Production Budget for Bell Peppers Grown in Southwest Florida 2019/20 Production Year

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Overview

In 2019, Florida produced 31 percent of the fresh market bell peppers; making Florida the second largest production area in the U.S. (http://quickstats.nass.usda.gov). Florida growers harvested 11,800 acres of bell peppers during the 2018-19 growing season, a slight decrease (less than one percent) from the 2017-18 season. However, a 30 percent increase in price (from $14.17/bu to $18.43/bu) and no change in production levels, resulted in the value of production increasing from $181 million in 2017-18 to $235 million in 2018-19 (Table 1). Yield (measured in 28-pound bushels) peaked in the 2014-15 season at 1,286 bushels per acre and averaged 1,100 bushels per acre over the following seasons (2015-16 to 2018-19); the recent average is 20 percent higher than the average yield of 913 bushels per acre observed from the 2002-03 to 2013-14 growing seasons. This could possibly be due to the development of more disease resistant varieties (see, Gordon 2015). Overall, the total nominal value of Florida's bell pepper crop has increased 66 percent since its low in the 2012-13 season.

Production Practices

Most bell pepper crops are transplanted in double rows on polyethylene-mulched raised beds using either drip or seep irrigation systems. Methyl bromide in combination with chloropicrin is applied prior to planting transplants for the management of soil insects, pathogens, nematodes, and weeds. Approximately 33 percent of the Florida growers use stakes and twine around the bed perimeter to construct "corrals" to contain the plants. Standard spacing is six feet between bed centers, with plants typically planted ten inches apart. Bell peppers need about 90 days between planting and harvest and are hand harvested at least twice during the growing season. South Florida pepper growers may harvest up to five times in profitable market conditions. Fertilizer can be applied during the plastic laying process, a portion during transplanting, and the rest throughout the season through the drip irrigation system.

Production Budgets

Table 2 is a per-acre enterprise budget for a representative grower in southwest Florida. The budget breaks down the specific cost components used to estimate the total per acre cost of production. The budget is intended to reflect the cost of production using representative production practices that are considered typical for bell peppers grown in southwest Florida. What constitutes a representative production practice is defined by a consensus of opinion of UF/IFAS field experts, industry experts, and various producers in the bell pepper production area. The intent of these cost budgets is to establish a benchmark within a comprehensive range of potential costs that could be expected to produce the crop.

Assuming an anticipated yield of 1,100 cartons per acre, the production budget for 2019/20 indicates that pre-harvest variable costs for a representative bell pepper grower in southwest Florida totaled $10,524.55 per acre with 44 percent of the costs resulting from fertilizer (12 percent), fungicide (8 percent), tractors and equipment (15 percent), and labor (9 percent). Harvest and marketing costs totaled $4,356 per acre of which 61 percent results from picking, packing, and hauling the fruit. The total cost of production is estimated to be $18,399 per acre or $16.73 per carton.

Resources

Interactive budget workbook

Interactive workbooks containing data used to create the UF/IFAS bell pepper budget in Table 2 are available at https://fred.ifas.ufl.edu/extension/commodity-production-budgets/. These workbooks can be used to produce cost estimates broken down by specific groups. Included are pesticide, herbicide, insecticide, fungicide, and fumigant worksheets; machinery worksheets listing the machinery cost coefficients so that users can estimate fixed and variable costs of machinery; and a comparative budget designed for users to compare IFAS estimates with their own. Users are encouraged to input their own prices and quantities.

Common Bell Pepper Varieties for Commercial Production:

- Bell Pepper Varieties: Antebellum, Aristotle, Autry, Boca, Crusader, Green Machine, HM 2641, PS 9928302, PS 09979325, Seedway 48, SV3255PB, SV6420PB, Vanguard.
- Specialty Varieties: Aruba, Boris, Natasha, Sunakku Ichigo (red), Yummy Red, Right on Red, Sopron, Yellow Sparkler, Yes to Yellow, Yummy Orange, Orange You Sweet, Sunakku Mikan (orange).

