Employment Survey of Vineyard and Nursery Workers in Oregon's Willamette Valley

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Prepared by: the National Economic Development and Law Center (NEDLC)

For the Farmworker Institute for Education and Leadership Development (FIELD)

NATIONAL ECONOMIC DEVELOPMENT AND LAW CENTER

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I. INTRODUCTION AND RESEARCH OBJECTIVES

NEDLC conducted an agricultural workers survey of limited English-speaking farmworkers who work in wine grapes and nurseries in the Willamette Valley region of Oregon in response to a Request for Proposals issued by the Farmworker Institute for Education Development (FIELD) in June 2005. The survey was conducted in order to help identify the skills, competencies and training experience of agricultural workers, as part of an effort to increase the sustainability of agriculture in Oregon and to further the opportunities for career ladders in the agricultural sector, which are quite limited at the present. The specific research objectives are:

- To identify the experience, skills and competencies of agricultural workers in the wine grapes and nursery industries in Oregon's Willamette Valley;
- To determine the accessibility to training and year-round employment of these farmworkers;
- To learn about the work pattern and earnings of vineyard and nursery workers and discover the extent to which they move from place to place or from commodity to commodity;
- To understand the training needs and interests of vineyard and nursery workers and provide information on the optimal timing and logistics of the training; and
- To recognize ways in which agricultural workers can advance within the wine grapes, nurseries or other agricultural industries.

The results of this survey will be combined with a companion study based on interviews of vineyard and nursery managers, conducted by Chemeketa Community College. Together these two reports will assist FIELD and its partner, the Northwest Agriculture Consortium ("the Consortium"), to design a model for training and development of an agricultural workforce in Oregon, thereby contributing to Oregon's rural economy. This information will also be useful for the state agricultural, educational, workforce and economic development agencies, as well as Oregon's community colleges, especially those that provide training in agriculture.

This report summarizes the results of the bilingual agricultural worker survey of 200 farmworkers who work in wine grapes and nurseries in the Willamette Valley. This is one of the first reports to look at the training needs of agricultural workers in Oregon. The report will describe the characteristics of the farmworkers and their current workplace situation. It will also describe their ability to access year-round employment as well as barriers to more consistent and stable work; opportunities to advance within the field; access to job training and their interest in future job training opportunities. The report will discuss the additional commodities in which farmworkers are employed in order to gain more year-round employment and more earnings. It will also discuss in detail the tasks performed by vineyard and nursery workers, identifying the tasks that are the most difficult and the tasks that offer the best job advancement possibilities. Finally, we present a series of recommendations related to job training, workplace issues, economic development strategies, and potential partnerships between employers, training providers, and community organizations.

II. METHODOLOGY

The main steps in developing the survey methodology were to develop the survey instrument, recruit, hire, and train local survey enumerators, select the sites to be surveyed and then arrange the logistics for actually conducting the survey on the ground. What follows is a brief discussion of each step.

SURVEY INSTRUMENT

The survey instrument was based on a previous survey carried out by FIELD in California. NEDLC made substantial revisions based on the expressed objectives of this project as well as a meeting with FIELD, Chemeketa Community College, and the Consortium, and our own experience and expertise. The vineyard and nursery task lists were developed in collaboration with the project partners. The survey instrument was tested with local vineyard workers and edited based on that trial. All project partners, prior to its use, approved the final survey instrument. See Appendix B to review the actual survey instrument.

RECRUIT, HIRE AND TRAIN LOCAL ENUMERATORS

Bilingual NEDLC staff and local enumerators conducted the surveys. NEDLC recruited and hired local enumerators by contacting organizations that serve farmworkers located in the targeted areas. The organizations helped to locate potential enumerators among their part-time staff or people they knew and many posted job announcements. Enumerators were screened for language skills and relevant cultural experience and were trained, by NEDLC staff, prior to administering the survey. The training consisted of interview protocols and techniques, and on the survey instrument itself to insure that the local enumerators understood the intent of each question.

SURVEY SITE SELECTION

The geographic framework of the site selection was based on the concentration of vineyards and nurseries in the Willamette Valley. NEDLC used the number of vineyards and nurseries listed in the Reference USA business database as a basis for the geographic distribution of the survey sample, as Figure 19 in the Appendix demonstrates.

In general, an effort was made to survey nursery sites that were relatively close to vineyard concentrations in order to better understand the interaction between the vineyard and nursery industries. This led to an over-sampling of nurseries in Yamhill County but an under-sampling in Multnomah, Clackamas, and Washington counties. Taken as a whole, the survey sample adequately represents the region's vineyard and nursery workers.

To strengthen the survey sample community sites were utilized. This allowed for survey participants to have a greater variety of employers, including labor contractors. Community sites also allowed us access to vineyard and nursery workers who may not have been at work on the day of the survey or may be employed for only part of the year. The community sites selected tended to over-sample in Washington and Marion counties and under-sample in Yamhill, Polk, and Lane counties. In part this is due to more abundant community sites in Washington and Marion counties. The difficulty of finding more potential community survey sites in Yamhill County, the center of Oregon's vineyard industry, suggests that an assessment

is needed to determine if there are sufficient community organizations serving or representing farmworkers there.

Once the geographic framework for the survey was created, the actual employer site selection was made through a random selection process. Employers from each county were randomly ranked and the first employer on the list was asked to allow their workers to participate in the survey. If the first employer declined, then the next employer on the list was selected, until the desired number of employers from each county was obtained. An effort was made to survey through both vineyards and nurseries themselves as well as through farm labor contractors. Labor contractors were less likely to participate.

DAILY SURVEY LOGISTICS

It was more convenient for workers to participate immediately following the workday. In two cases, supervisors allowed surveys to be completed during the noon-hour and, in one case; surveys were completed in the morning "on the clock." Surveys undertaken at community sites, such as health centers, immigrant centers, training facilities, and farmworker housing sites were done during both the day and evening, although generally not starting until mid-afternoon at the housing sites.

At work sites, survey enumerators recruited participants by making announcements in break rooms or in parking lots as workers left work or broke for lunch. In other cases supervisors made announcements asking for workers to participate in the survey. At community sites survey enumerators generally set up appointments with a local volunteer coordinator beforehand, asked a local staff person to make an announcement, or talked to all farmworkers entering a facility in order to screen and select potential participants. Only farmworkers who had worked at a vineyard or nursery during the previous three months were selected at the community sites. Survey participants were paid $10 for their time, averaging 30 minutes. Generally, survey enumerators read survey questions to participants. In a few cases, survey enumerators surveyed two workers at a time and in a few cases workers read through the survey form and filled it out themselves.

Our final tally indicates that surveys were conducted at eight vineyards, totaling 84 surveys, including 19 surveys that were obtained at two sites where the farmworkers were contracted through a labor contractor. Surveys were also conducted at four nurseries, including one that was a combined nursery/vineyard where 65 surveys were completed. Surveys were also completed at community sites that included four farmworker housing developments, one farmworker emergency housing site, one community health center, one immigrant center, and one community training and service center where 51 surveys were completed, with nearly all respondents being nursery workers. Only four vineyard workers were surveyed at community sites.

III. BACKGROUND

WILLAMETTE VALLEY VINEYARDS, NURSERIES, AND FARMWORKERS

The agricultural region of Oregon's Willamette Valley is generally defined as starting near Eugene in Lane County, proceeding north through Linn, Benton, Polk, Marion, Yamhill, Washington, and Clackamas counties, and ending at the urban edge of Portland, before the Willamette River empties into the Columbia River. The vineyards tend to be concentrated along the western foothills of the valley, with the largest concentration in Yamhill County. Nurseries are a little more widespread and are more likely to be located in the eastern part of the valley and generally in the north. The greatest geographic confluences between vineyards and nurseries happen in the northwest part of the valley in Washington and Yamhill counties as well as in the central part of the valley around Salem in Polk and Marion counties. There is a concentration of nurseries in Clackamas County but this does not coincide greatly with the concentration of vineyards.

According to the Oregon Agricultural Information Network, wine grapes are the 19th largest agricultural commodity in Oregon, based on 2004 gross dollar sales. Oregon ranked sixth among U.S. states in wine production.

The Oregon Agricultural Statistics Service (*OASS*) estimates that there were 497 vineyards in the Willamette Valley in 2004. These vineyards had a total of 10,300 acres planted, or 75 percent of the state total, with total production of about 14,600 tons. Vineyards make up less than five percent of Yamhill County's agricultural acreage, the county with the most vineyards.

Based on the total vineyard acreage and conversations with vineyard owners, NEDLC estimates that there is enough labor demand in Willamette Valley vineyards for about 600 to 800 full-time wine grape workers. But most labor is likely filled on a part-time basis. There may be about 250 to 350 full-time wine grape workers, with about 1000 to 1500 part-time farmworkers filling up the remainder of the vineyard labor demand, often through labor contractors.

In addition to the vineyards, there are 199 wineries in the Willamette Valley with about 158 actually crushing grapes (*OASS*). The number of winery workers is likely somewhat less than the total number of vineyard workers.

Nursery and greenhouse products are the state's largest commodity and account for 6.1 percent of all nursery and greenhouse production nationally, behind only California and Florida (*OASS and USDA Economic Research Service*). There are 1,655 nurseries and greenhouses in the Willamette Valley. There were 21,600 nursery and greenhouse workers in Oregon in 2004, about half of whom were full-time. Over 80 percent of these are located in the Willamette Valley.

The most common second commodity worked on by vineyard workers is Christmas trees. There were 9,585 workers in Christmas tree production in 2004, most of whom were seasonal (*OASS*). Most of those workers were in the Willamette Valley.

There were 71,000 farmworkers in Oregon and Washington in 2004, accounting for nearly nine percent of the U.S. total (*OASS*). The average hourly wage of all Oregon farmworkers in 2004 was $9.66, with field workers making an average of $8.91. This is comparable to Washington and slightly higher than California and the national average of $8.45.

Organization of the Workplace

Before discussing the results of the farmworker survey, it is necessary to discuss how the workplace is organized. In our experience, we found three main workplace arrangements of the vineyards:

1. Some, especially the larger ones, had two layers of supervision, including a Vineyard Manager and a layer of supervisors and crew leaders who work in the field or the shop with a group of farmworkers.

2. Smaller vineyards tended to have just a Vineyard Manager who also acted as the main supervisor. In some cases, several vineyards shared the same team. This may mean that each vineyard hired the team part-time or it may mean that one vineyard would contract out its team to another (usually neighboring) vineyard.

3. A third type of vineyard arrangement was for a vineyard to employ the services of a vineyard management company. There was a concentration of these companies in Yamhill County. The vineyard management companies often provided the viticulture expertise, the workplace supervision, and the supply of workers. In some cases the main source of workers was provided through a farm labor contractor.

In all of the three arrangements, most supervisors spoke Spanish and in certain cases the Vineyard Managers spoke some English. In these vineyards, communication between management is facilitated while communication between the owner(s) and the management may suffer unless a high level of trust is developed.

Nurseries seem to be organized similar to the first two vineyard workplace arrangements mentioned above. One difference we noted is that in smaller nurseries the supervisor or manager more typically spoke English than their counterparts in vineyards. Thus, discussion between supervisor and owner/manager is facilitated while communication between supervisor and workers is perhaps impaired.

IV. SURVEY FINDINGS AND ANALYSIS

A. Farmworker Demographics

It is important to identify the demographic characteristics of the farmworkers who participated in the survey, not only to know who they are, but also to determine the impact of the demographics on their work and job training experience. Two hundred surveys were completed, including 87 with farmworkers who primarily worked at vineyards at the time of the survey and 113 with farmworkers who primarily worked at nurseries. About 30 percent of respondents worked in both vineyards and nurseries either during the current year or customarily within the last few years. Some also have worked extensively in other agricultural industries, described in this report as "secondary commodities." (See the 'Commodity Analysis' section for details on the additional commodities.)

Gender. Of the farmworkers surveyed, 73 percent were male and 28 percent were female. Nursery workers were more likely to be female (36 percent) than vineyard workers (16 percent). The female farmworkers tended to be better educated than men, as almost half (49 percent) had at least a ninth grade education compared to 29 percent of the men. Women had less agricultural background than men with one exception - women had more experience than men working in fruits, vegetables, or herbs in their home country.

Age. Slightly less than half (46 percent) of respondents were under the age of 30, including 17 percent who were 22 years or less. On the other hand, only 24 percent were 40 years or older, perhaps indicating the physical toll of agricultural labor.

Ethnicity and Nationality. Nearly all farmworkers surveyed were Latino (96 percent), while four percent were white and less than one percent was Native American/Eskimo. All but one percent of the Latino farmworkers were born in Mexico; while about 0.5 percent of the Latinos were born in Guatemala and 0.5 percent in the U.S. (See Figure 20 in Appendix for a list of birth states.) Some of the Latinos might be better characterized as indigenous, as five percent of farmworkers spoke an indigenous language rather than Spanish or English with their family, such as Mejica or Zapotec. This figure rises to 13 percent among those who arrived in the last two years. Others estimate that up to 40 percent of Oregon's farmworkers are indigenous (*Farmworker Justice News, Fall 2005.)*

Family Structure. Most farmworkers were married (76 percent), although almost a fourth of those married (23 percent) were living apart from their spouse due to migrating to find work, for at least one month a year. Vineyard workers were even more likely to be apart from their spouse, as were workers who worked in both vineyards and nurseries. About 70 percent of farmworkers had children, although 28 percent lived apart from some or all of their children, in most cases due to migration. More than a third (35 percent) had children living with them below the age of six and 39 percent had school-age children (six to 18) living with them.

Education Level. The median grade level of respondents was 6.5 grades, although this rose to the eighth grade among women. Only 12 percent of respondents had a high school diploma (or equivalent in Mexico). This dropped to only six percent of vineyard workers

compared to 16 percent of nursery workers. Most vineyard workers (72 percent) and nursery workers (60 percent) had an eighth grade education or less.

