FE818

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Production Budget for Tomatoes in Southwest Florida[1]

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Overview

Tomatoes are an important crop to the state of Florida. Florida harvested 31,500 acres of tomatoes during the 2007–08 growing season, valued at over $622 million dollars (Table 1). Acreage planted to tomatoes in Florida decreased 15 percent in 2008, and has decreased 28 percent since 2005. While total value increased in 2008 by 46 percent, to $622 million, it has decreased from its peak in 2005 by 22 percent. Yield per acre (25-pound cartons) averaged 1,418 cartons per acre from 2002–03 to 2007–08. Production peaked in 2004–05 at 62.1 million cartons, but decreased to 41.8 million cartons in 2007–08, a 32 percent decrease. Value per carton ranged from a low of $7.98 in 2006–07 to a high of $14.88 in 2007–08.

Production Practices

Production practices vary among Florida's tomato production areas. Most of the state's tomato crop is grown on polyethylene-mulched raised beds, using staked culture and drip or seep irrigation. Fertilizer may be applied at planting under the plastic or a portion may be applied at planting, and the rest throughout the season with the drip irrigation system. Methyl bromide in combination with chloropicrin is applied to a majority of Florida's tomato acreage. Fumigants are injected into the soil during construction of the raised beds and are immediately covered with plastic mulch. Fumigants are applied for the management of soil insects, pathogens, nematodes, and weeds (especially nutsedge), all of which are major pests in tomato production. Tomato transplants are set in the mulched raised beds. Standard spacing is approximately six feet between bed centers, with plants typically planted 18 to 30 inches apart. Wooden or metal stakes approximately four feet long are placed halfway between the plants and driven into the beds for tying the plants. Pruning and tying provide vertical support. Tomatoes mature 90 to 110 days after transplanting. Tomatoes are typically harvested two to four times per season but potentially more often in profitable market conditions.

Production Budgets

Table 2 is a per-acre composite budget for a representative grower in southwest Florida. The budget breaks down the specific cost components used to estimate the budget expense categories and total estimated production costs per acre. The budget

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is intended to reflect the cost of production using representative production practices that are considered typical for tomatoes 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 tomato production area. Cost estimates resulting from this process do not represent the average cost of production in a statistical sense, and production practices listed are not necessarily recommended production practices. 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. Table 2 provides a *Your Cost* column so that you can enter your individual expenses for comparative purposes.

The production budget for 2008 indicates that pre-harvest variable costs for a representative tomato grower in southwest Florida totaled $6,688 per acre. Fixed costs for a representative grower totaled $4,335 per acre. With an assumed yield of 1,500 cartons per acre, harvest and marketing costs totaled $5,235 per acre, bringing the total cost of production to $16,259 per acre, or $10.84 per carton. The cost item that has increased most significantly since the 2,005–06 budget is fertilizer, which increased 239 percent. Overall, operating costs, *excluding* the fertilizer expense, have increased a total of 12 percent since 2005–06.

Additional Resources

We have developed interactive workbooks containing data used to create the UF/IFAS estimated tomato budget in Table 2. These workbooks can be used to produce cost estimates broken down by specific groups (e.g., herbicide). Included in these workbooks are pesticide worksheets listing all of the currently labeled pesticides so that users can estimate their own pesticide costs, and machinery worksheets listing the machinery cost coefficients so that users can estimate their own fixed and variable costs. The International Agricultural Trade and Policy Center internet site (http://www.iatpc.ifas.ufl.edu) contains a link to download these interactive Excel workbooks. These workbooks enable users to compare their production expenses to the UF/IFAS estimates presented in Table 2. These workbooks may be saved to your computer and printed in their entirety or printed as individual worksheets.

The following information is provided as a convenience to your research and decision making efforts.