Table 1. Florida pepper acreage, fresh market production, and value for crop years 2002-03 to 2017-18

Season	Planted Acres	Harvested Acres	Yield/Acre 28-lb bushels[1]	Production (1,000 bushels)	Unit Value ($/bushel)	Total Value (1,000)
2002/03	17,800	17,700	1,000	17,700	10.05	177,920
2003/04	18,500	18,300	1,107	20,261	10.78	218,411
2004/05	19,400	19,000	861	16,357	13.05	213,428
2005/06	19,800	16,500	876	14,450	12.96	187,330
2006/07	18,000	17,500	803	15,500	11.82	183,148
2007/08	19,000	18,800	1,000	17,800	14.23	253,187
2008/09	18,900	18,200	880	16,007	12.41	176,934
2009/10	18,800	17,700	821	14,539	20.34	247,130
2010/11	18,700	17,600	893	15,714	15.77	187,198
2011/12	13,000	12,400	893	11,071	12.89	142,600
2012/13	13,000	12,300	893	10,982	12.89	141,450
2013/14	12,400	11,900	928	11,050	14.87	164,291
2014/15	12,400	12,200	1,286	15,650	14.06	220,478
2015/16	13,500	12,900	1,053	13,591	15.43	209,711
2016/17	12,500	12,000	1,196	14,357	13.17	188,940
2017/18	12,400	11,900	1,071	12,750	14.17	180,642
2018/19	12,900	11,800	1,081	12,750	18.43	234,968

Source: USDA/NASS, http://quickstats.nass.usda.gov

[1] Yield was converted from cwt/acre to 28-lb bushels/acre

Table 2. Estimated costs of producing one acre of bell peppers in southwest Florida, 2019-20.

Your Anticipated Yield (cwt)	***1,100 cartons***			
	Unit	**Quantity**	**Price**	**Your Cost/Acre**
Pre-Harvest Variable Costs				
Transplants (cost of seed and growing transplant)	plants	14,500	$0.17	$2,465.00
Fertilizer Mixed and Lime	acre	1.00		$1,293.00
Fumigant and Nematicide	acre	1.00		$558.11
Herbicide	acre	1.00		$101.86
Insecticide	acre	1.00		$715.12
Fungicide	acre	1.00		$844.03
Tractors and Equipment- operation and maintenance	acre	1.00		$1,548.26
Farm Trucks Cost (driver cost INCLUDED in overhead and management expense)	acre	1.00		$33.75
General Farm Labor (does not include harvesting)		1.00		$901.00
Tractor Driver Multiplier (to account for re-tooling, re-fueling and travel time.)	acre	1.00	1.17	
Tractor Driver Labor Expense	acre	1.00		$466.83
Scouting	acre	1.00		$50.00
Drip tube	acre	1.00		$255.00
Plastic Mulch	acre	1.00		$372.00
Stakes	acre	1.00		$72.00
Plastic String	acre	1.00		$24.84
String & Stake Removal	acre	1.00		$245.50
Pull and Bundle Mulch	acre	1.00		$69.00
Dumpster contract	acre	1.00		$40.00
Interest on operating capital as a % of operating capital for this crop (Rate=8%; Time=6 months)	acre	1.00	8%	$469.25
Total Pre-Harvest Variable Costs EXCLUDING Pre-Harvest Interest Expense				**$10,055.30**
Total Pre-Harvest Variable Costs INCLUDING Pre-Harvest Interest Expense				**$10,524.55**
Pre-Harvest Fixed Costs				
Tractors and Equipment	acre	1.00		$311.21
Land Rent	acre	1.00		$694.00
Your Overhead and Farm Management Cost (as a % of total variable costs)	acre	1.00	25%	$2,513.82
Total Pre-Harvest Fixed Costs EXCLUDING Interest on Fixed and Overhead				**$1,005.21**
Total Pre-Harvest Fixed Costs INCLUDING Interest and Overhead Expenses				**$3,519.04**