Farmworkers residing here for 10 years or less were more likely to have a ninth grade education (40 percent) than those here longer than 10 years (11 percent). They also had better Spanish-language reading and writing skills than those who had been here for 10 or more years. However, this trend may be reversing. Those who arrived in the last three years had slightly lower Spanish reading and writing skills than those that had been here for four to 10 years. This may be due to more immigrants arriving from southern and southeastern Mexico, regions which might have lower educational levels than other parts of Mexico.

Language Ability. Twenty-one percent of farmworkers were bilingual in Spanish and English but most spoke primarily in Spanish at work. About 20 percent of the non-Latino farmworkers spoke Spanish. Similarly, 21 percent of Latino farmworkers understood English either somewhat or very well and 14 percent read and wrote English somewhat or very well. Vineyard workers understood less English than nursery workers, probably due to their more recent arrival.

Figure 1: "How well do you understand English?"

Primary Commodity	Not at all	A little	Somewhat	Very well	English is first language
Vineyards	29%	45%	18%	5%	3%
Nurseries	19%	56%	17%	4%	5%

Of Latino farmworkers, 53 percent read and wrote Spanish very well. Spanish literacy appears to aid English acquisition, as 35 percent of those who read and wrote Spanish very well said that they understood at least some English compared to only nine percent of those read and wrote at most some Spanish.

Previous Agricultural and Work Experience. Most of the foreign-born farmworkers had previous agricultural experience in their home country, including 74 percent of vineyard workers and 64 percent of nursery workers. Most of that experience was farming as land-owners (including *ejidos*) rather than as farmworkers. Of those with agricultural experience in their home country, the median number of years experience was six. Most worked in subsistence grains or beans, while 39 percent also worked in fruits, vegetables, or herbs, most likely on family plots.

The most recent farmworker immigrants were less likely to have previous experience in agriculture. Those who arrived within the last two years were less likely to have previous experience in agriculture (53 percent) in their home country than those who had been here for at least two years (72 percent). The survey suggests that this is more than a short-term trend.

The median number of years working in agriculture in the U.S. was six. Only 29 percent had at least 10 years experience, while 17 percent had less than two years experience. The vineyards were hiring more recent immigrants than nurseries, with 21 percent of the vineyard workforce having less than two years experience in U.S. agriculture compared to only 12 percent of the nursery workforce.

About 40 percent of farmworkers had experience in another occupation, such as construction or landscaping. (See Figure 27 in Appendix.)

Immigration Status. Between 70 and 85 percent of vineyard workers and between 55 and 70 percent of nursery workers were undocumented, according to survey responses. Only 7 percent were U.S. citizens while the remainder had legal resident work permits. No respondents had the legal seasonal worker status of the federal agricultural worker program (H-2A). While most farmworkers were undocumented, discussions with farmworkers and employers alike suggested that, with the possible exception of day laborers, most presented the right type of documentation and, as such, had both federal and state income and payroll taxes deducted from their pay.

Migratory Farmworkers. About 10 percent of farmworkers said that they were migratory. An additional seven percent of farmworkers had arrived in the U.S. in the last year and it was not possible to determine if they had already established a migratory pattern. Vineyard workers were more likely to move in search of work than nursery workers – 14 percent of vineyard workers were migratory compared to six percent of nursery workers. Additionally, 10 percent of vineyard workers arrived in the U.S. in the last year compared to five percent of nursery workers.

Four percent of farmworkers migrated within Oregon each year, three percent migrated to Mexico, and two percent migrated between California and Oregon.

Conclusions. Most respondents are in the Willamette Valley year-round and are here with their families, so communities need to take account of the housing, child-care, health-care and other needs of farmworkers and their families. Communities and employers also need to be aware that family separation takes a toll on family and community life and hinders the sustainability of the agricultural workforce.

Low levels of formal education and English language ability among farmworkers make it important for supervisors to speak at least some Spanish and for some of the job training to be provided in Spanish in a manner accessible to farmworkers. The high proportion of undocumented farmworkers provide a challenge to employers who seek a stable workforce and to training providers seeking to find funding sources for job training to agricultural workers.

The most recently arriving farmworkers may provide a preview of the agricultural workforce of the next several years. The most recent arrivals tend to be slightly less educated, have less agricultural background, and are more likely to be indigenous. This may present further challenges to agricultural employers in their efforts to retain workers and provide training, and to local communities who are trying to integrate farmworkers into their communities.

B. Working Conditions and Work Supports

The median number of years in their job at the time of the survey was two years, one month. Eighteen percent had worked at least 10 years for their current employer. Most nursery workers (82 percent) had worked in the past year for just their current employer compared to only 59 percent of vineyard workers. In fact, 20 percent of vineyard workers had had at least three employers during the previous year.

Hiring Process. About 20 percent of vineyard workers and 45 percent of nursery workers were hired through an application process. Most vineyard workers (79 percent) said that they gained work because they were either recruited by a supervisor or had a friend or relative work for the employer. On the other hand, 50 percent of nursery workers were hired in this informal fashion. Thus, the hiring process seems more informal in vineyards than nurseries. Women were more likely to apply for a job on their own compared to men who more frequently gained the job through a friend or relative.

In some vineyards many of the recent arrivals originated from the same town or region as their supervisors, indicating that people may have been recruited "out of Mexico". About one-third of vineyard workers worked for an employer where most of the workers were from the same village, municipality or state in Mexico compared to only about 10 percent of nursery workers.

About a third of vineyard workers (35 percent) sometimes worked for labor contractors compared to 22 percent of nursery workers. Twelve percent said that they were working for a labor contractor on the day of the survey. Due to the difficulty of surveying labor contractors, especially during the grape harvest, the number of vineyard workers employed by labor contractors is likely higher than this figure. About half of those who often worked for labor contractors said that they were migratory throughout the year.

Getting to Work. About half of the vineyard workers (49 percent) drove their own vehicle to work compared to 69 percent of nursery workers. Vineyard workers were more likely than nursery workers to carpool to work, 36 percent compared to 14 percent, respectively. Most of the remaining workers paid someone else, such as an employer or neighbor, for transportation. No respondents used public transportation, since, even in the few counties with bus systems, the agricultural sites tend to be located away from the primary bus routes.

Child-care While Working. Men with young children primarily relied on their wives (or partners) to take care of their children while working. (See Figure 36 in Appendix.) On the other hand, female farmworkers had more unreliable child-care. Of those with children under the age of six, 35 percent relied on other family members and 45 percent relied on babysitters.

Days per Week and Hours per Day. Many farmworkers did not work year-round but most, when employed, worked at least 40 hours per week. Only two percent said that they worked four days per week rather than five or more. Vineyard workers had especially long weeks. More than a third (40 percent) worked six or seven days per week from January through October while an additional 21 percent worked at least six days per week during the busiest parts of the year. This has a serious impact on the feasibility of providing training on the weekend. Most nursery workers (70 percent), on the other hand, worked five days per week. Still, 21 percent regularly worked six or seven days per week.

Figure 2: "How many days per week do you usually work?"

Primary Commodity	Five	Five or Six	Six	Seven
Wine grapes (n=63)	38%	21%	37%	3%
Nurseries (n=74)	70%	8%	18%	3%
Worked in both vineyards and nurseries (n=62)	63%	10%	19%	6%

Note: An additional one to two percent of farmworkers said that they work four days per week.

Most farmworkers (63 percent) work eight hours per day. About one in six said that they always work nine or more hours per day and 19 percent vary seasonally between eight to 11 hours per day. Undocumented farmworkers and those who work less than ten months of the year were more likely to work more than eight hours per day.

Earnings of Farmworkers. The average pay for all vineyard workers was $9.14 and for all nursery workers was $8.70. Among those working in the field, average pay was $8.87 among vineyard workers and $8.60 among nursery workers, compared to $8.99 per hour for all farmworkers in Oregon, according to state statistics.

Vineyard workers were slightly more likely than nursery workers to be paid Oregon's minimum wage of $7.25 per hour, 31 percent and 23 percent, respectively. However, well over half of those who worked in both commodities were paid either minimum wage or by the piece. Only 39 percent of vineyard workers and only 33 percent of nursery workers made more than $2.00 over the minimum wage. At the higher end of the pay scale, vineyard workers were slightly more likely to make more than $14.00 (15 percent) than nursery workers (seven percent).

Figure 3: Hourly Pay of Farmworkers

Primary Commodity	By piece	Minimum wage ($7.25)	$7.26 to $9.25	$9.26 to $13.99	$14.00 or more
Vineyards, only	5%	31%	26%	24%	15%
Vineyards, but also in nurseries	22%	44%	30%	4%	0%
Nurseries, only	1%	23%	43%	26%	7%
Nurseries, but also in vineyards	5%	50%	32%	13%	0%

Over half of the women (52 percent) made either minimum wage or were paid by the piece compared to 34 percent of men. On the other hand, almost a third of men (32 percent) made at least $9.26 per hour compared to 15 percent of women.

Just over half of undocumented farmworkers were making minimum wage or getting paid per piece compared to only three percent of immigrant farmworkers who said that they had valid work permits.

We did not find a case of any farmworkers being paid less than minimum wage. While farmworkers who obtained work as day laborers may have been an exception, our discussions with employers and workers led us to believe that workers had social security numbers and employers were deducting income and payroll taxes.

Longevity in agricultural labor had only a limited impact on wages. Of those with at least 10 years of experience working in agriculture in the U.S., the majority (53 percent) still made within two dollars of minimum wage ($9.25 or less).

Among those with less than a high school diploma, whether the worker had a second grade, sixth grade or ninth grade education level had no impact on wages. However, high

school completion did have an impact on wages, with 59 percent of those with at least a high school diploma making at least $9.26 per hour compared to 23 percent of those who did not complete high school (or the equivalent in their country of origin).

English language ability had a substantial impact on wages. Those who understood at least some English had a median wage of $9.00 per hour compared to a median of $8.00 per hour among those who understood either no English or a little English.

Health Insurance. Just over one out of three respondents said that they were offered some form of health insurance (37 percent). Health insurance was much more common among those who worked year-round than those who worked only part of the year.

With or without insurance, over half of farmworkers and their families accessed health care from community health centers. However, nearly one third of farmworkers – mainly the undocumented and those who speak little English – did not access any health care except for extreme conditions when they use hospital emergency rooms.

Conclusions. Vineyard workers were more likely than nursery workers to be paid minimum wage but were more than twice as likely as nursery workers to be paid more than $14 per hour, indicating better compensation at higher-skilled levels. Vineyard workers tend to work longer work weeks. The long work weeks were a major barrier to finding time for job training. This underlies the importance of scheduling trainings during the slow late fall months or, if not possible, trainings that are on-site and "on the clock".

Fewer than half of vineyard workers drove their own cars to work, making other transportation options, such as a carpool, especially important. Child-care provision was a concern to female farmworkers, with many relying on babysitters to take care of children under the age of six. Nearly one third of farmworkers had no health care access except for hospital emergency rooms, demonstrating the need for increased access to primary health care such as community health centers.

Low pay levels in most vineyard and nursery jobs may be keeping U.S.-born persons with families from accessing jobs in these industries. Only 25 percent of U.S.-born vineyard and nursery workers had children below the age of 18. In all cases, the workers earned at least $14 per hour. This compares to 39 percent of all Oregon householders between the ages of 15 and 65 years old.

Some vineyard managers seemed to recruit their workforce directly from their home area of Mexico. The replication of village dynamics from Mexico to some of the vineyards might strengthen the accountability of both the supervisors and the farmworkers to each other. It likely increases the discipline and commitment of the workers. In many cases these farmworkers might also live in the same apartment building or neighborhood in the U.S., tightening the social bond and sense of community and making carpooling much easier. On the other hand, this might be replicating a negative social pecking order, especially for women. Advancement is tied more to "who you know" and the relationship with the manager rather than performance and skill level. And, it may provide managers with a high degree of leverage, since friends or family members of the worker may or may not be recruited as additional workers based on the relationship of the worker to the manager or supervisor.

C. Access to Year-Round Employment

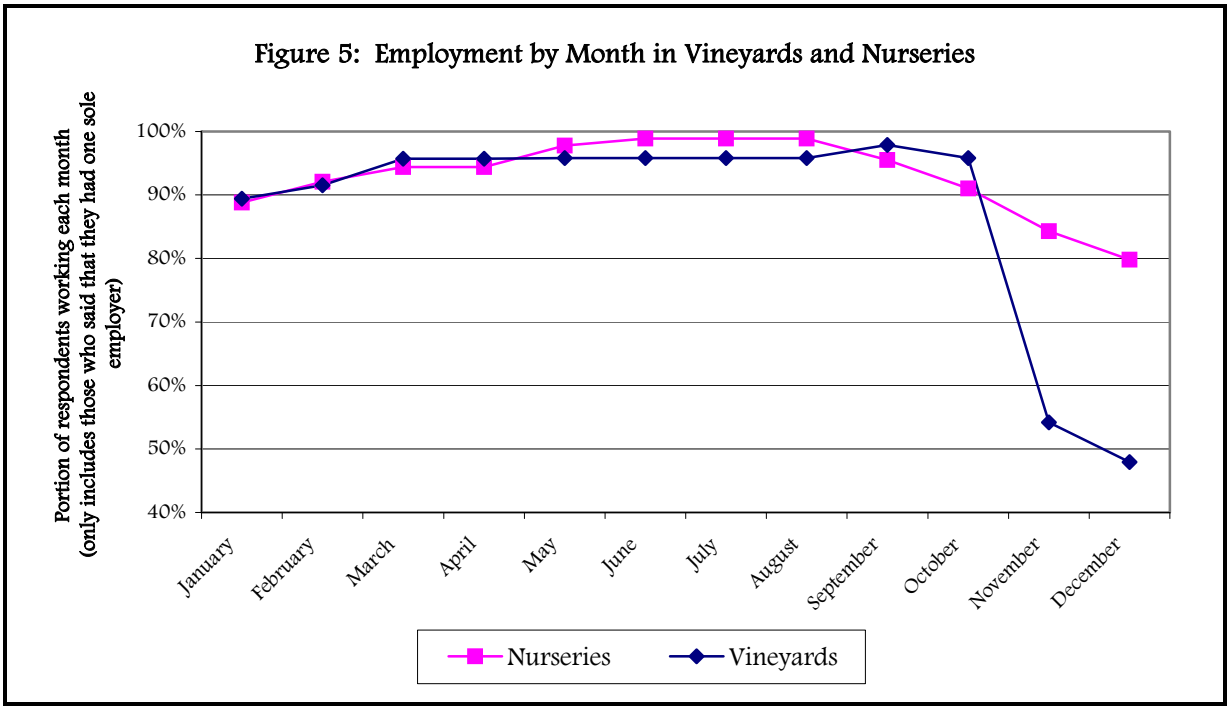
Due to the low wage levels of farmworkers, the ability to find year-round work is especially important. Nursery workers were more likely to be employed year-round (62 percent), compared to only 35 percent of vineyard workers. But many vineyard workers were employed for 10 or 11 months out of the year (generally January through October). Between 25 percent and 30 percent of vineyard and nursery workers were employed between three and nine months of the year.

