Implications of Reform in Federal Guest Worker Legislation for Farm-Level Returns

By Mark W. Wester, Suzanne D. Thornsbury and Fritz M. Roka

Abstract

Labor expense and availability are critical determinants of net returns from produce. Federal guest worker programs provide opportunity to hire temporary nonimmigrant workers in times of shortage. Comparison of farm-level returns using traditional hiring practices with current H-2A legislation and a proposed reform indicates both programs may increase harvest expenses.

Introduction

Among multiple factors that influence the value of agricultural land, net income has been shown to be one of the major determinants (Reynolds and Timmons). The income capitalization approach to property appraisal assesses the present value of expected future net income to land, including consideration of both revenue and the expenses necessary to produce income, maintain, and manage the property. In practice, current and recent past net returns are often used to project future income streams and the value of land is calculated as average annual net returns divided by an appropriate capitalization rate.

When determining production expenses, the cost of labor is of primary importance for returns to many produce items. Per acre costs are high relative to traditional agricultural commodities such as corn or soybeans, and harvesting costs normally represent a significant proportion of the total labor expense. In 1999, labor ranged from 7.6 to 10.5 percent of total costs for the feed grain commodities reported in Table 1. In contrast labor ranged from 26.5 to 42.3 percent of total cost in the produce commodities. Harvest labor expenses were over 30 percent of total cost for production of both oranges and grapefruit.

Mark Wester is a student in the Food and Resource Economics Department at the University of Florida, specializing in Agribusiness Management. He is also the co-owner of a citrus grove caretaking business in Ft. Pierce, Florida. This research was undertaken in cooperation with the University of Florida's Scholars Program.

Suzanne Thornsbury is Assistant Professor in the Food and Resource Economics Department at the University of Florida. She received her M.S. and Ph.D. degrees in Agricultural and Applied Economics from Virginia Polytechnic Institute and State University. Research interests include agricultural policy and competitiveness.

Fritz Roka is Associate Professor in the Food and Resource Economics Department at the University of Florida. He received his M.S. in Agricultural Economics from the University of Maryland and his Ph.D. in Economics from North Carolina State University. Research and extension interests include farm management and agricultural labor.

Table 1. Estimated Labor Costs for Selected Commodities, 1999

Commodity	Total Cost	Total Labor Cost	Labor as a Percent of Total Cost	Harvest Labor Cost	Harvest Labor as a Percent of Total Cost
	$/acre	$/acre	%	$/acre	%
Wheat	200.38	20.95	10.5	n/a	n/a
Corn	367.06	33.26	9.1	n/a	n/a
Soybeans	252.27	19.29	7.6	n/a	n/a
Tomatoes	11507.12	3053.89	26.5	1190.00	10.3
Green Peppers	10439.85	3192.08	30.6	1760.00	16.9
Strawberries	18831.84	5242.19	27.8	4642.00	24.6
Oranges	2313.48	979.62	42.3	907.20	39.2
Grapefruit	2676.82	940.07	35.1	867.65	32.4

Sources: Wheat: Kansas State University "Farm Market Guide" MF-572, October 2000
Corn and Soybeans: "Indiana Agricultural Statistics," 2000-2001
Tomatoes, Green Peppers, and Strawberries: "Production Guide for Selected Vegetables in Florida," UF/IFAS, 2000
Oranges: "Budgeting Costs and Returns for Southwest Florida Citrus Production," UF/IFAS, 1999/00
Grapefruit: "Budgeting Costs and Returns for Indian River Florida Citrus Production," UF/IFAS, 1999/00

In addition to labor expense, the availability of an adequate labor force at critical harvest times has a significant impact on produce returns. With a shortage of labor, producers may be unable to supply product for peak markets resulting in lost income and potentially lost jobs in subsequent seasons. Even for nonclimacteric crops, which can be held in the field for a longer period of time compared with other produce items such as tomatoes or strawberries, the marketing window that offers positive returns is often limited.[1]

Traditionally harvest workers have been recruited from either a domestic or immigrant workforce on a day-to-day basis to perform specific tasks. A tight U.S. labor market in recent years has increased pressure on agricultural producers trying to hire harvesters with valid work permits. A steady stream of new immigrants from Mexico and Central America provides one source of labor but according to the 1999 National Agricultural Worker Survey (NAWS), more than 50 percent of these new immigrants are working without legal INS documentation. Although employers are currently only responsible for determining that the legal documents of immigrant workers have the reasonable appearance of legitimacy, the potential for falsified papers introduces additional legal risks and heightened probability of losing workers at a critical time.

