

Preliminary Budget Estimates for Satsuma Production in North Florida

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UF/IFAS Extension, November 2016

With support from Specialty Crop Block Grants (USDA & FDACS) and the University of Florida, IFAS, we are preparing enterprise budgets for orchard crops in North Florida. Preliminary budget estimates for production of satsuma mandarins are described here.

A budget summary for a mature satsuma grove is shown on the next page. The estimates in this sample budget represent a hypothetical farm in North Florida with 10 acres of satsuma mandarins. Actual costs and returns for establishing a satsuma grove and producing satsuma mandarins will vary according to a farm's specific circumstances, management practices, soil type, weather conditions, pest and disease pressure, and marketing opportunities.

Assuming the grower must purchase all infrastructure, facilities, equipment, and durable supplies (other than land), we estimate initial investment costs of \$194,000. This includes 3-phase electric hook-up, an 8" irrigation well, pump with variable-frequency drive (VFD), and microsprinkler system capable of providing freeze protection for the 10-acre grove. It also includes a 4" service well, 8' wildlife fence, 60-hp tractor, implements, and other capital goods. Annual fixed production overhead is estimated at \$1,500/acre and annual general farm overhead is estimated at \$850/acre.

Cash operating costs to establish and maintain a satsuma grove for the first four years total about \$14,000 per acre (total over the 4-year period). Based on first harvest in year 4, we estimate that about \$3,000 per acre in gross revenue could be generated in the fourth year.

Average annual operating costs for pre-harvest care of a mature, bearing satsuma grove are estimated at \$2,500 per acre. Custom harvesting and hauling to a packinghouse are estimated at \$3,500 per acre (based on 34,800 pounds harvested per acre, prior to culling).

Citrus packing and processing facilities are very limited in North Florida at this time. The farm-gate price for satsumas grown in North Florida could vary considerably, depending on fruit quality and market channel. In 2015, USDA reported average packinghouse door prices for Florida fresh market tangerines of \$0.29/lb. Price reports for Florida satsumas are not available at this time. A review of USDA price reports for California satsumas finds terminal market prices ranging from \$0.87 to \$1.36/lb. Terminal market prices for Florida tangerines (Fallglo) have been in the \$0.55 to \$0.84/lb range. Reported national retail prices for California satsumas have ranged from \$1.20 to \$2.00/lb.

Based on a packinghouse door price of \$0.45 and marketable yield of 26,100 pounds per acre, we estimate annual revenue from satsuma production of \$11,745 per acre. Annual net return per acre is estimated at \$1,909. Because no management charge is included, this value represents the return to management and profit. Assuming all infrastructure, facilities, and equipment (other than land) must be purchased initially, a 30-year investment analysis estimates a payback period of 17 years, an internal rate of return of 6%, and a net present value of \$140,000. These figures are estimates; higher or lower net returns may occur. Satsuma production involves typical agricultural risks and variability of returns.

Sample Budget Summary for a Satsuma Grove in Full Production

GROVE SPECIFICATIONS					
Grove size (acres):	10	Tree spacing:	15' x 25'		
Management:	Owner-Managed	Trees per Acre:	116		
Market:	Delivered to Packinghouse	Irrigation:	Microsprinkler		
ANNUAL REVENUE					
Product & Market	Terms	Sales Unit	Price per Unit	Units per Acre	Revenue per Acre
#1 satsumas delivered	PHD	lb	\$0.45	26,100	\$11,745
Unmarketable culls		lb	??	8,700	??
TOTAL ANNUAL REVENUE					\$11,745
ANNUAL OPERATING COSTS					
				Cost per Acre	
				NonCash	Cash
Harvesting & Marketing					
Custom Pick & Haul					\$3,480
Grove Care					
Tree Replacement					\$181
Fertilizer & Soil Amendment					\$395
Weed Management					\$278
Insect/Disease Management					\$255
Scouting					\$323
Pruning					\$199
Irrigation					\$643
Freeze Protection					\$214
Interest on Operating Capital				\$368	\$0
TOTAL ANNUAL OPERATING COSTS				\$368	\$5,968
ANNUAL FIXED OVERHEAD COSTS					
				Cost per Acre	
				Noncash	Cash
Grove Establishment Capital Recovery				\$1,090	\$0
Land Charge, Rental Opportunity Cost				\$98	\$0
Fixed Production Overhead (Infrastructure, Facilities, Equipment, Durables)				\$1,209	\$253
General Farm Overhead				\$150	\$700
TOTAL ANNUAL FIXED OVERHEAD COSTS				\$2,547	\$953
TOTAL COSTS & NET RETURNS PER ACRE					
Total Annual Operating Costs:	\$6,336	Annual Net Return Above Operating Costs:		\$5,409	
Total Annual Cash Costs:	\$6,922	Annual Net Return Above Cash Costs:		\$4,823	
Total Annual Costs:	\$9,836	Annual Net Return Above Total Costs:		\$1,909	