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Budgeting Costs and Returns for Southwest Florida Citrus Production, 2003-04

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ABSTRACT

Estimated costs and returns of growing processed-market round oranges and fresh-market seedless grapefruit in the Southwest area of Florida are presented for the eighth consecutive year. The format presented may be used by individual growers to budget costs and returns, utilizing individual data on specific groves.

Key words: citrus, budgeting, costs, round oranges, seedless grapefruit, Southwest Florida.

NOTE: Southwest Florida refers primarily to Charlotte, Collier, Glades, Hendry and Lee Counties. However, the costs shown are applicable to other South Central Florida counties such as DeSoto, Okeechobee, and Sarasota.

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 2003-04 budget costs reflect 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 an *owner-managed operation* for production of oranges for processing and grapefruit for the fresh market. Therefore, the 10 percent handling and supervision charge added to the material cost for a custom-managed operation is not included in the costs.

Although the estimated annual per acre grove costs listed are representative of a mature citrus grove (10+ years old), the grove care costs for a specific grove site may differ depending on tree age, tree density and grove practices performed (e.g., spot herbicide for grass/brush regrowth under trees could add an additional $9.50 per acre; Diaprepes control could add $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 nematicide applications, such as Temik at $109.43 per acre, could increase the total cultural costs per acre above the average costs shown in the comparative budgets; or 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.

ACKNOWLEDGMENTS

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NOTE: The ADDENDA includes items such as Listing of Grove Care Programs for Southwest Florida Citrus Production for Both Round Oranges and Grapefruit; 2004 custom rate summary report; cost of establishing a citrus grove; etc. Page 18 lists the tables included in the ADDENDA.

LIST OF TABLES

BUDGETING COSTS AND RETURNS FOR SOUTHWEST FLORIDA CITRUS PRODUCTION, 2003-04

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INTRODUCTION

Southwest Florida has become a major citrus production area. In 2004, citrus acreage in Southwest Florida represented over 22.6 percent of total state citrus acreage. Acreage in Southwest Florida increased from 72,480 acres in 1986 to 179,948 acres in 1998 and then decreased to 169,386 acres in 2004. The 5.9 percent decline in acreage was primarily due to trees on sour orange rootstock that died from tristeza virus and acreage destroyed in the citrus canker eradication program. Southwest Florida refers primarily to Charlotte, Collier, Glades, Hendry and Lee Counties. However, the costs shown are applicable to other South Central Florida counties such as DeSoto, Okeechobee, and Sarasota.

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, or to determine break-even prices. This report presents two budgets constructed from current data and provides 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 Southwest Florida Research and Education Center and the Citrus Research and Education Center in Lake Alfred. 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. The ADDENDA shows grower's costs (Tables 1-A through 7-A), custom rate charges (Table 8-A), various chemical and fertilizer costs (Tables 9-A and 10-A), costs of planting and maintaining reset trees through three years of age (Table 13-A), and historic on-tree prices for selected citrus varieties (Table 16-A).

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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.

THE GROVE SITUATION

Production practices for Southwest Florida orange and grapefruit groves are shown in Tables 1 and 2, respectively, along with times during the year when they are normally 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, an annual cash flow analysis can be helpful in financial planning. 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 examples represent Hamlin orange and red seedless grapefruit groves, 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 to 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. Varieties are processed-market Hamlin oranges and fresh-market red seedless grapefruit.
3. Annual tree loss is 4.4 trees per acre for oranges and 3.6 trees per acre for grapefruit.
4. Trees are pulled and replaced when production falls below 50 percent of expected yield.
5. Tree density is 145 trees per acre for oranges and 119 trees per acre for grapefruit.

Tree ages will vary due to tree losses and replacement. The budgets reflect age distribution and yield for oranges and grapefruits.

Table 1.--Schedule of production practices and budget items for a Southwest Florida mature, round orange grove, 2003-04[a]

		Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total revenue:				20% deposit		50% Partial payment							Final payment
Less:	Pick & haul cost					X							
	DOC advertisement tax					X							
Grove expenses:													
Mow			X				X	X	X			X	
Labor, general grove work, pull vines		X								X			
Herbicide (1/2 grove acre equivalent)			X				X			X			
Spray:	Dormant												
	Post bloom/nutritional				X								
	Supplemental miticide												
	Summer oil/greasy spot							X					
	Fall miticide										X		
Fertilizer		68# N/A				68# N/A			68# N/A		Dolomite		
Hedging and topping				Hedge									
Brush removal/mow brush				Mow brush									
Tree removal			X										
Young tree care				X	X		X	X		X			
Microsprinkler irrigation (times/week)		1	1	2	3	3	3	2	2	2	2	1	1
Miscellaneous (clean ditches)			X										
Grove taxes including water management												X	
Interest expense								X					
Annual principal payment on mortgage								X					

[a]This is a suggested schedule of practices. Actual practices would not necessarily be done on the exact schedule shown here.

