UF UNIVERSITY of FLORIDA
IFAS Extension

Chapter 20.
Production Costs for Selected Florida Vegetables

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The budgets presented in this guide are intended to reflect the cost of production when production practices that are considered typical for a specific crop in a specific area are followed. Budgets were constructed using a computerized budget generator program, AGSYS. Technical coefficients used in constructing the budgets were obtained by consultation with individual growers, county agents, University of Florida researchers and various agricultural documents. The input prices used in conjunction with the technical coefficients were obtained by survey and correspondence with farm suppliers and growers. It should be emphasized that cost estimates resulting from this process should not be considered as representing the average cost of production in a statistical sense nor should they be considered as necessarily relating to recommended production practices.

Three budgets reflect double-crop production practices: watermelon grown in the Manatee/Ruskin and Southwest areas (Budget 1 and Budget 2), and cucumber grown in the Southwest area (Budget 3). Double-crop production refers to the practice of planting a second or following crop directly into the plastic mulch-covered beds used to produce a primary crop. Most commonly, tomato or pepper are followed by cucumber, squash or watermelon. The combination of crops produced is generally determined by market influences, grower preference, nutritional needs of the following crop and the susceptibility to soil-borne disease and pests of the selected crop. This system of farming is practiced in an effort to recover costs incurred in the production of the initial crop, reduce cost of production of the second crop and utilize residual inputs from the initial crop. For this reason, actual production practices of the initial crop, either tomato or pepper, are affected very little, whereas production of the subsequent crop is affected significantly relative to growing the crop independently.

For each crop contained in the crop section, break-even cost per unit for variable cost, fixed cost, harvest cost and total cost at various yield levels are presented. Variable costs include fumigants, fungicides, herbicides, insecticides, pre-harvest labor, variable machinery costs, interest expenses, seed or transplants and all other miscellaneous cost items. Fixed costs include land rent, fixed machinery costs and all other items that could be considered overhead expenses. Harvest costs include all costs incurred by the grower to pick and containerize the crop for delivery to a buyer. Cooling or precooling charges paid by the buyer do not appear in these budgets. Industry officials indicate that these charges are not included in F.O.B. values, and should therefore not be presented in production budgets. The range of yields analyzed is intended to be broad enough to include the yields obtained by growers in any given area. These analyses provide information on how sensitive the estimated per unit cost of production for any crop is to variations in yield per acre. For each crop, 25 cost per unit and yield combinations are provided. Harvest costs are estimated on a per unit basis and therefore held constant for all yield levels.

The fixed and variable **costs per acre** for each crop represent pre-harvest expenses regardless of yield. The break-even price for each of these is simply the cost per acre divided by the yield. Harvest costs are incurred on a **per unit** basis. These costs are unaffected by variations in yield and, therefore, remain constant over the ranges presented. Total cost per unit equals the sum of the pre-harvest and harvest costs.

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Budget 1. Watermelon: estimated production costs in a double-crop system for the Manatee/Hillsborough area, 2003-2004.

Category	Average per	
	Acre	Cwt.
Yield (cwts.)	**320**	
OPERATING COSTS	**Dollars**	
Seed	26.32	
Fertilizer	189.00	
Fungicide	63.55	
Herbicide	34.68	
Insecticide	64.88	
General farm labor	300.88	
Machinery variable costs	337.58	
Tractor driver labor	40.47	
MISCELLANEOUS		
Farm vehicles	27.33	
Scouting	25.00	
Bee hive rental	4.00	
Plastic mulch disposal	125.00	
Interest on operating capital	61.09	
Total Operating Cost	1,299.78	
FIXED COSTS		
Machinery fixed costs	66.68	
Farm management	261.07	
Overhead	326.34	
Total Fixed Cost	654.10	
TOTAL PREHARVEST COST	**1,953.88**	**6.11**
HARVEST AND MARKETING COSTS		
Sell watermelons	320.00	1.00
Research assessment	6.40	0.02
Packing materials	9.60	0.03
Harvest and pack	496.00	1.55
Total Harvest and Marketing Cost	832.00	2.60
TOTAL COST	**2,785.88**	**8.71**

Watermelon: Estimated net returns for various price and yield combinations in a double-crop system in the Manatee/ Hillsborough area, 2003-2004.

