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Budgeting Costs and Returns for Indian River Citrus Production, 2002-03



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ABSTRACT

Estimated costs and returns of growing seedless grapefruit in the Indian River area of Florida are presented for the twentieth year. The format presented may be used by individual growers to budget costs and returns, utilizing individual data on specific groves.

Key words: citrus, Indian River, budgeting, costs and returns, seedless grapefruit.

NOTE: The Indian River production area refers to the citrus producing counties on Florida's east coast including Brevard, Indian River, Martin, Palm Beach, and St. Lucie counties.

The budgeted cost information presented herein is the most current available. The budget cost items have been revised to reflect current grove practices being used by growers--e.g., chemical mowing, different spray materials and rates of fertilization, microsprinkler irrigation, more reset trees, etc. Thus the 2002-03 budget costs reflect reduced fertilizer for fresh market grapefruit and lower fertilizer and pesticide materials costs and increased per acre yield due to higher per acre tree densities.

The budget costs in this report represent a **custom-managed operation**. **Therefore, all equipment costs are based on the average custom rate costs and a 10 percent handling and supervision charge is added to the material cost.**

Although the estimated annual per acre grove costs listed are representative for a mature citrus grove (10+ years old), the grove care costs for a specific grove site may differ depending upon the tree age, tree density and the grove practices performed; e.g., spot herbicide for grass/brush regrowth under trees could add an additional \$16.60 per acre; Diaprepes control could add \$69.54 per acre for soil biological control application and \$73.20 per acre for each foliar application; extensive tree loss due to blight or tristeza could substantially increase the tree replacement and care costs; spray applications to control citrus leafminer and nematocidal applications such as Temik (\$128.11/acre) could increase the total cultural costs per acre above the average costs shown in the comparative budgets; travel and set-up costs may vary due to size of the citrus grove and distance from grove equipment barn and could add \$25.98 per acre; etc.

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NOTE: The ADDENDA include a Listing of Grove Care Options for Indian River Citrus Production for Both Round Oranges and Grapefruit; 2003 custom rate summary report; cost of establishing a citrus grove; etc. Page 12 is a list of the tables included in the ADDENDA.

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BUDGETING COSTS AND RETURNS FOR INDIAN RIVER CITRUS PRODUCTION, 2002-03

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INTRODUCTION

Budget analysis provides the basis for many grower decisions. Budget analysis can be used to calculate potential profits from an operation, to determine cash requirements for an operation, and to determine break-even prices. This report presents a budget constructed from current data and serves as a format for growers to analyze costs and returns from their individual records.

METHOD OF DATA COLLECTION

The data presented here were developed by surveying custom operators, input suppliers, growers, and colleagues at both the Indian River Research and Education Center in Ft. Pierce and the Citrus Research and Education Center in Lake Alfred and County Extension Citrus Agents in the Indian River production region. The survey is conducted annually in February and March.

COSTS AND INPUTS

Costs for various production inputs are those collected from citrus growers as well as the average of the data obtained from annual custom rate, chemical, and fertilizer surveys. Growers' costs are shown in the ADDENDA, Table 1-A through 7-A. The custom rate costs are shown in Table 8-A and the various chemical and fertilizer costs are shown in Table 9-A and 10-A in the ADDENDA. **The budget costs represent a custom-managed operation. Therefore, all equipment costs are based upon the average custom-rate costs and a 10 percent handling and supervision charge is added to the material cost.**

Although brand names are used in many of the tables in the ADDENDA, this does not imply endorsement by the University of Florida. It is merely an attempt to depict typical production practices.

All tables have a column reserved for the individual growers to insert data from a particular grove. This will allow a comparison of the grower's costs with those presented.

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THE GROVE SITUATION

Production practices for an Indian River grapefruit grove are shown in Table 1 with times during the year when they would likely be performed. There are two benefits to developing such a table for an individual grove. First, it shows what work is needed and when, so that operations can be planned well in advance. Second, it can be helpful if an annual cash flow analysis is developed to plan financing. The individual grower may benefit from developing a plan for a particular grove.

Specific production practices vary from grove to grove making it difficult to define a "typical" grove. Many combinations of practices and various tree variety combinations produce acceptable yields and returns. Although the example represents a white seedless grapefruit grove, the cost and return data are designed to be applicable to most grove situations. A grower, realtor, or land appraiser can substitute individual grove costs and expected returns into the budget format and develop a budget for a particular grove. A "your cost" column is appropriately provided for this purpose in subsequent tables.

In the following budget, above average management and cultural practices are assumed. Beyond this general assumption, the following specifics are assumed.

1. A mature (10+ years old), low volume-irrigated grove;
2. Variety is white seedless on sour orange rootstock;
3. Tree loss is 5.0 percent annually;
4. Trees are pulled and replaced when production falls below 50 percent of expected yield;
5. Production is for fresh market;
6. Tree density is 95 trees per acre; and
7. Custom-caretaker is providing grove management.

As a result of tree losses and replacement, the tree ages will vary. The budget reflects the following age distribution and yield for Indian River white seedless grapefruit shown in Table 1:

Table 1.--Schedule of production practices and budget items for an Indian River Florida grapefruit grove, 2002-03^a

	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<u>Total revenue:</u>	20% deposit		Final payment									
Less: <u>Pick & haul cost</u>			X									
<u>DOC advertisement tax</u>			X									
<u>Grove expenses:</u>												
<u>Mow</u>		X			X	Chemical Mow		Chemical Mow			X	
<u>Labor, general grove work, pull vines</u>	X								X			
<u>Herbicide (sprayed strip estimated as 1/2 grove acre equivalent)</u>			X			X				X		
Spray: <u>Post bloom/nutritional</u>				X	X							
<u>Summer oil/greasy spot</u>							X					
<u>Fall miticide</u>									X			
<u>Supplemental miticide</u>											X	
<u>Fertilizer</u>		42# N/A				42# N/A					42# N/A	Dolomite
<u>Hedging and topping</u>			Hedge									
<u>Brush removal/chop brush</u>			Chop brush									
<u>Tree removal</u>		X										
<u>Young tree care</u>			X	X		X	X		X			
<u>Microjet irrigation (times/week)</u>	1	1	2	3	3	3	2	2	2	2	1	1
<u>Miscellaneous (clean ditches)</u>		X										
<u>Grove taxes including water management</u>											X	
<u>Interest expense</u>							X					
<u>Annual principal payment on mortgage</u>							X					

^aThis is a suggested schedule of practices. Actual practices would not necessarily be done on the exact schedule shown here.

<u>% of grove</u>	<u>Tree age and condition</u>	<u>Yield boxes/tree</u>
5.0%	pulled and reset	0.0
5.0%	1 year old	0.0
5.0%	2 years old	0.0
5.0%	3 years old	1.0
5.0%	4 years old	1.7
55.0%	5-15 years old	5.5
5.0%	producing 50% of expected yield	3.5
15.0%	over 15 years	7.0

Calculation of normal production per acre is shown in Table 2. Note that the proportion-of-trees-by-age column only adds to 85 percent since 15 percent of the trees are non-bearing.

Table 2.--Calculation of normal production per acre, 2002-03

<u>Age of Tree</u>	<u>Trees</u>			<u>Boxes /tree</u>	<u>Total boxes</u>
	<u>Total no. all ages</u>	<u>Proportion ea. age^a</u>	<u>No. ea. age</u>	<u>No.</u>	
3 years	95	x 0.05	= 4.75	x 1.0	= 4.8
4 years	95	x 0.05	= 4.75	x 1.7	= 8.1
5-15 years	95	x 0.55	= 52.30	x 5.5	= 287.7
Prod. 50% of exp. yield	95	x 0.05	= 4.75	x 3.5	= 16.6
Over 15 years	95	x 0.15	= 14.30	x 7.0	= <u>100.1</u>
				<u>Total boxes</u>	<u>= 417.3</u>

^aProportion adds up to 0.85 (85 percent) as 15 percent of the trees were non-bearing (pulled and reset, 1 and 2 year old trees).

BUDGET COSTS AND RETURNS

The estimated budget costs and returns for the Indian River grove situation are shown in Table 3. The budgeted costs represent one possible citrus production program and were selected from the costs shown in the ADDENDA tables. The gross revenue estimates are based on the projected yields in Table 3 and estimated preliminary on-tree prices for the 2002-03 season. Grove establishment and reset costs, harvesting and packing charges can be found in Tables 11-A through 15-A in the ADDENDA. Also, historical on-tree prices for selected Florida citrus varieties are shown in Table 16-A of the ADDENDA.

As shown in Table 3, the total revenue for fresh-market white seedless grapefruit is estimated to be \$1,276.02 per acre. Total specified costs are \$1,072.54 and are comprised of grove care costs of \$1,024.54, plus management cost of \$48.00. Return to land, trees, and ownership, which represents net return above variable costs, was estimated to be \$203.48 per acre. At 325 and 525 boxes per acre, respectively, the break-even price required to cover grove care costs for seedless white grapefruit range from \$3.15 to \$1.95 per box on-tree and \$1.42 to \$1.17 per pounds solids delivered-in for eliminations.

Ad valorem taxes, and overhead and administrative costs (such as water drainage district taxes, crop insurance, and other grower assessments) can add up to 12 percent of the total grove care costs. These costs vary from grove to grove depending on age, location, variety of fruit, etc. and should be considered in arriving at a net return to land, trees, and ownership (total return minus total costs). Harvest costs (pick, roadside, and hauling costs) also add to the total fruit cost delivered to either a processing plant or fresh fruit packinghouse. Also, average annual debt payment (principal and interest) may be as high as \$460 per acre (\$3,900 average debt per acre @ 10 percent interest amortized over 20 years) which would reduce total available cash for grove expansion or other investment.