Current federal guest worker legislation, designed to prevent labor shortages in agriculture during critical periods such as harvesting, was passed as a section of the Immigration Reform and Control Act of 1986. Temporary nonimmigrant agricultural workers would be allowed to enter the U.S. under a status designated H-2A.[2] Many potential employers of foreign workers, however, found implementation of the current program too time-consuming and costly to be successful. In subsequent years, modifications have been made to the current H-2A legislation in an attempt to alleviate employers' concerns but still fewer than 45,000 H-2A workers were certified in 1999/00 (U.S. DOL). Labor advocates counter that agricultural employers should increase wage rates to attract additional domestic and immigrant workers in lieu of any guest worker program. The political debate continues as representatives for both employers and workers lobby for reform.

Albeit rarely used, federal guest worker legislation has provided an alternative to domestic and immigrant workers for U.S. agricultural employers. The purpose of this paper is to examine the impact of current federal guest worker programs and a recently proposed reform on net returns to employers of seasonal agricultural workers. More specific objectives are to analyze provisions of the cur-

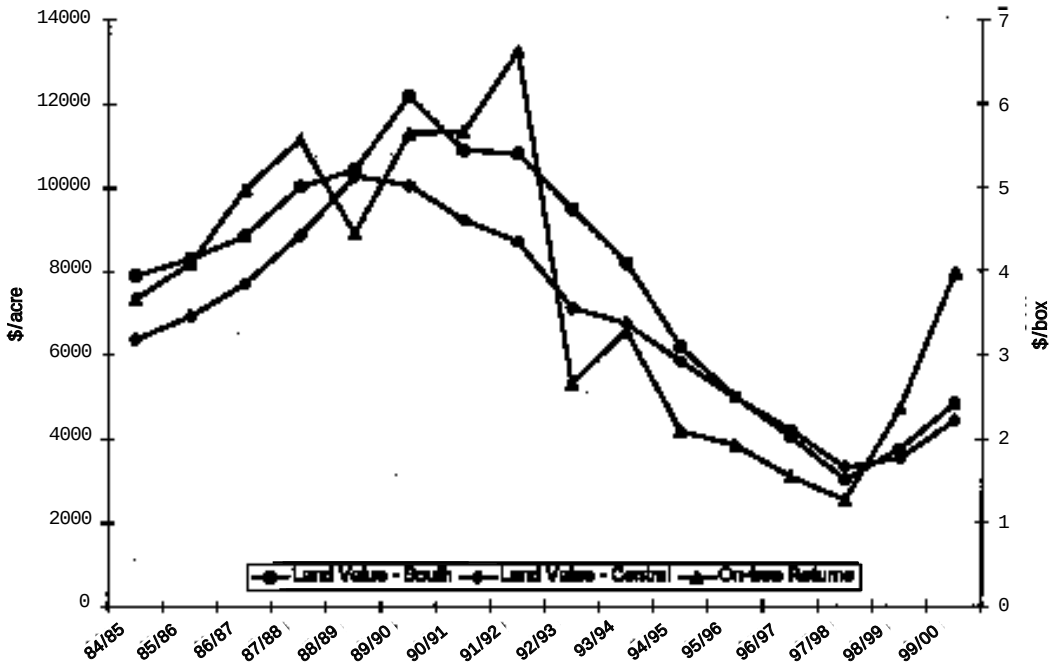


Figure 1. Estimated Annual On-Tree Returns for Florida Grapefruit Producers and Agricultural Land Values for South and Central Florida Grapefruit Acreage, 1984/85-1999/00

Sources: USDA Fruit and Tree Nut Situation and Outlook; Reynolds and Deas

rent H-2A program, to examine the reforms proposed in the Agricultural Job Opportunities Benefits and Security Act of 1999 (AgJOBS), and to compare the harvesting expenses for a representative employer under both legislative programs with those from more traditional hiring practices.

Conceptual Framework

The Florida Land Value Survey has colleted data on the value of agricultural land by geographic area and type of land use annually since 1984 (Reynolds and Deas). Survey respondents include rural appraisers, farm lenders, real estate brokers, farm managers, land investors, county extension agents, Farm Services Agency and Natural Resource and Conservation Service personnel, and county property appraisers. Included in the Southern Region is the Indian River District, a narrow strip of land on the east coast of Florida that stretches 200 miles from Daytona Beach in the north to West Palm Beach in the south and produces approximately 40 percent of world grapefruit. According to survey results, the estimated farmland value for grapefruit acreage in the south Florida during May 2000 was $4,824 per acre.