Men were more likely to be employed year-round (55 percent) than women (38 percent). On the other hand, 42 percent of women were working nine or fewer months per year, compared to 23 percent of male farmworkers. The difference was more striking in the vineyards, as not a single female vineyard worker reported working year-round.

Figure 4: Number of Months Employed

Primary Commodity	Three to six months	Seven to nine months	Ten or eleven months	Twelve months (year-round)
Vineyards	14%	12%	39%	35%
Nurseries	12%	17%	9%	62%

Most farmworkers working year-round were able to do so with one year-round job. Nine percent of those working year-round did so by piecing together employment from two or more employers, often in distinct commodities. The effort of farmworkers to find year-round employment by working in additional commodities is described in more detail in the next section, entitled "Commodity Analysis."



Most of those employed for 10 or 11 months were not employed during November and December – 30 percent worked during November and only nine percent worked during December. On the other hand, nearly all (93 percent) worked in January. Of those who worked seven to nine months of the year, the slow period extended to February. Only about 30 percent worked in January but this number increases to about 70 percent in February and 90 percent in March. Over 90 percent of this group was employed in any given month through September, while only 60 percent of this group worked during October, as the overall demand for agricultural labor begins to drop.

Lack of access to year-round employment is caused by many reasons. Foremost is the seasonal nature of nursery and vineyard work. But other factors determine which farmworkers are able to secure year-round employment, including skill level, English-language ability, immigration status, adequate transportation arrangements, and child-care services.

Higher skill levels help farmworkers find year-round employment. This is demonstrated by the finding that vineyard workers working year-round performed four more tasks, on average, than vineyard workers who worked 10 or 11 months per year.

English language acquisition helps farmworkers move from part-year to full-year employment. Of those working part of the year (11 or fewer months), only 11 percent spoke and understood English at least "somewhat." Of those working year-round, 38 percent understood at least some English.

Immigration status and family separation also impact access to year-round employment. Undocumented farmworkers and those who are separated from their spouse for part of the year are much less likely to work year-round as other farmworkers.

The impact of transportation, child-care services, and health care on year-round employment is demonstrated by the following:

- 59 percent of those who drove their own car worked year-round;
- 36 percent of those without a car worked year-round;
- Those who carpooled were more likely to work at least 10 months per year (78 percent) compared to those who had to pay someone else to get to work (52 percent).

- 77 percent of those farmworkers with children under the age of six whose spouses cared for their children worked year-round;
- 33 percent of those who had some other child-care arrangement worked year-round.

- Long-term health concerns may be another barrier to year-round work, especially for vineyard workers. Of workers in vineyards (including those working in both vineyards and nurseries), 11 percent said that there were tasks that they once did but could no longer perform, due to injury or illness. This compares to four percent of those who worked exclusively in nurseries. Respondents appeared hesitant to respond affirmatively to this question, so the actual percentages may be even higher than those reported.

Barriers to Steady Work Attendance. The lack of adequate transportation arrangements, child-care services, and health-care also contributed to more missed days of work. In addition to loss of days worked and pay, this may limit the ability of farmworkers to

secure year-round employment, since employers may be more reluctant to hire an employee likely to miss many days of work.

- Transportation. Of those who drove themselves to work, only two percent had missed three or more days of work during the past three months due to lack of transportation. Among those who carpooled this number rose to nine percent. Still, carpooling seems to be a better solution than paying someone else for transportation or having an employer pick up the worker because among these two groups, 31 percent had missed at least three days of work due to lack of transportation.

- Child-care. Lack of child-care services is also a contributor to missing days of work, especially for women. Among farmworkers with children zero to five years old, about nine percent use Head Start or a child-care center. These parents reported that they did not miss any work due to staying at home with their children, although in a larger sample you would expect some parents to report missing work on days when their children are sick. For the 38 percent who had their spouse taking care of their children, eight percent reported missing work, at times, to take care of their children (not significantly different from the Head Start/child-care center group). For those who had other family members taking care of their children, 26 percent missed work to stay at home to care for their children. Finally, for those who used a non-family babysitter, over half (56 percent) report missing work to stay home with their children. In sum, the lack of adequate child-care services can add a burden to families and the farmworker in his/ her effort to be a consistent and year-round employee.

- Health-care. Farmworkers with some form of employer-provided health insurance were less likely to report that they had missed three of more days of work (four percent) during the past three months due to sickness or injury. On the other hand, of those without health insurance, 12 percent said that they had missed three of more days of work during the past three months due to sickness or injury. This suggests that lack of health insurance contributes to missed work days and may contribute to poorer health.

Year-Round Residency in the Willamette Valley. One way to increase year-round employment is to decrease migratory labor patterns. This study found that at least 14 percent of vineyard workers and at least six percent of nursery workers were migratory. Migratory workers were much more likely to work only nine or fewer months. Obviously family separation is an important factor influencing migratory patterns. But the survey respondents also identified important community attributes that might attract them to live in a certain community year-round. (See Figure 39 in Appendix.) Not surprisingly, nearby job opportunities was the number one attribute. But four other attributes were also mentioned by at least 20 percent of farmworkers, including: nearby friends and family, a calm and peaceful place, affordable and good housing, and good schools. Over 20 percent of women also mentioned community services, such as child-care.

Conclusions. Access to year-round employment by farmworkers will be improved by learning new work skills, English-language acquisition, enhanced ability to cross into other commodities during slow months, reliable transportation and child-care services, and decreasing migratory labor patterns.

The seasonal nature of vineyard and nursery work also has major implications on the scheduling of training courses for farmworkers. Vineyard workers are much less busy in November and December and could more easily take classes then.

D. Commodity Analysis

Many vineyard and nursery workers cross into additional commodities or crops in order to try to piece together more year-round employment. It is important to look at this because it may reveal potential working arrangements between employer groups that would lead to more year-round employment opportunities for their oft-shared workforces. In fact, there was substantial "cross-over" employment between vineyards and nurseries, as well as into other commodities.

Figure 6: Main Commodity of Farmworkers by Work in Other Agricultural Commodities

Percentage of Farmworkers also working in this commodity:	Main Commodity	
	Vineyards (n=87)	Nurseries (n=113)
Vineyards	XXXX	35%
Nurseries	26%	XXXX
Christmas Trees	28%	24%
Strawberries	26%	37%
Forestry/Reforestation (mainly firs)	16%	10%
Grass Seed or Sod	13%	8%
Blueberries	13%	6%
Apples	12%	18%
Greenhouses	10%	24%
Onions	10%	13%
Cherries	10%	12%
Squash	10%	12%
Table or Raisin Grapes*	8 to 14%	3 to 7%
Roses	3%	27%
Hops	3%	10%

Other commodities mentioned by three percent or less of farmworkers, in order: Melons, Dairy, Beets, Pears, Lettuce, Carrots, Broccoli, Cucumbers, Plums, Peaches, Blackberries, Apricots, Mushrooms, Cabbage, Chile peppers, Hazelnuts, Potatoes, Radish, Green beans, Almonds, Olives, Cotton, Oranges, Limes, Tomatoes.

Note: Some of the other commodities are located in nurseries. This is often the case with greenhouses and roses, and, to a lesser extent, grasses, Christmas trees, and firs. In addition, some nurseries sell wholesale vegetable and fruit plants, especially strawberries. This means that some of the nursery workers who said that they are working in other commodities are actually working on those commodities within their current nursery job.

* Six percent of vineyard workers and four percent of nursery workers who said that they worked in table grapes also said that they were not migratory. This is contradictory since table grapes are only grown in warmer climates like California's Central Valley. Either they did not correctly say that they were migratory or they do not currently work in table grapes. It is possible that they worked in table grapes in the past rather than currently. That also may be true of the nursery workers, although in some cases it is possible that they did not distinguish between table and wine grapes.

Over one out of four farmworkers whose primary employment was in vineyards also worked in nurseries (26 percent), while more than one out of three farmworkers whose primary employment was in nurseries also worked in vineyards (35 percent). The other most common

cross-over commodities were Christmas trees (28 percent of vineyard workers) and strawberries (37 percent of nursery workers). Work in most of the other commodities could be accessed by farmworkers without leaving the Willamette Valley. The only exceptions were table grapes, beets, almonds, cotton, and citrus fruit. About 15 percent of respondents said that they worked in one of these commodities, indicating that those workers most likely are migratory.

Most immigrant vineyard and nursery workers increased their crossover employment to fruits, vegetables and other commodities after having been in the U.S. for at least two years. This is likely due to becoming more familiar with the additional opportunities after a few years. After about ten years in the U.S., farmworkers become less likely to cross into other commodities as they find more stable employment.

Seasonality. The seasons for most of the commodities mentioned coincide with the January to October vineyard season. Christmas trees are the main alternative commodity worked by farmworkers during November and December, with a smaller portion employed in forestry/ reforestation (firs), blueberries, and mushrooms during the early winter. Some vineyard workers also said that they worked in nurseries during November and December, packing and shipping nursery products like wreaths, holly, or poinsettias, for the holiday season.

To better understand how farmworkers move from commodity to commodity, here are a few typical examples of their flow through-out the year:

- Generally vineyard workers worked in wine grapes from January to October and Christmas trees in November and December (the most typical response).
- For those who worked in vineyards, fruits and vegetables, and forestry, a more typical seasonal work flow was forestry from January to March, strawberries (or other fruit and vegetables) from May to July, wine grapes in September and October, and, in some cases, Christmas trees for the remainder of the year.
- Others worked in wine grapes doing pruning and pulling brush from January through March, then moved to fruits and vegetables, and then back to wine grapes in August or September.
- Some nursery workers reported working in blueberries from December to February and then nurseries from March to October.
- A couple nursery workers said that they worked in canneries in southwest Oregon during the winter months.

Gender. There appeared to be a connection between gender and the type of commodities women and men farmworkers chose during the different season. For instance, Christmas trees and forestry were mainly accessed by men with nearly a third of men (32 percent) working in Christmas trees compared to only nine percent of women. Similarly, 17 percent of men worked in forestry compared to only two percent of women. This is most likely due to the physical nature of this work, including heavy lifting. Christmas trees and forestry are the most common wintertime, agricultural employment alternative, so women may need to find other solutions to supplement income during those months.

Men were more likely to have worked in table or raisin grapes than women, while women were slightly more likely to have worked in blueberries than men.

Those who spoke little English were more likely to work in strawberries and forestry, indicating little need for English in order to work in these commodities. On the other hand, those

who spoke at least some English were more likely to work in sod and/or grass-seed, indicating more need for English for work in these commodities.

Reasons for Working Additional Commodities. As the data shows, a high percentage of farmworkers attempted to piece together full-time work by working in several commodities as a way to supplemental their income. For example, of the vineyard workers who earned $9.25 or less (or were paid by the piece), 37 percent also worked in nurseries. However, among the vineyard workers who earn more than $9.25 per hour just four percent also worked in nurseries. A similar pattern holds for most other additional commodities. The most extreme case is with onions where 27 percent of vineyard and nursery workers making minimum wage (or paid by piece) also worked in onions. Of vineyard and nursery workers making more than the minimum wage, only three percent also worked in onions.

Another reason to work in additional commodities was to increase the number of months employed, especially for vineyard workers. This seems to be the case with those working in Christmas trees and grass seed. Vineyard workers making up to $14 per hour were just as likely to be working in Christmas trees or grass seed as those making $9.25 or less. This indicates that jobs in these commodities likely pay enough to make it worthwhile for higher skilled farmworkers to work in or, in the case of Christmas trees, offers employment opportunities during months when there is little other agricultural work available.

Work Arrangement by Commodity. A substantial portion of the crossover agricultural employment is coordinated through farm labor contractors. Of vineyard workers who also worked in nurseries, 59 percent worked for farm labor contractors from time-to-time or more often. Working for farm labor contractors is even more common for those who work in other commodities.

Conclusions. Almost a third of vineyard and nursery workers are employed in both vineyards and nurseries throughout the year. This highlights the importance of efforts to create partnerships between these employer groups related to training and job advancement opportunities. Some of the commodities that farmworkers crossed into during the slow late fall months include Christmas trees and forestry and, to a lesser extent, blueberries, mushrooms, nurseries, and dairy. Efforts to create year-round employment options for vineyard workers may need to involve employers in these commodities. Women had fewer late fall employment options than men, so alternative income strategies may need to be developed with them.

E. Job Advancement among Farmworkers

The two primary ways for farmworkers to advance is by learning more specialized tasks or by moving into a supervisory position. Job advancement can be indicated by higher wages, year-round employment, or supervisory status.

Most farmworkers (over 80 percent) believe that there are opportunities to advance and learn new skills in vineyard and nursery work. Some of the more specialized tasks that might lead to job advancement include: tractor and machinery operation, spraying, irrigation systems, pruning, grafting, and inventory (nurseries). The tasks that lead to job advancement will be discussed in more detail in the task analysis sections. Knowledge of English also may help lead to job advancement, as 95 percent of those who spoke at least some English said that there were opportunities to advance or learn new skills in their job.