Estimated "delivered-in" costs are shown for fresh packed white grapefruit in Table 4. "Delivered-in" costs include grove care costs (Table 3) plus harvesting, regulatory, and grower assessment costs. The "delivered-in" cost is presented as a cost per acre, per box, per carton, and per pound solids. Three possible budget cost scenarios are presented (Refer to Table 13-A): 1) Low Cost Processed Cultural Program; 2) Processed and Reduced Cost Fresh Cultural Program; and 3) Typical/Historical Fresh Fruit Cultural Program. The first scenario represents costs of a cultural program directed toward reducing the expenditures for fruit grown primarily for the processed market. Scenario 2 represents a program using reduced inputs but with production directed at the fresh market. And the third scenario represents typical costs of grove practices which have been performed for citrus grown for the fresh fruit market. Modified herbicide and/or spray and fertilizer programs account for the reduced costs. NOTE: Before modifying a grove management program to reduce costs, an evaluation of the market program (processed or fresh), yield, and specific cultural problems (nutrition, disease, etc.) for the specific grove site should be made. Also, in Table 5, the total estimated F.O.B. cost for fresh packed white grapefruit is shown. The F.O.B. costs are presented for "fresh fruit packout percentage rates" ranging from 50 percent to 100 percent.

HISTORICAL COST TRENDS

Annual budgets of costs and returns for mature, fresh, white seedless grapefruit in the Indian River area have been developed and published the past four years. Estimated cost and return histories for 1998-99 through 2001-02 along with 2002-03, and a five-year average are presented in Table 6. The affects of over planting following recent freezes on Florida's annual grapefruit supply has resulted in a fluctuating on-tree price per box. Despite general reduction in operating costs, annual net return to land and trees has decreased over the five-year period. To allow comparisons in current values, these same costs and returns, adjusted to 2003 dollars, are presented in Table 7.

Table 3.--Estimated annual per acre costs and returns for a mature, white seedless grapefruit grove producing for the fresh market, Indian River area, 2002-03^a

Item	Description	Amount					Your cost				
		----- Dollars -----									
I.	Revenue	417 boxes @ \$3.06 ^b		1,276.02							
II.	Expenses ^c										
	Weed control										
	Mow middles	3 times per year		29.16							
	Chemical mow (Table 2-A, Option #9)	2 times per year		14.06							
	General grove work/sprouting, etc.	(2 labor hours per acre)		25.84							
	Herbicide (Table 2-A, Options #1, #6 & #7)			<u>141.99</u>		211.05					
	Spray program (Table 1-A, Options #1, #3, #4 @ 2, #6 & #13)					338.62					
	Fertilizer (Table 3-A, Option #2)					107.13					
	Dolomite (Table 7-A, Option #1)					12.59					
	Pruning (maintenance)										
	Topping	(\$279.50/hr. ÷ 10 A/hr.) ÷ 2 yrs.		13.95							
	Hedging	(\$255.00/hr. ÷ 10 A/hr.) ÷ 1.5 yrs.		17.00							
	Removing/chop brush	(\$8.23/A ÷ 1.5 yrs.)		5.49							
	Raise skirts of trees	(\$13.00/A ÷ 2 yrs.)		<u>6.50</u>		42.94					
	Tree replacement and care	(1 through 3 years)									
	Remove trees (Table 12-A)	5 trees per acre		23.70							
	Prepare sites, repair mound, and plant resets	Including 5 trees per acre		57.60							
	Supplemental fertilizer, sprout, etc. (Trees 1-3 years)	Including application		<u>46.75</u>		128.05					
	Microsprinkler irrigation (Table 7-A, Option #4)					145.30					
	Drainage ditch annual cost (Table 7-A, Option #5)					<u>38.86</u>					
	Total grove care expenses					1,024.54					
III.	Management	\$4.00 per acre per month ^d		<u>48.00</u>							
IV.	Total specified costs ^e					<u>1,072.54</u>					
V.	Return (loss) to land, trees, and ownership					<u>203.48</u>					
VI.	Break-even price for total grove care expenses										
		Boxes per acre					Boxes per acre				
		<u>325</u>	<u>375</u>	<u>425</u>	<u>475</u>	<u>525</u>	<u>325</u>	<u>375</u>	<u>425</u>	<u>475</u>	<u>525</u>
		<u>\$ On-tree price per box</u>					<u>\$ Delivered-in price per pound solids for eliminations^f</u>				
		3.15	2.73	2.41	2.16	1.95	1.42	1.33	1.26	1.21	1.17

^aAlthough the estimated annual per acre grove costs shown in Table 3 are representative for a mature Indian River white seedless grapefruit grove, the grove care costs for a specific grove site may differ depending upon the grove practices performed; e.g., a Temik application would add \$128.11 per acre; extensive tree loss due to blight or tristeza may double the tree replacement and care costs; travel and set-up costs may vary due to size of citrus grove and distance from grove equipment barn; etc.; truck watering of resets could add another \$7.95 per acre (average 5 waterings). Also, material cost for brown citrus aphid control could add \$10.22 per spray application.

^bOn-tree price per box is preliminary; assumes average of all methods of sale (fresh and processed). Also, the severe drought affected yields for the 2001-02 season.

^cAssumes material custom applied; therefore, a 10 percent handling and supervision charge is added to material cost.

^dOther methods to estimate a management cost—e.g., 5% of gross sales or 10% of total grove care costs—are used in the industry. Other methods will give a different return to land and trees than reported here.

^eOther cost items which are not included in the budget are ad valorem taxes and interest on grove investment. In addition to these cost items, overhead and administrative costs, such as water drainage/district taxes, crop insurance, and other grower assessments, can add up to 12 percent to the total grove care costs. These costs vary from grove to grove depending on age, location, and time of purchase or grove establishment.

^fAssumes 4.7 pounds solids per box, \$2.54 pick and haul cost per box (includes spot picking and fruit drenching plus D.O.C. \$0.25 advertising tax and canker decontamination costs), \$0.55 per box handling through packinghouse, and \$0.45 per box delivery to processing plant.

Table 4.--Estimated total delivered-in cost for Indian River White grapefruit grown for the fresh/processed market under three cultural cost programs, 2002-03

Represents a mature (10+ years old) Indian River White Grapefruit Grove	Processed White Grapefruit Low Cost Cultural Program			Fresh Packed White Grapefruit Reduced Cost Cultural Program			Fresh Packed White Grapefruit Typical/Historical Cultural Program		
	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/Carton	\$/Acre	\$/Box	\$/Carton
Total Production/Cultural Costs	\$ 796.51	\$1.910	\$0.4064	\$ 997.71	\$2.393	\$1.1963	\$1,024.54	\$2.457	\$1.2285
Interest on Operating (Cultural) Costs	39.83	0.096	0.0203	49.89	0.120	0.0598	51.23	0.123	0.0614
Management Costs	48.00	0.115	0.0245	48.00	0.115	0.0576	48.00	0.115	0.0576
Taxes/Regulatory Costs:									
Property Tax/Water Management Tax	44.80	0.107	0.0229	44.80	0.107	0.0537	44.80	0.107	0.0537
Water Drainage District Tax	60.00	0.144	0.0306	60.00	0.144	0.0719	60.00	0.144	0.0719
Fly Protocol Cost	—	—	—	52.13	0.125	0.0625	52.13	0.125	0.0625
Canker Decontamination Costs	<u>4.54</u>	<u>0.011</u>	<u>0.0023</u>	<u>4.54</u>	<u>0.011</u>	<u>0.0054</u>	<u>4.54</u>	<u>0.011</u>	<u>0.0054</u>
Total Taxes/Regulatory Costs	<u>109.34</u>	<u>0.262</u>	<u>0.0558</u>	<u>161.47</u>	<u>0.387</u>	<u>0.1936</u>	<u>161.47</u>	<u>0.387</u>	<u>0.1936</u>
Total Direct Grower Costs	\$ 993.68	\$2.383	\$0.5070	\$1,257.07	\$3.015	\$1.5073	\$1,285.24	\$3.082	\$1.5411
Interest on Average Capital Investment Costs	<u>378.50</u>	<u>0.908</u>	<u>0.1931</u>	<u>378.50</u>	<u>0.908</u>	<u>0.4538</u>	<u>378.50</u>	<u>0.908</u>	<u>0.4538</u>
Total Grower Costs	\$1,372.18	\$3.291	\$0.7001	\$1,635.57	\$3.922	\$1.9611	\$1,663.74	\$3.990	\$1.9949
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination	786.05	1.885	0.4011	885.29	2.123	1.0615	885.29	2.123	1.0615
Fruit Drenching (Fresh)	—	—	—	70.89	0.170	0.0850	70.89	0.170	0.0850
DOC Assessment	<u>83.40</u>	<u>0.200</u>	<u>0.0426</u>	<u>104.25</u>	<u>0.250</u>	<u>0.1250</u>	<u>104.25</u>	<u>0.250</u>	<u>0.1250</u>
Total Harvesting and Assessment Costs	869.45	2.085	0.4436	1,060.43	2.543	1.2715	1,060.43	2.543	1.2715
Total Delivered-In Cost	<u>\$2,241.62</u>	<u>\$5.376</u>	<u>\$1.1437</u>	<u>\$2,696.00</u>	<u>\$6.465</u>	<u>\$3.2326</u>	<u>\$2,724.17</u>	<u>\$6.533</u>	<u>\$3.2664</u>
Two cartons per box P.S. = Pound Solids Yield: 417 boxes/acre @ 4.7 P.S. per box 95 trees per acre	Refer to cultural program shown on Table 13-A. Two summer oil sprays with oil, copper, and nutritionals.			Refer to cultural program shown on Table 13-A. Assumes 100% packout			Refer to cultural program shown in Table 3. Assumes 100% packout		

