about 12 percent to 8.5 percent. Figure 2 shows these latter results from the 1998 survey. An estimated 90 percent of migrants are foreign-born, vs. two-thirds of non-migrant crop workers.

**Figure 1 Place of Birth/Ethnicity of U.S. Farm Workers**



Source: National Agricultural Worker Survey



**Figure 2 Place of Birth/Ethnicity of U.S. Farm Workers, 1998**

Source: National Agricultural Worker Survey

### II.3. New Entrants

The rising share of the foreign-born is driven by their increasing share of new entrants into the US farm labor force. In the NAWS, foreign-born farm workers who had worked less than a year at the time of interview were 68 percent of all first-year farm workers in the 1989-1993 period, but were 84 percent in the 1994-1998 period (See Table 1). The increase of the foreign-born is mainly compensated by the fall in the non-Hispanic U.S.-born, whose share of new entrants fell from 23 percent during 1989-1993 to 11 percent during 1994-1998.

### II.4. Foreign-born Utilized More Widely

Table 1 compares the shares of employment of the U.S.-born and foreign-born over time by dividing the country in two parts: the West and Florida, and the East (excluding Florida). In the West/Florida region, there has been relatively little change, as Latino immigrants already dominated all tasks at the outset of the decade. However, in the East, only the harvest tasks were dominated by the foreign-born in 1990. As the decade progressed, the proportion of the foreign born in the pre-harvest tasks rose from 23 percent to 60 percent, in the post-harvest tasks from 7 percent to 56 percent, and in the semi-skilled jobs from 13 percent to 61 percent. At the beginning of the period, white and African-American U.S.-born workers dominated the pruning, transplanting, packing and tobacco barn work east of the Mississippi, but by the end of this period the participation of native-born workers was on a distinct decline. As U.S. workers exit the farm labor market, they are replaced everywhere in the United States by Mexican and Central American immigrants.

The foreign born are more concentrated in the harvest in part because the difficulty of the work requires more young males. Most women farmworkers are U.S. born, and most of them are working in post-harvest tasks, so the share of the foreign-born is lowest there.

**Table 1 Place of Birth of Farm Workers by Task, 1989-97(Percentage)  
West U.S. and Florida**

Years	Pre-Harvest		Harvest		Post-Harvest		Semi-Skilled	
	U.S. Born	Foreign Born	U.S. Born	Foreign Born	U.S. Born	Foreign Born	U.S. Born	Foreign Born
89-91	28	72	15	85	22	78	15	85
92-94	32	68	10	90	30	70	22	78
95-97	15	85	11	89	35	65	13	87

**East U.S. except Florida**

Years	Pre-Harvest		Harvest		Post-Harvest		Semi-Skilled	
	U.S. Born	Foreign Born	U.S. Born	Foreign Born	U.S. Born	Foreign Born	U.S. Born	Foreign Born
89-91	77	23	28	72	93	7	87	13
92-94	44	56	33	67	73	27	52	48
95-97	40	60	18	82	44	56	39	61

Source: NAWS 1989-1997. N=11,148.

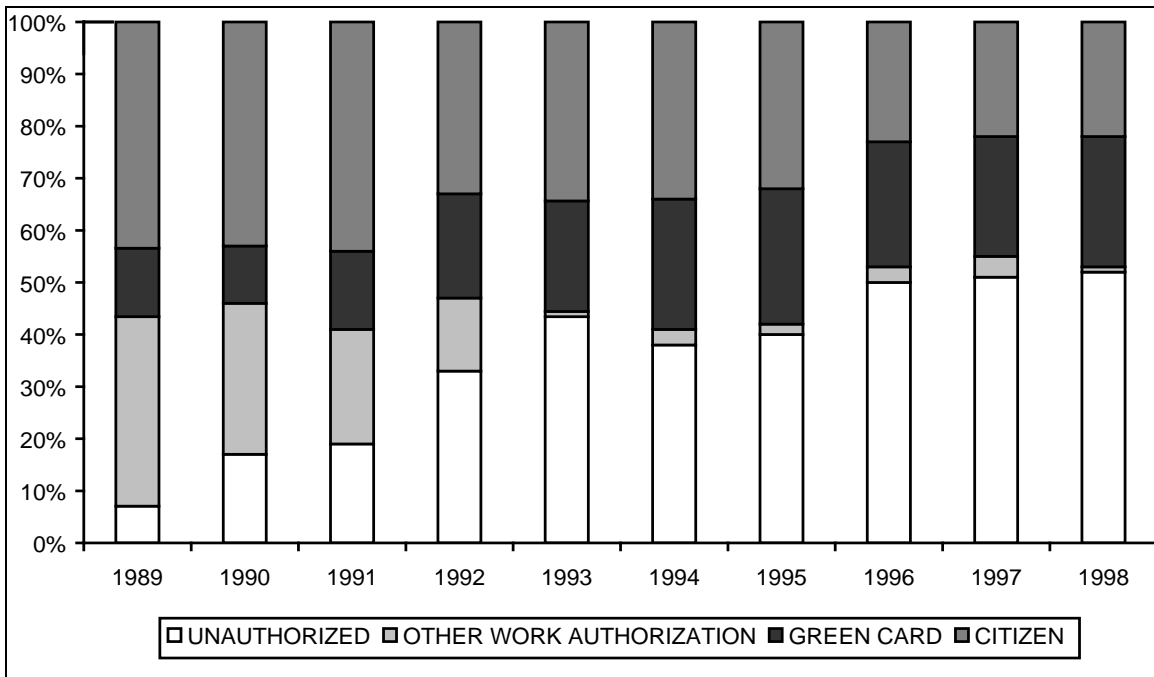
## II.5. Immigration Status

The rising share of the foreign-born in the US farm labor force is being driven by new immigrants from Mexico. The Immigration Reform and Control Act of 1986 granted legal status to a large proportion of unauthorized immigrant farm workers in the United States. However, the process of immigration has continued and as a result the proportion of unauthorized immigrants in the US farm labor force has risen steadily during the 1990s. Figure 3 shows the proportions of the different groups over the ten years of the NAWS. The share of unauthorized immigrants in the entire farm labor force rises from 17 percent in 1990<sup>6</sup> to 52 percent in 1998. The share of unauthorized immigrants in just the foreign-born part of the farm labor force is about 58 percent (see Figure 4), a level observed for the last three years of surveys.<sup>7</sup>

<sup>6</sup> Richard Mines, who oversaw the NAWS for the years discussed in this paper, believes that the 1989 number may be too low because of sampling and fieldwork issues that arose as the survey was initiated.

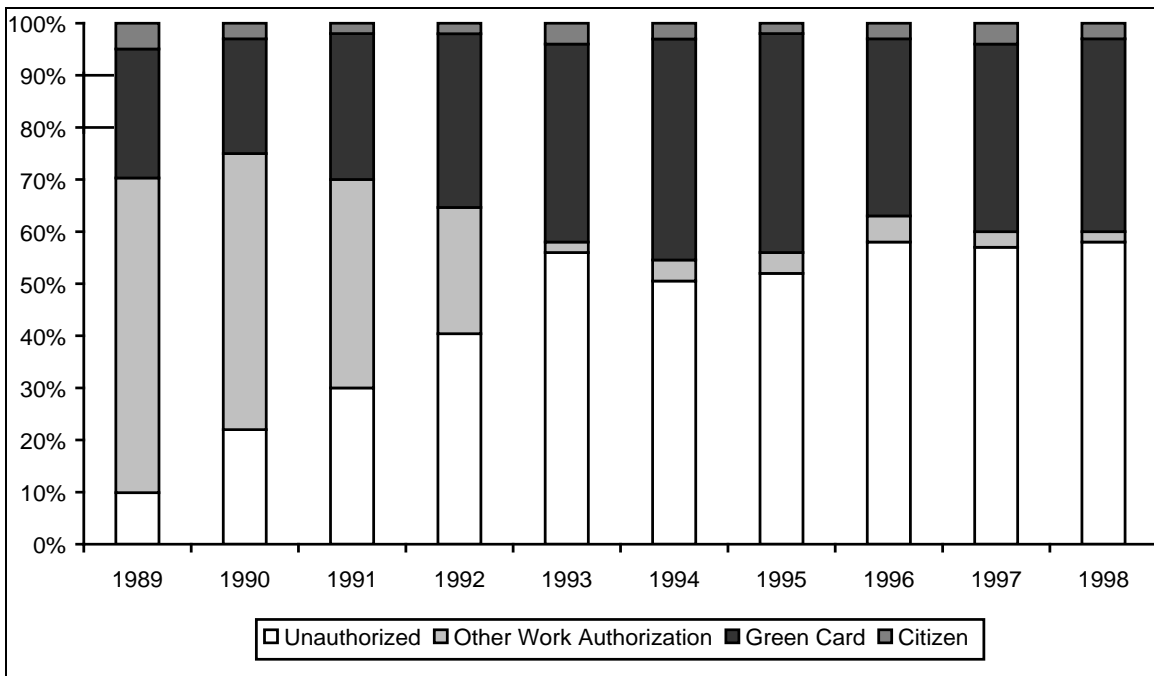
<sup>7</sup> Though this number might seem remarkably high to some, one must remember that this is a government survey and one would expect some workers would lie and so this would be actually an underestimate of the true proportion.

**Figure 3 Immigration Status of U.S. Farm Workers, 1989-98**



Source: National Agricultural Worker Survey

**Figure 4 Immigration Status of Foreign-Born U.S. Farm Workers, 1989-98**



Source: National Agricultural Worker Survey

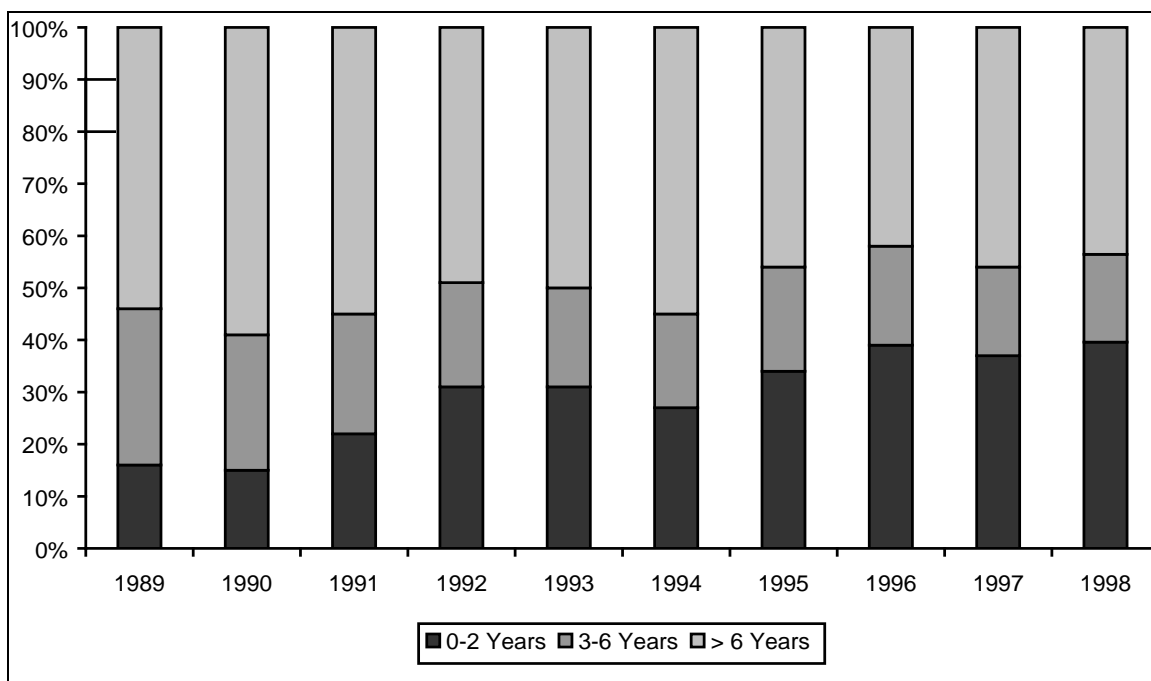
Over the 10 years, the share of US citizens dropped by half, from 43 percent to 22 percent, and the share of the legal immigrant group also fell significantly, from 40 percent in 1990 to 26 percent in 1998 (Figure 4). The IRCA-legalized—mainly SAWs—in this legal immigrant group declined by half, from 30 percent of the farm labor force in 1990 to 15 percent in 1998.