Having skills in related occupations – such as carpentry, landscaping, or electrical work – also appears to help advance farmworkers into year-round employment, better pay and supervisory positions. (See Figure 37 in Appendix.) About a fourth of supervisors had experience in at least three other occupations (23 percent) compared to nine percent of non-supervisory workers. Knowledge of other occupations, like carpentry, auto mechanics, or electrical repair, can be useful for some of the more irregular vineyard or nursery tasks performed by supervisors, such as trellis installation, vehicle maintenance and repair, and landscaping on the winery or nursery grounds.

Advancement to Supervisory Status. The ratio of supervisors to non-supervisors in the vineyards was 22 to 78, compared to a ratio of 19 to 81 in the nurseries. Most supervisors tended to retain their positions for a long time, allowing for few supervisory openings. Most supervisors had been in U.S. agriculture for at least 10 years (60 percent) compared to 21 percent of non-supervisors. The median number of years at their current job was 10 years for supervisors and two years for non-supervisors. About 40 percent of supervisors said that it took five or more years to reach their supervisory position. In addition, most supervisors (90 percent) advanced from within the company where they started as a non-supervisor. The percentage is even higher among vineyard supervisors.

Latinos made up the majority of supervisor's (85 percent) due, in part, to the need for most supervisors to speak Spanish. Ninety percent of supervisors understood Spanish very well, including 23 percent of the non-Latino supervisors. The length of time to reach a supervisory position took longer for Latinos. About 47 percent of Latino supervisors said that it took five or more years to reach their supervisory position, while the longest time that it took a non-Latino supervisor to reach their position was three years.

While English language acquisition helps a farmworker earn higher wages and secure more year-round employment, English is not essential to becoming a supervisor. Only 33 percent of supervisors read and wrote English at least somewhat and 35 percent spoke little or no English. Likewise, only 32 percent of supervisors said that learning English was a skill needed by a farmworker to advance. It is not clear how supervisors who do not speak English communicate with their managers or owner. This should be explored more.

Formal education is also not necessary to become a supervisor. The median education level among supervisors was seventh grade compared to a sixth grade education level among non-supervisors.

Supervisors most frequently mentioned general plant and task knowledge (32 percent) as the characteristic, knowledge, or skill most necessary for a farmworker to advance, followed by task specialization (25 percent), supervisory skills (25 percent), personal capabilities such as agility or concentration (25 percent) and effort or diligence (13 percent).

Most supervisors (64 percent) said that it would take at least a year to learn all the tasks that they do compared to 29 percent of non-supervisors. Supervisors are more accustomed to taking training courses than non-supervisors, as 18 percent said that they tend to learn their job tasks through training courses compared to only one percent of non-supervisors.

Women had a much better chance of advancing to a supervisor position in the nurseries than they do in the vineyards. Almost a third of nursery supervisors (29 percent) were women. On the other hand, only five percent of vineyard managers (one of 19) were women and in this

one case, it was a temporary supervisor helping to oversee the harvest. It would appear that women have a limited ability to advance within vineyards. We found that larger vineyards tended to have more female workers yet, even in larger vineyards, there were no female supervisors who might be able to provide support, protection, and mentoring to female farmworkers.

Conclusions. Vineyard and nursery workers can advance in their positions by increasing their skill levels and plant knowledge. Formal education and English-language acquisition may help advancement but are most often not a prerequisite.

It takes most supervisors several years to reach their position and many stay for extended periods of time, leaving few opportunities for formal advancement. This highlights the need to offer more advancement opportunities based on merit and skill mastery. These opportunities could be enhanced with certificate recognition and pay increases upon mastery of the more difficult tasks in vineyards and nurseries.

More research would be necessary to determine if the frustration caused by the limited number of positions opening at the supervisor or Vineyard Manager level leads some aspiring vineyard workers to form their own contract labor and vineyard management companies.

F. Access to Job Training

The survey identified three types of training received by farmworkers. The most common training is informal and hands-on, and is generally provided by the supervisor. The second type of training is also on-site but is formal, and most often consists of state-required safety trainings. The third type of training is off-site, most often at a community college, and can be a one- or two-day training or be as several courses that make up a degree. The latter two types are categorized as training sessions or training courses by the survey.

The survey revealed that about a third of farmworkers said that they had participated in a formal training session. Many more farmworkers experience informal, on-task training on a regular basis.

Informal, hands-on training. Figure 7 shows that most farmworkers learned job tasks from their supervisor. This highlights the importance of training supervisors since they are the primary training resource for the farmworkers. Supervisors who do not speak Spanish should be encouraged to take Spanish language training. Vineyard workers are the most likely to learn job tasks from their supervisor. Nursery workers, on the other hand, also commonly learn job tasks from supervisors but are more likely to learn job tasks from co-workers.

Figure 7: Manner of Learning Job Tasks

	Percentage of farmworkers who learn tasks in this way:			
Primary Commodity	**From Supervisor**	**From Co-worker(s)**	**In practice**	**Courses or training sessions**
Vineyards (n=84)	79%	24%	11%	4%
Nurseries (n=113)	60%	43%	11%	5%

There may be some cultural barriers to accessing job training. One-third of U.S.-born agricultural workers said that they tended to learn job tasks through training courses compared

to only 4 percent of foreign-born agricultural workers. On the other hand, U.S.-born workers were less likely to learn tasks from their supervisors.

Formal, on-site training. About half of the formal training took place on-site. Many of the on-site training sessions mentioned by respondents relate to state-required training sessions on first aide or chemical applications safety, such as a Spanish-language video on pesticides. A very small portion of vineyard workers had on-site training in grafting or pruning. Nursery workers were more likely to receive formal on-site training on topics beyond safety or first aide. These topics included: plant identification, inventory, equipment and machinery operation, irrigation, plant treatment, and supervision.

Formal off-site training. Vineyard workers were the most likely to access off-site training opportunities. Of vineyard workers who do not cross over into nurseries, about 16 percent have received training at a community college (56 percent of those who have had training). Of the full-time nursery workers, about 12 percent have attended training at a community college (32 percent of those who have had training). Another seven percent of vineyard workers (25 percent of those with training) and six percent of nursery workers (16 percent of those with training) had received training at some other outside location. Of the farmworkers who work in both vineyards and nurseries none received training at a community college or other outside location.

Much of the off-site training seemed to be in English, since those who did not speak English were much less likely to participate in off-site training. Of those who had received training but speak at most a little English, only five percent accessed training at a community college. On the other hand, 70 percent of those who had received training and who spoke at least some English accessed the training at a community college.

Figure 8: Location of Job Training Courses or Sessions

Primary Commodity	Community College	Other outside location	On-site
Vineyards (no cross-over)	56%	25%	19%
Nurseries (no cross-over)	32%	16%	53%
Both (cross-over from one to the other)	0%	0%	100%

Note: The percentages are based on those who have accessed some type of training.

Most of the vineyard workers who accessed community college training do so in the viticulture or agricultural management programs. All those in a viticulture program were at Chemeketa Community College. Nursery workers have also accessed management training at community colleges. Other training topics accessed at community colleges include tractor driving, equipment and machinery operation, and chemical treatment/spraying. A few nursery workers had taken courses in horticulture.

Farmworkers who worked year-round were more likely to receive training (45 percent) than those employed less than 12 months (18 percent). This suggests that employers provided more training opportunities to their year-round workers. In addition, 36 percent of men had received job training compared to only 20 percent of women farmworkers.

Job training does have a positive impact on wages. Among non-supervisory agricultural workers with two or more years of experience, those with job training had an average hourly wage of $8.86 while those with no job training had an average wage of $8.09 per hour.

Conclusions. Most farmworkers learn job tasks informally from their supervisors, highlighting the importance of the supervisor or foreman position, and the need for supervisors who can communicate in Spanish. Most job training has been short-term and on-site, such as mandated safety videos. About one in six full-time vineyard workers and one in eight full-time nursery workers have taken courses at community colleges, primarily Chemeketa.

G. Interest in Future Job Training

A high percentage of vineyard and nursery workers (68 percent) indicated an interest in English courses. Among vineyard workers, at least 40 percent were also interested in training related to machinery and equipment operation, pesticide applicator license, and organic production. Nursery workers were also likely to be interested in machinery and equipment operation training and in training related to computers, supervisor/management skills, quality control inspection, and irrigation management. Courses that were more popular with farmworkers who worked in both vineyards and nurseries suggested training topics that could help workers cross over from one industry to the other to find year-round work. This included training related to machinery and equipment operation, organic production, and irrigation management.

Figure 9: Percentage Expressing Interest in Job Training by Topic

Training Topic	Vineyards, only	Vineyards (cross into nurseries)	Nurseries, only	Nurseries (cross into vineyards)
English (ESL)	65%	56%	72%	71%
Machinery and equipment operation	54%	67%	57%	64%
Pesticide applicator license	46%	17%	35%	33%
Organic production	40%	44%	38%	36%
Computer	39%	28%	69%	54%
Pest management	28%	11%	33%	19%
Supervisor / management	25%	17%	51%	22%
Quality control inspection	23%	11%	57%	44%
Irrigation management	23%	22%	48%	47%
Forklift certificate course	19%	11%	32%	25%

Note: Does not distinguish between levels of interest in the training. Other subject topics mentioned by respondents, although not directly asked about in the survey include: horticulture, viticulture, soils, pruning, grafting, winemaking, and Spanish-language.

Women were more interested than men in training related to quality control inspection and computer training, while men were more interested than women in machinery and equipment operation training.

Those born in the U.S. were more likely to be interested in training connected to a formal license or certificate, such as the forklift certificate course or the pesticide applicator license course. Perhaps they are more aware of the financial rewards of formal certificates. Those who spoke more English than average were more interested in supervisor training while those who spoke less English than average were more interested in machinery and equipment operation courses.

Respondents said that generally the slower work months (fall or winter) were the best time of year for training courses. (See Figure 38 in Appendix.) Vineyard workers were the most likely to say that November and December would be the best time of the year for training courses. This is likely due to the long hours and six- or seven-day work weeks of many vineyard workers, making it difficult to attend training between January and October. Nursery workers were a little more likely to say that other times of year would be best for training courses, including September and October, perhaps because these months are a little slower in the nurseries than the spring and summer months.

Most farmworkers said that the best time for classes would be late afternoon or early evening (after the work day). Slightly less than half said that weekends would also be a good time to take courses, especially if the busiest times of year are avoided. A few (14 percent) said that training during the day would be convenient, especially if done during the slow months.

About 20 percent of male farmworkers and about half of female farmworkers said that they would need help with child-care in order to take training courses and a fourth of farmworkers said that they would need help with transportation. Some also said that they would need financial assistance to access training courses.

Conclusions. There was a high level of interest in participating in a variety of job training courses, including English-language, Spanish-language, and computer training. There are numerous barriers to accessing job training, including:

- Long hours and long work weeks, especially from January to October in the case of vineyard workers and from April to September in the case of nursery workers;
- Physically demanding work that leaves little energy for courses;
- Limited English language abilities and limited formal education backgrounds;
- Undocumented farmworkers do not qualify for federal education funds like Pell grants;
- Need for child-care and transportation services to be able to participate, especially among women;
- Cultural barriers to formal education; and
- Financial constraints.

H. Introduction to the Task Analysis

In most vineyards and nurseries, supervisors shared in the work tasks along with farmworkers. In smaller work sites, even the Manager shared in the work tasks. In fact, supervisors performed six more tasks on average than non-supervisors, in the case of vineyards, and five more tasks in the case of nursery supervisors. Most vineyard and nursery

workers do multiple tasks over the course of the year. Vineyard workers performed a median of 15 distinct tasks while nursery workers performed a median of nine distinct tasks. Many of the tasks are seasonal, especially the vineyard tasks, which follow a rather precise calendar depending on the particular weather pattern of each year. Picking up new tasks appears to rely on cumulative agricultural experience. Among immigrant farmworkers, those with experience in agriculture in their home country performed more tasks on average than those with no previous agricultural experience.

Over half of vineyard and nursery workers indicated that it would take at least three months for an inexperienced person to learn all of the tasks that they do. While this self-assessment should not be taken too literally, it is useful when comparing different groups of farmworkers and different task sets. In any event, it did indicate that some mid-to-higher-level skills are necessary in these two agricultural sectors.

Figure 10: Perceived Length of Time Required to Learn All Tasks

Primary Commodity	Percent of respondents who gave the following amount of time required to learn all the tasks that they do:			
	Less than three days	One to four weeks	About three months	At least one year
Vineyards	14%	26%	21%	38%
Nurseries	16%	30%	19%	35%

In the case of vineyard workers, the time required to learn all tasks increases not just due to complexity of tasks but also the sheer number of tasks. Those who said that it would take more time to learn all their tasks performed more distinct tasks than those who said it would take no more than a month to learn all tasks.

Vineyard workers appeared to be doing a more even mix of easy and hard tasks than nursery workers. Most (62 percent) vineyard workers said that their hardest task would take between one week and six months for an inexperienced person to learn.

Respondents were also asked what made the task that they described as the hardest to be hard. Their responses were categorized into four main groups:

- The task was complex or involves many steps;
- The task was dangerous;
- The task required precision or agility in order to carry it out; or that
- The task was tiresome or hard on the body.

Most vineyard workers (68 percent) and half of nursery workers (50 percent) said that their hardest task was hard due to being complex. However, nursery workers were slightly more likely than vineyard workers to say that their hardest task required precision or agility.

About one out of three farmworkers said that it would take only a couple days for a new person to learn their hardest task. On the other end of the scale, eight percent of vineyard workers said that it would take at least a year for an inexperienced person to learn their hardest task.

Women's level of job satisfaction may be less than men, as women were more than three times more likely than men to say that there was nothing in the job that was satisfying. This may be because women were given more mundane tasks than men. Almost half of women (44 percent) said that it would take no more than two weeks to learn all the tasks that they did compared to 22 percent of men.

I. Vineyard Task Analysis

Many vineyard work tasks are highly seasonal and depend greatly on temperature and rain. The work year usually starts with pruning in January and ends in October with the harvest. A few tasks happen throughout the year and may become the main tasks during the slowest months of November and December, such as vehicle and machinery maintenance, labeling and bottling wine, cleaning winery machinery, and trellis installation.

