

Harvesting Charges for Florida Citrus, 2017/18

Ariel Singerman and Marina Burani-Arouca¹
University of Florida, IFAS, CREC, Lake Alfred, FL

This report provides estimates for harvesting citrus in Florida during the 2017/18 season. The estimates are useful for computing on-tree prices and to estimate economic returns to citrus growers. To collect the data, we conducted a survey in May 2018. A total of 14 citrus harvesters participated in our survey; their combined harvested area accounted for 105,115 acres, which represents 26% of the citrus bearing acreage in the state (USDA-NASS, 2018).

This season the average total harvesting charges for fresh fruit increased compared to 2016/17, whereas those for processed fruit decreased. As a result of the impact of HLB (Huanglongbing; citrus greening) on production, the Florida citrus industry has begun a consolidating process, and harvesting companies are no exception. Having fewer but larger companies (on average) competing for harvesting fewer fruit can explain the average decrease in harvesting charges for processed fruit relative to last season. The average increase in harvesting charges for fresh fruit compared to 2016/17 is likely the result of having 32% less fruit volume for the fresh market this season (Singerman and Burani-Arouca, 2018) as a consequence of the impact of hurricane Irma; lower volume reduces harvesting productivity per block and thereby increases costs per box.

Since citrus harvesting is performed manually, the cost of labor is a key component of harvesting. A large proportion of the labor used for harvesting citrus in Florida is hired under the H-2A temporary agricultural program, which allows hiring non-US citizens to work on farms during the harvesting season. The wage for workers hired in Florida under the H-2A program, known as the Adverse Effect on Wage Rates (AEWR) was \$11.29 per hour in 2018 (United States Department of Labor, 2018). In comparison, Florida's minimum wage in 2018 was \$8.25 per hour. In addition, there are other mandatory costs associated with employee compensation; those include social security, unemployment tax, and workers' compensation insurance. Some of these costs are relevant only when employing domestic workers, whereas other costs are relevant when employing domestic or H-2A workers.

According to regulations, the domestic minimum wage is applicable only if the entire harvesting crew is composed by domestic workers. If any H-2A workers are employed, the employer must provide the same benefits to domestic and foreign workers. Thus, if a company employs both H-2A and domestic workers, then the employer must pay all of their workers the highest of: the AEWR; the federal (\$7.25 per hour) or Florida's minimum wage (whichever is higher); the applicable prevailing wage; or the agreed-upon collective bargaining rate. In addition, harvesting companies using the H-2A program also incur in costs related to housing, in-bound and out-bound transportation for workers, recruitment, as well as administrative costs associated with the guest worker program.

Harvesting companies often end up employing a majority of H-2A workers because domestic harvesting workers are in short supply. Among the companies surveyed the average proportion of their harvesting crews hired under the H-2A program was 90%, which is similar to last season. Only one company reported not employing H-2A workers, while 10 companies reported that 100% of their crews

¹Ariel Singerman, Assistant Professor and Extension Economist, Food and Resource Economics Department, Citrus Research and Education Center, Lake Alfred, FL. Marina Burani-Arouca, Economics Extension Coordinator, Citrus Research and Education Center, Lake Alfred, FL.

were hired under H-2A. Therefore, the costs associated with employing H-2A workers are embedded in the harvesting charges presented in this report.

Harvesting charges are classified into picking, roadsiding, and hauling. We collected data to obtain estimates for each of the three categories. The average, minimum, and maximum, as well as the percentage change from last season for picking, roadsiding, and hauling charges are presented in Table 1 by variety, for both fresh and processed fruit. The average picking charges for all fresh fruit varieties showed an increase of 15% compared to last season, whereas those for processed fruit showed a decrease of 8%. The largest increase (decrease) in picking charges was for fresh tangelos (processed tangerines), up (down) 33% (30%) compared to last season.

Relative to 2016/17, the average roadsiding charges for all fresh fruit increased by 14%, whereas for processed fruit the charges decreased by 9%. Similarly to picking charges, roadsiding charges changed the most for fresh tangelos and processed mandarins. While roadsiding charges for all fresh fruit varieties increased relative to last season (except for white grapefruit), Early and Mid-season oranges were the only processed variety to show an increase compared to the previous season. The average hauling charges of fresh and processed fruit decreased by 15% and 7% compared to last season, respectively. In fact, hauling charges for all distances decreased; the charges for hauling fresh fruit more than 100 miles decreased by 27%; the largest percentage change compared to 2016/17.