Yield (cwts)	Dollars per cwt				
	6.00	7.00	8.00	9.00	10.00
280	–1,002.00	-722.00	-442.00	-162.00	118.00
300	-934.00	-634.00	-334.00	-34.00	266.00
320	-866.00	-546.00	-226.00	94.00	414.00
340	-798.00	-458.00	-118.00	222.00	562.00
360	-730.00	-370.00	-10.00	350.00	710.00

Budget 2. Watermelon: estimated production costs in a double-crop system for the Southwest Florida area, 2003-2004.

Category	Average per	
	Acre	Cwt.
Yield (cwts.)	**340**	
OPERATING COSTS	**Dollars**	
Transplants	150.00	
Fertilizer	165.00	
Fungicide	220.32	
Herbicide	20.88	
Insecticide	180.74	
General farm labor	317.25	
Machinery variable costs	382.95	
Tractor driver labor	128.80	
MISCELLANEOUS		
Plastic disposal	163.35	
Farm vehicles	22.80	
Clean ditches	20.00	
Bee hive rental	30.00	
Interest on operating capital	59.25	
Total Operating Cost	1,861.32	
FIXED COSTS		
Machinery fixed costs	112.46	
Farm management	382.91	
Overhead	478.63	
Total Fixed Cost	974.00	
TOTAL PREHARVEST COST	**2,835.32**	**8.34**
HARVEST AND MARKETING COSTS		
Sell watermelons	340.00	1.00
Research assessments	6.80	0.02
Packing material	10.20	0.03
Harvest, haul and pack	646.00	1.90
Total Harvest and Marketing Cost	1,003.00	2.95
TOTAL COST	**3,838.32**	**11.29**

Watermelon: Estimated net returns for various price and yield combinations in a double-crop system for the Southwest Florida area, 2003-2004.

Yield (cwts)	Dollars per cwt				
	8.25	9.56	10.87	12.19	13.50
300	-1,245.00	-852.00	-458.00	-64.00	330.00
320	-1,139.00	-719.00	-299.00	121.00	541.00
340	-1,033.00	-587.00	-141.00	305.00	752.00
360	-927.00	-455.00	18.00	490.00	963.00
380	-821.00	-323.00	176.00	675.00	1,174.00

Budget 3. Cucumber: estimated production costs in a double-crop system for the southwest Florida area, 2003-2004.

Category	Average per	
	Acre	Bushel
Yield (bushels)	**600**	
OPERATING COSTS	**Dollars**	
Seed	83.94	
Fertilizer	292.00	
Fungicide	148.80	
Herbicide	20.88	
Insecticide	221.94	
General farm labor	95.40	
Machinery variable costs	250.92	
Tractor driver labor	45.85	
MISCELLANEOUS		
Farm vehicles	18.22	
Plastic disposal	163.35	
Clean ditches	20.00	
Bee hive rental	30.00	
Interest on operating capital	57.18	
Total Operating Cost	1,448.47	
FIXED COSTS		
Machinery fixed costs	50.84	
Farm management	288.43	
Overhead	360.53	
Total Fixed Cost	699.80	
TOTAL PREHARVEST COST	2,148.27	3.58
HARVEST AND MARKETING COSTS		
Sell cucumbers	150.00	0.25
Pack cucumbers	1,110.00	1.85
Harvest and haul	1,080.00	1.80
Cucumber box	456.00	0.76
Total Harvest and Marketing Cost	2,796.00	4.66
TOTAL COST	**4,944.27**	**8.24**

Cucumber: Estimated net returns for various price and yield combinations in a double-crop system for the Southwest Florida area, 2003-2004..

Yield (bushels)	Dollars per bushel				
	6.00	7.50	9.00	10.50	12.00
400	-1,612.00	-1,012.00	-412.00	188.00	788.00
500	-1,478.00	-728.00	22.00	772.00	1,522.00
600	-1,344.00	-444.00	456.00	1,356.00	2,256.00
700	-1,210.00	-160.00	890.00	1,940.00	2,990.00
800	-1,076.00	124.00	1,324.00	2,524.00	3,724.00