The INS estimated in 1996 that the Mexican unauthorized population in the United States had grown by an average of 150,000 per year since 1988 and that 2.7 million U.S. residents were unauthorized.

## II.6. Number of Years doing farm work

Figure 5 shows the length of time that farm workers had been doing farm work in the United States, for each survey year from 1989-1998. Farm workers are divided into three groups: 0-2 years, 3-6 years, and 7 or more years. The group with the least experience has been increasing rapidly, rising from 15 percent to 40 percent of all farm workers. The other two groups' shares have declined, though the most experienced group has declined less rapidly. There is a structural demand for certain types of skilled farm workers that prevents them being replaced by newcomers. On the other hand, newcomers are clearly replacing those with moderate experience, no doubt as many of the latter find jobs in other sectors. In the 1990s, the US farm labor market has become significantly more dependent on new entrants, and because virtually all new entrants are foreign-born, the number of new immigrants from Mexico required each year has increased.

Figure 5 Years of Experience in U.S. Farm Work, 1989-98



Source: National Agricultural Worker Survey

As a result of the increasing use of newcomers, the mean number of years in farm work has fallen for the foreign-born by one year over the last decade and is now about eight years (See Table 2). The mean number of years in farm work for the U.S.-born is considerably higher—between 10 and 20 years, depending on the group. This average is not rising in part because immigrants are replacing teenagers in certain local labor markets.

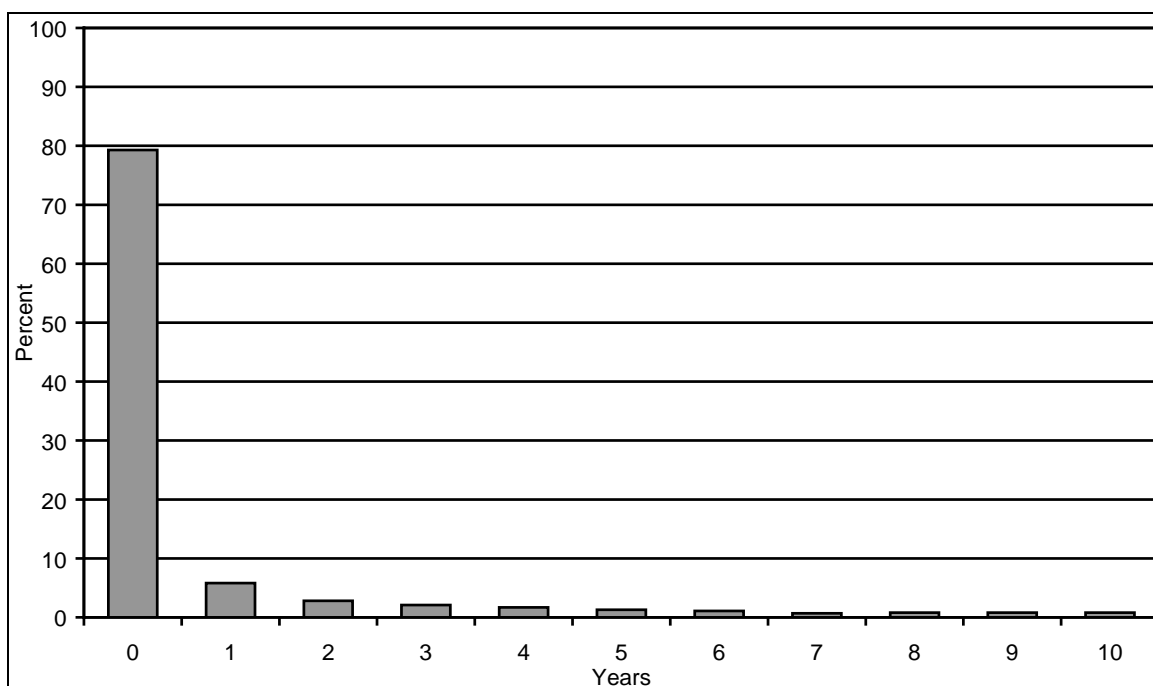
**Table 2 Average Number of Years Doing Farm Work, 1989-98**

	FOREIGN BORN	OTHER US BORN	US BORN HISPANIC	US BORN PUERTO RICO
1989	9.39	14.82	11.89	11.78
1990	8.71	19.02	17.46	11.64
1991	9.15	14.11	14.92	8.68
1992	8.41	8.17	13.24	3.40
1993	7.90	11.84	11.09	15.08
1994	9.08	12.28	14.69	14.24
1995	8.19	10.78	10.79	12.68
1996	7.39	9.21	13.40	20.90
1997	7.92	11.97	12.43	12.51
1998	7.97	10.90	12.16	17.77

Source: National Agricultural Worker Survey

## II.7. Lag Between Immigrant Arrival and Farm Work

Figure 6 shows the time lapsed between entry into the United States by foreign-born farm workers and their beginning to work in farm labor. About 79 percent went immediately to work on farms. Of these, women were 12 percent and teenagers were 8 percent. Of the group that did not go to work immediately in agriculture upon arrival, women were 33 percent and teenagers were 11 percent, so perhaps a quarter of the delay is accounted for by the arrival of families who do not start working immediately. The remaining group no doubt began working in some other type of job.

**Figure 6 Years Between U.S. Entry and Farm Work for Mexican-Born**

Source: National Agricultural Worker Survey

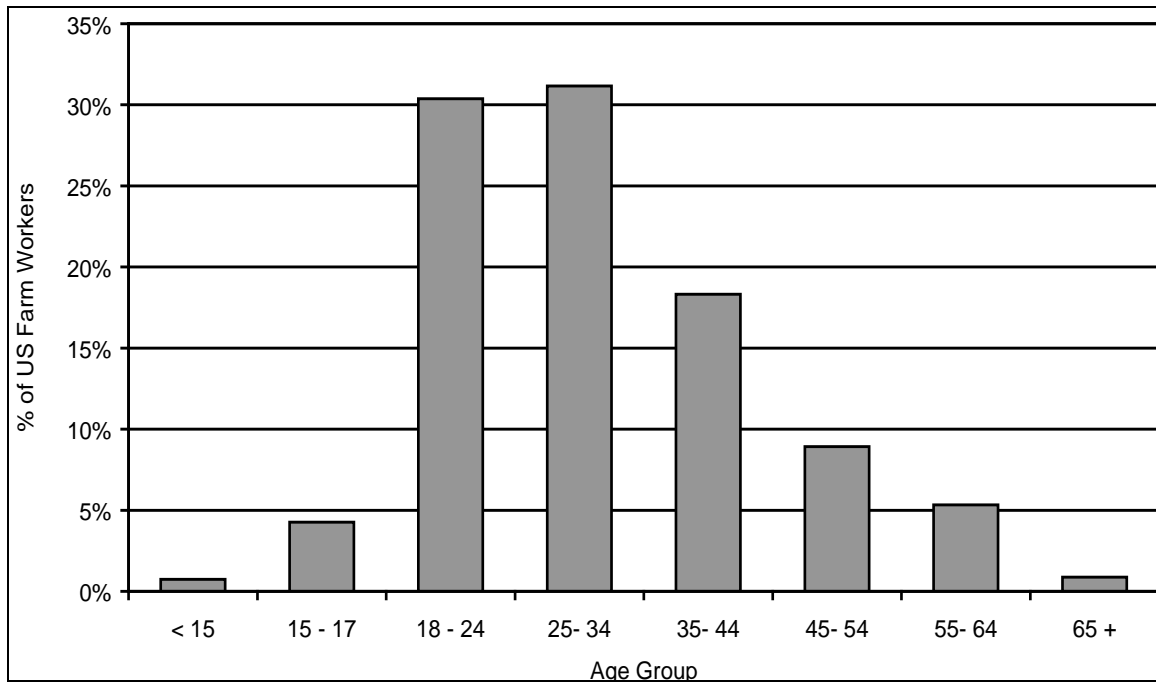
## II.8. Gender

Women constitute 20 percent of the farm labor force. About one-third were born in the United States. Women are working mainly in post-harvest activities (e.g. packing lettuce or table grapes), though there are certain harvests (e.g. onions, raisin grapes) where families work together.

## II.9. Median age by gender

The median age for male farm workers is 29 or 30, for women slightly higher at 32 or 33. This is very stable over the 10 years of the NAWS. The farm labor force is not getting any younger, despite the shift to more foreign-born workers. This is probably because farm work has always used young people.

Figure 7 shows the farm worker age distribution for 1998. The median age is 29 and two-thirds are 34 or younger. Note that less than one percent are under 15.

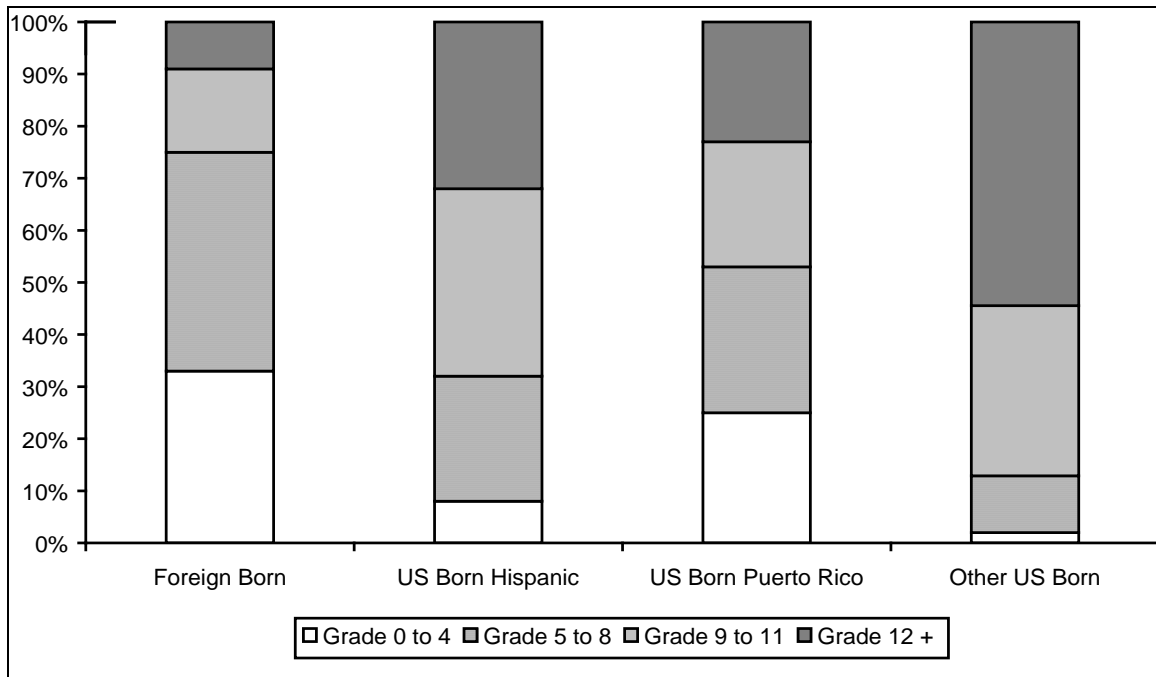
**Figure 7 U.S. Farm Workers Age Distribution, 1998**

Source: National Agricultural Worker Survey

## II.10. Educational Levels

Figure 8 shows the level of educational attainment for the pooled ten years of survey samples. The non-Hispanic US born have the highest levels of education (55 percent finished high school) and the foreign-born have the least (9 percent finished high school). US-born Hispanics (32 percent finished high school) and Puerto Ricans (23 percent finished high school) have intermediate levels of education.