Table 5.--Estimated F.O.B. cost for fresh market Indian River White grapefruit, 2002-03

	Percent Packout 50.00%			Percent Packout 60.00%			Percent Packout 70.00%		
	Box Yield Per Acre 417			Box Yield Per Acre 417			Box Yield Per Acre 417		
	Per Acre	Per Packed Box	Per Carton	Per Acre	Per Packed Box	Per Carton	Per Acre	Per Packed Box	Per Carton
Total Production/ Cultural Costs	\$1,024.54	\$4.914	\$2.4569	\$1,024.54	\$4.095	\$2.0474	\$1,024.54	\$3.510	\$1.7550
Interest on Operating (Cultural) Costs	51.23	0.246	0.1228	51.23	0.205	0.1024	51.23	0.175	0.0877
Management	48.00	0.230	0.1151	48.00	0.192	0.0959	48.00	0.164	0.0822
Taxes/Regulatory	161.47	0.774	0.3872	161.47	0.645	0.3227	161.47	0.553	0.2766
Interest on Average Capital Investment	378.50	1.815	0.9077	378.50	1.513	0.7564	378.50	1.297	0.6483
Harvesting (Pick/Spot Pick, Haul, DOC Tax, Etc.)	<u>1,060.43</u>	<u>5.086</u>	<u>2.5430</u>	<u>1,060.43</u>	<u>4.238</u>	<u>2.1192</u>	<u>1,060.43</u>	<u>3.633</u>	<u>1.8164</u>
Total Delivered-In Cost	\$2,724.17	\$13.066	\$6.5328	\$2,724.17	\$10.888	\$5.4440	\$2,724.17	\$9.333	\$4.6663
Packing & Selling (Export)	1,573.34	7.546	3.7730	1,888.01	7.546	3.7730	2,202.68	7.546	3.7730
Net Fresh Eliminations Costs ^a	<u>-310.87</u>	<u>-1.491</u>	<u>-0.7455</u>	<u>-248.70</u>	<u>-0.994</u>	<u>-0.4970</u>	<u>-186.52</u>	<u>-0.639</u>	<u>-0.3195</u>
Total F.O.B. Costs	<u>\$3,986.64</u>	<u>\$19.121</u>	<u>\$9.5603</u>	<u>\$4,363.48</u>	<u>\$17.440</u>	<u>\$8.7200</u>	<u>\$4,740.32</u>	<u>\$16.240</u>	<u>\$8.1198</u>
	Percent Packout 80.00%			Percent Packout 90.00%			Percent Packout 100.00%		
	Box Yield Per Acre 417			Box Yield Per Acre 417			Box Yield Per Acre 417		
	Per Acre	Per Packed Box	Per Carton	Per Acre	Per Packed Box	Per Carton	Per Acre	Per Packed Box	Per Carton
Total Production/ Cultural Costs	\$1,024.54	\$3.071	\$1.5356	\$1,024.54	\$2.730	\$1.3650	\$1,024.54	\$2.457	\$1.2285
Interest on Operating (Cultural) Costs	51.23	0.154	0.0768	51.23	0.136	0.0682	51.23	0.123	0.0614
Management	48.00	0.144	0.0719	48.00	0.128	0.0639	48.00	0.115	0.0576
Taxes/Regulatory	161.47	0.484	0.2420	161.47	0.430	0.2151	161.47	0.387	0.1936
Interest on Average Capital Investment	389.85	1.169	0.5843	389.85	1.039	0.5194	389.85	0.935	0.4674
Harvesting (Pick/Spot Pick, Haul, DOC Tax, Etc.)	<u>1,060.43</u>	<u>3.179</u>	<u>1.5894</u>	<u>1,060.43</u>	<u>2.826</u>	<u>1.4128</u>	<u>1,060.43</u>	<u>2.543</u>	<u>1.2715</u>
Total Delivered-In Cost	\$2,735.52	\$8.200	\$4.1000	\$2,735.52	\$7.289	\$3.6444	\$2,735.52	\$6.560	\$3.2800
Packing & Selling (Export)	2,517.35	7.546	3.7730	2,832.01	7.546	3.7730	3,146.68	7.546	3.7730
Net Fresh Eliminations Costs ^a	<u>-124.35</u>	<u>-0.373</u>	<u>-0.1864</u>	<u>-62.17</u>	<u>-0.166</u>	<u>-0.0828</u>	<u>0.00</u>	<u>0.000</u>	<u>0.0000</u>
Total F.O.B. Costs	<u>\$5,128.51</u>	<u>\$15.373</u>	<u>\$7.6866</u>	<u>\$5,505.36</u>	<u>\$14.669</u>	<u>\$7.3346</u>	<u>\$5,882.20</u>	<u>\$14.106</u>	<u>\$7.0530</u>

^a "Net Eliminations Cost" equals the average yield of 4.70 pound solids per box times \$0.53 per pound solids less packinghouse elimination charge and cannery hauling charge of \$1.00 per box.

Table 6.--Estimated annual per acre costs and returns and 5-year average costs and returns for a mature, white seedless grapefruit grove producing citrus for fresh fruit market in the Indian River area, 1998-99–2002-03

Year	On-tree price/box ^a	Yield	Gross revenue	Total grove care expenses	Total specified costs ^f	Net return to land, trees, and ownership
			----- Dollars -----			
1998-99	\$1.95	469 ^c	914.55	922.55	970.55	(56.00)
1999-00	\$4.20	469 ^c	1,969.80	951.47	999.47	970.33
2000-01	\$2.15	425 ^d	913.75	974.46	1,022.46	(108.71)
2001-02	\$1.95	417 ^e	813.15	1,008.77	1,056.77	(243.62)
2002-03	\$3.06 ^b	417 ^e	1,276.02	1,024.54	1,072.54	203.18
5-yr. avg.	\$2.66	439	1,167.74	976.36	1,024.36	143.38

^aOn-tree prices for all sales methods as reported by the Florida Agricultural Statistics Service.

^bPreliminary estimate by authors at time of printing and is not a published price.

^cHigher per acre yield is due to increased average tree density of white grapefruit groves in the Indian River production region.

^dThe severe drought affected yields for the 2001-02 season.

^eIncreased tree loss due to citrus tristeza virus reduced yields.

^fA management cost of \$4.00 per acre per month is included. Fixed costs such as taxes, debt service, and crop insurance are not included.

Table 7.--Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2003 dollars) for a mature, white seedless grapefruit grove producing citrus for fresh fruit market in the Indian River area, 1998-99–2002-03

Year	Inflation factor index ^a	Adjusted on-tree price/box	Yield	Gross revenue	Total specified costs ^b	Net return to land, trees, and ownership
				----- Dollars -----		
1998-99	109.6	\$2.14	469	1,003.66	1,063.72	(60.06)
1999-00	103.7	\$4.36	469	2,044.84	1,036.45	1,008.39
2000-01	102.5	\$2.20	425	935.00	1,048.02	(113.02)
2001-02	105.0	\$2.05	417	854.85	1,109.61	(254.76)
2002-03	100.0	\$3.06	417	1,276.02	1,072.54	203.18
5-yr. avg.	--	\$2.76	439	1,211.64	1,066.07	145.57

^aProducer price index for each year adjusted to 2003 prices (2003 = 100), with 2003 consumer price index estimated to be 137.6. Producer price index for other years are: 1999 = 125.5; 2000 = 132.7; 2001 = 134.2; and 2002 = 131.1.

^bA management cost of \$4.00 per acre per month is included. Fixed costs such as taxes, debt service, and crop insurance are not included. (Refer to Table 6.)

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ADDENDA: Listing of Grove Care Options for Indian River Citrus Production for Both Round Oranges and Grapefruit^a

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Abbreviations for important chemicals are:

Cu = Copper	Mg = Magnesium	N = Nitrogen
Fe = Iron	Mn = Manganese	Zn = Zinc

^aThe costs in the ADDENDA represent a custom managed operation. Therefore, all equipment costs are based upon the average custom rate costs and a 10 percent handling and supervision charge is added to the material cost.

Table 1-A.--Spray options

POST BLOOM SPRAY

Spray Option #1	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Ethion	5 pts	\$ 23.20	_____
	Cu (50% metallic)	7 lbs	9.80	_____
	Zn	5 lbs	4.35	_____
	Mn	10 lbs	3.40	_____
	Ground Application (PTO driven airblast)	250 gals	<u>28.50</u>	_____
	Total per Application		<u>\$69.25</u>	=====

Spray Option #2	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Ethion	5 pts	\$23.20	_____
	Cu (50% metallic)	10 lbs	14.00	_____
	Oil 97+%	3 gals	7.44	_____
	Ground Application (Curtec sprayer)	25 GPA	<u>20.67</u>	_____
	Total per Application		<u>\$65.31</u>	=====

Spray Option #3	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 9.80	_____
	Oil 97+%	5 gals	12.40	_____
	Ground Application (PTO driven airblast)	250 gals	<u>28.50</u>	_____
	Total per Application		<u>\$50.70</u>	=====

Spray Option #4	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 9.80	_____
	Ground Application (PTO driven airblast)	150 gals	<u>24.85</u>	_____
	Total per Application		<u>\$34.65</u>	=====

Table 1-A.--Spray options (cont'd.)