In this analysis, an Indian River grapefruit grower is used to demonstrate the potential impact on net returns from replacing traditionally hired harvest workers with guest workers. Unlike many produce industries, there can be significant costs associated with exit from tree-crop production, limiting growers' season-to-season ability to adjust production levels. Growers may chose to abandon or not sell the crop for economic reasons but leaving a crop on the tree will have detrimental impacts on crop quantity and quality in subsequent years, so growers may choose to pick the fruit, incurring the cost of harvesting, but never deliver it to market. In low price periods, harvest and handling costs can exceed market price, thus the equivalent on-tree price and corresponding grower returns take on negative values.

Historically, grapefruit is a commodity that has undergone periods of over-production

Table 2. Estimated annual cost and returns for a representative Indian River grapefruit grower* 1999-2000

Item		Annual Cost
		----$/acre----
Revenue (delivered-in)**	469 boxes @ $7.78/box	3648.82
Grove Care Expenses		
Weed Contro		211.91
Spray Program		322.08
Fertilizer		106.44
Dolomite		11.57
Pruning	(maintenance)	55.48
Tree Replacement and Care	(1-3 years)	74.19
Micro Sprinkler Irrigation		134.55
Drainage Ditch Annual Cost		35.25
Total Grove Care Expenses		951.47
Management	$4.00/month	48.00
Harvest and Assessment Expenses		
Picking		281.40
Roadside and Haul		586.25
Fruit Drenching		70.35
DOC Assessment		152.43
Total Harvesting and Assessment Costs		1090.43
Interest on Average Capital Investment		389.85
Interest on Operation	(cultural costs)	47.57
Taxes and Regulatory Fees		149.50
Total Delivered-In Costs		2676.82
Net Gain/Loss		972.00

* mature white seedless grapefruit grove producing for the fresh fruit market
** "delivered-in" refers to fruit delivered to the packinghouse. Price is preliminary assuming average of all methods of sale (fresh and processed) with 65 percent of fruit harvested packed fresh
Source: Muraro, Hebb, and Stover

intermittently disrupted by freeze events resulting in severe supply disruptions. As a result, the grapefruit industry has demonstrated classic economic price and production cycles (Thornsbury and Spreen). Like returns to production, grapefruit land values have followed a cyclical pattern (Figure 1). Between 1984/85 and 1999/00 the correlations between equivalent on-tree returns for Florida grapefruit and land values for grapefruit acreage in the south and central regions of Florida were 0.843 and 0.825, respectively.

In 1999/00 using traditional hiring practices, total harvesting and assessment costs were estimated at $1090.43 per acre and one acre of white seedless grapefruit returned $972.00 per acre to the grower before packinghouse expenses including packing, shipping, and the cost of eliminations were incurred (Table 2). Fruit may be sold by the grower to a shipper as either a cash sale (where the buyer assumes the market price risk) or in a participation arrangement (where the grower retains the price risk and pays the buyer a fixed marketing fee). The percentage of packinghouse expenses incurred by the grower varies as determined by individual contractual arrangements.[3]

Federal H-2A Legislation

Federal guest worker programs were originally established when Congress authorized a temporary program that brought in 77,000 workers from Mexico to alleviate labor shortages created during World War I. Under similar circumstances, the "Bracero" program was

enacted during World War II. In 1952 the Immigration and Nationality Act was passed which officially created the category of temporary guest workers for agriculture known as H-2. While there have been some modifications in the program since its inception, the goal of guest worker legislation has remained the same: to provide foreign workers on a temporary basis in the event of a critical labor shortage in the U.S. while protecting the jobs and wages of U.S. workers (Hyman and Roka).

Current federal legislation allows potential employers to request nonimmigrant workers from foreign countries under the auspices of the Immigration Reform and Control Act of 1986.[4] Requestors must file an application with the U.S. Department of Labor [DOL] at least 45 days before the anticipated date of need providing proof of an unsuccessful search for domestic workers. Potential employers pay a fee of $100 for H-2A certification plus $10 for each job opportunity, not to exceed a total of $1000. Workers sign a contract for a prespecified length of time and are guaranteed compensation for at least 75 percent of the total period. To prevent lowering a community's wages through the importation of foreign labor, H-2A workers must be paid the higher of the federal minimum wage, the state minimum wage, the Adverse Effect Wage Rate [AEWR] or the local prevailing wage rate [LPWR]. The AEWR is set by the federal DOL equal to the regional average hourly earnings of field and livestock workers. The LPWR is set by the state DOL based on a survey of wages in pre-determined geographic areas and job categories. Employers must provide their guest workers with reimbursement for transportation and living expenses incurred as they travel from their home countries, transportation to and from work, and furnished housing at no charge during the period of the work contract. H-2A workers are not eligible for Social Security, Medicare, federal or state unemployment benefits.