Most vineyard tasks are paid by the hour with the exception of the grape harvest. During the harvest both regular employees and contracted employees are paid by the piece (vat). This is done in order to motivate quick work. The quality of wine depends on the sugar content of the grapes. During September and October the sugar quality can change greatly with warm weather. So vineyards desire to have a large portion of grapes harvested on the day or days when the sugar content is right. In addition, rain-soaked grapes usually cannot be harvested, so with an impending rain vineyards rush to finish the harvest. Many vineyards hire additional labor for the harvest including harvest supervisors and people to record harvest information – how many vats of grapes each worker picks.

The most common tasks among vineyard workers were suckering and leaf removal (77 percent each), and harvesting grapes (75 percent). Some tasks were performed more by workers who exclusively work in vineyards, which would indicate tasks that are more generally executed by regular vineyard workers rather than workers who are brought in part-time or through labor contractors in order to meet the high labor demand of a certain task. Tasks more generally done "in-house" include: tying vine, lifting catch-wires, thinning grapes, pulling brush, trellis installation, and tractor operation.

Vineyards with their own supervisory and farmworker structure often use extra people on a part-time basis or use a labor contractor to fill workforce needs during high demand periods. Tasks where this occurs are indicated by those tasks performed almost as frequently by workers who are employed in both nurseries and vineyards as those employed exclusively in vineyards. These tasks include: suckering, leaf removal, harvesting grapes, shoot positioning, pruning, disbudding, hoeing, training new vines, planting new vines, and hedging with a machete.

Vineyard workers who are supervisors and those with more agricultural experience are performing more tasks than non-supervisory workers or those with less experience. This suggests that as vineyard workers advance they tend to take on more and more tasks rather than specializing in just a few tasks.

It is interesting to note that about one out of three vineyard workers also said that they work in wineries either bottling wine (34 percent) or labeling bottles (25%). Less than two percent said that they perform other winery tasks, such as forklift operation, pump work, filling and moving barrels, and processing fruit. Most wineries appear to have different work forces

than vineyards, even when on the same location. Adding vineyard workers to the winery workforce on a seasonal basis may help create year-round employment for vineyard workers.

Figure 11: Portion of Vineyard Workers Who Perform Each Vineyard Task

Vineyard Task	Overall	Vineyard workers only	Vineyard workers who cross into nurseries	Nursery workers who cross into vineyards
Suckering	77%	86%	82%	56%
Leaf removal	77%	91%	86%	44%
Harvest grapes	75%	83%	82%	53%
Shoot positioning	73%	85%	82%	44%
Tying vine	72%	82%	77%	50%
Lift catch-wires	69%	82%	73%	41%
Pruning	67%	74%	73%	50%
Disbudding	66%	77%	73%	41%
Hoeing	64%	66%	86%	44%
Thinning grapes	64%	82%	68%	25%
Pulling brush	62%	71%	64%	44%
Train and prune new vines	61%	69%	68%	38%
Plant new vines*	56%	60%	54%	*47%
Trellis installation	48%	63%	41%	23%
Hedging with machete	47%	53%	64%	22%
Mowing	39%	43%	46%	25%
Tractor operation	36%	43%	27%	28%
Bottle wine	34%	42%	27%	22%
Spraying / fumigating	31%	39%	27%	19%
Planting cover crop	29%	35%	27%	16%
In-row cultivation	29%	39%	27%	13%
Sort grapes	26%	35%	23%	9%
Irrigation installation	25%	32%	27%	9%
Label bottles	25%	34%	23%	9%
Clean winery equipment	24%	28%	32%	13%
Grafting	24%	28%	27%	16%
Supervise harvest	22%	31%	9%	13%
Caging gophers	22%	31%	18%	6%
Stacking and packing	18%	20%	23%	9%
Mechanical hedging	15%	23%	5%	6%
Record harvest information	2%	3%	0%	0%

* Some of the nursery workers who said that they plant new vines are actually doing this task within nurseries that then sell the vine stock to vineyards, so that task is not always being done within vineyards.

Female vineyard workers said that bottling wine, leaf removal, and grafting were the most satisfying tasks that they performed. Male workers said that pruning, harvesting grapes,

and tractor operation were the most satisfying tasks that they performed. (See Figure 31 in Appendix.) The opportunity to perform satisfying job tasks is important to job satisfaction and advancement. Women perform less variety of vineyard tasks than men – a median of 8.5 tasks compared to a median of 16 tasks for men.

The most difficult vineyard tasks, as perceived by farmworkers, included pruning, grafting, tractor operation, and spraying. Over one-third of vineyard workers said that pruning is the most difficult task that they did, while more than 10 percent each said that grafting, tractor operation, and spraying were the most difficult tasks that they did. Pruning and spraying were also the most frequently mentioned hard tasks for supervisors, suggesting a higher level of difficulty. English language ability had little impact on which task was viewed as the most difficult.

Figure 12: Perceived Difficulty of Vineyard Tasks

Vineyard Task	Portion of persons who perform this task who stated that it was the most difficult task that they do	
	All vineyard workers	Supervisors
Pruning	37%	42%
Grafting	16%	0%
Tractor operation	14%	6%
Spraying	14%	28%
Label bottles	7%	0%
Disbudding	5%	6%
Suckering	5%	0%
Supervise harvest	4%	6%
In-row cultivation	3%	6%
Trellis installation	3%	5%
Bottle wine	3%	0%
Shoot positioning	2%	0%
Planting new vines	2%	0%
Supervise, in general	1%	5%

Note: Percentages may not add up to 100 percent because each one is based on the number of persons who performed that particular task.

As mentioned earlier, respondents were asked what made the task that they described as the hardest to be hard. Their responses were categorized into four main groups: complex tasks, dangerous tasks, tasks that require precision and tiresome tasks.

Tasks that are hard because they are complex, according to respondents, included: pruning, spraying, labeling bottles, and disbudding. Training for these tasks would need to focus on simplifying the process and breaking out all the necessary steps, step by step.

Tasks that are hard because they are dangerous included tractor operation and spraying. Training for these tasks would need to stress safety tips and focus on ways to mitigate the inherent danger in these tasks.

Tasks that are hard because they require precision or agility included grafting and suckering. Training for these tasks would need to use repetition and fine motor practice.

Figure 13: Reason for Difficulty of Vineyard Task

Vineyard Task	Percent of respondents who gave the following reason(s) for why the task was the hardest: (could answer more than once)			
	It is complex or has many steps	It is dangerous	It requires precision or agility	It is tiresome or hard on the body
Pruning	90%	10%	7%	3%
Grafting	50%	0%	50%	0%
Tractor operation	43%	86%	0%	0%
Spraying	83%	33%	17%	0%
Label bottles	100%	0%	0%	0%
Disbudding	75%	0%	0%	25%
Suckering	25%	0%	75%	25%

Note: Percentages may not add up to 100 percent because some respondents listed two main reasons for why the task was difficult.

The training period for some of these tasks, such as disbudding and suckering, may be quite short, since most farmworkers said it would take no more than a couple days to learn these tasks. However, training for pruning, grafting, tractor operation, spraying, and labeling bottles may need to be more protracted.

Figure 14: Length of Time Required to Learn Hardest Vineyard Task

Vineyard Task	Percent of respondents who gave the following amount of time required to learn the task listed as the hardest:		
	Less than three days	One to four weeks	At least three months
Pruning	24%	55%	21%
Grafting	25%	75%	0%
Tractor operation	14%	57%	29%
Spraying	0%	17%	83%
Label bottles	0%	0%	100%
Disbudding	100%	0%	0%
Suckering	75%	25%	0%

Some of the tasks were performed much more frequently by supervisors than by other vineyard workers (Figure 25 in Appendix). This suggests that the training topics that may help vineyard workers to move into a position where they might advance should include:

- Supervising the grape harvest;
- Spraying;
- Planting cover crop;
- In-row cultivation;
- Tractor operation;
- Mechanical hedging;
- Irrigation installation;
- Sorting grapes by quality;
- Mowing; and
- Trellis installation.

Vineyard supervisors are more likely than non-supervisory workers to have experience in construction, carpentry, automotive repair, and electrical work. (See Figure 37 in Appendix.) This indicates that training in these occupations might also help vineyard workers advance to supervisory status.

The survey also identified tasks that can helped lead vineyard workers from partial year employment (three to nine months) to more regular work (10 to 11 months) and tasks that can lead vineyard workers from 10 to 11 month employment to year-round employment. These tasks might be grouped together during training sessions. Tasks done more often by vineyard workers who worked 10 or 11 months than those who worked nine or fewer months included: thinning grapes, lifting catchwires, shoot positioning, suckering, and hedging by machete. (See Figure 27 in Appendix.) Tasks done more often by vineyard workers who worked 12 months per year than by those who worked 10 or 11 months per year included: spraying, planting cover crop, supervising the harvest, tractor operation, in-row cultivation, planting new vines, trellis installation, and irrigation installation. (See Figure 28 in Appendix.)

The tasks that helped women vineyard workers move toward year-round employment were slightly different than for men. It included the following tasks:

- Thin grapes;
- Lift catchwires;
- Shoot positioning;
- Suckering;
- Disbudding; and
- Leaf removal.

J. Nursery Task Analysis

The most common tasks among nursery workers were operating shears, transplanting, pruning, taking and planting cuttings, sowing seeds, and packing plants for shipment. Because many of these tasks are done as frequently by vineyard workers who cross over into nurseries as those who work exclusively in nurseries, many common nursery tasks seem to be low skilled.

Figure 15: Portion of Nursery Workers Who Perform Each Nursery Task

Nursery Task	Overall	Nursery workers only	Nursery workers who cross into vineyards	Vineyard workers who cross into nurseries
Operate shears	69%	68%	74%	62%
Transplant (by root)	67%	65%	69%	69%
Prune	66%	66%	67%	62%
Take cuttings, plant cuttings	60%	55%	72%	54%
Sow seeds	56%	49%	67%	69%
Pack plants for shipment	55%	60%	54%	31%
Water by hand	46%	42%	51%	54%
Train other workers	44%	49%	44%	15%
Apply fertilizer and feed plants	44%	43%	49%	31%
Tractor driving	41%	47%	39%	15%
Label containers	36%	34%	44%	23%
Space and thin (i.e. poinsettias)	34%	31%	39%	39%
Weed	32%	30%	33%	39%
Record information about plants	30%	34%	31%	8%
Tie and bundle plants	29%	30%	28%	23%
Graft	28%	24%	33%	31%
Clean seeds	26%	26%	26%	31%
Soil preparation	26%	18%	44%	23%
Supervise	24%	28%	23%	0%
Operate forklift	23%	16%	33%	31%
Operate tiller	21%	19%	28%	8%
Treat weeds, pests and diseases	20%	20%	23%	8%
Equipment maintenance	19%	20%	21%	8%
Install/manage irrigation system	19%	18%	23%	15%
Soil testing and amendment	19%	18%	23%	15%
Greenhouse construction	18%	14%	28%	8%
Test and maintain greenhouse conditions	18%	14%	28%	8%
Operate pumps	16%	11%	21%	31%
Composting	14%	15%	15%	8%
Mix pesticides	14%	15%	18%	0%
Truck driving	12%	14%	10%	8%
Non-chemical weed treatment	10%	12%	10%	0%
Inventory	3%	5%	0%	0%

Note: For the subsequent analysis the task "inventory" is combined with "record plant information." 'Inventory' was not listed on the survey task list, so its response rate should not be viewed as comprehensive. Several additional tasks were identified from nursery supervisors during the survey but too late to be comprehensively included in the survey results. These tasks should still be considered for workforce initiatives and included: disbudding plants, electric cart operation, harvesting trees, hoeing, truck loading, staking, remove staking, budding, tying buds, plant grading, work on potting machine, pollinate roses, and dipping cuttings.

Nursery workers earning $14.00 or more per hour performed way fewer tasks than those earning less. They performed a median of 6.2 tasks compared to a median of 13.7 distinct tasks performed by nursery workers earning between $9.26 and $13.99 per hour. (See Figure 35 in Appendix.) This suggests that, unlike vineyard workers, nursery workers tend to advance to the highest levels by specializing in a few tasks rather than proliferating on numerous tasks.

The more difficult and potentially higher-skilled nursery tasks included: recording plant information (and inventory); treating weeds, pests and diseases; grafting; plant cuttings; irrigation systems; and pruning. Nursery supervisors also said that spacing poinsettias and forklift operation were difficult tasks.

Figure 16: Perceived Difficulty of Nursery Tasks

Nursery Task	Portion of persons performing task who stated that it was the most difficult task that they do	
	All nursery workers	Supervisors
Record plant information / Inventory	26%	23%
Treat weeds, pests and diseases / Spray	22%	29%
Graft trees or other plants	18%	25%
Plant cuttings or transplant	15%	0%
Install/program/manage irrigation system	12%	33%
Pruning	10%	0%
Tractor driving	9%	0%
Space and thin (mainly poinsettias)	7%	33%
Prepare orders	5%	0%
Plant by seed	4%	0%
Operate forklift	3%	14%
Supervise	3%	7%
Clean seeds	3%	0%
Apply fertilizer and feed plants	2%	0%

Note: Percentages may not add up to 100% because each one is based on the number of persons who performed that particular task.

According to respondents, the nursery tasks that are hard because they are complex included: recording plant information, doing inventory, treating weeds and pests, and installing or managing irrigation systems. Training for these tasks would need to focus on simplifying the process and breaking out all the necessary steps. In addition, plant identification skills are needed for recording and inventory.

Nursery tasks that are hard because they are dangerous included: treating weeds and pests, installing or managing irrigation systems (in addition to being complex), and transplanting trees. Training for these tasks would need to stress on safety tips and focus on ways to mitigate danger.

Grafting was considered hard because it required precision or agility, so training for this task would need to use repetition and fine motor practice. On the other hand, taking or planting

cuttings and transplanting fruit plants or flowers were considered difficult tasks because they were tiresome. The focus in that case should be task diversification and ergonomics rather than training.