SUMMER SPRAY

Spray Option #5	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Oil 97+%	5 gals	\$12.40	_____
	Cu (50% metallic)	7 lbs	9.80	_____
	Ethion 4EC	6 pts	27.84	_____
	Ground Application (PTO driven airblast)	250 gals	<u>28.50</u>	_____
	Total per Application		<u>\$78.54</u>	=====

Spray Option #6	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 9.80	_____
	Oil 97+%	5 gals	12.40	_____
	Agri-Mek	10 ozs	51.90	_____
	Ground Application (PTO driven airblast)	500 gals	<u>34.70</u>	_____
	Total per Application		<u>\$108.80</u>	=====

Spray Option #7	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 9.80	_____
	Oil 97+%	10 gals	24.80	_____
	Agri-Mek	5 ozs	25.95	_____
	Ground Application (PTO driven airblast)	500 gals	<u>34.70</u>	_____
	Total per Application		<u>\$95.25</u>	=====

Spray Option #8	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Enable	8 oz	\$12.40	_____
	Oil 97+%	5 gals	12.40	_____
	Micromite	1.25 lbs	42.93	_____
	Ground Application (PTO driven airblast)	250 gals	<u>28.50</u>	_____
	Total per Application		<u>\$96.23</u>	=====

Spray Option #9	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 9.80	_____
	Oil 97+%	5 gals	12.40	_____
	Zn	5 lbs	4.35	_____
	Mn	10 lbs	3.40	_____
	B	0.25 lbs	1.33	_____
	Ground Application (PTO driven airblast)	250 gals	<u>28.50</u>	_____
	Total per Application		<u>\$59.78</u>	=====

Table 1-A.—Spray options (cont'd.)

SUMMER SPRAY (cont'd.)

Spray Option #10	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
(Scale insects)	Lorsban 4EC	5 pts	\$28.40	_____
	Ground Application (engine driven airblast)	500 gals	<u>34.70</u>	_____
	Total per Application		<u>\$63.10</u>	=====

FALL SPRAY

Spray Option #11	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Vendex 50WP	2 lbs	\$32.72	_____
	Thiolux 80 DF (sulfur)	15 lbs	11.10	_____
	Ground Application (PTO driven airblast)	250 gals	<u>28.50</u>	_____
	Total per Application		<u>\$72.32</u>	=====

Spray Option #12	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Kelthane MF	6 pts	\$28.08	_____
	Aerial Application	15 GPA	<u>7.55</u>	_____
	Total per Application		<u>\$35.63</u>	=====

Spray Option #13	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Vendex WP	2 lbs	\$32.72	_____
	Ground Application (PTO driven airblast)	100 GPA	<u>20.42</u>	_____
	Total per Application		<u>\$53.14</u>	=====

Spray Option #14	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Thiolux 80 DF (sulfur)	15 lbs	\$11.10	_____
	Aerial Application	15 GPA	<u>7.55</u>	_____
	Total per Application		<u>\$18.65</u>	=====

Table 2-A.--Herbicide options

Herbicide Option #1	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Solicam 80DF	3 lbs	\$24.87	_____
	Karmex WP	4 lbs	8.12	_____
	Roundup Ultra Max	2 qts	12.10	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$57.31</u>	=====

Herbicide Option #2	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Surflan A80 DF	2 qts	\$19.44	_____
	Simazine 4L	4 qts	7.16	_____
	Roundup Ultra Max	2 qts	12.10	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$50.95</u>	=====

Herbicide Option #3	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Karmex WP	4 lbs	\$ 8.12	_____
	Roundup Ultra Max	2 qts	12.10	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$32.47</u>	=====

Herbicide Option #4	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Solicam 80DF	4 lbs	\$24.87	_____
	Simazine 4L	4 qts	7.16	_____
	Roundup Ultra Max	2 qts	12.10	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$56.38</u>	=====

^aWith respect to herbicide materials, Amount Per Grove Acre does not equal Amount Per Treated Acre shown on the label. Only a strip or band is being treated. In this report, it is assumed that only one-half of a grove surface is being treated.

Table 2-A.--Herbicide options (cont'd.)

Herbicide Option #5	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Roundup Ultra Max	2 qts	\$12.10	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$24.35</u>	=====

Herbicide Option #6	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Krovar I	5 lbs	\$29.35	_____
	Roundup Ultra Max	2 qts	12.10	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$53.70</u>	=====

Herbicide Option #7	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Roundup Ultra Max	2 qts	\$12.10	_____
	Princep (Caliber 90)	4 lbs	6.60	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$30.95</u>	=====

Herbicide Option #8	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Direx 4L	3 qts	\$ 7.14	_____
	Solicam	3 lbs	24.87	_____
	Ground Application (1 time)		<u>12.25</u>	_____
	Total for 1 Application		<u>\$44.26</u>	=====

Herbicide Option #9	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Chemical mow)	Roundup Ultra Max	1 pt	\$ 3.03	_____
	Ground Application (1 time)		<u>4.00</u>	_____
	Total for 1 Application		<u>\$ 7.03</u>	=====

Table 2-A.--Herbicide options (cont'd.)

Herbicide Option #10	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Chemical mow)	Roundup Ultra Max	1.5 pts	\$ 4.55	_____
	Ground Application (1 time)		<u>4.00</u>	_____
	Total for 1 Application		<u>\$ 8.55</u>	=====

Herbicide Option #11	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Spot treatment for grass/brush regrowth under trees)	Roundup Ultra Max	2 qts	\$12.10	_____
	Ground Application (1 time)		<u>4.50</u>	_____
	Total for 1 Application		<u>\$16.60</u>	=====

Table 3-A.--Dry fertilizer options

Option #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(100 lbs N/Acre)	12-2-12-2.4 MgO	835 lbs	\$ 67.64	_____
	Application	3 times	<u>22.89</u>	_____
	Total for 3 Applications		<u>\$90.53</u>	=====

Option #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(125 lbs N/Acre)	12-2-12-2.4 MgO	1040 lbs	\$ 84.24	_____
	Application	3 times	<u>22.89</u>	_____
	Total for 3 Applications		<u>\$107.13</u>	=====

Option #3	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(162 lbs N/Acre)	12-2-12-2.4 MgO	1350 lbs	\$109.35	_____
	Application	3 times	<u>22.89</u>	_____
	Total for 3 Applications		<u>\$132.24</u>	=====

Table 3-A.--Dry fertilizer options (cont'd.)

Option #4	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	15-2-15-2.4 MgO	1200 lbs	\$ 109.20	_____
	Application	3 times	<u>22.89</u>	_____
	Total for 3 Applications		<u>\$132.09</u>	=====

Option #5	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(204 lbs N/Acre)	17-4-17-2.4 MgO	1200 lbs	\$118.80	_____
	Application	3 times	<u>22.89</u>	_____
	Total for 2 Applications		<u>\$141.69</u>	=====

Option #6	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(225 lbs N/Acre)	15-2-15-2.4 MgO	1500 lbs	\$136.50	_____
	Application	3 times	<u>22.89</u>	_____
	Total for 3 Applications		<u>\$159.39</u>	=====

Table 4-A.--Liquid fertilizer (Double boom application)

Option #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	10-0-10	1800 lbs	\$ 111.60	_____
	Double Boom Application	3 times	<u>43.50</u>	_____
	Total for 3 Applications		<u>\$155.60</u>	=====

Option #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	10-2-10	1800 lbs	\$ 117.00	_____
	Double Boom Application	3 times	<u>43.50</u>	_____
	Total for 3 Applications		<u>\$160.50</u>	=====

Option #3	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	10-0-10	1800 lbs	\$ 111.60	_____
	Solicam 80DF	3 lbs*	24.87	_____
	Karmex WP	4 lbs*	8.12	_____
	Double Boom Application	3 times	<u>43.50</u>	_____
	Total for 3 Applications		<u>\$188.09</u>	=====

*Treated acre (one herbicide application)

Table 5-A.--Nematicides options

Option #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	Temik 15G	33 lbs	\$113.85	_____
	Application	1 time	<u>14.26</u>	_____
	Total per Application		<u>\$128.11</u>	=====

Table 6-A.--Soil amendment options

Option #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(Every 3 years)	Dolomite (Delivered)	1 ton	\$30.14	_____
	Application	1 time	<u>7.63</u>	_____
	Total for 1 Application		<u>\$37.77</u>	=====
	(Average 1/3 Ton Applied/Yr)		<u>\$12.59</u>	=====

Option #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(Every year)	Dolomite (Delivered)	1000 lbs	\$15.07	_____
	Application	1 time	<u>7.63</u>	_____
	Total per Application		<u>\$22.70</u>	=====

Table 7-A.—Irrigation--annual cost per acre

DRIP

	<u>Option #1</u>	<u>Your Cost/Acre</u>	<u>Option #2</u>	<u>Your Cost/Acre</u>
Operating	(Electric) \$ 43.86	_____	(Diesel) \$ 39.46	_____
Maintenance of System	<u>41.05</u>	_____	<u>40.84</u>	_____
Total Cash Expenses	\$ 84.91	_____	\$ 80.30	_____
Fixed Depreciation Expense	<u>42.35</u>	_____	<u>45.25</u>	_____
Total Cash and Fixed Expenses	<u>\$127.26</u>	<u>_____</u>	<u>\$125.55</u>	<u>_____</u>

MICROSPRINKLER

	<u>Option #3</u>	<u>Your Cost/Acre</u>	<u>Option #4</u>	<u>Your Cost/Acre</u>
Operating	(Electric) \$ 49.87	_____	(Diesel) \$ 41.98	_____
Maintenance of System	<u>45.75</u>	_____	<u>46.76</u>	_____
Total Cash Expenses	\$ 95.62	_____	\$ 88.74	_____
Fixed Depreciation Expense	<u>52.94</u>	_____	<u>56.56</u>	_____
Total Cash and Fixed Expenses	<u>\$148.56</u>	<u>_____</u>	<u>\$145.30</u>	<u>_____</u>