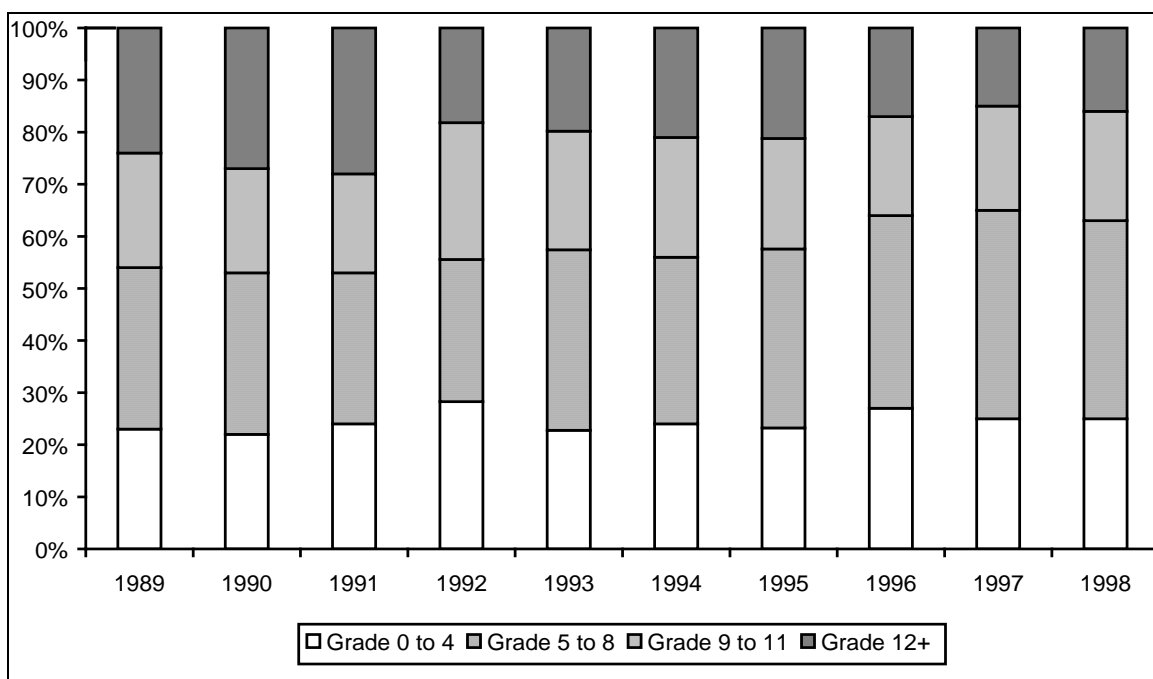
**Figure 8 Educational Level of U.S. Farm Workers - Average 1989-98**



Source: National Agricultural Worker Survey

Figure 9 shows the shift over time for the entire farm worker population. Over the ten years of the NAWS surveys: the lowest educational group (0-4 years) stays constant at about a quarter of farm workers; the next group (5-8 years) grows from about 30 percent to 40 percent; the next group (9-11 years) stays constant at about 20 percent; and the highest group (12+ years) shrinks from over 25 percent to about 15 percent. So just in these ten years the high school-educated have fallen by 40 percent and have been replaced by a group with 5-8 years of education. This is a direct result of the increase in foreign-born farm workers and has therefore been occurring for a significant period. The median level of formal education is now 6 years.



**Figure 9 Educational Level of U.S. Farm Workers, 1989-98**

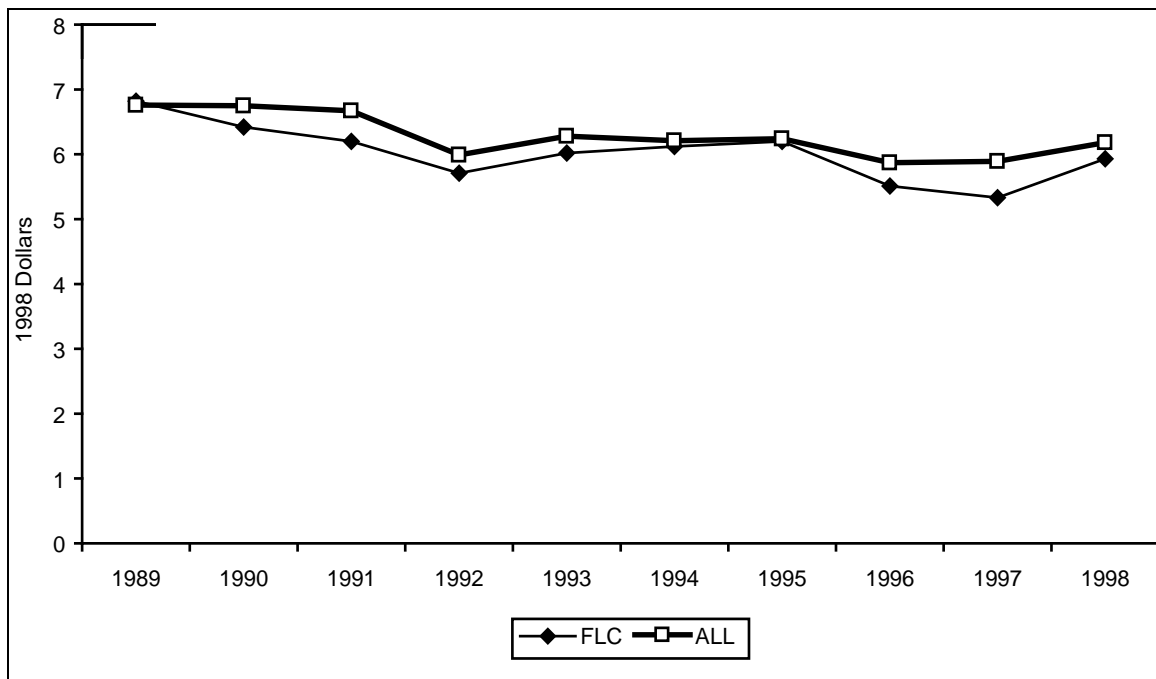
Source: National Agricultural Worker Survey

### II.11. Real Wages in 1998 Dollars (CPI deflated)

Figure 10 shows the trend of the real average wages of farm workers from the NAWS. The NAWS data show a fall in real wages from about \$6.75 (in 1998 dollars) at the outset of the ten-year period to less than \$6.00 in 1996-97, and then an uptick to \$6.18 in 1998.<sup>8</sup> The data seem to indicate that real wages are no longer falling, no doubt a result of real increases in the minimum wage and the booming economy and high demand for labor, as well as some impact from the increased enforcement at the border.<sup>9</sup>

<sup>8</sup> Note that the 1998 real wages are different than the nominal 1998 wages because the CPI indices are for the interview year and the wages are reported by fiscal year. So fiscal year 1998 includes the fall quarter of 1997.

<sup>9</sup> USDA NASS data show a similar trend, only at a higher absolute level because of whom they survey.

**Figure 10 Real Wage of U.S. Farm Workers (1998 Dollars)**

Source: National Agricultural Worker Survey

Piece rate workers on average always make a higher wage than hourly workers (Table 3). Over the ten-year period, the NAWS shows a 23 percent higher wage to piece rate workers. On the other hand, employees employed directly by agricultural producers were paid on average 5 percent more than employees of farm labor contractors (FLCs). Actually, the advantage to being employed directly by a farmer is even greater than these data indicate. Employees of FLCs often have to pay for rides, tools, and sometimes housing in order to maintain their jobs. The 1998 NAWS found that one-third of FLC employees had to pay for equipment whereas 20 percent of direct-hired employees had to pay for tools. In a study of fresh tomato harvesters in California, all hired by contractors, a typical worker spent 25 percent of his net income (or \$50 out of \$200 per week income) on housing, rides, and tools (Runsten, et al., 1992)

**Table 3 Real Wages in 1998 Dollars**

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Real wages - FLC Employees</b>										
Hourly Rate	5.52	5.47	5.49	5.29	5.22	5.52	5.33	5.24	5.22	5.60
Piece Rate	9.61	7.93	6.78	6.10	8.91	7.17	7.03	6.11	5.53	6.84
All	6.82	6.42	6.20	5.71	6.02	6.12	6.20	5.51	5.33	5.93
<b>Real wages - Non-FLC Employees</b>										
Hourly Rate	6.23	6.13	5.96	5.71	5.87	5.86	5.83	5.75	5.77	5.99
Piece Rate	8.97	8.36	9.92	6.98	7.91	8.38	7.80	6.80	6.94	7.86
All	6.73	6.78	6.76	6.03	6.31	6.24	6.25	5.98	6.07	6.29
<b>Real wages - All Farm Workers</b>										
Hourly Rate	6.17	6.02	5.89	5.67	5.82	5.81	5.76	5.64	5.65	5.88
Piece Rate	9.30	8.38	8.95	6.70	8.01	7.93	7.52	6.58	6.47	7.52
All	6.76	6.75	6.67	5.99	6.28	6.21	6.24	5.87	5.89	6.18

Source: National Agricultural Worker Survey

## II.12. Time Spent in Farmwork vs. Other Activities

Table 4 shows the distribution of farmworkers' time among farm work, non-farm work, unemployment, and time spent out of the country. Over the decade, the time spent in farm work for both the foreign-born and the U.S.-born workers has fallen on average.

For foreign-born workers it fell from 58 percent (1989-1991) to 48 percent (1995-1997), and for U.S.-born workers it fell from 50 percent to 35 percent. For the foreign-born workers, this average has fallen because the turnover rate has increased and a greater proportion of the foreign-born are recent entrants from abroad. These workers are apparently taking shorter-term jobs and spending more time abroad. For the U.S.-born workers, the drop in time spent in farmwork occurred because the composition of the U.S.-born labor force is made up increasingly of young summer workers and fewer long-term workers. Whether there are more workers or not is unclear, but on average they are working less.

**Table 4 Distribution of Time Spent Engaged in Various Activities Among Crop Workers: Three Periods Compared (Percentages)**

<b>Foreign Born Crop Workers</b>				
Year	Farm Work	Non-Farm Work	Not Working but in U.S.	Abroad
89-91	58.4	9.6	15.6	16.3
92-94	52.8	9.4	17.3	20.5
95-97	48.2	7.4	15.6	28.8
<b>U.S Born Crop Workers</b>				
Year	Farm Work	Non-Farm Work	Not Working but in U.S.	Abroad
89-91	50.2	20.3	26.3	3.1
92-94	42.5	21.5	32.7	3.2
95-97	35.3	19.1	37.3	3.3

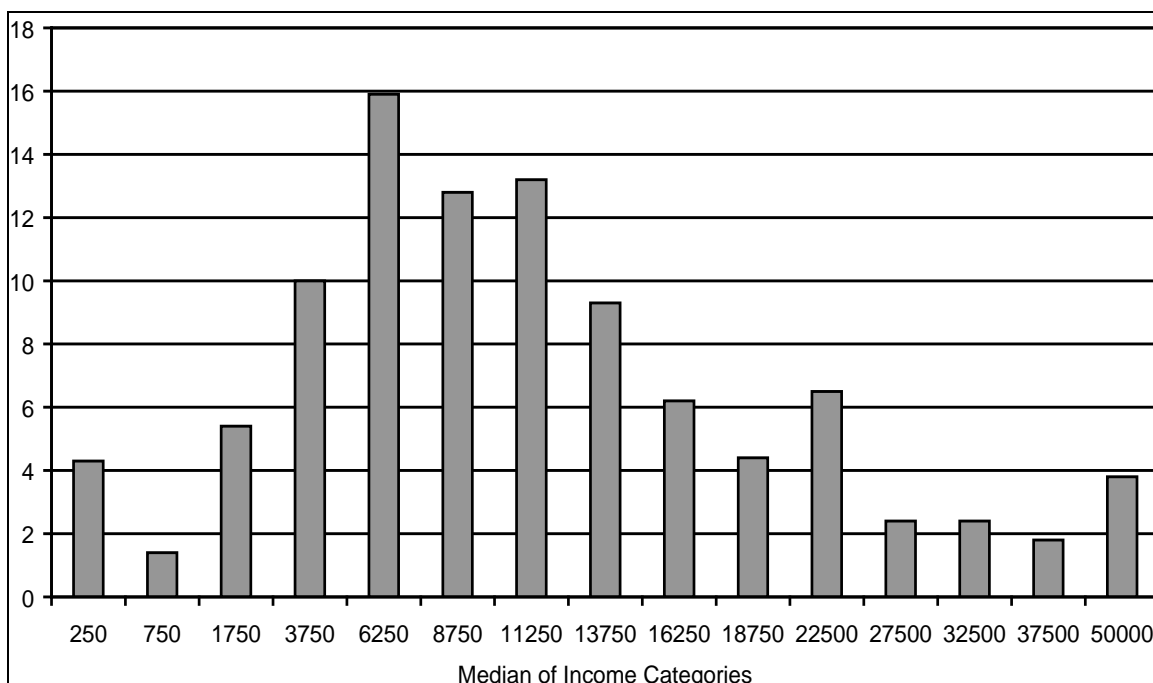
Source: National Agricultural Worker Survey, 1989-1997

### II.13. Median Personal and Family Income by Fiscal year

The median personal income of farm workers as reported by the NAWS has fallen in the \$5,000-\$7,500 category for every year except 1994, when it bumped up into the next highest category. This allows us to say that half of all farm workers make less than \$7,500 per year. The same is true for median family income, which has fallen in the \$7,500-\$10,000 category every year except 1993, when it was just barely in the higher category. So we can confidently say that half of all farm worker families make less than \$10,000 per year. Figure 11 shows the distribution of family income for 1993 (where the category ranges are represented by their midpoints on the X axis). In that year, 20 percent of farm workers reported family incomes of less than \$5,000. Clearly, such low incomes can only be survived by returning to rural Mexico when not working. According to the 1998 NAWS, 61 percent of farm workers would be in poverty if they all lived in the United States. The creation of a structural dependency on workers who will work for short periods of time and accept such low incomes is a troubling development in the US farm labor market.