Your Total Pre-Harvest Costs INCLUDING Total Fixed and Variable Expenses				**$14,043.58**
Harvest and Marketing Costs:				
Pick, Pack and Haul	carton	1,100	$2.40	$2,640.00
Sell	carton	1,100	$0.61	$671.00
Containers	carton	1,100	$0.95	$1,045.00
Other Harvest and Marketing Costs	carton			$0.00
Your Total Harvest and Marketing Costs			**$3.96**	**$4,356.00**
Cost per Unit and Total Costs per Acre			**$16.73**	**$18,399.58**

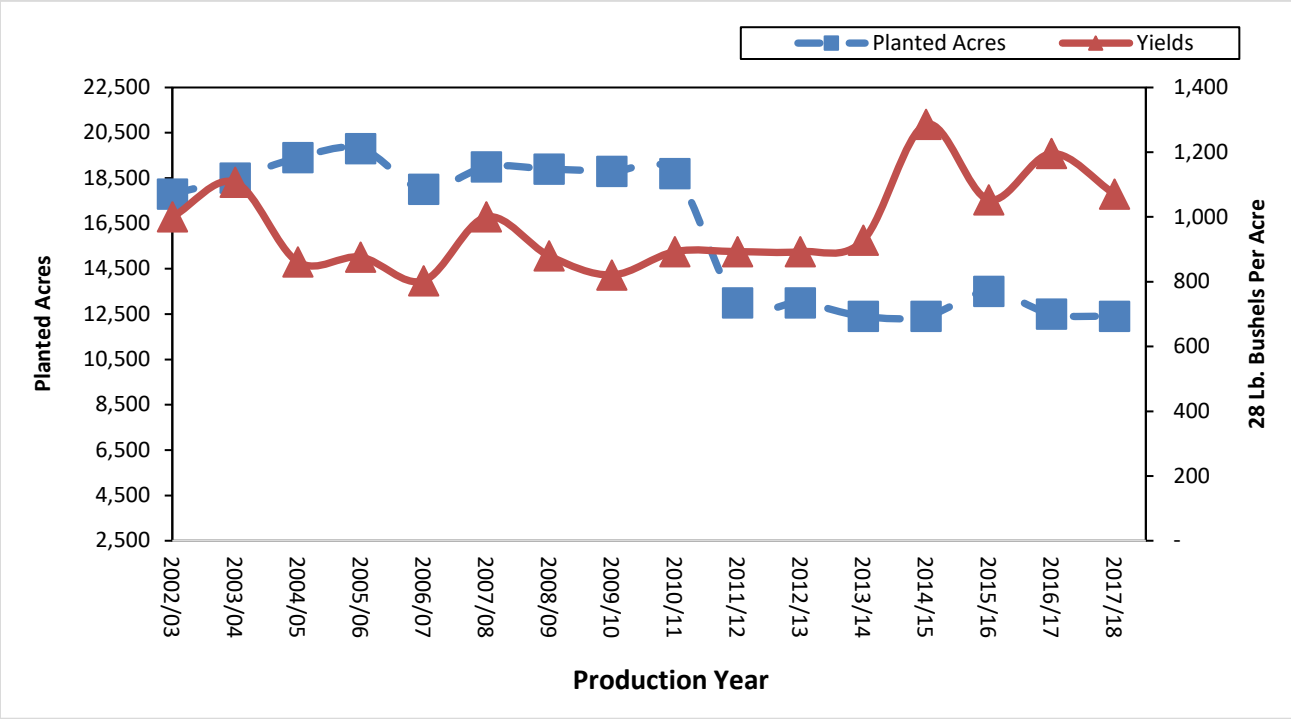

Figure 1. Southwest Florida bell pepper acreage and yields, crop years 2002/03 to 2017/18

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