DRAINAGE DITCH ANNUAL COSTS

	<u>Option #5</u>	<u>Your Cost/Acre</u>
Ditches/Canals Maintenance (\$41.88/acre ÷ 3 years)	\$14.76	_____
Weed Control in Ditches/Canals	13.05	_____
Water Control: In/Out of Ditches and Canals	<u>11.05</u>	_____
Total	<u>\$38.86</u>	<u>_____</u>

Table 8-A.--A listing of 2003 custom rates reported by twenty-two Indian River and South Florida citrus caretakers

Grove Practice	Unit	Range of Rate Reported		Average Rate ^z	Comments				
CULTIVATION AND EQUIPMENT:									
Hand Labor	Hour	\$11.00-	\$15.00	\$12.92	Plus transportation and equipment				
Mechanic Labor	Hour	30.00-	40.00	34.48	Labor and service truck				
Rotovate	Hour	30.00-	40.00	35.94					
Disc 7-8'	Hour	26.00-	37.50	31.32					
Disc 10'	Hour	32.25-	37.50	34.35					
Mow: 7-8'	Hour	30.00-	33.00	30.66					
9-10'	Hour	30.00-	37.50	32.93					
9-10'	Acre	9.00-	11.00	9.72					
15-16'	Hour	35.00-	40.00	37.79	Average \$8.75/acre				
V-Mower	Hour	30.00-	34.00	31.56	Average \$8.87/acre				
Sickle Mower	Hour	—	—	34.00					
Herbicide ^z (Strip/Band-Single Boom)	Hour	32.00-	38.00	35.00					
Herbicide ^z (Strip/Band-Single Boom)	Acre	12.00-	13.40	12.69	Plus materials				
Herbicide ^z (Strip/Band-Double Boom)	Acre	11.50-	13.00	12.25	Plus materials				
Herbicide ^z (Chemical Mow)	Acre	2.50-	7.00	4.00	Plus materials				
Temik ^z	Acre	10.00-	13.00	11.83	Plus materials				
Plow	Hour	30.00-	37.50	33.33					
Backhoe	Hour	40.00-	50.00	46.28					
Vine Puller/Deviner	Hour	30.00-	31.00	30.33					
Middle Buster	Hour	30.00-	37.50	34.13	With tractor and driver; 2.5¢ per foot				
Mound Builder	Hour	33.00-	37.50	34.50	With tractor and driver; 25¢ each mound				
Grader Blade	Hour	28.00-	37.50	33.00	Tractor/blade and driver				
Caterpillar Grader	Hour	—	—	55.00					
Bush Hog	Hour	35.00-	41.00	37.83					
Water Truck with Driver	Hour	30.00-	35.00	33.04					
Pickup Truck with Driver	Hour	24.00-	35.00	38.78	Average miles traveled per year: Pick-up truck — 24,990 miles				
Flatbed/Transport Truck with Driver	Hour	35.00-	50.00	35.70					
Tractor with Driver	Hour	27.50-	40.00	30.73					
ATV with Driver	Hour	18.00-	25.00	21.70					
SPRAYING:^z									
PTO AIR BLAST SPRAYER									
		1,000 Gal Tank with Electronic Sensing		1,000 Gal Tank without Electronic Sensing		500 Gal Tank Avg	Engine Driven 500 Gal Tank Avg		
500 GPA	Acre	35.00-	40.00	37.75	30.00-	35.00	34.70	34.95	37.77
250 GPA	Acre	28.00-	35.00	31.20	25.00-	30.00	28.50	29.47	30.38
125 GPA	Acre	23.00-	27.50	25.38	23.50-	25.00	23.93	23.40	26.02
100 GPA	Acre	—	—	—	19.75-	21.00	20.42	—	—
Curtec (25 GPA)	Acre	20.00-	22.00	20.67					
Aerial	Fixed Wing:	\$ 4.93/acre @ 5 gallons per acre							
Aerial	Fixed Wing:	\$ 6.07/acre @ 10 gallons per acre							
Aerial	Fixed Wing:	\$ 7.55/acre @ 15 gallons per acre							
Aerial	Fixed Wing:	\$ 11.02/acre @ 20 gallons per acre							
									Huey Helicopter: \$15.00/acre @ 10 GPA
									Huey Helicopter: \$30.00/acre @ 15 GPA
FERTILIZING:^z									
Liquid Boom Application:									
Single Boom	Acre	\$ —	\$ —	\$12.50					
Double Boom	Acre	—	—	12.25					
Dry (Bulk)	Acre	6.00-	8.25	7.02					\$12.00/acre with electronic sensing technology
Lime or Dolomite	Acre	7.00-	8.25	7.63					Average \$34.13 (includes material)
Fertilize Young Trees ^z	Hand Spread	Hour	11.00-	15.00	12.92				Plus transportation and materials
	Fert. Spreader	Hour	26.00-	33.00	29.80				Plus materials; Average \$725/acre; \$12.00/acre with electronic sensing
IRRIGATION:									
Ditch Mower	Hour	\$35.00-	\$45.00	\$ 41.00					
Water Furrow Disc	Hour	30.00-	37.50	34.10					
Water Furrow Cleaner	Hour	33.00-	34.00	33.33					
Water Furrow Shaper (Non-Laser)	Hour	35.00-	42.00	38.11					
Water Furrow Shaper (Laser Control)	Hour	70.00-	75.00	72.67					
Rotary Ditcher or Auger	Hour	30.00-	37.50	34.63					
Microsprinkler/Drip Irrigation Maintenance	Acre/Month	3.50-	4.50	3.85					Check & repair system; parts extra
Microsprinkler		28.75/setting; \$32.33/hour (truck and driver)							Start/stop and supervision

Table 8-A.--A listing of 2003 custom rates reported by twenty-two Indian River and South Florida citrus caretakers (cont'd.)

Grove Practice	Unit	Range of Rate Reported		Average Rate ^y	Comments
REMOVING TREES:					
Front-end Loader	Hour	\$50.00-	\$57.20	\$52.53	Avg. range 3-15 trees per hour
Tree Shearing (Cutting Tree at Ground Level)	Hour	50.00-	60.00	54.29	Avg. range 5-20 trees per hour
PRUNING:					
Power Saw with Operator	Hour	\$17.00-	\$21.50	\$19.81	
Hedging:					
Double Side (Tractor Pulled)	Hour	100.00-	145.00	130.00	6 to 10 acres/hour
Double Side (Tractor Mounted)	Hour	—	—	200.00	
Double Side (Self Propelled)	Hour	225.00-	265.00	255.00	8 to 20 acres/hour depending on wood size; \$14.07/acre annual cut
Double Side Rotary Boom (Self Propelled) ^x	Hour	—	—	300.00	5 to 15 acres/hour bed tops only; add 25% for furrows only
Double Side Self-Propelled Fixed Boom Hedger ^x	Hour	—	—	360.00	12 to 30 acres/hour— <u>bed</u> top only; 8 to 20 acres— <u>bed</u> top <u>and</u> furrow; depending on wood size
Topping:					
Tractor Pulled	Hour	—	—	115.00	2-5 acres/hour depending on wood size
Tractor Pulled (Fixed Boom)	Hour	—	—	360.00	<u>5</u> to 12 acres/hour roof top; 10 to 20 acres flat top cut from <u>bed</u> <u>tops</u> —annual maintenance cut
Double Sided Topper (Self Propelled)	Hour	265.00-	300.00	279.00	Avg. 8-15 acres depending on wood size type of cut; \$25/acre
Double Boom (Self Propelled)	Hour	—	—	550.00	15 to 30 acres flat top cut from bed tops annual maint. cut
Limb Lifter/Tree Skirt Trimmer	Acre	—	—	13.00	3 to 5 acres/hour
Limb Lifter/Tree Skirt Trimmer (Double Sided Rotary)	Hour	—	—	130.00	6 to 20 acres/hour
Removing Brush:					
Haul Brush out of Grove (Front-end Loader)	Hour	50.00-	55.00	51.14	Average \$8.00/acre
Mow/Chop Brush	Hour	32.00-	40.00	36.58	
Mulching	Hour	—	—	250.00	
OTHER CUSTOM RATES:					
Install Tree Wraps		\$0.15 - \$0.45/tree depending on type of wrap and number of trees; Annual maintenance cost: 25¢/tree			
Plant Trees (Solid Set)	Tree	\$0.90-	\$1.50	\$1.15	Varies as to density
Plant Trees (Resets)	Tree	2.00-	3.25	2.31	Varies as to the number of resets
Travel/Setup Charge	Hour	—	—	25.23	
Grove Management Charge/Month:					
Supervising Grove Care Operations	Acre	3.00-	5.75	4.29	In addition to caretaking charges
Handling Fruit Marketing		\$0.10-\$0.25/box – For Supervising and Marketing fruit			
Supervising/Handling Chemicals/Fertilizer		10% to 20% of materials cost; averaged 13%			
Charge for personnel to oversee harvesting operations and coordinate harvest in different blocks/groves and keeping of harvesting labor compliance records.	Box	\$0.10-	\$0.25	\$0.17	
Consulting	Hour	\$85.00	\$200.00	\$136.00	Horticultural Evaluation and/or Financial Analysis/prospectus.
Total Reported Acreage Provided Grove Service to:	Acre	1,400-	8,000	3,225	Total acres reporting: 45,150

^xPlus materials. Caretakers reporting rates include labor, tractor and sprayer; supply truck included by most caretakers.

^yCalculated by dividing the total number of caretakers reporting a grove practice rate into the sum reported. Unless otherwise stated, labor included with all charges.

^zLow acres is for 2 years regrowth hedging; high acres is for annual maintenance hedging.

Source: Ronald P. Muraro, Extension Farm Management Economist, Lake Alfred CREC, June 2003.