Figure 17: Reason for Difficulty of Nursery Task

Nursery Task	Percent of respondents who gave the following reason(s) for why the task was the hardest:			
	It is complex or has many steps	It is dangerous	It requires precision or agility	It is tiresome or hard on the body
Record plant info. / Inventory	100%	0%	0%	10%
Treat weeds, pests and diseases	60%	40%	0%	20%
Graft trees or other plants	33%	50%	50%	17%
Plant cuttings or transplant	14%	29%	29%	43%
Install/manage irrigation	60%	40%	0%	0%
Pruning	75%	0%	13%	0%
Tractor driving	36%	73%	0%	9%
Space and thin (poinsettias)	67%	0%	33%	0%

Note: Percentages may not add up to 100 percent because some respondents listed two main reasons for why the task was difficult.

Finally, respondents said that it would take the longest to learn the tasks of recording plant information and inventory; installing, programming and managing irrigation systems; and spraying (treating weeds, pests, and diseases).

Figure 18: Length of Time Required to Learn Hardest Nursery Tasks

Nursery Task	Percent of respondents who gave the following amount of time required to learn the task listed as the hardest:		
	Less than three days	One to four weeks	At least three months
Record plant info. / Inventory	13%	25%	63%
Treat weeds, pests and diseases	50%	17%	33%
Graft trees or other plants	38%	63%	0%
Plant cuttings or transplant	46%	54%	0%
Install/manage irrigation	0%	60%	40%
Pruning	44%	44%	11%
Tractor driving	36%	64%	0%
Space and thin (poinsettias)	67%	33%	0%

Some of the tasks performed much more frequently by nursery supervisors than by other nursery workers (Figure 26 in Appendix) suggested the training topics that may help nursery workers to be in a position to advance, including:

- Truck driving;
- Inventory and recording plant information;
- Grafting;
- Operating pumps;
- Operating tillers;
- Tractor operation;
- Irrigation installation;
- Greenhouse construction;
- Soil testing and soil amendment;
- Preparing compost; and
- Mixing pesticides.

Many of these same tasks helped nursery workers, especially male nursery workers, advance to year-round employment. (See Figure 29 in Appendix.) The tasks that helped women nursery workers advance toward year-round employment included:

- Inventory and recording plant information;
- Training other workers;
- Tractor operation;
- Supervising other workers;
- Tying and bundling plants or products (including by machine); and
- Labeling containers (including by machine).

V. RECOMMENDATIONS

Based on the results of this survey and our many years in helping groups to formulate workforce and economic development strategies, NEDLC makes the following recommendations for FIELD and the Northwest Agriculture Consortium. The recommendations can be divided into four categories, relating to job training; workplace issues; economic development strategies; or partnerships involving employers, job training providers, and community organizations and service providers.

Job Training Recommendations

- Short, on-site, Spanish-language training sessions in vineyards and nurseries. In vineyards, the training should focus on pruning, grafting, disbudding, suckering, spraying, and labeling bottles and should lead to a basic-level certificate. Repeated and progressively advanced courses related to pruning should be offered at each site and should be part of a mid-level certificate. Vineyards that share the same manager and crew should share in the costs of providing the training.

- Short, on-site, Spanish-language training sessions in nurseries should focus on: how to record plant information, grafting, pruning, treating weeds, diseases and pests, and spacing poinsettias. Longer-term training for nursery workers should continue to include horticulture, irrigation systems, spraying, tractor and machinery operation, and management. In addition, stand-alone inventory and estimating skills training should be added to nursery training curricula, if not already present.

- Vineyard management companies and labor contractors should be encouraged to provide short trainings to their more regular workforce on the most common vineyard and nursery tasks. This will not only provide them with a more loyal workforce but also increase their competitive advantage.

- The short training sessions should lead to basic and mid-level certificates, to complement the existing viticulture and horticulture degrees. This should provide employers with a better-trained workforce, and help clarify and structure relationships between employers and labor contractors. It should also lead to increased pay for farmworkers. Because of low formal education levels, this training will need to be geared to the audience, perhaps by using “popular education” techniques.

- Training courses and sessions should focus on some of the common skills that cross over various agricultural commodities. These training opportunities should take place on-site, at community partner sites, and at community college locations. Mid-level skills that cross over to varying degrees between vineyards and nurseries include: agricultural management and supervision, irrigation management, spraying, organic production, tractor and other machinery operation, pruning, and grafting.

- Advancement for women farmworkers should be considered separately than for men. Basic and short-term training sessions for women in vineyards, which might be done separately from men, should focus on tasks that help them move toward year-round

employment including: thinning grapes; lifting catchwires; shoot positioning; suckering; disbudding; and leaf removal. Intermediate training for women should focus on some of the hardest tasks identified by female workers, including grafting, bottle labeling (by hand or by machine), and supervising the harvest (including quality control). Women also showed more interest in computer training than men.

- Because the majority of farmworkers do not have proper documentation, training providers will need to be innovative to find funding sources for training for these workers. Examples of more flexible job training funding streams include employer contributions, community block grants, and free trade adjustment funding.

- Community colleges and community organizations should provide English language training and computer training that is specific to vineyards and nurseries.

- Due to the low, formal education levels of farmworkers, Oregon's community colleges and community organizations may wish to create a "bridge" program. Bridge programs prepare adults who lack basic skills to enter and succeed in postsecondary education and training. The Center on Law and Social Policy (CLASP) has published a national manual on how to create a bridge program, based largely on the experience of groups in Chicago.

- Training sessions should take place during times of the year and times of the day when farmworkers can access the training, since most farmworkers work long hours and often more than five days a week. The long workweeks are a major barrier to finding time and energy for job training. Trainings would be best scheduled on-site and "on the clock" or during the slow late fall months (October to December for nurseries; November to December for vineyards).

- Off-site job training programs should find ways to overcome barriers such as child-care, transportation and financial support. Concurrent child-care might be provided on-location and vehicles might be provided from different locations, perhaps with collaboration of employers, to transport workers to the training.

Workplace Recommendations

- Vineyards should coordinate workforces to a larger extent with wineries, especially when they are co-located. Wineries using labor contractors should be encouraged to instead use the same workforce as neighboring vineyards. Winery production could be increased during the late fall, when many vineyard workers are idle, in order to facilitate year-round employment for vineyard workers.

- Vineyards and nurseries should be encouraged to pay higher wages in recognition of mastery of certain more difficult tasks. More difficult vineyard tasks that may be undervalued, based on the average pay of those performing these tasks, include: pruning, disbudding, grafting, planting new vines, trellis installation, and sorting grapes.

  More difficult nursery tasks that may be undervalued, based on the average pay of those performing these tasks, include: grafting; soil testing and amending; preparing compost; mixing pesticides; treating weeds, pests and diseases (both chemically and non-

chemically); testing and maintaining greenhouse conditions; operating a forklift; applying fertilizer; and spacing and thinning flowers.

- Encourage vineyard owners and managers to hire and train more female supervisors in order to provide more opportunities for women to advance within the industry. We did not find a single case of a regularly employed, female supervisor in the vineyards. This is especially important in larger vineyards with a more gender-diverse workforce because it offers a potential level of support, protection, and mentoring for women working out in the field.

- Employers and community organizations should be encouraged to find ways to facilitate carpooling as a commuting option amongst their employees, since carpooling seems to be the most reliable transportation option for those who do not have their own vehicles.

Economic Development Strategies

- Employers and community organizations should strategize to provide more options for off-season employment for women. Women have trouble accessing the main alternative winter employment opportunities – Christmas trees and forestry – in part due to the heavy lifting required. Supplemental and seasonal micro-enterprise promotion may be one of the most promising alternatives for under-employed female farmworkers.

- Increase off-season employment by trying to link work opportunities in agricultural industries that continue to function in late fall months, such as Christmas trees, dairies, nurseries that have increased production and shipping of wreaths, holly, poinsettias or other products for the holiday season, and mushroom farms or wholesalers.

Employer, Job Training, and Community Partnerships

- Increased partnerships among employers and job training providers. Increased partnerships between employers and the public agencies and community organizations that provide needed services to farmworkers, including child-care, Head Start, after-school care, health and dental care, affordable and stable housing, and appropriate transportation arrangements.

- Employers and community organizations should be encouraged to find more adequate ways to provide transportation and child-care services. Facilitation of transportation options and provision of child-care services should help farmworkers obtain year-round employment and access job training and job advancement opportunities. The short work year of farmworkers makes it especially important for counties and community agencies to provide emergency services like food, shelter and heating to farmworkers and their families, especially during the winter months when they may have little income from work.

- Support for a more diverse array of nonprofit organizations serving and representing immigrant and farmworker communities in certain counties, i.e. Yamhill, where there seems to be a limited number of these organizations.

APPENDIX A – Additional Survey Preparation and Response Tables

Figure 19: Geographic Distribution of Surveys (from North to South)

County	# of Vineyard Surveys	# of Vineyards in database	Total # of Vineyards (OR Ag)	Average Acreage per vineyard	# of Nursery Surveys	# of Nurseries in Database	Total # of Nurseries (OR Ag)
Multnomah	0	0	0		0	18	176
Clackamas	0	2	42	7.0	8	26	453
Washington	13	13	77	18.8	8	19	251
Yamhill	30	33	194	22.6	50	9	99
Marion	14	4	35	26.8	40	38	357
Polk	12	6	68	29.9	0	6	48
Benton	0	4	31	13.6	0	2	46
Linn	0	0	10	7.5	0	3	81
Lane	18	8	39	18.2	7	8	144
TOTAL	**87**	**70**	**496**	**20.8**	**113**	**129**	**1,655**

Note: Database refers to the business database Reference USA used by authors. OR Ag refers to the total number of vineyards and the number of nurseries and greenhouses in 2004, as estimated by Oregon Agricultural Statistics Service 2004-2005.

Figure 20: Place of Origin by Date of Entry to U.S. of foreign-born farmworkers

	Overall (n=186)	Those here five years or less (n=86)	Those here more than five years (n=100)
Northern Mexico	**9%**	**3%**	**13%**
Durango	3%	1%	4%
Tamaulipas	2%	0%	4%
Chihuahua	1%	1%	1%
Nayarit	1%	0%	2%
Baja California Norte	1%	0%	1%
Coahuila	1%	1%	0%
Sinoloa	1%	0%	1%
Central and Western Mexico	**58%**	**57%**	**59%**
Michoacan	23%	23%	23%
Guanajuato	14%	13%	15%
Mexico	7%	10%	4%
Jalisco	6%	7%	6%
Hidalgo	3%	2%	4%
D.F. (Mexico City)	2%	1%	3%

	Overall (n=186)	Those here five years or less (n=86)	Those here more than five years (n=100)
Morelos	1%	0%	2%
Colima	1%	0%	1%
Queretero	1%	0%	1%
Southern and eastern Mexico	**33%**	**38%**	**28%**
Veracruz	13%	17%	9%
Oaxaca	11%	10%	11%
Guerrero	4%	3%	4%
Puebla	3%	2%	4%
Chiapas	2%	3%	0%
Tlaxcala	1%	1%	0%
Guatemala	1%	1%	0%

Note: Two percent of farmworkers born in Mexico declined to identify the state where they were born.

Figure 21: Agricultural Status in Country of Origin

	Born in the U.S.	Farmed own land	Ejido member (communal land)	Farm laborer	Did not work in agriculture
Vineyard Workers	3%	40%	13%	18%	25%
Nursery Workers	6%	32%	12%	16%	34%

Figure 22: What farmworkers said makes a job desirable

Portion of farmworkers who said that the following makes a job desirable – What do they want in a job?	Total	Vineyard Non-supervisory	Vineyard Super-visors	Nursery Non-supervisory	Nursery Super-visors
Stability	53%	53%	44%	54%	50%
Good pay	53%	50%	56%	57%	40%
Opportunity to learn new tasks	52%	48%	56%	54%	50%
Liking the work and tasks	42%	41%	50%	39%	50%
Opportunity to advance	41%	33%	44%	48%	35%
Provides health care benefit	36%	28%	39%	39%	40%
Good relationship with supervisor	24%	20%	33%	25%	25%

Note: Other things not listed on the survey but mentioned by farmworkers include: flexibility, good relationship with co-workers, and work that is not hard.

Figure 23: Advice of Supervisors for other farmworkers

	Percentage who said this
Be open to learning new skills	76%
Ask questions when you do not know how to do something	76%
Learn plant and task knowledge	56%
Attend job training courses	46%
Communicate what you know how to do	42%
Learn communication skills	31%
Be persistent	13%

Figure 24: Commodities by Use of Farm Labor Contractors

	Overall Rate	Main Commodity: Vineyards	Main Commodity: Nurseries
Secondary Commodity	**Portion of farmworkers who say they sometimes work through a labor contractor**		
Blueberries	71%	91%	33%
Onions	65%	100%	43%
Grass Seed (or Sod)	65%	64%	67%
Table or Raisin Grapes	63%	83%	29%
Apples	62%	100%	42%
Strawberries	52%	78%	37%
Squash	50%	89%	23%
Hops	50%	100%	36%
Pines or Firs (forestry)	48%	71%	19%
Cherries	44%	67%	29%
Christmas trees	44%	54%	35%
Greenhouses	31%	78%	15%
Roses	16%	67%	10%

Figure 25: Vineyard Tasks by Supervisory Status, Sorted by Average Pay

Vineyard Task	Portion of supervisors who do this task	Portion of non-supervisors who do this task	Percentage Difference	Average pay of persons doing task
Supervise harvest	94%	6%	1467%	$ 12.84
Caging gophers	67%	17%	294%	$ 11.67
Spraying	89%	17%	424%	$ 11.43
Planting cover crop	72%	22%	227%	$ 11.32
In-row cultivation	83%	22%	277%	$ 11.17
Tractor operation	83%	26%	219%	$ 11.00
Mechanical hedging	41%	17%	141%	$ 10.97
Irrigation installation	50%	26%	92%	$ 10.83
Clean winery equipment	39%	24%	63%	$ 10.54
Sort grapes	56%	28%	100%	$ 10.50
Mowing	72%	33%	118%	$ 10.44
Stacking and packing	44%	11%	300%	$ 10.41
Trellis installation	89%	54%	65%	$ 10.22
Hedging with machete	77%	46%	67%	$ 10.06
Plant new vines	83%	52%	60%	$ 10.06
Label bottles	33%	35%	-6%	$ 10.04
Grafting	39%	24%	63%	$ 9.93
Train and prune new vines	83%	65%	28%	$ 9.76
Bottle wine	39%	41%	-5%	$ 9.73
Pulling brush	89%	65%	37%	$ 9.72
Pruning	94%	65%	45%	$ 9.70
Tying vine	89%	80%	11%	$ 9.53
Disbudding	83%	76%	9%	$ 9.51
Hoeing	78%	61%	28%	$ 9.48
Lift catch-wires	83%	83%	0%	$ 9.47
Shoot positioning	89%	85%	5%	$ 9.44
Thinning grapes	83%	80%	4%	$ 9.36
Suckering	83%	87%	-5%	$ 9.33
Leaf removal	89%	94%	-5%	$ 9.26
Harvest grapes	72%	87%	-17%	$ 9.19*

Notes: Non-supervisory vineyard workers include only those who are primarily vineyard workers, not those crossing over from nurseries. Average pay does not assume this is the contract pay scale for each task; rather it is the average hourly wage of the persons who perform the task among various other tasks. Harvesting grapes is usually paid by piece rather than by hour and quick workers can earn much more than $9.19 per hour. Workers who said that they are always paid by piece are not included in the average wages. This included about 10 percent of vineyard workers.