Since the number of weeks worked per year is falling, average earnings might actually be going down in nominal terms. If we reported these in real dollars (i.e. corrected for inflation), this would almost certainly be true.

**Figure 11 Farm Worker Family Income Distribution, 1993**



Source: National Agricultural Worker Survey

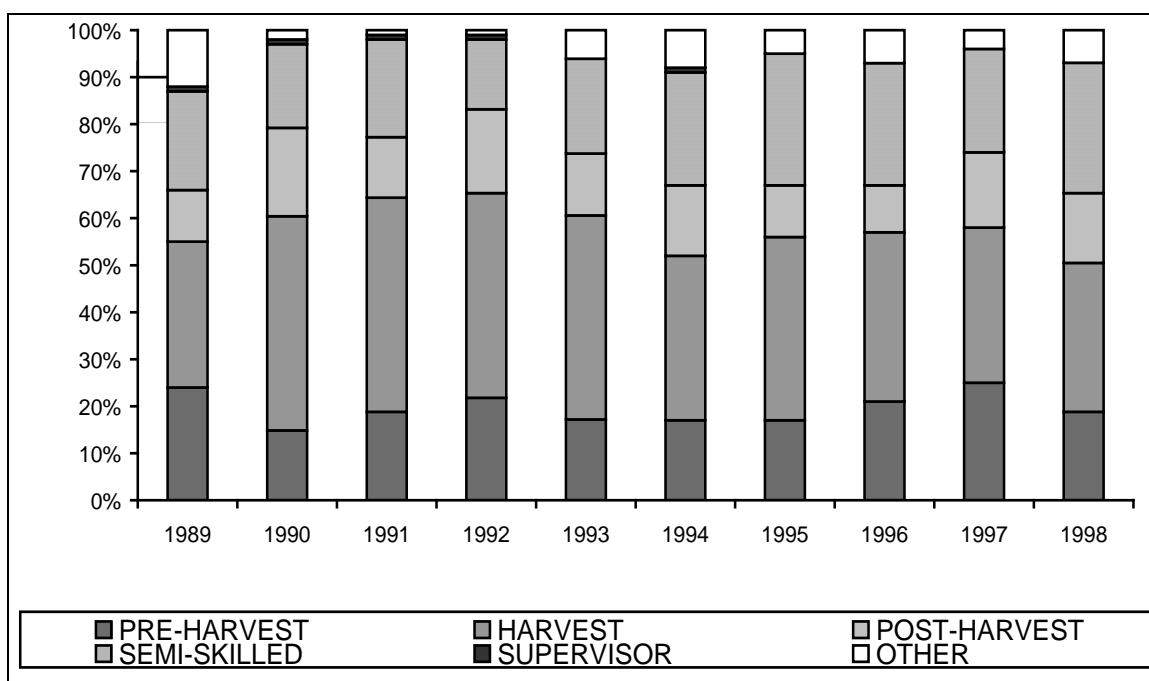
### II.14. Shift in Shares of Tasks

The NAWS data show a clear trend of a declining proportion of harvest workers (from 46 percent in 1990 to 32 percent in 1998) (Figure 12). This is mostly compensated by an increase in

the numbers of semi-skilled workers, which implies an increase in mechanization. The process of mechanization in agriculture has always tended to disrupt migration and work patterns. Farmworkers who were able to put together a series of tasks suddenly find some mechanized. This may explain in part the declining average amount of farm work available.

This process of mechanization could be extended to other crops and tasks. After the Bracero Program ended in 1965, it was widely predicted that most of the hand labor tasks would be mechanized. Thirty years later, most have not been. What happened was that another young male immigrant labor force was substituted instead.<sup>10</sup> In 1986, this labor force was predominantly unauthorized and was granted amnesty by the Immigration Reform and Control Act. As noted above, this labor force is again mostly unauthorized. The situation repeats itself because mechanization is not given sufficient prominence in the debate. Mines and Alarcon argue that the United States is actually lagging other industrialized countries in the adoption of new technology for fruit, vegetable, and horticultural crops, and that this threatens U.S. competitiveness. Interestingly, the drain of the best rural labor from Mexico also negatively impacts Mexican agricultural competitiveness.

**Figure 12 Distribution of Task by Fiscal year**



Source: National Agricultural Worker Survey

### II.15. Origins of Mexican Farm workers

Table 5 shows the state in Mexico last lived in for all of the Mexican farm workers surveyed in the NAWS from 1991-1998. Michoacan, Guanajuato, Jalisco, and Zacatecas, the traditional

<sup>10</sup> See Richard Mines and Rafael Alarcón, *Family Settlement and Technological Change in Labor-Intensive U.S. Agriculture*. Paper presented at the Dynamics of Hired Labor Conference, Philadelphia, October 1999.

West-Mexico sending states for farm workers since the Bracero Program, together accounted for 46 percent of Mexican farm workers in the United States. Manuel Gamio, in 1930, found that these states accounted for almost 60 percent of Mexican migrants to the United States, but in ten sets of data collected since World War II, including the Bracero Program, they have accounted for between 32 percent and 47 percent of Mexican migrants.<sup>11</sup> That these states' share of Mexican-born farm workers is even higher than it was in the Bracero Program and that Michoacan continues to gain share—even though all of the states have had massive penetration of urban labor markets in the United States—shows the remarkable persistence of village network migration patterns.

Since the NAWS does not ask for state of birth but “state last lived,” some of the data may be misleading. For example, states that are important farm labor migration destinations within Mexico — such as Sinaloa, Sonora, and Baja California—may not be the place of birth of the farm workers, but merely the last place worked before migrating to the United States. Most of the farm workers in Baja are from Oaxaca, for example. Veracruz, the Distrito Federal, and other northern states of Mexico are also suspect. Therefore, it is likely that the shares of Oaxaca and Guerrero, in particular, are larger than the data show.

**Table 5 Mexican State Last Lived in Before Entering the U.S.**

<b>High (&gt;3%)</b>	<b>%</b>	<b>Moderate (1%-3%)</b>	<b>%</b>	<b>Low (1% or less)</b>	<b>%</b>
Michoacan	17.8	Baja California	2.9	Chiapas	1.0
Guanajuato	17.4	Distrito Federal	2.8	Colima	1.0
Jalisco	7.9	Nayarit	2.0	Queretaro	1.0
Tamaulipas	7.2	Sonora	1.9	Morelos	0.9
Oaxaca	5.3	Sinaloa	1.9	Mexico	0.8
Nuevo Leon	4.3	Durango	1.8	Aguascalientes	0.4
Hidalgo	4.2	Veracruz	1.5	Yucatan	0.1
Guerrero	3.6	Coahuila	1.5	Campeche	0.1
San Luis Potosi	3.3	Puebla	1.2	Tlaxcala	0.1
Zacatecas	3.1			Tabasco	0.05
Chihuahua	3.1				

Source: National Agricultural Worker Survey, U.S. Department of Labor

Because of the limited sample size, the data show significant variation over time, but the high and moderate Mexican migration states (“last state lived”) from Table 5 with the fastest growing shares of the US farm labor force, 1991-1998, were:<sup>12</sup>

1. Oaxaca (.6, 3.8)

<sup>11</sup> Runsten and Zabin

<sup>12</sup> Because there is a great deal of variation in share from year to year, we have ranked the states by the average annual rate of growth of share (the first number listed) but with the proviso that there was a positive growth in share between 1991 and 1998 (the second number listed). In addition, some of the states with low shares (in particular the state of Mexico) saw their shares increase rapidly, as one would expect. Of the traditional West Mexico states, the only one that had both a positive average growth rate and a net growth in share was Michoacan.

2. Coahuila (.4, 1.1)
3. Chihuahua (.4, .5)
4. San Luis Potosi (.3, 1.2)
5. Hidalgo (.2, 1.3)
6. Guerrero (.2, 1.9)
7. Durango (.2, .5)
8. Veracruz (.2, 1.7)
9. Sinaloa (.2, .8)
10. Tamaulipas (.1, .5)

Oaxaca emerges as the leading growth state for U.S. farmworkers. This is a result of the recruitment of indigenous Oaxacans for agriculture in northwest Mexico. In certain parts of California and Oregon, Oaxacans have become the core of the agricultural labor force.<sup>13</sup> This is an interesting development because it suggests that the U.S. agricultural labor force could follow the path of the Mexican farm labor market, becoming more dependent on indigenous workers from southern Mexico, a group that tends to migrate in families and has less formal education.

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<sup>13</sup> See James Stuart and Michael Kearney, *Causes and Effects of Agricultural Labor Migration from the Mixteca of Oaxaca to California*. Working Papers in U.S.-Mexican Studies No. 28, University of California, San Diego, 1981. Carol Zabin, Michael Kearney, David Runsten, and Anna Garcia, *A New Cycle of Poverty: Mixtec Migrants in California Agriculture*. Davis, California: California Institute for Rural Studies, 1993. David Runsten and Michael Kearney, *A Survey of Oaxacan Village Networks in California Agriculture*, California Institute for Rural Studies, Davis, 1994

### III. Canada<sup>14</sup>

#### III.1. Canadian Agriculture Overview

The overall Canadian farm population has been declining since 1986, though there are variations among the 10 provinces. The 1996 Census of Agriculture reported a farm population of 851,410 in Canada, which represented 3 percent of the total population.<sup>15</sup> The 1996 count also shows a significantly slower declining trend in the total farm population than previous periods. Between 1986 and 1991, the farm population declined by 5.6 percent while between 1991 and 1996, the population declined by 1.7 percent only. Among the provinces, the declining trends varied.

Table 6 shows the distribution of the Canadian farm population among the 10 provinces and the share of farm population for each province. Ontario reported the largest farm population with 221,230 people, followed by Saskatchewan with 145,560 people and Quebec with 114,605. Although the farm population in British Columbia was only 68,770 in 1996, it grew 13.1 percent between 1986 and 1996.<sup>16</sup> In terms of share of farm population, the largest farm population in Ontario represented only 2.1 percent of the total population, whereas Saskatchewan had the highest share (14.7 percent) of its population living on farms. The farm populations in Manitoba and Alberta were both about 7 percent of the total population.

The declining trends in the farm population have to do with fewer but bigger farms, smaller farm families and an aging farm population.<sup>17</sup> The number of census farms has been declining in Canada. In 1996, there were 276,548 census farms compared to 366,110 farms in 1971. As the number of farms declines, the average farm size has been growing faster. In 1971, the average farm size was 188 hectares and in 1996 it was over 240 hectares (583 acres), which represents a 31 percent increase. In 1971, the average family size was 4.3 persons and in 1996, it was 3.4 persons. In 1971, the proportion of farm population over the age of 65 was 5.9 percent and in 1996, it was 8.3 percent. These trends undoubtedly have an effect on demographics of agricultural labor and labor market conditions. Other domestic and international trends such as faster growth trends in non-agricultural sectors, withdrawal of government sponsored programs,

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<sup>14</sup> For the overview, we relied on Census of Agriculture (1996) information, the latest Statistics Canada publication, "Canadian Agriculture at a Glance" (1999), and the third report on the Census of Agriculture. The Census of Agriculture is taken every five years. The significant difference between the Census taken prior to 1991 and after 1991 is that only one farm operator is reported per farm prior to 1991 whereas after 1991 up to three farm operators could be reported per farm.

<sup>15</sup> According to the 1999 Report on the Census of Agriculture, the proportion of people living on farms in Canada has declined dramatically since the Second World War. In 1941, almost one-third or 3.2 million of the total Canadian population lived on farms.