Table 9-A.--2003 summary of average chemical price estimates

Item	Unit	Average Price	Your Price (2003)
<u>Fungicides:</u>			
Abound	gal.	235.00	_____
Aliette 80WP	lb.	9.96	_____
Basic Copper Sulfate (53%)	lb.	1.27	_____
Copper (50%) (Kocide 101)	lb.	1.96	_____
Carbamate 76WP	lb.	3.13	_____
Enable 2F	40 oz.	56.40	_____
Headline	gal.	220.00	_____
Nu-Cop 50DF	lb.	1.80	_____
Oil - 435 or 455	gal.	2.25	_____
Ridomil Gold Granular	lb.	5.35	_____
Ridomil Gold EC	gal.	604.15	_____
<u>Insecticides/Nematicides:</u>			
Admire 2F	gal.	522.50	_____
Agri-Mek (0.15EC)	gal.	604.00	_____
<u>Bacillus thuringiensis</u>	gal.	9.92	_____
Comite 6.55 EC	gal.	80.95	_____
Danitol	gal.	141.67	_____
Ethion	gal.	33.75	_____
Guthion 50WP	lb.	9.78	_____
Kelthane MF	gal.	34.00	_____
Lorsban 4EC	gal.	41.25	_____
Lorsban 15G	lb.	1.76	_____
Malathion 5 EC	gal.	20.09	_____
Micromite 25WP	lb.	31.22	_____
Microthiol 80DF	lb.	0.67	_____
Nexter WP	lb.	100.44	_____
Sevin 80S	lb.	4.57	_____
Sevin XLR	gal.	25.93	_____
Sulphur 6F	gal.	2.65	_____
Temik 15G	lb.	3.14	_____
Thiolux 80 DF	lb.	0.67	_____
Vendex 50W	lb.	14.88	_____

Table 9-A.--2003 summary of average chemical price estimates (cont'd.)

Item	Unit	Average Price	Your Price (2003)
<u>Herbicides:</u>			
Direx 4L	gal.	17.24	_____
Direx 80 DF	lb.	3.49	_____
Fusilade DX	gal.	123.57	_____
Gramoxone (Paraquat)	gal.	33.65	_____
Hyvar X	lb.	18.19	_____
Karmex	lb.	3.69	_____
Krovar I	lb.	10.68	_____
Mandate 2E	gal.	180.63	_____
Poast Plus 1.0 EC	gal.	53.97	_____
Princep (Caliber 90)	lb.	3.00	_____
Princep 4L	gal.	13.71	_____
Rodeo (30 gal drum)	gal.	72.69	_____
Roundup (30 gal drum)	gal.	27.75	_____
Roundup Ultra Max	gal.	44.00	_____
Simazine 90 DF	lb.	2.72	_____
Simazine 4L	gal.	13.00	_____
Solicam 80 DF	lb.	15.08	_____
Surflan AS	gal.	70.73	_____
Touchdown	gal.	35.67	_____
<u>Growth Regulators:</u>			
Citrus Fix	gal.	284.48	_____
Pro-Gibb 3.91%	32 oz. bottle	37.56	_____
<u>Other Spray Materials:</u>			
Borates (15%)	lb.	0.74	_____
Manganese (32%)	lb.	0.31	_____
Zinc (78%)	lb.	0.79	_____
<u>Nutritional Spray Mix:</u>			
Dyna Gold MZF	gal.	6.41	_____

SOURCE: Ronald P. Muraro, Extension Farm Management Economist, University of Florida, IFAS, CREC, Lake Alfred, Florida, August 2003.

Table 10-A.--2003 summary of average fertilizer price estimates

Item	Unit	Average Price	Your Price (2003)
<u>FERTILIZER (FOB Price @ Plant)</u>			
		\$	
<u>Dry Mix (Bulk)</u>			
17-0-17-3 _{Mg}	ton	177.44	_____
17-4-17-2.4 _{Mg}	ton	180.46	_____
16-0-16	ton	166.08	_____
16-0-16-4 _{Mg}	ton	174.36	_____
16-2-16-3 _{Mg}	ton	175.82	_____
15-2-15-2.4 _{Mg}	ton	165.26	_____
12-2-12-2.4 _{Mg}	ton	147.78	_____
8-8-8 w/minors*	ton	145.30	_____
8-4-8 w/minors*	ton	128.44	_____
8-2-8 w/minors*	ton	126.26	_____
6-6-6 w/minors*	ton	127.03	_____
<u>Liquid Mix (Bulk)</u>			
8-2-8	ton	112.48	_____
8-4-8	ton	107.08	_____
9-3-9	ton	109.54	_____
9-4-9	ton	124.19	_____
10-0-10	ton	111.81	_____
10-2-10	ton	118.71	_____
12-0-6	ton	110.49	_____
12-3-6	ton	108.41	_____

*With organic nitrogen, the price averaged 25% higher.

Table 10-A.--2003 summary of average fertilizer price estimates (cont'd.)

Item	Unit	Average Price	Your Price (2003)
<u>Other Fertilizer Materials (Bulk)</u>			
Ammonium Nitrate (21% N Liquid)	ton	124.75	_____
Ammonium Nitrate (33.5% N Dry)	ton	187.38	_____
Ammonium Sulfate (21% N)	ton	101.67	_____
Calcium Nitrate (19% Ca, 15.5% N)	ton	207.69	_____
Dolomite (at mine--49% CaCO ₃ , 36% MgCO ₃)	ton	16.49	_____
Muriate of Potash (60% K ₂ O)	ton	162.02	_____
Potassium Nitrate (14% N; 46% K ₂ O)	ton	373.26	_____
Sul-Po-Mag (SPM--21.9% K ₂ O)	ton	162.50	_____
Super Phosphate (20% P ₂ O ₅)	ton	143.31	_____
Triple Superphosphate (48% P ₂ O ₅)	ton	172.94	_____
Urea	ton	373.26	_____
Average Delivery Cost	ton	12.00	_____
<u>Foliar Macronutrients</u>			
N-Sure 28-0-0 (72% SRN)**	gal.	6.39	_____
Phos Might 0-22-20	gal.	21.87	_____
Nutriphite 0-28-26	gal.	26.67	_____
MKP (0-52-34) (Mono-Potassium Phosphate)	lb.	0.65	_____
DKP (0-18-20) (Di-Potassium Phosphate)	gal.	2.50	_____

**SRN, Slow Release Nitrogen

SOURCE: Ronald P. Muraro, Extension Farm Management Economist, University of Florida, IFAS, CREC, Lake Alfred, Florida, August 2003.

Table 11-A.--Cost for establishing, planting and maintaining a citrus grove through four years of age, South Florida flatwoods area

	Cost Per Acre	
	Range	Average
	\$	\$
Land Cost: ¹ Improved Pasture Land	1,700-2,500	2,050
Raw Land and Semi-improved Pasture	1,150-1,800	1,450
Land Preparation: Pasture and Light Palmettos	125- 275	195
(Clearing) Raw Land (heavy pines, palmettos)	350- 600	465
Leveling: With Laser	200- 350	275
Without Laser	100- 250	160
Bedding: 2-rows (short rows – 1,350+ feet)	100- 195	130
Soil Amendments: Dolomite 1 ton		35
Super Phosphate, 400 lbs.		30
Canals, Ditches and Dikes	150- 260	195
Reservoirs and Roads	130- 180	155
Throw-out Pumps for Water Movement	45- 60	55
Culverts	65- 135	85
Middle Drop Drainage Pipes	45- 95	105
Drainage Tile	140- 160	150
Cover Crop	9- 16	12
Irrigation System: Microsprinkler – with Well ²	850-1,500	1,000
– without Well	525-1,200	700
Drip – with Well ²	775-1,050	875
– without Well	400- 825	560
Water Permits, Environmental Studies, and Engineering: Cost	40- 90	70
Time in Months	5- 12	8
Percent Land Utilization: Planted to Citrus	55%- 85%	71%
Ditches and Canals	5%- 10%	8%
Water Retention	10%- 30%	15%
Roads and Service Areas	3%- 15%	6%

	South Florida			
	Year			
	1	2	3	4
<u>Solidset Planted Trees³</u>	----- Cost Per Tree -----			
Microsprinkler Irrigation and Ditch Maintenance	\$0.40	\$0.50	\$0.65	\$0.85
Fertilize Tree	0.25	0.40	0.55	0.56
Supplemental Fertilization thru Irrigation	0.15	0.20	0.25	0.29
Spray	0.30	0.40	0.47	0.50
Insulated Tree Wrap (annual maintenance)	0.25	0.25	0.25	0.00
Sprouting (labor)	0.20	0.20	0.00	0.00
Cultivation/Mowing	0.44	0.44	0.44	0.44
Herbicide	0.54	0.54	0.54	0.54
Ridomil/Aliette	0.35	0.35	0.00	0.00
Miscellaneous	0.43	0.49	0.42	0.48
Total Cost Per Year	\$3.31	\$3.77	\$3.62	\$3.66
<u>Reset Trees</u> (annual additional grove care costs)	\$2.13	\$2.47	\$1.84	--
<u>Cost of Planting Trees⁴</u>	Solidset = \$5.00		Reset = \$6.30	

¹Land cost will vary from one county to another as well as from one parcel to another.

²Irrigation costs include distribution system, power unit and well (where indicated.) The higher cost ranges reported also included a cost for fertigation equipment.

³The per tree costs shown are applicable for tree densities of 145 to 165 trees per acre. The per tree costs should be decreased for higher density plantings and increased for lower density plantings; e.g., at 200 trees per acre decrease costs by 15%; at 115 trees per acre increase costs by 15%.