In the debate over federal guest worker legislation, many agricultural employers argue that legislative provisions make the use of H-2A workers impractical and cost prohibitive. Objections can be broadly classified as lack of timeliness, potentially increased total wage bill, raised housing expenses, and increased regulatory burden. The H-2A program is considered too time-consuming and unresponsive given weather impacts and price variability associated with agricultural production. With many crops it can be difficult or impossible to pinpoint the exact date of need at least 45 days in advance. Additionally, the amount of paperwork that must be completed is criticized as excessive.

A more easily quantifiable second set of objections to the H-2A program by potential employers includes both the hourly rate paid to workers and the total number of hours included in the wage bill. The AEWR is defined as the regional average hourly earnings of all field and livestock workers with no distinction among job categories or worker skills. In 2000, the AEWR was set at $7.25 per hour for Florida, considerably higher than the comparable federal minimum wage rate of $5.15 per hour. If employers do hire any H-2A workers, they must pay all workers employed in the same petitioned occupation (i.e.: harvester) a wage equivalent to that the H-2A workers receive. If there are no changes in productivity, wages per unit of product harvested will increase.

H-2A provisions regarding the number of workers and the length of time they must be paid also contribute to employer concerns over the total wage bill. Current legislation states that an employer must hire any qualified domestic applicant who applies for a job before 50 percent of the H-2A contract has been completed even if no more help is needed. Employers must guarantee that each worker will have the opportunity to earn 75 percent of the total wage specified in the contract irregardless of job completion date. Again, risks of crop destruction from unexpected weather events or market price changes that decrease returns below harvesting costs can make this an onerous requirement for agricultural employers.

The requirement to provide furnished worker housing is considered to be cost prohibitive by many employers who are not normally responsible for housing domestic workers. If an operation does not own or have access to existing worker housing, rental property may be limited, and cost of building and maintaining furnished worker housing can be very high. Obtaining the necessary permits to build can cause significant delays in addition to the normal time constraints associated with new construction.

Finally the H-2A program contains numerous regulations that allow for increased government oversight compared to that which would otherwise exist. For example, in Florida,

the Occupational Safety and Health Administration [OSHA] must approve any housing for guest workers before occupancy. After the initial OSHA inspection, the Florida Department of Health and Rehabilitation Services [HRS] conducts monthly inspections to be certain that the housing continues to meet acceptable standards.

Partially offsetting costs associated with employing H-2A workers are some direct cost savings. Guest workers are not eligible for Social Security, Medicare, federal or state unemployment benefits and therefore employers are not required to pay any money towards these funds. In 1999 savings on Social Security and Medicare are estimated as 7.65 cents per dollar of wages. Savings on federal unemployment tax would be an additional 0.8 cents per dollar up to $7000 of each worker's annual salary. State unemployment tax savings will vary according to the claim history against individual employers up to a maximum contribution of 5.4 percent. Employers do continue to pay workman's compensation for guest workers and taxes paid for domestic workers may increase if their salaries are increased to meet the AEWR.

In addition there are non-cash benefits to the H-2A program that could improve grower returns. The program provides a steady source of workers to employers at a time of critical need. Legal risks associated with hiring undocumented workers are removed when responsibility to verify the eligibility of workers rests with the DOL instead of employers. Under H-2A, employers are able to be more specific in choosing the type of guest worker (age, sex) hired compared with employing domestic workers providing the potential for increased skills. Productivity among harvest workers is highly variable depending on skill level. A 1999 survey of 31 orange harvest crews and 21 tomato harvest crews representing over 2100 Florida workers found 24.7 and 14.4 coefficients of variability in boxes picked per hour, respectively (Roka and Emerson). A similar 1996 survey of apple harvesters in New York found that H-2A workers picked 15.54 units per hour on average compared to 12.95 units picked by local workers (permanent nearby residents) and 14.41 units by domestic migrants (U.S. residents who change location seasonally) (Maestro-Scherer, Maloney, and Schwager).

Agricultural Job Opportunities Benefits and Security Act

In response to concerns by both employer and worker advocates over current H-2A legislation a number of reforms have been proposed; one of the most recent being the Agricultural Job Opportunities Benefits and Security Act of 1999 (AgJOBS) introduced to the United States Senate on October 27, 1999 by a bipartisan group of senators including Senator Gordon Smith (R-OR) and Senator Bob Graham (D-FL). Despite assertions by proponents of the bill that it would resolve the primary concerns of agricultural employers and provide needed jobs to foreign workers, Ag JOBS was allowed to expire at the end of the legislative session. The last major action took place on May 4, 2000 when hearings were held in the Senate Judiciary Subcommittee on Immigration; however, the provisions of Ag JOBS continue to be included in discussions of legislative reform.