- Botany: Family-Solanaceae, Tomato-Solanum esculentum.
- Related Crops in the Solanaceae Family: Potato, Pepper, Eggplant, Tomatillo and Pepino.
- Common Tomato Varieties for Commercial Production:
    - Large Fruited Varieties; Amelia, Bella Rosa, BHN-640, Crista, Crown Jewel, Flora-Lee, Florida 47, Florida 91, HA 3073, Linda, Phoenix, Quincy, RPT 6153, Sanibel, Sebring, Solar Fire, Salimar, Soraya, Talladega, Tygress.
    - Plum Type Varieties; BHN 410. Midsesaon, BHN 411, BHN 685, Marianna, Monica, Plum Daddy, Spectrum 882 and Sunoma.
    - Cherry Type Varieties; BHN 268, Camelia, Cherry Blossom, Mountain Belle, Shiren, Supper Sweet 100 VF.
    - Grape Varieties; Brixmore, Cupid, Jolly Elf, Santa, St Nick, Smarty and Tami G.

For further information on tomato production in Florida please refer to EDIS publication HS739 (http://edis.ifas.ufl.edu/CV137) or contact your local Extension specialists.

References

Olson, S.M., W.M. Stall, M.T. Momol, S.E. Webb, T.G. Taylor, S.A. Smith and E.H. Simone. 2007. Chapter 41, Tomato Production in Florida. In *Vegetable Production Handbook for Florida 2006-2007.* Electronic Data Information Source EDIS document HS739. Horticultural Science Department, University of Florida, Gainesville, FL. http://edis.ifas.ufl.edu/CV137

USDA/NASS. 2009. *Crop Statistics*. United States Department of Agriculture, National Agricultural Statistics Service, Washington, D.C. http://quickstats.nass.usda.gov/

Table 1. Florida tomatoes acreage, fresh market production, and value, crop years, 2002–03 through 2007–08.

Season	Planted	Harvested	Yield	Production	Unit Value	Total Value
	(acres)	(acres)	(25-lb bushels)	(1,000 bushels)	(dollars)	(1,000 dollars)
2002–03	43,300	43,000	1,320	56,760	9.70	550,572
2003–04	42,400	42,000	1,440	60,480	8.28	500,472
2004–05	45,200	42,000	1,480	62,160	12.95	804,972
2005–06	41,200	38,500	1,400	53,900	10.23	551,128
2006–07	38,200	37,800	1,540	58,212	7.98	464,241
2007–08	32,400	31,500	1,328	41,832	14.88	622,251

Source: USDA/NASS, http://quickstats.nass.usda.gov
Note: Fresh market tomatoes only, including round and plum/pear varieties, and U-Pick.

Table 2. Estimated costs of producing one acre of tomatoes in southwest Florida, 2007–08.

Based on Yield of 1,500 Units Per Acre	Unit	Quantity	Price	Value	Your Cost
			(dollars)	(dollars)	
Pre-Harvest Variable Costs					
Transplants				480.00	
Fertilizer, mixed and lime				1,452.25	
Fumigant				736.00	
Herbicide				24.75	
Insecticide				548.60	
Fungicide				275.99	
Tractor + machinery				1,109.69	
Truck (pickup)				27.33	
Labor				354.92	
Plastic mulch				315.00	
Scouting				45.00	
Trickle tube				145.20	
Stakes				90.00	
Cut/pull/bundle mulch				163.35	

Table 2. Estimated costs of producing one acre of tomatoes in southwest Florida, 2007–08.

Based on Yield of 1,500 Units Per Acre	Unit	Quantity	Price (dollars)	Value (dollars)	Your Cost
Plastic string				28.75	
Tie plants				145.20	
String and stake disposal				123.42	
Prune plants				79.86	
Level land				145.00	
Drive stakes				81.31	
Cross ditch				27.20	
Interest on operation capital (10%)				289.47	
Total Pre-Harvest Variable Costs				6,688.29	
Pre-Harvest Fixed Costs					
Tractor + machinery				208.15	
Land rent				500.00	
Overhead and management				3,627.20	
Total Pre-Harvest Fixed Costs				4,335.35	
Total Pre-Harvest Costs				11,023.64	
Harvest and Marketing Costs					
Pick/pack/haul	carton	1,500	2.50	3,750.00	
Sell	carton	1,500	0.15	225.00	
Containers	carton	1,500	0.75	1,125.00	
Organization fees	carton	1,500	0.09	135.00	
Total Harvest and Marketing Costs				5,235.00	
Total Costs				16,258.64	