<sup>16</sup> Statistics Canada (1999), Report on the Census of Agriculture. This is the third and final report on the 1996 Census of Agriculture. Previous two reports were released on May 17, 1997 and December 15, 1997. Other provinces that experienced growth in the same period are Alberta (7.4 percent), Nova Scotia (4.1 percent) and Manitoba (0.6 percent).

<sup>17</sup> Statistics Canada, Third Report on the 1996 Census of Agriculture. The overall trend in agriculture noted in the report is smaller farms and farm population. This may be due to growth in labor demand in other industries.



and international trade policies can also affect the agricultural sector and put additional pressures on the agricultural labor market.<sup>18, 19</sup>

**Table 6 Farm Population by Province, 1996**

	<b>Total Population</b>	<b>Total Farm Population</b>	<b>Farm Population as Percent of Total Population</b>
<b>Canada</b>	<b>28,751,595</b>	<b>851,410</b>	<b>3.0%</b>
Newfoundland	551,790	1,680	0.3%
Prince Edward Island	134,560	7,805	5.8%
Nova Scotia	909,280	13,060	1.4%
New Brunswick	738,130	10,350	1.4%
Quebec	7,138,795	114,605	1.6%
Ontario	10,753,570	221,230	2.1%
Manitoba	1,113,900	79,840	7.2%
Saskatchewan	990,235	145,560	14.7%
Alberta	2,696,825	188,510	7.0%
British Columbia	3,724,500	68,770	1.8%

Source: Statistics Canada, 1996 Census of Agriculture

Table 7 provides information on job tenure in agriculture by gender. There has been an increase in the number of people who worked less than 12 consecutive months for one employer since 1990. These trends suggest that seasonal agricultural workers may be increasing in Canada. Between 1990 and 1998, the number of people who worked between 4 and 6 months increased by about 26 percent. In the same period, the number of people who worked between 7 and 12 months increased by more than 30 percent. In comparison, those who worked between 121 and 240 months, which represents the largest job tenure category for both men and women, decreased by about 12 percent. Although, the number of women doing agricultural work has remained stable between 1990 and 1998, the number of women working less than 12 months has grown a little over 7 percent since 1990. This may be due to a significant increase in the number of farm women participating in the non-agricultural labor force. In 1996, about 68 percent of farm women had non-agricultural jobs.<sup>20</sup>

<sup>18</sup> See discussion on the effects of domestic and international policy trends on agriculture in Huff, Bruce and Gaye Ward (1999). "Setting the game plan for team agriculture," Agriculture at a Glance. Statistics Canada.

<sup>19</sup> St-Jacques, Marc and Tom Thibault (1999). "Follow the guide for a trip back in time," Agriculture at a Glance. Statistics Canada.

<sup>20</sup> Statistics Canada (1999). Canadian Agriculture at a Glance, pp. 271-275.

**Table 7 Hired Family and Non-Family Labor in Canadian Agriculture: Job Tenure by Gender**

Months	1990			1996			1998		
	Male (1,000)	Female (1,000)	Percent of Job Tenure for Both Sex	Male (1,000)	Female (1,000)	Percent of Job Tenure for Both Sex	Male (1,000)	Female (1,000)	Percent of Job Tenure for Both Sex
1 - 3	22.4	14.3	13.1%	22.0	14.4	13.2%	16.7	11.1	10.3%
4 - 6	9.5	5.5	5.4%	10.5	5.8	5.9%	10.9	7.5	6.8%
7 - 12	8.1	4.6	4.5%	10.4	5.1	5.6%	10.6	6.4	6.3%
13 - 60	43.1	22.6	23.5%	45.1	20.7	23.9%	47.7	23.4	26.2%
61 - 120	35.2	18.2	19.1%	38.6	19.1	21.0%	36.1	19.0	20.3%
121 - 240	68.8	27.1	34.3%	58.4	25.0	30.3%	56.2	25.4	30.1%
<b>Total</b>	<b>187.1</b>	<b>92.3</b>	<b>100.0%</b>	<b>185.0</b>	<b>90.1</b>	<b>100.0%</b>	<b>178.2</b>	<b>92.8</b>	<b>100.0%</b>
Greater than 240 months	109.8	36.2		114.5	41.8		109.9	37.7	
Average tenure	209.6	163.1		210.4	173.7		207.9	161.4	

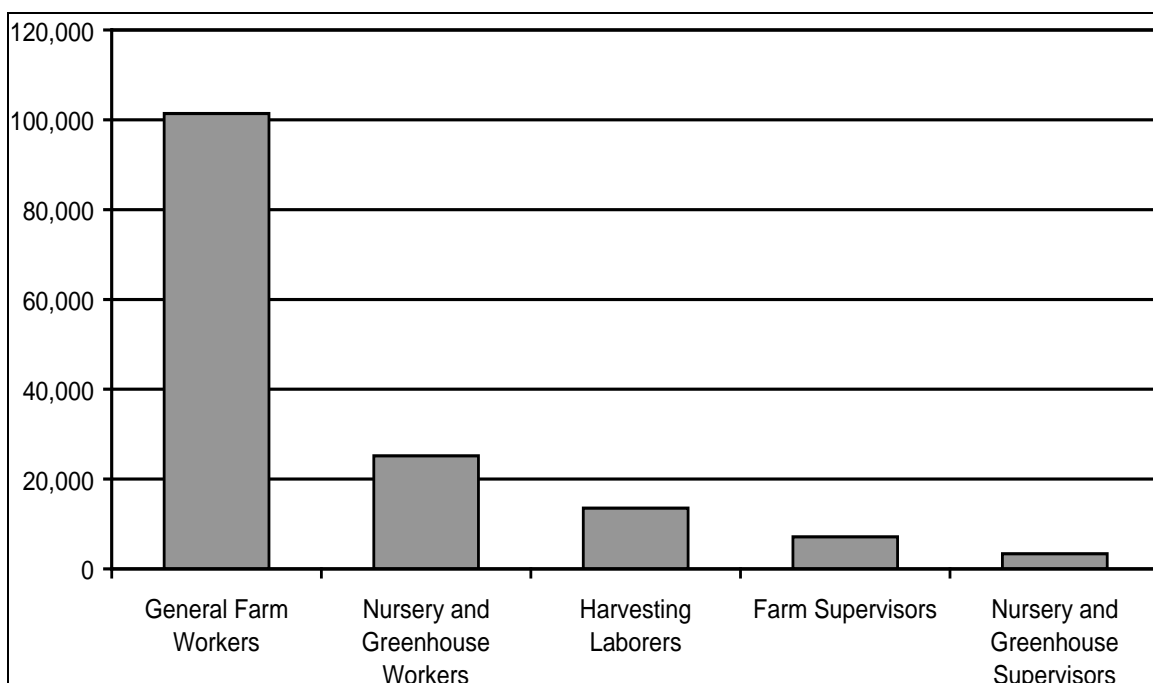
Source: Statistics Canada, Labor Force Survey

### III.2. Canadian Agricultural Workers<sup>21</sup>

According to the figures presented in Table 8, there were a total of 140,105 general farm workers, nursery and greenhouse workers and harvesting laborers in 1995.<sup>22</sup> In comparison, there were a total of 139,205 workers in the three occupational categories in 1990. Between 1990 and 1995, the number of general farm workers increased by 1.7 percent and the number of nursery and greenhouse workers by 3 percent. Harvesting laborers declined slightly, by less than 1 percent. Overall, the total number of workers increased by less than 1 percent.

<sup>21</sup> Agricultural workers are defined by Standard Occupational Classification categories: Information on three occupational titles-general farm workers (I021), nursery and greenhouse workers (I022) and harvesting laborers (I211)-was collected to develop a profile of agricultural workers in Canada. Figures in this section include paid workers over 15 years old who have worked since January 1995. Statistics Canada (1999). Dimensions Series: Canadian Income and Earning for 1990 and 1995.

<sup>22</sup> These Census figures do not provide an accurate total count of agricultural workers nor their demographic and work characteristics. Information about agricultural workers is difficult to obtain since Statistics Canada does not conduct a separate survey of agricultural workers including seasonal migrant workers. Moreover, the Census of Agriculture misses thousands of seasonal migrant workers because the Census is taken before the harvesting season (British Columbia Agricultural Workforce Profile, 1999). As a result, the labor force appears overwhelmingly white.

**Figure 13 Agricultural Workers by Occupational Title in 1995**

Source: Statistics Canada, 1996 Dimension Series: Income and Earnings.

**Table 8 Agricultural Workers by Occupational Title**

	1990	1995
General Farm Workers	99,680	101,415
Nursery and Greenhouse Workers	25,925	25,170
Harvesting Laborers	13,600	13,520
<b>Total Workers</b>	<b>139,205</b>	<b>140,105</b>
Farm supervisors	6165	7130
Nursery and greenhouse managers	3585	3390
<b>Total Workers Incl. Supervisors</b>	<b>148,955</b>	<b>150,625</b>

Source: Statistics Canada, 1996 Dimension Series: Income and Earnings.

Table 9 provides a gender break-down for the three groups of workers for 1990 and 1995. There are significantly more male workers in the general farm worker category for both years. About 70 percent of general farm workers were men in 1995. In comparison, women represented more than half of the harvesting laborers, though this count clearly excludes contract workers and many other migrant and seasonal laborers. In 1995, 53 percent of the harvesting laborers were women. For the nursery and greenhouse workers, there were slightly more men than women for 1990 and 1995. Overall, these data indicate that women were 35 percent of agricultural workers in 1995.

**Table 9 Gender Distribution among Agricultural Workers, Canada**

	1990				1995			
	General Farm Workers	Nursery and Green House Workers	Harvesting Laborers	Total	General Farm Workers	Nursery and Green House Workers	Harvesting Laborers	Total
Male	68%	56%	44%	63%	70%	56%	47%	65%
Female	32%	44%	56%	37%	30%	44%	53%	35%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: Statistics Canada, Dimensions Series: Income and Earnings, 1990 and 1995.

The Census data indicate a very low percentage of ethnic minorities in the farm labor force. In 1995, all “visible ethnic minorities” represented less than 7 percent of the total numbers of workers in the three categories.<sup>23</sup> This is likely a seriously biased estimate. Nevertheless, of the ethnic groups identified, South Asians were the largest ethnic minority in all three occupational categories, representing about half of all minorities. The next most important groups were Chinese, Southeast Asians, Blacks, and Latin Americans. Whatever the true proportions, it is clear that the Canadian agricultural labor force looks very different from the U.S. agricultural labor force, and is not dominated by Latin American immigrants.

The proportion of full-time workers in all three occupational categories declined slightly between 1990 and 1995 as can be seen in Table 10. About 30 percent of general farm workers worked full-time. This proportion is higher than in the other two occupational categories. A significantly lower proportion of nursery and greenhouse workers and harvesting laborers worked full time. Only 7 percent of harvesting laborers worked full time in 1995. Harvesting laborers tend to be seasonal migrant workers whereas general farm workers tend to be more stable.

**Table 10 Work Activity of Agricultural Workers, Canada**

	1990			1995		
	General Farm Workers	Nursery and Greenhouse Workers	Harvesting Laborers	General Farm Workers	Nursery and Greenhouse Workers	Harvesting Laborers
Worked full year, full time	29,600	4,610	1,420	28,025	4,060	965
All others	70,080	21,315	12,180	73,390	21,115	12,555
Percent of Full Time Workers	30%	18%	10%	28%	16%	7%
Total	99,680	25,925	13,600	101,415	25,175	13,520

Source: Statistics Canada, 1996 Dimensions Series Income and Earnings

Table 11 provides average wages earned by agricultural workers in 1990 and 1995. Of the three groups of workers, harvesting laborers earned the least with \$7,414 in 1990 and \$6,107 in 1995. The difference in income between harvesting laborers and general farm workers has to do with

<sup>23</sup> Statistics Canada, Dimensions Series: Labour Force and Unpaid Work of Canadians.

harvesting laborers working seasonally and on a part-time basis. When adjusted for inflation, between 1990 and 1995, the income earned by agricultural workers in 1995 declined by 19 percent.