Citrus black spot is a fungal disease that affects yield and fruit quality and was first detected in Florida in March 2010 (Dewdney *et al.*, 2016). Quarantined regions in the state include parts of Lee, Collier, Hendry and Polk counties. All trailers hauling citrus fruit from regions in which citrus black spot is present, are required to be tarped. The cost to tarp the hauling trailer increases the total harvesting charge. According to the responses we obtained, the average time to install and remove a tarp from the trailer was 53 minutes, and the additional cost was \$15.00 per load.

In Table 2 we present the estimates for the average total harvesting charges by variety, for fresh and processed fruit, using the hauling charges for 51-80 miles. The average total harvesting charges for fresh and processed oranges were \$3.38 and \$3.09 per box, respectively. For grapefruit, the average total harvesting charges were \$2.76 and \$2.55 per box for fresh and processed fruit, respectively, whereas for specialty fruit the charges were \$5.37 and \$3.57 per box. The significantly higher charges for harvesting specialty fruit may be attributed to the extra labor needed to clip, pick, and handle these thin peel varieties so that the fruit is not damaged. Moreover, hauling costs for processed specialty fruit can typically be higher than those for other processed varieties because they are not shipped in a fully loaded trailer to prevent the fruit on the bottom from becoming crushed from the weight of fruit loaded on top.

Acknowledgments

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References

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Table 1. Estimated Average Picking, Roadsiding, and Hauling Charges for Florida Citrus, 2017/18

Picking Charges	Fresh Fruit				Processed Fruit			
	Min.	Max.	Average	Change from 2016/17	Min.	Max.	Average	Change from 2016/17
	\$/box				\$/box			
Early and Mid-season Oranges	1.20	1.70	1.43	9%	1.10	2.06	1.44	11%
Valencia Oranges	1.15	1.55	1.35	3%	1.10	1.50	1.31	-8%
Valencia Oranges (after May 15)	1.30	1.55	1.44	8%	1.10	1.40	1.29	-10%
Pink/Red Grapefruit	0.90	1.20	1.00	15%	0.90	1.15	0.97	-16%
White/Marsh Grapefruit	0.90	1.20	1.06	15%	1.00	1.10	1.05	-7%
Tangelos	1.80	3.40	2.55	33%	1.50	2.25	1.78	5%
Tangerines (including Temples)	1.80	3.40	2.48	20%	1.60	1.85	1.75	-30%
Average for all varieties				15%				-8%

Roadsiding Charges	Min.	Max.	Average	Change from 2016/17	Min.	Max.	Average	Change from 2016/17
	\$/box				\$/box			
	Early and Mid-season Oranges	1.08	1.94	1.43	9%	0.82	1.74	1.16
Valencia Oranges	1.10	1.76	1.35	7%	0.82	1.64	1.13	-5%
Valencia Oranges (after May 15)	1.10	1.81	1.34	8%	0.90	1.17	1.08	-4%
Pink/Red Grapefruit	1.00	1.50	1.17	7%	0.78	1.06	0.98	-15%
White/Marsh Grapefruit	0.96	1.51	1.15	0%	0.92	1.00	0.96	-6%
Tangelos	1.30	3.79	2.32	36%	1.30	1.30	1.30	-2%
Tangerines (including Temples)	1.30	3.79	2.30	31%	1.03	1.30	1.21	-38%
Average for all varieties				14%				-9%

Hauling Charges	Average All Varieties	Change from 2016/17	Average All Varieties	Change from 2016/17
	\$/box		\$/box	
	0-30 miles	0.45	-6%	0.42
31-50 miles	0.51	-6%	0.50	-4%
51-80 miles	0.58	-14%	0.59	-9%
81-100 miles	0.65	-22%	0.64	-5%
100+ miles	0.73	-27%	0.69	-14%
Average for all distances		-15%		-7%

Table 2. Estimated Average Total Harvesting Charges for Florida Citrus, 2017/18¹

	Fresh Fruit	Processed Fruit
	<i>\$/box</i>	<i>\$/box</i>
Early and Mid-season Oranges	3.43	3.18
Valencia Oranges	3.28	3.02
Valencia Oranges (after May 15)	3.35	2.95
<i>Sweet Oranges Average²</i>	<i>3.38</i>	<i>3.09</i>
Pink/Red Grapefruit	2.75	2.54
White/Marsh Grapefruit	2.79	2.60
<i>Grapefruit Average²</i>	<i>2.76</i>	<i>2.55</i>
Tangelos	5.45	3.67
Tangerines (including Temples)	5.36	3.55
<i>Specialty Citrus Average²</i>	<i>5.37</i>	<i>3.57</i>

¹Assuming hauling costs for 51-80 miles of \$0.58 per box for fresh fruit and \$0.59 per box for processing fruit.

²Weighted average by production at state level for fresh and processing markets based on the USDA-NASS 2016/17 Florida Citrus Statistics.