Timeliness in hiring and the ability of domestic workers to find jobs are addressed through the establishment of a job registry slated to be maintained by the DOL for domestic workers seeking employment in agriculture. Before employers could hire guest workers, they must check the registry for available domestic workers. This provision would also replace the 50-percent rule since employers could reject any worker who was not found in the job registry at the time of their application (Hyman and Roka).

Significant changes were proposed under AgJOBS for the calculation of wages. Procedures for calculating the AEWR are revised to equal the local prevailing wage for specified categories as determined by the state employment security agency plus five percent rather than the currently used regional average hourly earnings of field and livestock workers. In addition, the prevailing wage can be expressed in various ways including an hourly rate, piece rate, task rate, or other incentive payment method, including a group rate. Employers do not have to calculate total wages in the same units that prevailing wage rate is expressed but they must demonstrate that their method of payment will produce equivalent earnings. AgJOBS would allow employers to define categories within their organizations, which would have different prevailing wages as is the case in traditional hiring practices, allowing employers to reward workers with higher skill levels. Finally AgJOBS provides no length

of contract guarantee to guest workers permitting employers to pay the workers only for the time that they are actually needed even if the original contract specified a longer period.

Under AgJOBS, employers would no longer be required to provide housing but would have the option of providing guest workers with vouchers to secure their own housing. Any employer could use vouchers in lieu of housing for up to three years. At the end of three years, the governor of each state must certify that there is adequate housing in the area of employment for migrant workers. If the governor does not provide certification, employers would be required to provide their own housing within one year in order to continue hiring guest workers.

Results

As shown earlier in Table 2, harvest labor cost for pickers is $281.40 per acre under traditional hiring practices, the prevailing wage for picking grapefruit of 60 cents per box, and average productivity of 12 boxes per hour. At an equivalent level of productivity (12 boxes per hour) and the AEWR of $7.25 per hour, harvest labor costs for that same acre of grove under the existing H-2A program are estimated to be $283.33, an increase of $1.93 per acre or less than one percent. Further adjustments to costs for program administration, housing, supervision, and taxes are indicated in Table 3.

Administrative H-2A costs include worker transportation from the home country, living expenses during travel, application and processing fees for an initial outlay of $400 per person. Based on average productivity a worker would harvest approximately 11,400 boxes per season (24.37 acres) and program administration costs equal $16.42 per acre. Estimated housing construction costs for an operation that harvests one million boxes of fruit per year (approximately 2130 acres of grove) is $250,000. Assuming that the employer finances construction costs for 20 years at 10 percent, the annual principal and interest due is $28,950. Additionally the cost of insurance for housing is calculated as $1,750 per year. The annual housing cost is $14.40 per acre or 3.1 cents per box without consideration of annual property taxes which are highly variable depending on location even within the Indian River region.[5] Housing under H-2A must be furnished according to OSHA approved guidelines with an estimated cost of $215 per worker, or $8.79 per acre at average yields.

To reduce the potential for fines or lawsuits, employers who implement the H-2A program often find enhanced supervision necessary to assure compliance with added regulations and to provide necessary services to workers. On average, one new supervisor would be required for every 115 workers (approximately 2800 acres at average productivity) for an estimated cost of $33,500 or $11.96 per acre. Increased taxes bring the cost for additional supervisory pay to $13.03 per acre. Employers who utilize the H-2A program avoid the employer's share of taxes on their guest workers. The $281.40 per acre

Table 3. Estimated harvesting costs for a representative Indian River grapefruit grower using traditional hiring practices and alternative guest worker programs, 1999-2000

	Hiring Program		
	Traditional	H-2A	AgJOBS
	----------$/acre----------		
Non-labor Harvesting and Assessment	809.03	809.03	809.03
Harvesting Wages	281.40	283.33	295.47
Housing Expense	0.00	14.40	29.68
Furnishing Expense	0.00	8.79	0.00
Reduction in Employment Taxes	0.00	-31.38	-31.38
Supervision for Guest Worker Programs	0.00	13.03	8.69
Administrative Program Expense	0.00	16.42	16.42
Total Harvesting Costs	1090.43	1113.62	1127.91
Difference Compared to Traditional Hiring Practices	0.00	23.19	37.48

Source: Muraro, Hebb and Stover and author's calculations

wage under a traditional hiring program yields $21.53 savings in Social Security and Medicare taxes. Savings of $2.25 and $7.60 are generated from reduced federal and Florida unemployment taxes, respectively. The total reduction in unemployment taxes is $31.38 per acre.