⁴Tree cost (bare root) = \$3.25; stake, plant, and water tree = \$1.25 (solidset) and \$2.55 (resets); and uninsulated tree wrap = \$0.50.

Source: Ronald P. Muaro, Farm Management Economist, CREC, Lake Alfred, FL, November 1989.

Table 12-A.--Estimated cost of planting and maintaining a reset citrus tree through three years of age, December 2000

	Number of Resets/Replacement Trees Per Acre				
	1-2	3-5	6-10	11-25	26+
	----- Cost Per Tree -----				
<u>Year #1:</u>	\$	\$	\$	\$	\$
Tree Removal	5.73	4.98	3.98	3.22	2.57
Tree Cost (Container Tree)	4.50	4.50	4.35	4.25	4.25
Site Preparation ^a	5.40	4.68	3.97	3.67	2.88
Plant Tree and First Watering	<u>3.28</u>	<u>2.40</u>	<u>2.08</u>	<u>1.74</u>	<u>1.31</u>
Total Planting Cost	13.18	11.58	10.40	9.66	8.44
Supplemental Fertilization — 4 Times (Application & Materials)	1.28	1.11	1.02	0.93	0.85
Supplemental Spraying (Application & Materials) ^b	0.48	0.41	0.38	0.35	0.32
Spot Herbicide (Application & Materials)	0.21	0.18	0.16	0.14	0.13
Tree Wrap (Corrugated)	1.00	1.00	1.00	1.00	1.00
Sprouting/Pruning	0.41	0.41	0.38	0.38	0.34
Miscellaneous	0.17	0.16	0.15	0.14	0.13
Supervision & Overhead	<u>0.27</u>	<u>0.25</u>	<u>0.23</u>	<u>0.22</u>	<u>0.21</u>
Total Tree Care Cost Year #1	3.82	3.52	3.32	3.16	2.98
Total Cost Year #1	22.73	20.08	17.70	16.04	13.99
<u>Year #2:</u>					
Supplemental Fertilization — 3 Times (Application & Materials)	1.72	1.53	1.34	1.13	1.03
Supplemental Spraying (Application & Materials) ^b	0.55	0.49	0.43	0.36	0.33
Spot Herbicide (Application & Materials)	0.20	0.18	0.16	0.14	0.13
Sprouting/Pruning	0.49	0.49	0.41	0.41	0.37
Miscellaneous	0.15	0.13	0.12	0.10	0.09
Supervision & Overhead	<u>0.23</u>	<u>0.20</u>	<u>0.18</u>	<u>0.16</u>	<u>0.15</u>
Total Cost Year #2	3.34	3.02	2.64	2.30	2.10
<u>Year #3:</u>					
Supplemental Fertilization — 3 Times (Application & Materials)	2.34	2.09	1.79	1.53	1.30
Miscellaneous	0.12	0.10	0.09	0.08	0.06
Supervision & Overhead	<u>0.18</u>	<u>0.16</u>	<u>0.14</u>	<u>0.12</u>	<u>0.10</u>
Total Cost Year #3 ^b	2.64	2.35	2.02	1.73	1.46
Total Three-Year Cumulative Costs	<u>28.71</u>	<u>25.45</u>	<u>22.36</u>	<u>20.07</u>	<u>17.55</u>

^aSite preparation for bedded citrus grove; cost of root removal, rotovating/leveling tree planting site. Fumigate planting site would cost approximately \$2.50 per tree.

^bAdditional spray costs may be incurred if leafminer is a problem.

SOURCE: Ronald P. Muraro, Farm Management Economist, CREC, Lake Alfred, FL, December 2000.

Table 13-A.—A listing of estimated comparative Indian River citrus production costs per acre for grapefruit, 2002-2003²

Costs represent a mature (10+ years old) Indian River Grapefruit Grove.	Low Cost Processed Cultural Program	Processed and Reduced Fresh Cost Cultural Program	Typical/Historical Fresh Fruit Cultural Program
PRODUCTION/CULTURAL COSTS:²			
Weed Management/Control:			
Mechanical Mow Middles (3 times per year)	\$ 29.16	\$ 29.16	\$ 29.16
Chemical Mow Middles (2 times per year)	14.06	14.06	14.06
General Grove Work (2 labor hours per acre)	25.84	25.84	25.84
Herbicide (1/2 tree acre treated):			
Application (3 applications)	\$36.75	\$ 36.75	\$ 36.75
Material	<u>84.01</u>	<u>105.24</u>	<u>105.24</u>
Total Herbicide Cost	120.76	141.99	141.99
Spray:			
Post Bloom: Application (150 GPA)	—	28.50	28.50
Material	—	<u>30.52</u>	<u>40.75</u>
Total Post Bloom Cost	—	59.02	69.25
Summer Oil #1: Application (250 GPA)	28.50	28.50	28.50
Material	<u>50.04</u>	<u>67.73</u>	<u>67.73</u>
Total Summer Oil #1 Cost	78.54	96.23	96.23
Summer Oil #2: Application (PTO -- 250 GPA)	28.50	28.50	28.50
Material	<u>31.28^x</u>	<u>22.20</u>	<u>22.20</u>
Total Summer Oil #2 Cost	59.78	50.70	50.70
Fertilizer (Bulk): 3 Applications	22.89	22.89	22.89
Material (12-2-12-2.4 MgO @ 125 lbs N per acre and 100 lbs N per acre)	<u>84.24</u>	<u>67.64</u>	<u>84.24</u>
Total Fertilizer Cost	107.13	90.53	107.13
Dolomite (one ton applied every 3 years)			
Material/Application	12.59	12.59	12.59
Pruning:			
Topping (\$27.90/A ÷ 2 yrs) ^w	13.95	13.95	13.95
Hedging (\$25.50/A ÷ 1.5 yrs) ^w	17.00	17.00	17.00
Chop/Mow Brush after Hedging (\$8.23/A ÷ 1.5 yrs) ^w	5.49	5.49	5.49
Raise Skirts of Trees (\$13.00/A ÷ 2 yrs) ^w	—	<u>6.50</u>	<u>6.50</u>
Total Pruning Cost	36.44	42.94	42.94
Tree Replacement — 1 thru 3 years of age: (5 trees/acre)			
Remove Trees: Pull, Stack & Burn 5 Trees with Front-end Loader	23.70	23.70	23.70
Prepare Site and Plant Tree (Includes 5 reset trees)	57.60	57.60	57.60
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, etc. (Trees 1-3 years old)	<u>46.75</u>	<u>46.75</u>	<u>46.75</u>
Total Tree Replacement Cost	128.05	128.05	128.05
Irrigation: Microsprinkler System ^v			
Clean Ditches (Weed Control)	145.30	145.30	145.30
Ditch and Canal Maintenance	13.05	13.05	13.05
Ditch and Canal Maintenance	14.76	14.76	14.76
Water Control (Pump water in/out of Ditches and Canals)	<u>11.05</u>	<u>11.05</u>	<u>11.05</u>
Total Irrigation Cost	<u>184.16</u>	<u>184.16</u>	184.16
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS	<u>\$796.51</u>	<u>\$875.27</u>	
Supplemental Post Bloom Spray:			
Application (150 GPA)		49.70	49.70
Material (Copper)		<u>19.60</u>	<u>19.60</u>
Total Supplemental Post Bloom Spray Cost		69.30	69.30
Fall Miticide Spray: Aerial Application (15 GPA)		20.42	20.42
Material		<u>32.72</u>	<u>32.72</u>
Total Fall Miticide Spray Cost		<u>53.14</u>	<u>53.14</u>
IRRIGATED FRESH FRUIT PRODUCTION COSTS		<u>\$997.71</u>	<u>\$1,024.54</u>

²The listed estimated comparative costs are for the example grove situation described in the Economic Information Report Series entitled: "Budgeting Costs and Returns for Indian River Citrus Production" and may not represent your particular grove situation in Indian River.

SOURCE: Ronald P. Muraro, University of Florida-IFAS, Citrus Research and Education Center, Lake Alfred, FL, August 2003.

Table 14-A.—Estimated average picking, roadsiding and hauling charges for Florida citrus, 2002-03

	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	\$/Box	\$/Box	\$/Box	\$/Box
<u>Picking Charges:</u>				
Early and Mid-Season Oranges	0.72 - 0.90	0.814	0.75 - 0.90	0.806
Valencia Oranges	0.79 - 0.90	0.835	0.76 - 0.90	0.810
Pink/Red Grapefruit	0.60 - 0.80	0.692	0.55 - 0.75	0.625
White/Marsh Grapefruit	0.60 - 0.77	0.668	0.50 - 0.75	0.600
Temples/Tangelos	0.85 - 0.90	0.883	0.85 - 0.90	0.860
Tangerines	1.35 - 1.91	1.600	—	—
	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	\$/Box	\$/Box	\$/Box	\$/Box
<u>Roadsiding Charges:</u>				
Early and Mid-Season Oranges	0.75 - 1.03	0.882	0.70 - 0.96	0.838
Valencia Oranges	0.75 - 1.08	0.910	0.70 - 0.96	0.851
Pink/Red Grapefruit	0.75 - 0.85	0.792	0.75 - 0.77	0.758
White/Marsh Grapefruit	0.75 - 0.81	0.778	0.75 - 0.77	0.758
Temples/Tangelos	0.90 - 0.95	0.927	0.76 - 0.90	0.850
Tangerines	1.12 - 1.21	1.177	—	—
	Fresh Fruit		Processed Fruit	
	All Varieties		All Varieties	
	\$/Box		\$/Box	
<u>Hauling Charges:</u>				
0 - 30 miles	0.408		0.384	
31 - 50 miles	0.445		0.433	
51 - 80 miles	0.517		0.498	
81 - 100 miles	0.575		0.551	
100 + miles	0.663		0.625	

Table 15-A.—Estimated average packing charges for Florida citrus, 2002-03

	Domestic Grapefruit	Export Grapefruit	Oranges	Temples/ Tangelos	Tangerines
	----- \$/Carton -----				
Total Packing Charge ^a	3.544	3.992	3.731	4.214	4.733
	----- \$/Box -----				
Drenching Charge	0.170	0.168	0.178	0.178	0.178
Packinghouse Elimination Charges	0.566	0.588	0.600	0.600	0.633
Hauling Charge for Eliminations	0.388	0.368	0.404	0.434	0.434

^aTotal Packing Charge includes the following items:

1. Materials including mesh/plastic bags, labels/PLUs, etc.
2. Includes supervisor/foreman labor, grading, palletizing, shipping and general labor. Includes payroll taxes (FICA), workers' compensation, ground insurance, etc.
3. Other direct packing costs include: fruit treating; power, lights and water; repair maintenance; miscellaneous supplies; etc.
4. Indirect packing costs include such items as: insurance-fire and casualty; taxes and licenses, depreciation and rent.
5. G&A costs include: office personnel (FICA, w/comp); packinghouse and general manager; office supplies; telephone; etc.
6. Special assessments include such items as: advertising taxes, inspection fees, Florida Citrus Packers; CAC.