**Table 11 Average Wages and Salaries Paid to Agricultural Workers 1990-1995**

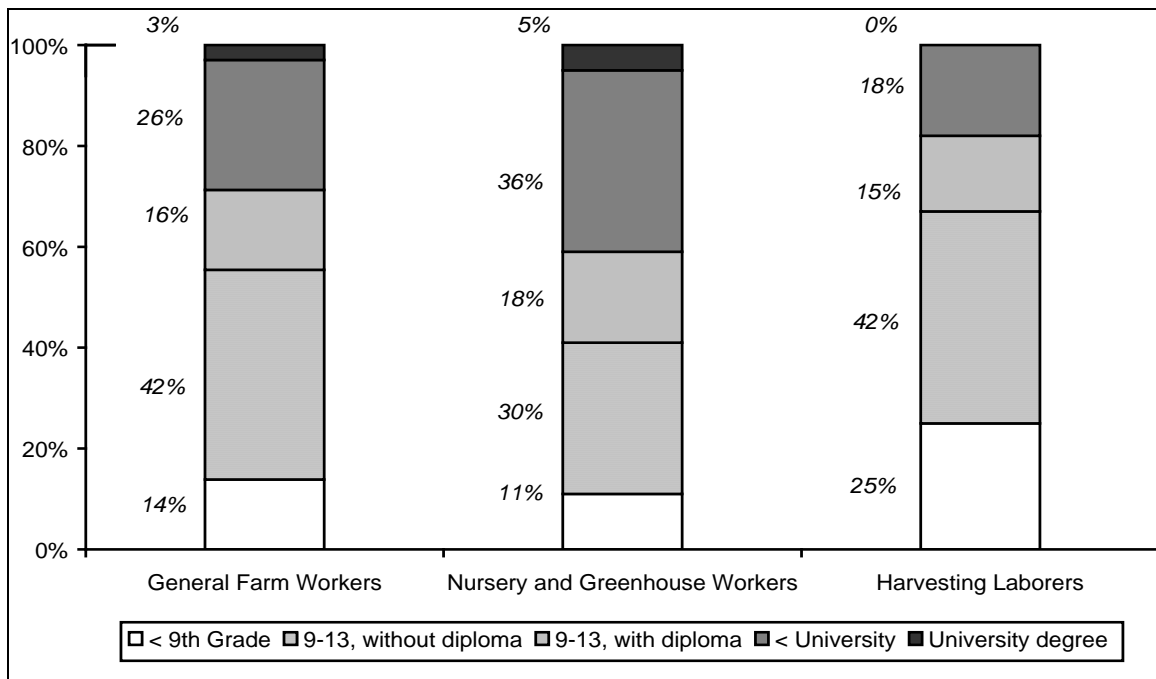
	1990			1995		
	Average Wages and Salaries (Canadian \$)	Average Wages and Salaries in (1992 Canadian \$)	Average Wages and Salaries in (U.S. \$)	Average Wages and Salaries (Canadian \$)	Average Wages and Salaries in (1992 Canadian \$)	Average Wages and Salaries in (U.S. \$)
General Farm Workers	\$11,079	\$11,875	\$9,548.77	\$10,456	\$10,034.55	\$7,637.48
Nursery and Greenhouse Workers	\$11,180	\$11,983	\$9,635.82	\$10,278	\$9,863.72	\$7,507.46
Harvesting Laborers	\$7,414	\$7,946	\$6,389.98	\$6,107	\$5,860.84	\$4,460.80

Source: Statistics Canada, 1996 Dimension Series: Income and Earnings.

Agricultural workers were generally less educated than farm operators. Less than 3 percent of agricultural workers have a university degree, compared to 15 percent among farm operators in 1996.<sup>24</sup> Figure 15 compares educational levels between the three agricultural worker occupations. Harvesting laborers were less educated than general farm workers and nursery and greenhouse workers. In 1996, around 25 percent of harvesting laborers had less than a ninth grade education whereas it was about 14 percent for general farm workers and 11 percent for nursery and greenhouse workers. On the other hand, nursery and greenhouse workers had the largest proportion of workers, around 5 percent, with a university degree. Less than 3 percent of general farm workers had a university degree and none of the harvesting laborers had one.

<sup>24</sup> 1996 Census of Agriculture: Profile of Farm Operators Classified by Occupation and Sex, 1991 and 1996. Cat. No. 93F0038XIE.

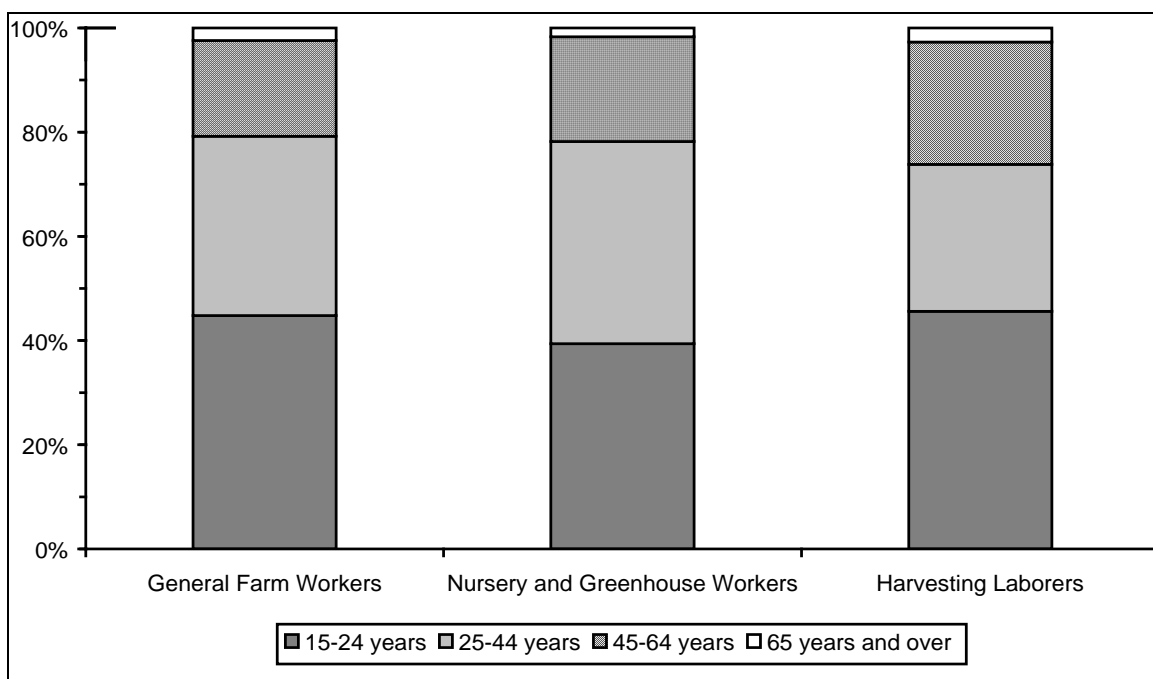
**Figure 14 Educational Levels of Agricultural Workers in 1995**



Source: Statistics Canada, 1996 Dimension Series: Income and Earnings.

Agricultural workers were generally younger than farm operators. Almost 44 percent of the workers were 24 years old and younger in 1995, while more than 50 percent of farm operators were 35 years old and older in 1996.<sup>25</sup> Among the workers, general farm workers tended to be younger than harvesting workers or nursery and greenhouse workers as can be seen in Figure 15. However, in 1995 harvesting laborers were in general younger than in 1990. Around 46 percent of harvesting laborers were between 15 and 24 years old in 1995 compared to almost 41 percent in 1990. Nursery and greenhouse workers, on the other hand, got older in 1995. The 45 to 64 age group increased from 18 percent of nursery and greenhouse workers in 1990 to 20 percent in 1995.

<sup>25</sup> Ibid.

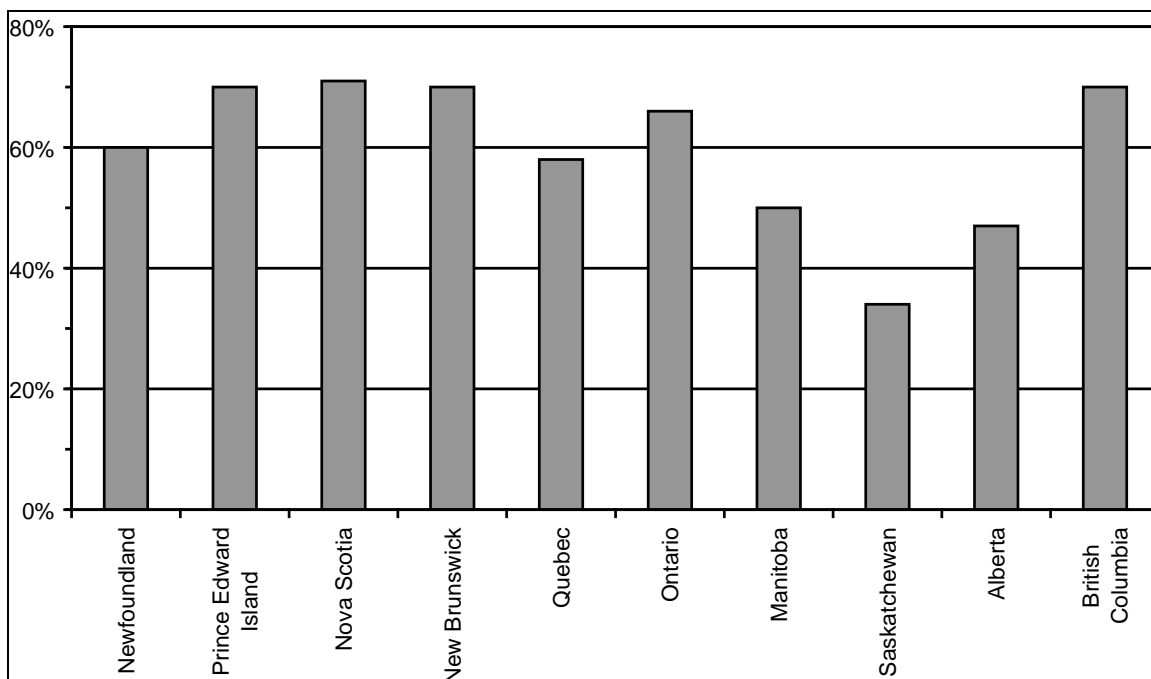
**Figure 15 Age Composition of Agricultural Workers in 1995**

Source: Statistics Canada, 1996 Dimension Series: Income and Earnings.

A significant portion of farm operating expenses are wages and salaries paid to non-family members. This is consistent with the trend where farms are getting bigger but farm families are getting smaller (see above overview). Figure 16 illustrates that in Prince Edward Island, Nova Scotia, New Brunswick, Ontario, and British Columbia, the payment to non-family members was almost 70 percent of total payments in 1995.<sup>26</sup>

<sup>26</sup> The differences may be attributed to farm population, farm size and crop type. Manitoba, Saskatchewan and Alberta had greater proportions of farm population than other provinces. According to the distribution of census farms by size, the farms in the three provinces were larger than in other provinces. The larger farms tend to specialize in field crops and livestock and the smaller farms tend to specialize in fruits, vegetables, berries and small livestock which are more labor intensive. Canadian Agriculture at a Glance, 1999.

**Figure 16 Payment to Non-Family Members as Percentage of Total Agricultural Wages and Salaries by Canadian Province in 1995.**



Source: Statistics Canada, Agricultural Profiles of Canada

### III.3. Agricultural Workers in British Columbia<sup>27</sup>

British Columbia has a robust agricultural sector. Between 1991 and 1996, farm sales value increased by 40 percent. In the same period, labor costs increased by 23 percent and labor productivity grew by 13 percent. As noted earlier (see section on overview), the farm population grew by 13 percent between 1986 and 1996. The Lower Mainland region experienced the greatest growth in terms of gross receipts and labor productivity.<sup>28</sup> Though there have been reductions in labor demand in the dairy, poultry and field vegetables sectors due to technological change, production and labor needs have increased in the nursery and greenhouse sector. At the same time, increases in labor productivity are attributed to an increase in unpaid labor (farm families) and to mechanization.

According to the Labour Force Survey conducted by the BC Central Statistics, there were 33,600 agricultural workers in 1998. About 43 percent of agricultural workers were in the Lower Mainland region, 24 percent in the Thompson/Okanagan region and 17 percent in the Vancouver Island/Coast region. Again, this survey misses many seasonal harvest workers.

<sup>27</sup> This discussion is based primarily on the information provided in the *British Columbia Agricultural Workforce Profile* (April, 1999). This is a unique document not available for other provinces.

<sup>28</sup> Other regions are Thompson/Okanagan, Vancouver island/Coast, Peace, Cariboo and Kootenay. Of These Vancouver Island/Coast region experienced the lowest growth in terms of gross receipts, labor costs and labor productivity.