The total increase in harvesting and assessment costs for the representative grapefruit grower hiring workers under the current H-2A legislation is estimated to be $23.19 per acre or approximately $0.05 cents per box. Not surprisingly, only a limited number of Florida citrus growers have used the current H-2A program. Prior ownership of housing and the increased certainty of having labor available at critical times were prominent factors in the decision when nonimmigrant workers are employed.

While the scope of this analysis is limited to the grapefruit industry, producers of other commodities who implement a guest worker program would face the same legislative requirements. Although less than 45,000 H-2A workers were hired nationally in 1999/00, there are limited commodities and locations where the program has been more widely utilized. A 1996 survey of 81 apple farms in N.Y. state indicated that 28 percent were using H-2A workers, primarily in the Hudson Valley region, while growers in Western New York still relied primarily on traditional hiring practices (Maestro-Scherer, Maloney, and Schwager).

Harvest labor expenses for the representative grapefruit grower are similarly compared under the proposed AgJOBS legislation. Using 105 percent of prevailing wage as required, the minimum wage for harvesting grapefruit under Ag JOBS is $0.63 per box. With no changes in productivity, initial labor costs for picking increase by $14.07 per acre compared to traditional hiring practices and $12.14 per acre compared to wages currently mandated by H-2A.

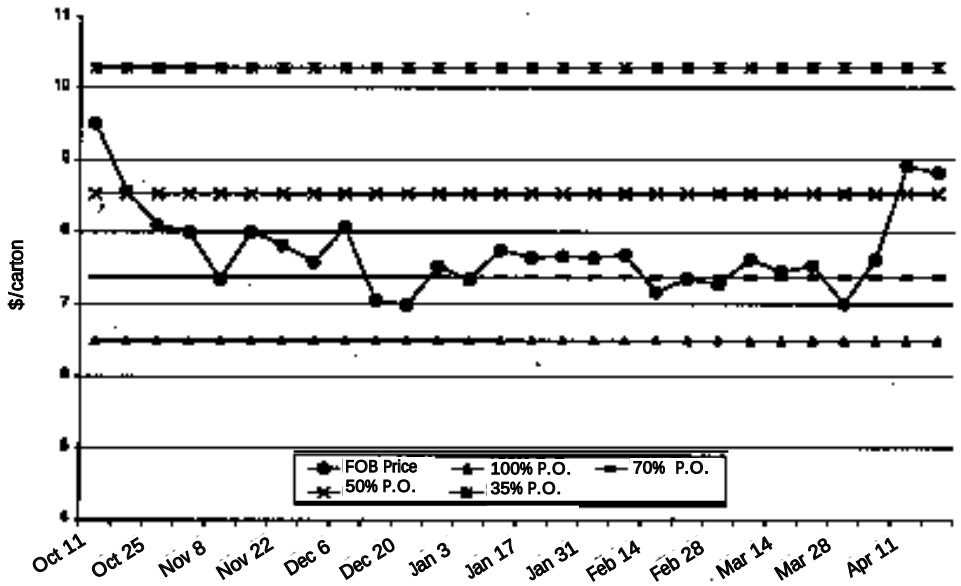
Under AgJOBS employers are required to either provide housing for their guest workers or give housing vouchers "equal to the statewide average fair market rental for existing housing for non-metropolitan counties for the State in which the employment occurs, as established by the Secretary of Housing and Urban Development…based on a 2-bedroom dwelling unit and an assumption of two persons per bedroom" (Thomas Legislative Information). The allowance for Florida in 2001 is $481 per unit per month. Based on average productivity, one worker would harvest 24.37 acres in approximately 950 hours (six months based on 20 eight-hour workdays each month). Estimated housing cost is $29.68 per acre or $0.06 per box. In contrast to current H-2A legislation there is no requirement for a large down payment for housing purchase or construction and no requirement to provide furnishings for rented housing. Like H-2A, increased supervision is needed to administer the program but without the need to oversee housing, the ratio is estimated to be one supervisor to 175 workers for a cost of $8.48 per acre. Tax savings and initial outlay are computed identically to the values under the current H-2A program.

Direct harvesting costs increase $37.48 per acre or $0.08 per box for the representative employer depicted here, using the AgJOBS program as it was proposed in 1999 when compared with traditional hiring practices. Yet specific provisions including housing requirements, the job registry, a more flexible wage structure, and potential for increased timeliness offer added incentives for employing guest workers that might offset some of the increased costs.