Figure 26: Nursery Tasks by Supervisory Status, Sorted by Average Pay

Nursery Task	Portion of supervisors who do this task	% of non-supervisors who do this task	Percentage Difference	Average pay of persons doing task
Truck driving	43%	5%	694%	$ 10.37
Record information about plants	62%	26%	138%	$ 9.90
Supervise	67%	17%	283%	$ 9.84
Operate pumps	19%	13%	46%	$ 9.38
Operate tiller	29%	21%	38%	$ 9.32
Equipment maintenance	33%	16%	106%	$ 9.32
Install/manage irrigation system	29%	17%	64%	$ 9.23
Train other workers	67%	40%	66%	$ 9.17
Label containers	57%	33%	73%	$ 9.17
Graft	38%	25%	52%	$ 9.16
Greenhouse construction	38%	14%	170%	$ 9.14
Tie and bundle plants	29%	29%	-2%	$ 9.11
Soil testing and amendment	38%	16%	134%	$ 8.93
Prepare compost	33%	12%	175%	$ 8.91
Mix pesticides	33%	11%	206%	$ 8.90
Pack plants for shipment	62%	57%	10%	$ 8.82
Tractor driving	48%	44%	9%	$ 8.72
Test and maintain greenhouse conditions	33%	15%	119%	$ 8.69
Operate forklift	33%	20%	70%	$ 8.68
Water by hand	57%	42%	36%	$ 8.67
Clean seeds	24%	26%	-8%	$ 8.66
Treat weeds, pests and diseases	33%	19%	74%	$ 8.66
Operate shears	71%	70%	3%	$ 8.65
Prune	71%	65%	9%	$ 8.62
Transplant (by root)	71%	65%	9%	$ 8.61
Apply fertilizer and feed plants	81%	39%	107%	$ 8.60
Weed	30%	32%	-6%	$ 8.59
Sow seeds	67%	52%	29%	$ 8.57
Non-chemical weed treatment	24%	9%	167%	$ 8.56
Soil preparation	24%	27%	-11%	$ 8.37
Take cuttings, plant cuttings	52%	63%	-17%	$ 8.28
Space and thin (i.e. poinsettias)	29%	35%	-17%	$ 8.27

Notes: Non-supervisory nursery workers include only those who are primarily nursery workers, not those crossing over from vineyards. Average pay does not assume this is the contract pay scale for each task; rather it is the average hourly wage of the persons who perform the task among various other tasks. Average wages do not include those paid per piece, about three percent of nursery workers.

Figure 27: Vineyard Tasks leading from 3-9 month employment to 10-11-month employment

Vineyard Task	Portion of workers who perform this task			Difference between those working 3-9 months and those working 10-11 months
	Workers who work 3-9 months	Workers who work 10-11 months	Workers who work year-round	
Thin grapes	45%	88%	93%	43%
Lift catchwires	50%	91%	90%	41%
Shoot positioning	55%	94%	97%	39%
Suckering	59%	94%	97%	35%
Hedging (by machete)	27%	61%	75%	34%

Figure 28: Vineyard Tasks Leading to Year-Round Employment

Vineyard Task	Portion of workers who perform this task			Difference between those working 10-11 months and those working year-round
	Workers who work 3-9 months	Workers who work 10-11 months	Workers who work year-round	
Spraying	9%	24%	72%	48%
Planting cover crop	23%	18%	62%	44%
Supervise harvest	9%	12%	55%	43%
Tractor operation	18%	30%	72%	42%
In-row cultivation	14%	27%	66%	39%
Plant new vines	36%	52%	86%	34%
Trellis installation	32%	52%	86%	34%
Irrigation installation	14%	24%	55%	33%

Figure 29: Nursery Tasks Leading to Year-Round Employment

Nursery Task	Portion of workers who perform this task		Difference between those working 3-11 months and those working year-round
	Workers who work 3-11 months	Workers who work year-round	
Tractor operation	26%	59%	33%
Record plant information	14%	44%	30%
Train other workers	33%	56%	23%
Operate tiller	9%	30%	21%
Supervise other workers	14%	34%	20%

Figure 30: Reason for Difficulty of Hardest Task by Months Employed

Number of Months Employed	Percent of respondents who gave the following reason(s) for why their hardest task was hard:			
	It is complex or has many steps	It is dangerous	It requires precision or agility	It is tiresome or hard on the body
Vineyard Workers				
3 to 9 months	56%	17%	11%	28%
10 or 11 months	52%	29%	13%	23%
12 months (year-round)	96%	14%	4%	0%
Nursery Workers				
3 to 11 months	32%	21%	13%	34%
12 months (year-round)	63%	27%	14%	9%

Note: Percentages may not add up to 100 percent because some respondents listed two main reasons for why the task was difficult.

Figure 31: "Most Satisfying" Vineyard Tasks by Supervisory Status and Gender

Vineyard Task	Portion of workers who said this task was the most satisfying				
	Overall	Super-visors	Non-super-visors	Men	Women
Pruning	27%	24%	28%	29%	0%
Harvest grapes	20%	14%	21%	22%	8%
Bottle wine	16%	0%	19%	13%	50%
Tractor operation	15%	13%	17%	15%	0%
Spraying	10%	12%	7%	10%	0%
Grafting	8%	14%	6%	5%	25%
Leaf removal	8%	0%	10%	4%	30%

Note: Other tasks mentioned include supervising the harvest, thinning grapes, in-row cultivation, and planting new vines. Percentages do not include those who said that "all" tasks were satisfying.

Note: Percentages may not add up to 100 percent because each one is based on the number of persons who performed that particular task.

Figure 32: "Most Satisfying" Nursery Tasks by Supervisory Status and Gender

Nursery Task	Portion of workers who said this task was the most satisfying				
	Overall	Super-visors	Non-super-visors	Men	Women
Tractor operation	26%	10%	30%	27%	20%
Install and manage irrigation system	18%	0%	25%	18%	20%
Sow seeds	16%	7%	19%	13%	23%
Grafting	13%	13%	13%	17%	0%
Inventory/record info about plants	13%	14%	12%	17%	7%
Supervising others	13%	29%	0%	14%	13%
Pack and load plants for shipment	12%	0%	15%	9%	18%
Equipment maintenance	9%	13%	7%	5%	25%
Pruning	8%	7%	8%	8%	8%
Operate forklift	8%	29%	0%	0%	29%

Note: Other tasks mentioned include taking and planting cuttings, transplanting, truck driving, greenhouse construction, weeding, label containers, cleaning seeds, water by hand, apply fertilizer, and operate shears. Percentages do not include those who said that "all" tasks were satisfying.

Note: Percentages may not add up to 100 percent because each one is based on the number of persons who performed that particular task.

Figure 33: English Language Ability by Average Hourly Wage

"How well do you understand English?"	Median Wage of Vineyard Workers	Median Wage of Nursery Workers
Not at all	$7.25	$7.25
A little	$8.00	$7.85
Somewhat	$11.35	$8.25
Very well or English is first language	$11.25	$12.90
All Workers	$8.00	$7.58

Figure 34: English Language Ability by Number of Tasks Performed

"How well do you understand English?"	Average Number of Vineyard Tasks Performed	Average Number of Nursery Tasks Performed
Not at all	11.2	8.7
A little	14.8	11.9
Somewhat	16.1	12.4
Very well or English is first language	20.4	6.7

Figure 35: Wage Rate by Number of Tasks Performed

Hourly Wage	Average Number of Vineyard Tasks Performed	Average Number of Nursery Tasks Performed
By Piece or Minimum Wage ($7.25)	11.0	8.1
$7.26 to $9.25	16.1	12.5
$9.26 to $13.99	18.3	13.7
$14.00 or more	18.7	6.2

Figure 36: Child-Care Provision by Gender

	Portion of farmworkers with children five years or less	Of workers with children five years or less, portion who said that they receive child-care services by this provider				
		Head-Start or child care center	Spouse	Other family member	Baby-sitter	None
Women	53%	17%	0%	35%	45%	3%
Men	28%	5%	65%	23%	8%	0%

Note: Refers only to children living with the farmworker in Oregon.

Figure 37: Experience in Other Occupations

	Portion of farmworkers who said that they have experience in this occupation		
	Overall Rate	Main Commodity: Vineyards All (supervisors)	Main Commodity: Nurseries All (supervisors)
Construction	24%	25% (37%)	23% (14%)
Landscaping	24%	18% (26%)	27% (38%)
Cement work	16%	14% (21%)	18% (19%)
Carpentry	7%	7% (21%)	7% (19%)
Automotive repair	7%	3% (11%)	9% (10%)
Electrical	3%	3% (11%)	2% (0%)
Road maintenance	2%	0% (0%)	3% (0%)
Average number of other occupations (of these 7)	0.8	0.7 (1.3)	0.9 (1.0)

Figure 38: Portion of Farmworkers Who Could Take a Training Course during Each Month

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Employed Vineyard workers	27 %	20 %	27 %	22 %	18 %	15 %	14 %	14 %	16 %	17 %	50 %	55 %
Employed Nursery workers	30 %	27 %	30 %	15 %	24 %	29 %	30 %	28 %	29 %	40 %	47 %	43 %
Unemployed farmworkers	58 %	52 %	43 %	39 %	20 %	22 %	20 %	18 %	25 %	42 %	62 %	69 %

Note: The term "employed workers" refers to those who said that they are normally employed in that particular month. The term "unemployed workers" refers to those who said that they were not normally employed in any given month, although they were employed as vineyard or nursery workers during some other months.

Figure 39: What farmworkers said makes a community desirable

Portion of farmworkers who said that the following makes a community desirable:	Total	Men	Women
Close to job opportunities	66%	74%	44%
Friends and family nearby	44%	43%	46%
Calm and peaceful place	38%	38%	39%
Affordable and good housing	28%	28%	29%
Good schools	22%	21%	23%
Natural beauty, nice climate	16%	17%	12%
Community services, child-care	16%	13%	25%
Large Latino community	15%	16%	10%
Local jobs have good wages	14%	14%	15%
Local shopping, familiar products	14%	14%	14%
Accessible, affordable health care	9%	9%	8%
Access to transportation	9%	9%	8%
Community friendly to immigrants	8%	9%	6%

APPENDIX B – Survey Questionnaire

Interviewer reads: "Hi, my name is _____ ." *[Let them respond before continuing.]* **"Do you want to speak in English or Spanish?"** *(Switch to Spanish language survey if necessary.) Ask the following only if you are interviewing at a community site:* **"My first question is, are you currently working in a vineyard or nursery?"** *If so,* **"What is the name?" _____.** *If not, ask* **"Have you worked on a vineyard or nursery for at least 3 months during the past year?"** *If yes*, **what is the name? _____."** *If no, say*, **"Thank you very much, but we are only interviewing vineyard and nursery workers,"** ***and end the survey.***

"First, I'm working on this project for the National Economic Development and Law Center and the Farmworker Institute for Education and Leadership Development, and we appreciate the time you are taking today."

"Your answers will be kept entirely confidential. No part of this survey will be reported in a way that would allow anyone to identify you individually. If at any time you would like to have a question repeated or explained, please ask me. You also have the right to not answer any questions. Some of questions will be about your work life and some about your family life. Most questions are multiple-choice. Your help in this project will make it possible to develop ways to improve agricultural training and employment opportunities in the future."

Individual Survey Identification Codes

Interviewer I.D. Number: _____

Site: (Circle appropriate)
Vineyard Winery Nursery Community site Farmworker camp

Date Interviewed: _____

County: _____

Interview Number: _____

Part 1: Individual Background and Characteristics

1. Worker's gender: _____Male _____Female

2. What is your age? Years:_____
   (or "What year were you born?" _____)

3. In what language do you usually speak to your family:

   1_____mostly English
   2_____both Spanish and English
   3_____mostly Spanish
   4_____Other, including indigenous language (Specify:_____)

4. How well do you understand when someone speaks to you in English?

   1_____not at all
   2_____very little
   3_____fairly well
   4_____very well
   5_____English is my first language.

If English is their first language then ask:

4b. How well do you understand when someone speaks to you in Spanish?

   1_____not at all
   2_____very little
   3_____fairly well
   4_____very well

5. How well do you read and write English?

   1_____not at all
   2_____I can read and write basic words
   3_____I can read a newspaper and I can write fairly well
   4_____I can read and write very well

If English is their first language then skip number six and go to number 7.

6. How well do you read and write in Spanish?

   1_____not at all
   2_____I can read and write basic words
   3_____I can read a newspaper in Spanish and I can write it fairly well
   4_____I can read and write very well

7. How do you best describe your race or ethnicity? _____

8. In what country, state and city were you born?

Country_____

State_____

City_____

9. What is the highest grade in school that you completed? Grade:_____

10. In which country was this? _____

Part 2: Employment History

If born in the U.S., skip to number 15.