NOTE: Packing charges represent a total of nine citrus packinghouses from both the Indian River and Interior production regions.

Table 16-A.--Historic prices^a for selected citrus varieties

Crop year	Variety						Seedless grapefruit ^e	
	Early ^b and mid ^c -season oranges	Late season oranges ^d	Temple oranges	All Tangerines	Tangelos	(white)	(colored)	
1961-62	\$1.93	\$1.81	\$2.17	\$2.04	\$3.36	\$0.68	\$0.86	
1962-63	2.17	3.50	3.09	3.02	4.66	1.29	1.81	
1963-64	4.43	4.45	4.45	3.18	4.83	2.24	2.54	
1964-65	2.57	2.28	2.77	2.68	4.00	1.51	1.82	
1965-66	1.44	1.79	1.80	2.14	2.85	1.39	1.64	
1966-67	0.81	1.08	0.88	1.06	1.64	0.73	0.94	
1967-68	1.86	2.28	2.79	4.29	3.22	2.05	2.48	
1968-69	1.56	1.83	2.22	2.55	2.47	0.98	1.15	
1969-70	1.15	1.13	1.47	2.23	1.13	1.72	1.92	
1970-71	1.10	1.91	1.91	1.88	1.04	1.89	2.15	
1971-72	1.98	2.11	1.95	2.97	1.69	2.27	2.69	
1972-73	1.43	1.71	1.95	2.37	1.39	2.06	2.53	
1973-74	1.38	1.59	1.64	2.82	1.25	1.58	2.12	
1974-75	1.46	1.82	1.68	3.05	1.45	1.55	2.59	
1975-76	1.69	1.88	1.79	3.02	1.42	1.29	2.23	
1976-77	1.89	2.63	2.16	3.29	1.42	1.49	2.04	
1977-78	3.90	4.40	3.92	4.79	3.29	1.47	2.09	
1978-79	4.44	4.95	4.89	4.99	3.90	2.21	3.13	
1979-80	3.59	3.89	2.89	4.25	2.87	3.12	3.80	
1980-81	3.67	4.63	4.21	5.45	3.92	3.46	4.22	
1981-82	4.27	4.29	4.01	6.23	3.58	1.92	2.80	
1982-83	4.88	5.41	3.99	7.57	4.37	1.51	3.20	
1983-84	5.09	6.72	5.34	5.93	4.28	2.08	4.05	
1984-85	7.30	6.88	5.59	15.91	7.08	3.02	4.84	
1985-86	3.92	3.97	3.01	12.69	4.06	3.56	4.98	
1986-87	4.56	6.02	3.60	10.92	3.72	4.45	5.80	
1987-88	6.72	8.73	5.69	12.99	5.58	5.35	5.93	
1988-89	6.63	8.41	5.46	12.64	6.31	4.33	4.71	
1989-90	6.01	6.53	5.64	15.28	5.10	5.21	6.30	
1990-91	5.38	6.58	6.31	17.10	6.11	4.59	6.85	
1991-92	5.44	6.65	6.51	18.00	7.16	6.46	6.87	
1992-93	3.23	3.88	2.99	13.75	3.31	2.22	3.11	
1993-94	3.76	4.61	2.73	9.83	2.38	3.23	3.38	
1994-95	3.25	4.41	3.47	11.98	2.64	2.58	1.66	
1995-96	3.62	5.57	4.44	12.59	3.63	2.14	1.77	
1996-97	3.18	4.07	3.22	7.99	2.19	1.12	1.91	
1997-98	2.81	4.88	3.07	8.49	1.66	0.93	1.50	
1998-99	4.35	5.58	5.12	12.07	4.53	1.95	2.65	
1999-00	3.19	4.33	2.55	6.67	2.52	3.87	3.36	
2000-01	2.60	4.02	2.05	6.40	1.27	2.07	2.28	
2001-02 ^f	2.46	3.99	2.28	7.69	2.37	1.95	2.17	

^aOn-tree average price per box (1-3/5 bushel box equivalent) for all methods of sale minus pick and haul charges.

^bNavel and Hamlin ^cParson Brown and Pineapple ^dValencia ^eMarsh (white) or pink ^fPreliminary

Source: Florida Agricultural Statistics Service.

Table 17-A.--Debt which can be supported per \$1,000.00 annual payment capacity

Loan term (years)	Interest rate paid on the loan														
	8.0%	8.5%	9.0%	9.5%	10.0%	10.5%	11.0%	11.5%	12.0%	12.5%	13.0%	13.5%	14.0%	14.5%	15.0%
1	926	922	917	913	909	905	901	897	893	889	885	881	877	873	870
2	1,783	1,771	1,759	1,747	1,754	1,724	1,713	1,701	1,690	1,679	1,668	1,657	1,647	1,636	1,626
3	2,577	2,554	2,531	2,509	2,487	2,465	2,444	2,423	2,402	2,381	2,361	2,341	2,322	2,302	2,283
4	3,312	3,276	3,240	3,204	3,170	3,136	3,102	3,070	3,037	3,006	2,974	2,944	2,914	2,884	2,855
5	3,993	3,941	3,890	3,840	3,791	3,743	3,696	3,650	3,605	3,561	3,517	3,475	3,433	3,392	3,352
6	4,623	4,554	4,486	4,420	4,355	4,292	4,230	4,170	4,111	4,054	3,998	3,942	3,889	3,836	3,784
7	5,206	5,119	5,033	4,950	4,868	4,789	4,712	4,640	4,564	4,492	4,423	4,355	4,288	4,224	4,160
8	5,747	5,639	5,535	5,433	5,335	5,239	5,146	5,056	4,968	4,882	4,799	4,718	4,639	4,562	4,487
9	6,247	6,119	5,995	5,875	5,759	5,646	5,537	5,431	5,328	5,228	5,132	5,038	4,946	4,858	4,772
10	6,710	6,561	6,418	6,279	6,145	6,015	5,889	5,768	5,650	5,536	5,426	5,319	5,216	5,116	5,019
11	7,139	6,969	6,805	6,647	6,495	6,348	6,207	6,070	5,938	5,810	5,687	5,568	5,453	5,341	5,234
12	7,536	7,345	7,161	6,984	6,814	6,650	6,492	6,341	6,194	6,054	5,918	5,787	5,660	5,538	5,421
13	7,904	7,691	7,487	7,291	7,103	6,923	6,750	6,583	6,424	6,270	6,122	5,979	5,842	5,710	5,583
14	8,244	8,010	7,786	7,572	7,367	7,170	6,982	6,801	6,628	6,462	6,302	6,149	6,002	5,861	5,724
15	8,559	8,304	8,061	7,828	7,606	7,394	7,191	6,997 ^a	6,811	6,633	6,462	6,299	6,142	5,992	5,847
16	8,851	8,576	8,313	8,062	7,824	7,596	7,379	7,172	6,974	6,785	6,604	6,431	6,265	6,106	5,954
17	9,122	8,825	8,543	8,276	8,022	7,779	7,549	7,329	7,119	6,920	6,729	6,547	6,373	6,207	6,048
18	9,372	9,056	8,756	8,471	8,201	7,945	7,702	7,470	7,250	7,040	6,840	6,649	6,467	6,294	6,128
19	9,603	9,268	8,950	8,650	8,365	8,095	7,839	7,596	7,366	7,146	6,938	6,739	6,551	6,370	6,198
20	9,818	9,463	9,129	8,812	8,514	8,231	7,963	7,710 ^a	7,469	7,241	7,025	6,819	6,623	6,437	6,259
25	10,675	10,234	9,823	9,438	9,077	8,739	8,422	8,123	7,843	7,579	7,330	7,095	6,873	6,663	6,464
30	11,258	10,747	10,274	9,835	9,427	9,047	8,868	8,364	8,055	7,766	7,496	7,242	7,003	6,778	6,566
35	11,655	11,088	10,567	10,087	9,644	9,234	8,855	8,503	8,175	7,870	7,586	7,320	7,070	6,836	6,617
40	11,925	11,315	10,757	10,247	9,779	9,348	8,951	8,587	8,244	7,928	7,634	7,361	7,105	6,866	6,642

^aExample. Assumes a \$10,000 after tax income at 11.5% interest rate and a 15-year term mortgage, the total debt which can be supported is \$69,970 (\$6,997 x 10). At 11.5% interest rate and a 20-year term mortgage, the total debt which can be supported is \$77,100 (\$7,710 x 10).