Average hourly wages for agricultural workers in British Columbia have been generally higher than in Canada as a whole and higher even than some of the Western U.S. states, including Washington, Oregon and California. In 1998, the average hourly wage in British Columbia was \$11.52 compared to \$11.05 in Washington, \$10.94 in Oregon, \$10.84 in California, and \$9.55 in Canada. However, these average rates include supervisors' wages, which in British Columbia averaged \$16.86 in 1996. In contrast, fruit and vegetable labourers in British Columbia, likely to include most migrant workers, averaged \$8.64 in 1996 (U.S.\$6.34), fairly comparable to Northwest U.S. farmworker wages. Similarly, though median income for all agriculture workers in British Columbia in 1996 was \$10,104 (U.S.\$7,410), harvesting labourers had a median income of \$7,520 (U.S.\$5,515).

The recent influx of immigrants from Asia has impacted the ethnic composition of agricultural workers in British Columbia. Between 1991 and 1996, the number of South Asian workers, primarily Punjabi speaking, increased from 3,685 workers to 5,635 workers. This group represents 22 percent of all farm workers in the Census.

Although the South Asian workers represented a significant portion of farm workers, they earned less than the workers of Western European descent in 1995. South Asians earned a median income of about \$8,300 (USD 6,047) which was significantly lower than \$15,700 (USD 11,439) earned by Western European workers. The difference in income is attributed to South Asian workers who worked primarily as harvesting laborers. Of the 5,000 workers employed by the over 100 licensed Farm Labour Contractors in British Columbia, two-thirds were recent immigrants who entered Canada less than 3 years ago.<sup>29</sup> Of the 700 harvest workers surveyed, 97 percent were Punjabi speaking.<sup>30</sup>

Use of contract services has increased rapidly. It rose from \$23 million in 1991 to \$67 million in 1996, according to Census of Agriculture data. Unfortunately, there is no breakdown of what services were contracted.

As with the general Canadian census data, women were a large proportion of "all farm labourers and general workers" in British Columbia. They accounted for about 45 percent.

Unlike the U.S. farm labor market, the British Columbia agricultural labor force is working more weeks per year, as time spent working in agriculture rose from 16.9 weeks in 1991 to 20.9 weeks in 1996, though this is still below the U.S. average. "While the total number of seasonal paid labour weeks has remained relatively steady over the past 15 years, the year-round labour weeks have increased by more than 40 percent."<sup>31</sup> This is attributed in part to the growth of greenhouse and nursery production.

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<sup>29</sup> Since British Columbia does not participate in the Caribbean and Mexican Contract Agricultural Labor Program, it relies on licensed Farm Labor contractors to fill the labor needs of the employers. Personal communication with Dave Greenhill, Senior Policy Advisor, HRD, Ottawa.

<sup>30</sup> An informal survey was taken in 1998 by a student of the Immigration Policy Branch of the BC Ministry of the Attorney General. The survey collected information on more than 700 harvest workers.

<sup>31</sup> *British Columbia Agricultural Workforce Profile*, April 1999, p. 16.

## IV. Mexico<sup>32</sup>

An estimated 25 percent of the Mexican population lives in rural areas. There are about 3 million farms in Mexico, including many small farms with very poor land.

The 1990 Population Census counted 1.7 million agricultural workers. Sánchez Muñozhiero argues that one should add on the 1.9 million small farmers who have less than 5 hectares of land, since many of them work off-farm for income. Also not counted are many of the women and children who work in agriculture. In this way, she arrives at an estimate of 5 million agricultural workers in Mexico.<sup>33</sup> However, survey data show that about 14 percent of ejidatarios work off-farm in agriculture and about 5 percent of their wives work off-farm in agriculture, which would add maybe 500,000.<sup>34</sup> Therefore, it would seem that the estimate of 2.7 million agricultural workers, derived from the Encuesta Nacional de Empleo of 1996, might be closer to the real figure.<sup>35</sup> An estimated 1 million workers are internal migrants.<sup>36</sup>

From surveys conducted by the Programa Nacional con Jornaleros Agrícolas (PRONJAG) in the 1990s with farmworkers:<sup>37</sup>

- 30 percent were indigenous migrants, mainly from southern Mexico
- 34 percent were women, and 30 percent were children 7 to 14 years old. (This latter number seems quite high for the whole country.<sup>38</sup>) The children were almost equally girls and boys. So whatever the true percentage of children, women are half the agricultural labor force.
- 90 to 95 percent of migrant farmworkers in Mexico were accompanied by some or all family members. This is in contrast to the 1960s and 1970s, when migrant farmworkers were often adult single males.
- The average educational level was 2 years, in part because of the large number of children, in part because of the lack of formal education of many indigenous migrants.

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<sup>32</sup> Lacking extensive survey data, we present only a few salient facts about Mexico.

<sup>33</sup> Sánchez Muñozhiero, Lourdes, “La familia jornalera: Seno del niño en situación especialmente difícil,” en Araceli Brizzio de la Hoz., ed., *Trabajo infantil en México*. UNICEF, Universidad Veracruzana y Oficina Internacional del Trabajo. México, DF : UNICEF, 1996.

<sup>34</sup> De Janvry, Alain, Gustavo Gordillo, and Elisabeth Sadoulet, *Mexico’s Second Agrarian Reform: Household and Community Responses, 1990-1994*. Center for U.S.-Mexican Studies, University of California, San Diego, La Jolla, 1997.

<sup>35</sup> Programa Nacional con Jornaleros Agrícolas, SEDESOL, 1999.

<sup>36</sup> Ibid.

<sup>37</sup> Sánchez Muñozhiero, Lourdes, op cit.

<sup>38</sup> An earlier survey of vegetable workers by Barrón found 15 percent were children under 14. María Anonieta Barrón, *The Impact of Globalization on the Mexican Labor market for Vegetable Production*, Working Paper 11, Fresh Fruit and Vegetables Globalization Network, University of California, Santa Cruz, 1991.

Much migration in central and southern Mexico is fairly localized, but there is a large migrant stream from many parts of Mexico to the Northwest, where irrigated large-scale farming of fruits and vegetables requires significant numbers of seasonal workers, in a manner parallel to California or Florida. Round estimates of peak seasonal labor requirements for Sinaloa, Sonora, and Baja California Norte and Sur are 400,000-600,000. Since harvests are not coincident in these states, there is a certain amount of circulation of migrants from one to another. However, the great majority of the workers in Baja California are from Oaxaca, whereas Sinaloa and Sonora utilize workers from all over Mexico.<sup>39</sup> Some observers suggest that this is due to different strategies: in Baja California, growers have encouraged settlement of workers, and have allowed for the creation of *colonias* of self-constructed homes in such places as San Quintín, in order to fix a labor supply—here surveys find that less than 20 percent of workers are brought by labor contractors; in contrast, over 80 percent of workers are brought by contractors in Sinaloa, where “the producers prefer to work with eminently migrant workers.”<sup>40</sup>

The widespread employment of women and children in Mexican agriculture requires a different approach to labor management than one observes in the United States. Whereas in the United States growers and contractors use piece rates and almost abusive supervision to drive many harvest tasks, in Mexico workers are often paid by the day, or there is usually a minimum requirement per day to earn the base wage and small additional piece rates that offer little incentive to work harder.

Growers in Northwest Mexico often talk of “throwing workers at the fields” instead of maximizing productivity. Productivity of labor in Mexican agriculture is notoriously low. Even though yields are generally lower in Mexico, more labor is utilized per hectare. In some studies we did in the 1980s, we found that labor productivity in Mexico was about one-fourth California’s in strawberries and tomatoes, and 35 percent of California’s in asparagus. This makes Mexican agriculture less competitive than it otherwise would be.

For example, in a study of the fresh tomato harvest in California and Baja California,<sup>41</sup> the unit labor costs to pick a pound of tomatoes were 2.5 times higher in California than in Baja (1.5 cents vs. .58 cents), but wages were 9 times higher in California (\$7.91 per hour in California vs. \$0.88 per hour in Baja). The apparent wage advantage of Mexico is drastically reduced by low productivity. Low productivity in Baja was due to: a daily wage structure rather than straight piece rates; low overall wage levels, giving low incentives to effort; little supervision of workers oriented toward increasing effort; and the high percentage of women and children. The effort to accommodate families in Baja led to the need for greater numbers of workers and lower wages than would otherwise be the case.

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<sup>39</sup> Posadas Segura, Florencio, “El TLC y los trabajadores agrícolas en el noroeste de México.” Culiacán, Sinaloa, diciembre de 1999.

<sup>40</sup> Sánchez Muñohierro, Lourdes, op cit.

<sup>41</sup> Runsten, David, Roberta Cook, Anna García, Don Villarejo, “The Tomato Industry in California and Baja California: Regional Labor Markets and IRCA,” in *Report of the U.S. Commission on Agricultural Workers, Appendix I: Case Studies and Research Reports*, Washington, D.C., 1993

## V. Contract Workers Programs

### V.1. H-2A Program

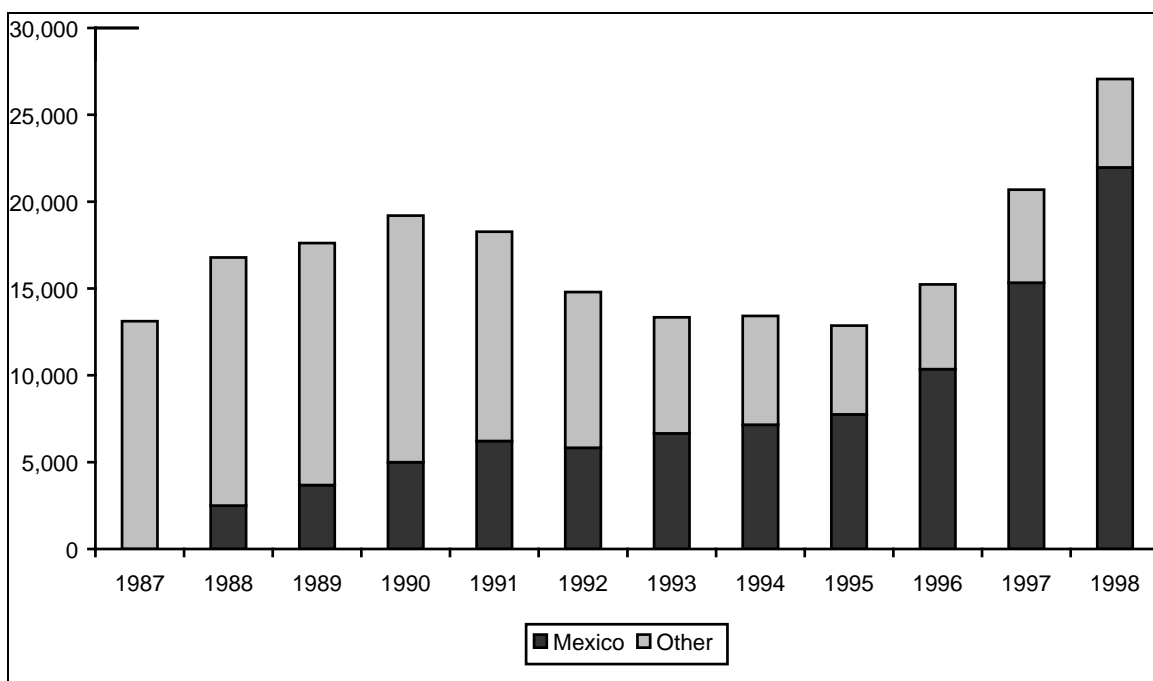
The H-2A program was started at World War II for southeastern U.S. sugar cane growers. As shown in Figure 17, until 1988, virtually all H-2A workers were from the Caribbean. Now the vast majority are from Mexico. Total numbers of workers admitted under H-2A have been growing since 1995, even though the sugar cane growers dropped out in the early 1990s. H-2A workers are used in northeast apples, southeast tobacco (the largest group), shepherding in the West, and Georgia onions. The numbers are still small, not much more than 1 percent of the U.S. agricultural labor force.