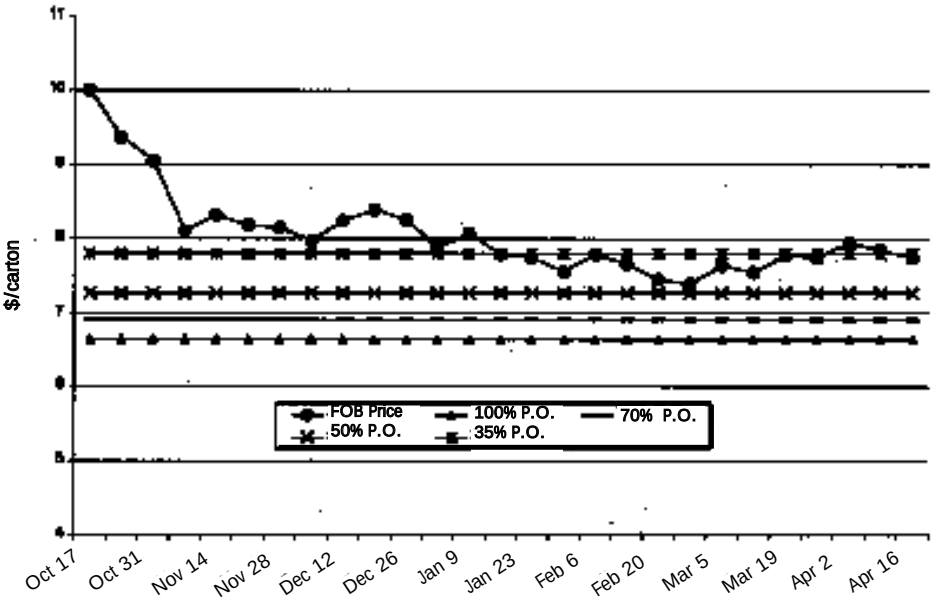
Without the need to finance or oversee guest worker housing, employers reduce their exposure to financial risks associated with large cash outlays and to legal risks associated with managing physical facilities. In addition, the job registry would transfer the risk of certifying workers eligibility for employment to the DOL. Replacement of the 50 percent rule decreases the risk of hiring an excessive number of workers.

Payment options under AgJOBS offer opportunities for both employers and workers to capture increases in productivity through establishment of job categories and allowances for wage differentials. When compared with the AEWR, piece rates allow workers to increase their hourly wage and employers to decrease the number of workers needed (thus saving in housing and administrative costs).

Despite the physical potential to harvest grapefruit over a relatively long period of time, frequent price fluctuations limit opportunities for positive returns. Partial evidence is shown by marketing windows for the 1998/99 and 1999/00 seasons (Figure 2). Weekly average FOB prices are compared to estimated costs of production under a traditional hiring program for fresh Indian River white grapefruit with 100,



1998/99 Season



1999/00 Season

Figure 2. FOB Prices and Estimated Cost of Production for Fresh Indian River Florida Grapefruit with 100, 70, 50, and 35% Pack-Out Rates

Sources: Florida Citrus Mutual Annual Statistical Reports; Muraro, Hebb, and Stover

70, 50, and 35 percent pack-out rates.6 Once grove care decisions and weather events have been determined, individual growers can influence pack-out rates, and thus net returns, through the care and selectivity of harvest. Between 1993/94 and 1997/98 Brown, Spreen, and Muraro estimate the average pack-out rate for white seedless Florida grapefruit ranged between 38 and 48 percent.

In 1998/99 with season average prices of $7.72 per carton and $0.54 per pound solid for fresh and processed fruit respectively, there were only four weeks with price above estimated cost of production when the pack-out rate was 50 percent and no such opportunity with a pack-out rate of 35 percent. During the 1999/00 season when average prices were higher at $8.07 per carton and $1.16 per pound solid, all 27 weeks offered the potential for a positive return with a 50 percent pack-out. Potential returns were negative in 12 of the 27 weeks when the pack-out rate dropped to 35 percent.

Conclusions

Labor shortages at critical times such as harvesting have long been a concern for employers in U.S. agriculture who traditionally recruit workers from domestic and immigrant sources. Harvest labor expense can account for over 30 percent of total costs for produce commodities including several of particular importance to the economy in Florida where the majority of agricultural cash receipts are generated from sales of citrus, other fruits and nuts, vegetables, melons, and berries. The federal H-2A program was implemented as part of the Immigration Reform and Control Act of 1986 to ensure that any shortage in traditional labor pools would be filled with nonimmigrant guest workers from foreign countries.

