

# True costs of hand harvesters

By Fritz Roka

The cost of manually harvesting fruit represents nearly 25 percent of the total cost to produce and deliver fruit to the gate of a processing plant. In University of Florida professor Ron Muraro's latest enterprise budget for processed oranges, he estimates the total cost of citrus production to be more than \$3,000 per acre, and includes not only fertilizer and pesticide costs, but also interest on average investment, ad valorem taxes, managerial fees, box taxes, as well as harvesting and hauling costs. So 25 percent being spent just to hand pick and roadside fruit represents a considerable amount of money.

In this article, the focus will be on two things associated with harvest labor costs: the effects of low productivity and the amount of money being



spent on employment taxes. Agricultural employers have considerable influence on the former, but are bound by legal requirements to pay the latter.

## LOW PRODUCTIVITY

The piece-rate system is ideally suited for manual fruit harvesting. Compensating workers through a

piece rate rewards worker productivity without the need for close supervision. Low worker productivity, however, becomes a problem when a worker's hourly earnings at a given piece rate do not surpass the minimum wage.

In 2000, 70 cents per 90-pound box was a common piece rate paid to

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Impact of minimum wage on piece rates of citrus harvesters				
Minimum Wage (\$/hr)	Labor Productivity (boxes/hour)			
	6	8	10	12
	Lowest piece rate necessary to meet minimum wage at given productivity			
\$5.15	\$0.86	\$0.65	\$0.52	\$0.43
\$7.67	\$1.28	\$0.96	\$0.77	\$0.64
\$9.54	\$1.59	\$1.19	\$0.95	\$0.80

harvest juice oranges. A “low productive” worker, therefore, was defined as someone who picked less than 7.5 boxes per hour, because at that level of productivity, a worker could not meet the \$5.15 per hour minimum wage.

By January 2012, the state minimum wage had risen to \$7.67 per hour. Now, if a harvesting manager allows average worker productivity to be 8 boxes per hour, the effective piece rate (i.e. cost of harvest) has risen to \$0.96 per box, or more than a 37 percent increase in what he would have paid the same workers in 2000 (\$0.96 vs. \$0.65 /box, see table above). On the other hand, if a harvesting manager recruits and retains more productive harvesters, he could enjoy a lower effective piece rate. Therein lies the attraction to the current H2A foreign guest worker program where a highly productive labor force can be recruited within a few years. By regulation, an agricultural employer in Florida who recruits foreign guest workers through the H2A program has to pay the adverse effect wage rate (AEWR). As of January 2012, the AEWR was \$9.54 per hour. Despite this higher minimum wage, if the harvesting company can recruit H2A workers whose collective average productivity approaches 12 boxes per hour, the effective piece rate for hand harvesting can be held to less than 90 cents per box (see table).

### EMPLOYER TAXES

Workers’ compensation insurance, FICA (Social Security/Medicare), and FUTA/ SUI (federal/state unemployment insurance) are three non-wage payments made by employers on behalf of their workers. These payments, also known as employer taxes, are for the most part calculated on the basis of total payroll. Workers’ compensation insurance premiums involve a complex formula that factors in overall industry risk and an individual company’s safety record. For the sake of discussion, let us

assume that workers’ compensation premiums represent 6.2 percent of a company’s total payroll. An employer’s contribution to a worker’s FICA account is currently 9.1 percent of total payroll. Florida’s unemployment insurance (SUI) tax was revised during the 2012 legislative session and a minimum annual tax was set at \$216 per worker, or 2.7 percent on the first \$8,000 of annual earnings. A federal unemployment tax (FUTA) is owed as well, and that rate is 6 percent on the first \$7,000 of worker earnings. If Florida employers, however, pay their SUI on time, then the FUTA rate is reduced from 6 percent to 0.8 percent on the first \$7,000 per worker annual earnings.

As an illustrative example, let’s



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set up a citrus harvesting company called Terrapin Harvesting, Inc. We employ 100 harvesters and four supervisors. We harvest citrus for 28 weeks, and workers average 30 hours of compensable time per week. Overall average worker productivity is 10 boxes an hour and workers are paid a piece rate of 90 cents per box. Under this scenario, the workers collectively harvest 840,000 boxes and earn \$756,000 over the course of a season. If we further assume that the supervisors earn \$50,000 each, our total payroll reaches \$956,000. Applying the above percentages to total

payroll, the company will pay \$86,996 in FICA taxes (9.1 percent), \$59,272 for workers' compensation (6.2 percent), and \$28,288 for both state and federal unemployment taxes. The three employer taxes total \$174,556 for the season, or nearly \$0.21 per box (\$174,556/840,000 boxes).

As mentioned earlier in this article, FICA, workers' comp, and FUTA/SUI are state and federally mandated taxes. Our example illustrates how quickly these taxes can accumulate into a significant amount of money. State and federal regulators, as well as the corporate integrity of the vast majority

of citrus harvesting companies, ensure that these taxes are paid consistently.

It does, however, point out the temptation for an unsavory employer to evade these taxes. If that were to happen, employers who evade the law could feasibly lower their harvesting prices by as much as 21 cents per box, and thereby gain a competitive advantage over the other harvesting companies that follow the rules and charge a price that reflects all employer taxes. While a grower may enjoy a lower cost from such a harvesting company, in the end, the workers will suffer from being denied the benefits the regulations were intended to provide – medical coverage for those hurt on the job, future retirement, and payments designed to help transition unemployed workers to a new job.

All regulations need to be continually and objectively re-examined to ensure that the costs on employers and workers do not override their intended benefits. Once the political process enacts the regulations, they need to be followed. An important and necessary condition for a smooth, efficient, free-market economy is that all employers and workers compete on a level playing field by abiding by the same set of laws and regulations.

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## WHAT'S SHAKIN'

Gleaning crews are more productive than originally thought, according to data collected from the 2007-08 citrus growing season.

Fritz Roka, an economist at the Southwest Florida Research and Education Center, collected information from nine harvesting crews that gleaned and hand-harvested 74 individual blocks across four groves. The conclusion was that gleaning is likely to be a financially profitable choice under most scenarios. For example, even when fruit recovery of mechanical harvesters improves to 95 percent, and growers have to pay at least the hourly rate of \$9.54/hour (i.e., foreign guest workers) to glean fruit, delivered-in fruit prices would have to fall below \$.70/p.s. before gleaning would not be cost-effective.

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