Monica Heppel has been conducting surveys of H-2A workers. She finds that the workers like the certainty of employment and housing. This is hardly surprising, since repeated surveys over the years have shown that these are the biggest preoccupations of migrant farmworkers. She also finds that:

“Blacklisting of H-2A workers appears to be widespread, is highly organized, and occurs at all stages of the recruitment and employment process. Workers report that the period of blacklisting now lasts three years, up from one year earlier in the decade. Violations that typically lead to blacklisting included not completing the contract, involvement in a dispute over wages or working conditions, and misbehavior (excessive drinking, for example).”<sup>42</sup>

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<sup>42</sup> Demetrios G. Papademetriou and Monica L. Heppel, *Balancing Acts: Toward a Fair Bargain on Seasonal Agricultural Workers*. Carnegie Endowment for International Peace, Washington, D.C. 1999

**Figure 17 H-2A Workers Entering the U.S., 1987-98**

Source: U.S. Dept. of State

## V.2. Caribbean-Mexico Agricultural Workers Program in Canada

The Caribbean-Mexico Agricultural Workers Program was established in 1966 with an initial contract between Jamaica and Canada. In 1971, Mexico was added to the program.

The program is designed to assist Canadian farms who are in need of seasonal workers. An employer would submit a request for a certain number of workers to the local Human Resource Center (HRC). These centers are located throughout the Canadian provinces. The HRC will transmit the information to the Foreign Agricultural Research Management Services (FARMS) which was established in 1987 to serve as the administrative arm for the program. FARMS makes the appropriate arrangements with Mexican and Caribbean government agencies to receive the number of workers matching the employer requests. There are Mexican and Caribbean liaison offices located in Canada. They recruit workers with the cooperation of the Ministry of Labor in their respective countries. The agencies also provide services to their workers such as income tax assistance, conflict mediation, and program monitoring to ensure that the contract provisions are not violated on the farms.<sup>43</sup>

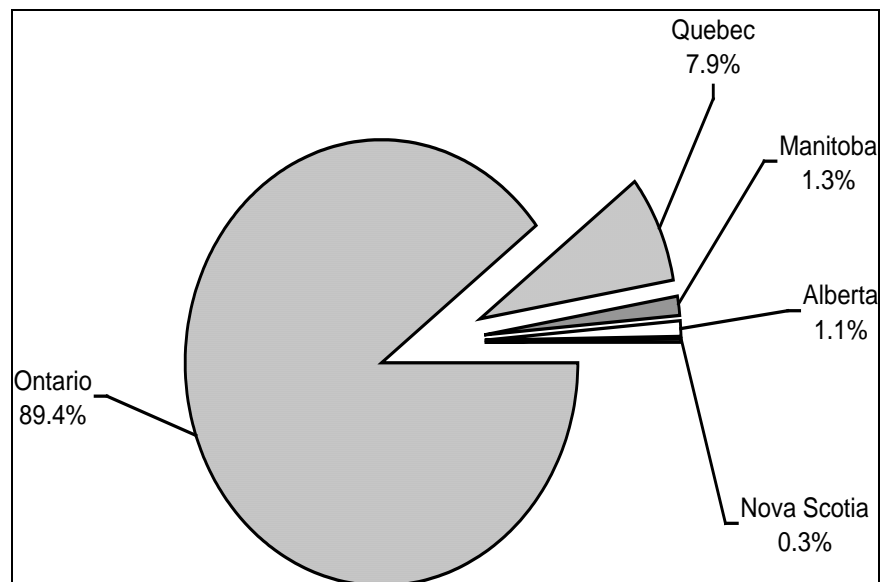
Figure 18 illustrates the distribution of Caribbean and Mexican agricultural workers among participating provinces. Currently, over 15,000 workers participate in the program and the participants work in five provinces: Ontario, Alberta, Quebec, Manitoba and Nova Scotia.<sup>44</sup>

<sup>43</sup> C/MSAWP Operational Handbook, HRDC memo communication, December 30, 1999.

<sup>44</sup> British Columbia has the second largest employer in agriculture, but does not participate in the program. The employers in B.C. rely on private labor contractors and recent immigrant population including Punjabi.

Ontario receives about 90 percent of the contract workers. The remaining 10 percent work in four other provinces.

**Figure 18 Distribution of Caribbean/Mexico Agricultural Workers by Province 1999**



Source: HRDC 1999

The contract program's largest beneficiary is Ontario, which is also the largest agricultural province in terms of number of census farms and farm operators. There were 59,887 farms in Ontario with total gross receipts of over \$2,500 in 1996.<sup>45</sup> About 85 to 90 percent of the vacancies in farm work in Ontario are filled by Canadians and the remainder are filled by contract workers from the Caribbean and Mexico.<sup>46</sup>

On average, an employer in Ontario filled 10 jobs with contract workers in 1999 compared to 8 jobs in 1990. In terms of crops or agricultural sector, the largest number of jobs per employer was in canning and food processing. However, the jobs in this area have been declining. There were 39 jobs per employer filled by food processing employers in 1999 compared to 49 jobs in 1990. The number of jobs per employer has been increasing in all other crops since 1990. The jobs in fruits and greenhouse have significantly increased per employer. Comparing 1990 and 1999, the number of jobs per employer for fruits increased from 7 to 10 jobs, and from 4 to 9 jobs for the greenhouses.

<sup>45</sup> Canadian dollars unless noted otherwise.

<sup>46</sup> HRDC memo communication, December 30, 1999.

**Table 12 Vacancies Filled by Crop, Caribbean/Mexico Agricultural Workers Program - Ontario**

	1990		1996		1999	
	Vacancies Filled	No. of Employers	Vacancies Filled	No. of Employers	Vacancies Filled	No. of Employers
Fruits	2,171	322	2,023	267	2,564	246
Vegetable	2,773	446	2,043	283	2,793	332
Tobacco	3,967	606	3,886	570	5,094	664
Greenhouse	510	120	707	137	1,471	158
Nursery	336	37	269	24	425	35
Canning/Food Processing	841	17	515	12	388	10
Apples	1,912	185	1,589	130	1,703	127
Ginseng	0	0	285	49	377	57
Flowers	-	-	-	-	118	6
Total	12,510	1,733	11,317	1,472	14,933	1,635

Source: HRDC various years

In Ontario, the number of contract workers has grown steadily. This trend is illustrated in Table 13. In 1999, the program provided 13,554 workers compared to 11,578 workers in 1990. The Caribbean workers are over-represented in the contract workers program. However, over the years, the gap between Caribbean and Mexican contributions has narrowed. In 1999, there were 7,476 Caribbean workers and 6,078 workers from Mexico.

**Table 13 Caribbean/Mexico Agricultural Workers by Place of Origin, Ontario**

	1990		1996		1999	
	Total Workers	Percent of Total Workers	Total Workers	Percent of Total Workers	Total Workers	Percent of Total Workers
Barbados	901		539		525	
Eastern Caribbean	524		356		405	
Jamaica	5,041		4,481		5,063	
Trinidad Tobago	898		888		1,483	
Total Caribbean	7,364	63.6%	6,264	59.9%	7,476	55.2%
Mexico	4,214	36.4%	4,187	40.1%	6,078	44.8%
Total	11,578	100.0%	10,451	100.0%	13,554	100.0%

Source: HRDC 1990, 1996, 1999

The program has had a high average return rate of between 83 to 93 percent since the beginning. This may indicate that both employers and employees are satisfied with the incentives provided through the program. For the workers, the program provides secure employment. The workers have to be paid at least the Canadian minimum wage, the prevailing rate for the type of agricultural work, or the rate paid to the Canadian worker.<sup>47</sup> Table 14 provides hourly wage rates by crop. The current hourly wage rate for all crops is \$7.00 except for tobacco harvesting which is \$8.33. In U.S. dollars, the rates are \$4.82 and \$5.74, respectively. In comparison, the average

<sup>47</sup> Catherine Colby. *From Oaxaca to Ontario: Mexican Contract Labor in Canada and the Impact at Home*. The California Institute for Rural Studies, Davis, 1997.

hourly wage rate for farm workers in the U.S. was around \$6.00 in 1998.<sup>48</sup> Of course the Canadian program provides for housing, which in the United States is worth perhaps US\$0.50 per hour.

**Table 14 Caribbean/Mexico Agricultural Workers Program Hourly Wage Rates, Ontario**

	1990 (CAD)	1990 (USD)	1995 (CAD)*	1995 (USD)	2000 (CAD)	2000 (USD)
Apples	\$5.60	\$4.83	\$6.85	\$5.00	\$7.00	\$4.82
Other Fruit	\$5.25	\$4.52	\$6.85	\$5.00	\$7.00	\$4.82
Tobacco Planting	\$6.95	\$5.99	\$6.87	\$5.02	\$7.00	\$4.82
Tobacco (Black/Burley) Harvesting	\$8.00	\$6.90	\$8.23	\$6.01	\$8.33	\$5.74
Tobacco (Black/Burley) Planting	\$8.00	\$6.90	\$6.85	\$5.00	\$7.00	\$4.82
Vegetables (Field & Greenhouse)	\$5.60	\$4.83	\$6.85	\$5.00	\$7.00	\$4.82
Tomatoes (Mechanical Harvesting)	\$5.85	\$5.04	\$6.85	\$5.00	\$7.00	\$4.82
Ginseng	-	-	\$6.85	\$5.00	\$7.00	\$4.82
Processing/Canning	\$5.55	\$4.78	\$6.85	\$5.00	\$7.00	\$4.82
Nurseries	\$6.45	\$5.56	\$6.85	\$5.00	\$7.00	\$4.82
<b>General Minimum</b>	<b>\$5.40</b>	<b>\$4.65</b>	<b>\$6.85</b>	<b>\$5.00</b>	<b>\$6.85</b>	<b>\$4.72</b>
<b>Harvest Minimum</b>	<b>\$5.00</b>	<b>\$4.31</b>	<b>\$6.85</b>	<b>\$5.00</b>	<b>\$6.85</b>	<b>\$4.72</b>

Source: HRDC, various years

The average length of employment for the Mexican worker is 19 weeks and 16 weeks for the Caribbean worker. During that time, the workers worked between 50 to 60 hours per week. Given the current wage rates and depending on the crop, a Mexican worker could earn between \$7,809 and \$9,496 per season. A Caribbean worker would earn between \$6,576 and \$7,996 per season.<sup>49</sup> There are however deductions taken from the worker's pay. These include portions of visa and travel costs, health insurance, income tax, Canada Pension Plan contributions, and employment insurance. Within the first 30 days, employers can deduct from the paycheck, \$97.01 of Visa costs and up to \$200.34 towards airfare costs. In addition, \$0.34 a day is deducted for health insurance coverage per worker. The Canada Pension Plan and Employment Insurance deductions vary by income and marital status. For a single worker earning \$7,285, the CPP, EI and tax combined is \$959.<sup>50</sup> Therefore the net earnings for Mexican workers are roughly between \$6,500 and \$8,200 per season (US\$4,400 and US\$5,500). For Caribbean workers, net earnings per season are roughly between \$5,200 and \$6,600 (US\$3,500 and US\$4,400).

Due to long work hours, workers spend very little time off the farm, which allows them to save and remit their earnings back home. For instance, in one study, Mexican workers in the Canadian program were able to send an average of \$1,000 a month back to Mexico, which was considerably higher than the \$200 a month remitted by workers from the same region who were employed in the United States.<sup>51</sup> The potential income earned through the contract program

<sup>48</sup> National Agricultural Worker Survey.

<sup>49</sup> Total wages earned = (wage rate per crop x 60 hours) x average duration of employment for Mexican (19 weeks) and Caribbean workers (16 weeks).

<sup>50</sup> Colby, 1997, Appendix A.

<sup>51</sup> Colby, 1997, p. 27.



attracts many Mexican workers to the program despite some perceived disadvantages associated with working in Canada compared to the U.S. One of the difficulties faced by contract workers is the inability to communicate with their employers regarding issues of health, cultural differences and working conditions, as Spanish-speakers are a relatively small percentage of the labor market. And since whether the worker will be called back in the following year largely depends on the employer, the workers are often reluctant to express themselves even when they have legitimate complaints.<sup>52</sup>

### **V.3. Mexico-Guatemala Agreement**

In 1997, Mexico and Guatemala formalized the seasonal migration of Guatemalans to Chiapas for agricultural work, a migration that has a long history. Approximately 40,000 entered Mexico in 1998 and 1999 under this program to work in coffee, bananas, and sugar cane. Most are indigenous who migrate with their families. They are paid the prevailing minimum wage, about 30 pesos per day (U.S.\$3.22) in Chiapas in 1999.

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<sup>52</sup> Colby, 1997.