11. Did you work in agriculture or nurseries in your country of birth? Yes No

If 'no', skip to number 15.

12. If 'yes', how many years? _____

13. In what capacity did you work in agriculture in your birth country?

1_____self-employed farmer (could include women)
2_____communal land or cooperative member
3_____farmworker
4_____superviser or crew chief
5_____agribusiness

14. In what crops did you work in your birth country?

_____

15 How many years have you been working in agriculture or nurseries in the U.S.?

Number of Years _____

16 Besides agriculture, have you ever worked in:
CHECK if YES

1_____construction
2_____carpentry
3_____cement work
4_____electrician
5_____auto mechanic work
6_____road maintenance
7_____yard work, landscaping

17. How long have you been in your present job?

1_____ years OR ____months (*only use months if less than a year*)
2_____ it's temporary

18. How did you get your present job?

1_____I applied on my own
2_____A friend or relative working here told me about the job.
3_____I was recruited by a foreman/crew boss.
4_____Labor contractor
5_____Other (Specify): _____

19. In which months of the year are you usually employed doing nursery or agricultural work in the U.S.? **[*Interviewer reads list of months and circles all that apply*:]**

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

[If they circled all 12 months, then skip to number 21.]

20. What is the reason or reasons that your periods of employment usually end? (Check **all** that apply):

1_____season changes and work cycles end, such as winter time
2_____other employers already have enough workers
3_____no transportation available to get to and from other job locations
4_____pay is too little
5_____I sometimes cannot work any longer because of other responsibilities
6_____Other reasons: (please specify and explain): _____

If has been employed at same place more than one year, SKIP to question 24.

21. "How many different companies or employers have you worked for during the past year, within agriculture and nurseries?"

_____

22. During the past year, how often did you work for a farm labor contractor?

1_____Not at all
2_____Seldom
3_____About half of the time
4_____All of the time

23. If your job is temporary or short-term, please describe your typical work year by place and crop. If the place is somewhere other than here, please indicate <u>if you commute each day</u> from here <u>or if you change your residence</u> to work on that crop.

Month	**Place (Area, State, Country)**	**Industry, Crops or Task**
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

<u>Part 3: Crops and Tasks</u>

24. [***List above may help you complete this more quickly.]*** **"**On how many different **<u>crops</u>** do you usually work in during the year?"

(CHECK ALL THAT APPLY)

1_____Wine grapes
2_____Table grapes
3_____Raisin grapes
4_____Nurseries
5_____Greenhouses
6_____Bare root roses
7_____Christmas trees
8_____Reforestation
9_____Grass and sod
10____Hops
11____Onions
12____Squash
13____Sugar beets
14____Other Vegetables _____
15____Cherries
16____Apples
17____Other tree fruit
18____Strawberries
19____Other berries
20____Melons
21____Other fruit _____
22_____Dairy
23_____Other(s) (Please list): _____

25. How many different kinds of **tasks** in agriculture do you usually do during an average year? **(CHECK ALL THAT APPLY)**

Wine Grape Tasks

1_____pruning	11____harvest grapes – cut fruit	21____trellis installation
2_____pulling brush	12____supervise harvest	22____irrigation installation
3_____tying vine	13____sort grapes	23____tractor operation
4_____dis-budding	14____stacking & packing	24____mowing
5_____suckering	15____bottle wine	25____in-row cultivation
6_____lift catch-wires	16____label bottles	26____hoeing
7_____shoot positioning	17____clean winery equipment	27____spraying
8_____leaf removal	18____plant new vines	28____planting cover crop
9_____thinning grapes	19____train new vines	29____caging gophers
10____hedging (mechanical or by knife)	20____grafting	30____other, specify: _____

Nursery Tasks

1___sowing seeds	12___treating weeds, pests and diseases	22___tying & bundling
2___spacing and thinning	13___non-chemical treatment of weeds & pests	23___pack plants for shipment
3___weeding	14___mixing pesticides	24___operate tiller
4___taking and planting cuttings	15___soil preparation	25___operate pumps
5___pruning	16___soil testing and amending	26___operate shears
6___grafting	17___install and manage irrigation system	27___equipment maintenance
7___transplanting and repotting	18___greenhouse construction	28___tractor driving
8___label pots	19___test and maintain greenhouse conditions	29___truck driving
9___record information about plants	20___composting	30___operate forklift
10__watering	21___feed plants/apply fertilizer	31___supervising
11__seed cleaning		32___training other workers
		33___other (Specify) _____

Other agricultural tasks. Please specify _____

_____

26. Do the tasks of your work vary greatly throughout the year? If so, about how many weeks per year do you work doing what you are presently doing?

1____Work does <u>not</u> vary greatly
2____Does vary - Number of Weeks _____

27. How many years have you done the type of agricultural tasks that you doing now?

Number of Years _____

<u>Part 4: Job Skills and Job Advancement</u>

28. Of all the tasks you listed above, what makes you the most satisfied?

Crop_____ Task_____

29. Have there been times when a job or task in agriculture or a nursery was available, but you did not accept it because you did not know how to perform the tasks of that job?

_____No_____Yes (**If Yes**, please explain kind of crop and task):
Crop_____ Task_____

30. Considering the different types of agricultural tasks and jobs you have done in the past two years, which task would be the hardest for an inexperienced person to learn?

Crop_____ Task_____

31. If an inexperienced person needed to learn to do that difficult task well, how much time do you think it would take them?

1_____ 2 to 3 days
2_____ more than 1 week
3_____ one month
4_____ at least 3 months
5_____ at least a year
6_____other:_____

32. What is it about that task that makes it more difficult to do than others? *(check all that apply)*

1_____ It is very complex or has many steps to remember

2_____ It is dangerous. Specify _____

3_____ It is tiresome and hard on one's body

4_____ Other _____

33. If an inexperienced person needed to learn ALL of the tasks that you do, how much time do you think it would take them?

1_____ 2 to 3 days
2_____ more than 1 week
3_____ one month
4_____ at least 3 months
5_____ at least a year
6_____other:_____

34. How did you learn how to do the kind of work that you are presently doing? Was it through a course, a mentoring process, or some other process?

1_____Through a course

2_____I had a mentor
The mentor was***: [circle all that apply]***
Supervisor Co-worker Manager
Other _____

3_____Other process _____

35. If you would want to take on more leadership and responsibilities in your current job, are there opportunities to do that?

YES NO

36. Consider what makes a job desirable to you. For example, how do you decide if you want to take one job instead of another one? Please listen to all of the following characteristics and then state the first and second most important criteria for you.

_____If you liked the work tasks
_____If it was stable
_____If there was opportunity to advance in job
_____If it had good health care benefit
_____If it had good pay
_____If you had a good relationship with the supervisor
_____If it had on-the-job training to learn new tasks
_____Other. Please specify _____

37. Please rank the most desirable crops or types of nurseries to work in. What would you like to work on?

1._____ 2._____ 3._____

Part 5: Foremen, Supervisors and Specialists

[The next set of questions is for foremen, supervisors or specialists only. If not a supervisor or specialist, please skip to Part 6 (question 43).]

38. What is your title or specialty? _____

39. How long did it take you to reach your current level of supervision or specialty?

1_____ 3 months
2_____ one year
3_____ three years
4_____ five years
5_____ ten years
6_____other:_____

40. In order to advance and reach your current level, did you advance up through the same company or did you have to switch companies in order to advance?

1_____ Advanced up in the same company

2_____ Had to switch companies in order to advance

41. What is the most important skill or skills needed in order to perform your work?

_____

42. What advice would you have for an entry-level or non-supervisory person who might wish to advance in this industry? ***(check all that apply)***

1____ Communicate what you know how to do
2____ Attend agricultural courses through a training program or college
3____ Be open to learning new skills.
4____ Ask questions when you don't know how to do something
5____ Other _____

Part 6: Training and Future in Agriculture

43. Have you ever participated in a training or education course in agriculture or nurseries?

1_____Yes
2_____No

If yes, please explain what and where:
_____
_____

44. Do you intend to continue to work in agriculture or nurseries?

1_____Yes, almost certainly
2_____Probably yes
3_____Maybe
4_____Probably not ***[Skip to next section, number 50:]***

45. Would you like to receive courses to learn more agricultural tasks and advance within your field?

1_____Yes
2_____No
3_____Not sure

[If 2 or 3, please skip to next section]

46. What types of education or training are you interested in receiving? (***check all that apply)***:

1_____Supervisor or crew leader training
2_____Quality inspection
3_____Machinery and equipment operation
4_____Forklift certificate course
5_____Pest management
6_____Pesticide Applicator license course
7_____Organic production
8_____Irrigation management
9_____Other Agricultural or nursery training,
Please specify what: _____
OR crop_____
And tasks_____
10____English (as a second language)
11____Computer

47. During which months would it be easiest for you to attend training courses related to agriculture?

(**CIRCLE ALL THAT APPLY):**

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

48. What time of day would be the easiest for you to attend training course? (Check all that apply)

Morning Afternoon Evenings Weekends only

49. Would you need child-care, transportation, or other assistance in order to attend a training course?

1___ Child-care
2___ Transportation
3___ Other _____
4___ Neither

Part 7: Pay & Compensation

50. On average, about how many hours do you work each day for your current job? If it varies throughout the year, please explain.

_____

51. On average, how many days per week are you working now? _____

52. Some jobs pay by the hour and others piece rate by unit – such as a box or bucket. How are you paid in your current job?

1_____I am paid hourly at $_____ per hour
2_____I am paid piece rate at $_____ per piece rate. The piece rate unit (bucket, bin, etc.) is _____, and I generally make $_____ in an average day.
3_____I am paid both hourly and by piece rate – please fill in the amounts above.
4_____Other. Please specify _____

53. About how much did you earn during the last 12 months?

Amount earned in all agriculture or nursery jobs $_____
Amount earned in non-farm and non-nursery work $_____

54. How many people, here or elsewhere, do you support with your earnings? _____

Part 8: Family Work Experience

55. If married or with a partner, are they living with you here?

0_____Not applicable, not married (***SKIP TO QUESTION 58***)
1_____Yes
2_____No

56. Are there times during the year when he (or she) works together with you?

1_____Yes
2_____No

57. During which months, if any, are you and your spouse separated in order for one of you to find work?

(CIRCLE ALL THAT APPLY):

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

58. Do you have children? **(Note: May check both #1 and #2)**

1_____Yes, living with me now here.
Please list their ages: __ __ __ __ __ __ __.
2_____Yes, but they are in another part of Oregon, in another state or another country.
Please specify where_____
3_____No (***SKIP TO Part 9, QUESTION 63***)

59. Do any of your children normally work with you in farm work during any period or season of the year?

1_____Yes
2_____No

60. Who takes care of your children when you are working? (Check all that apply.)

1_____Spouse
2_____Other family member. Please specify: _____
3_____Friends or a babysitter
4_____Head Start
5_____Child-care center
6_____In school
7_____Other. Please specify _____

61. Are there times during the year when you are not able to work because you are at home taking care of your children?

1_____Yes
2_____No (**Skip to Part 9, number 63)**

62. During which months do you stay home because you need to care for your children?

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Part 9: Work Logistics, Barriers, and Support Services

63. How do you usually get to and from work?

1_____Walk or bicycle
2_____I drive my own vehicle
3_____I carpool with other workers
4_____I pay someone for transportation
5_____My employer picks me up
6_____Public transportation
7_____Live on-site
8_____Other (Specify):_____

64. During the past three months, how many days of work, if any, did you miss because you did not have transportation?

_____day(s) of work missed

65. During the past three months, how many days of work, if any, did you miss because of sickness or injury?

_____day(s) of work missed

66. How do you and your family usually find health care when injured or sick?

1_____Health insurance paid by employer
2_____Migrant or community health center
3_____Emergency room at a hospital
4_____Private doctor office
5_____Don't usually access health care
6_____Other. Please specify _____

67. Are there any agricultural tasks that you used to do that you can no longer do, because of injury or sickness?

Yes No
If 'yes', please list one of those agricultural tasks? _____

Part 10: Community Attributes

68. Where do you consider to be your home – your primary residence?

1. ____Here in the town/county of _____
2. ____In another region of this state. Specify _____
3. ____In another state. Specify _____
4. ____Other. Specify _____

[If elsewhere (2,3, or 4) skip to number 70. But if (1), "Here in this county," then:]

69. What causes you to live where you are living? Why do you live where you do and not the next town or county over? Please state the most important thing that draws you to stay here:

_____

What is the second most important thing?

_____

If the person can not think of one or two criteria, please read the following list for them and then ask them to rank the two most important criteria:

"If the place has …"

____ Work opportunities
____ Good wages
____ Good community services
____ A network of farm workers
____ Friends and family here
____ Large Latino community
____ Church I am used to
____ Community is friendly to immigrant families
____ Familiar food and groceries
____ Good schools
____ Public transportation or ways to get around
____ Access to child-care
____ Good and affordable housing
____ Access to health care
____ Bilingual programs in schools
____ Natural beauty and clean air and water
____ Other _____

[Go on to question 71.]

70. [*If a temporary resident in this county]* "Why don't you live here? What things would make this community more favorable for you and your family to live here year round? Please listen to this list and respond 'yes' only to the things that are very important to you and would make you live here if things were different." (*check all that apply)*

____ Year-round work opportunities
____ Better wages
____ Better community services
____ Stronger network of farm workers
____ More friends and family here
____ More familiar food and groceries
____ Larger Latino community here
____ More church services in Spanish
____ Community to be more friendly to immigrant families
____ Better schools
____ More bilingual programs in schools
____ Better access to child-care
____ Better and more affordable housing
____ More access to health care
____ More public transportation or ways to get around

"Please list the two most important attributes." **[Place a '1' by the most important one and a '2' by the second most important.]**

71. And, finally the last question. Understanding that this is a confidential questionnaire that will not be shared with any employers or government agencies, please best describe your immigration status:

1____Citizen of the United States
2____Legal resident of the United States with a valid green card
3____Working here without papers

Thank you for your time and participation.