Analysis of returns to a representative grapefruit grower in the Indian River region of Florida demonstrates that the current H-2A legislation has the potential to increase cash costs to employers. Although specific numbers will vary between locations, the stipulation to provide and oversee housing is an added expense that is not federally mandated of producers utilizing traditional hiring practices. If the housing and furnishing expenses were removed from the H-2A program, the savings from taxes would more than offset costs of increased wages, supervisory needs, and program expenses. Assessment of returns to the same grower under the provisions of AgJOBS indicates harvesting costs can increase over three percent. Legislative provisions such as wage differentials that provide incentives for productivity gains, and a functioning job registry that decreases legal risks and increases timeliness are of particular importance to net returns. Net income has been shown to be a significant determinant of agricultural land values with a 0.843 correlation for grapefruit acreage in South Florida.

At the same time farm worker advocates have lobbied against any guest worker program, citing concerns over protecting guest workers' rights and suppressing wage increases to domestic farm workers. Guest worker policy reform has been proposed and debated since 1997, often contentiously. Legislation was introduced in 1999 and allowed to expire at the end of the legislative session without a vote. Consensus between Presidents Bush and Fox that U.S./Mexico immigration policies need reform has reinvigorated the guest worker debate. It is anticipated that some legislative action will be passed in the near future.

Endnotes

[1] Nonclimacteric fruit (i.e. oranges and grapefruit) pass from immature, mature, and overmature stages while remaining on the tree. Changes are slow compared to climacteric fruit such as peaches or avocadoes where softening takes place very rapidly once the fruit reaches maturity.

[2] The 1986 Act also created a category of H-2B workers which allows guest workers to be hired for non-agricultural purposes.

[3] Packinghouse expenses for the grove depicted in Table 2 are estimated to be $1,578.72 per acre based on information in Muraro, Hebb, and Stover.

[4] Guest workers hold "nonimmigrant" status because they must return to their home country when their work contract in the U.S. is terminated. The work contract cannot exceed 11 months.

[5] This calculation assumes a 10 percent opportunity cost for the full cost of construction. Requirement for a down payment, up to 20 percent, on property may cause additional problems for firms without available cash to meet these needs.

[6] Fruit can be sold either directly to a packinghouse (for the fresh market) or to a processing plant (to be juiced). The proportion of fruit sent to the packinghouse that does not meet fresh standards is called eliminations and is normally reshipped to be processed. The percentage of fruit that is shipped fresh is referred to as the pack-out rate. Brown, Spreen, and Muraro provide an empirical assessment of the allocation problem faced by growers. The fresh market has historically offered greater returns and in many years the processed market serves as a residual demand for fresh grapefruit. Price differentials are increased in times of oversupply.

References

Brown, M.G., T.H. Spreen, and R.P. Muraro. "Fresh Versus Processed Utilization of Florida Grapefruit," *Journal of Food Distribution Research*. (November 1999): 22-32.

Department of Housing and Urban Development [HUD]. *Fair Market Rents for Fiscal Year 2001: Final Rule*, 24CFR Part 888, September 25, 2000.

Hyman, B. and F. Roka. "The H-2A Agriculture Guest Worker Program," University of Florida, SWFREC, Immokalee, Florida, February 21, 2000.

Maestro-Scherer, J.B., T.R. Maloney, and S.J. Schwager. "Survey of Apple Farms in New York State," Final Report for the N.Y. State Department of Labor, Cornell University, July 1996.

Muraro, R.P., J.W. Hebb, and E.W. Stover. "Budgeting Costs and Returns for Indian River Citrus Production, 1999-00," Institute of Food and Agricultural Sciences, University of Florida, Economic Information Report EI 00-8, December 2000.

Reynolds, J.E. and A. Deas, "Florida Agricultural Land Values: The 2000 Survey Results," Food and Resource Economics Department Staff Paper Series SP01-1, March 2001.

Reynolds J.E. and J.F. Timmons. "Factors Affecting Farmland Values in the United States," Agriculture and Home Economics Experiment Station Research Bulletin 566, Iowa State University Press, February 1969.

Roka, F. and R. Emerson. "Piece Rates, Hourly Wages and Daily Farm Worker Income," University of Florida, Food and Resource Economics Department, February 26, 1999.

Thomas Legislative Information. *Agricultural Job Opportunity Benefits and Security Act of 1999 S. 1814*, http://thomas.loc.gov/.

Thornsbury, S.D. and T.H. Spreen. "The U.S. Grapefruit Market," Fruit and Tree Nut Situation and Outlook Report. Washington D.C.: USDA Economic Research Service FTS289, September 2000.

U.S. Department of Labor [DOL]. "H-2A Report," Division of Foreign Labor Certifications, Washington D.C., Fiscal years 1999 and 2000.

Acknowledgements

This research was supported by the Florida Agricultural Experiment Station and the University of Florida Scholar's Program, and approved for publication as Journal Series No. R-08595. We would like to thank Kathy Davis, Robert Emerson, John Reynolds, and two anonymous reviewers for their comments on the manuscript.