Table 2.--Schedule of production practices and budget items for a Southwest Florida mature, red seedless grapefruit grove, 2003-04[a]

	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total revenue:	20% deposit		Final payment									
Less: Pick & haul cost			X									
DOC advertisement tax			X									
Grove expenses:												
Disc												
Chop												
Mow		X				X	X	X			X	
Labor, general grove work, pull vines	X								X			
Herbicide (1/2 grove acre equivalent)			X			X				X		
Spray: Dormant												
Post bloom/nutritional				X								
Supplemental miticide					X							
Summer oil/greasy spot						X		X				
Fall miticide										X		
Fertilizer	50# N/A				50# N/A			50# N/A		Dolomite		
Hedging and topping			Hedge									
Brush removal/mow brush			Mow brush									
Tree removal		X										
Young tree care			X	X		X	X		X			
Microsprinkler irrigation (times/week)	1	1	2	3	3	3	2	2	2	2	1	1
Miscellaneous (clean ditches)		X										
Grove taxes including water management											X	
Interest expense							X					
Annual principal payment on mortgage							X					

[a]This is a suggested schedule of practices. Actual practices would not necessarily be done on the exact schedule shown here.

Hamlin Oranges

Situation		Yield Boxes/Tree
3%	pulled and reset	0.0
3%	1 year old	0.0
3%	2 years old	0.0
3%	3 years old	0.7
3%	4 years old	1.5
33%	5-15 years old	4.0
3%	producing 50% of expected yield	2.2
49%	over 15 years old	4.3

and

Red Seedless Grapefruit

Situation		Yield Boxes/Tree
3%	pulled and reset	0.0
3%	1 year old	0.0
3%	2 years old	0.0
3%	3 years old	0.9
3%	4 years old	1.6
33%	5-15 years old	4.0
3%	producing 50% of expected yield	2.9
49%	over 15 years old	6.5

Calculation of normal production per acre for Hamlin oranges and red seedless grapefruit are shown in Tables 3 and 4, respectively.

Table 3.--Calculation of normal production per tree and per acre for Hamlin oranges, 2003-04

Age of Tree	Trees						Boxes /Tree		Total Boxes
	Total no. All Ages		Proportion Each Age[a]		No. Each Age		-------- Number---------		
3 years	145	x	0.03	=	4.4	x	0.7	=	3.1
4 years	145	x	0.03	=	4.4	x	1.5	=	6.6
5-15 years	145	x	0.33	=	47.9	x	4.0	=	191.6
Prod. 50% of expected yield	145	x	0.03	=	4.4	x	2.2	=	9.7
Over 16 years	145	x	0.49	=	71.0	x	4.3	=	305.3
							Total boxes	=	516.3

[a]Proportion adds up to 91 percent as 9 percent of the trees were non-bearing (pulled and reset, 1 and 2 year old trees).

Table 4.--Calculation of normal production per tree and per acre for red seedless grapefruit, 2003-04

Age of Tree	Trees						Boxes /Tree		Total Boxes
	Total No. All Ages		Proportion Each Age[a]		No. Each Age		--------- Number---------		
3 years	119	x	0.03	=	3.6	x	0.9	=	3.2
4 years	119	x	0.03	=	3.6	x	1.6	=	5.8
5-15 years	119	x	0.33	=	39.3	x	4.0	=	157.2
Prod. 50% of exp. yield	119	x	0.03	=	3.6	x	2.9	=	10.4
Over 16 years	119	x	0.49	=	58.3	x	6.5	=	379.0
						Total boxes		=	555.6

[a]Proportion adds up to 91 percent as 9 percent of the trees were non-bearing (pulled and reset, 1- and 2-year-old trees, see page 5).

BUDGET COSTS AND RETURNS

The estimated budget costs and returns for the two Southwest Florida grove situations are shown in Tables 5 and 7, and are representative of an owner-managed citrus operation. Gross revenue estimates are based on projected yields (Tables 3 and 4) and estimated preliminary on-tree prices for the 2003-04 season. The budgeted costs represent one possible citrus production program and were selected from the costs shown in the ADDENDA tables (grove reset costs, harvesting and packing charges are shown in Tables 11-A through 15-A and historical on-tree prices for selected Florida citrus varieties are shown in Table 16-A).

As shown in Table 5, the total revenue for processed-market Hamlin oranges is estimated to be $789.48 per acre. Total specified costs are $816.21, comprised of grove care costs of $768.21 plus management costs of $48.00. Return to land, trees, and ownership of $26.73 per acre loss represents net return above variable costs. At 350 and 550 boxes per acre, respectively, the break-even price required to cover grove care costs for Hamlin oranges range from $2.19 to $1.40 per box on-tree and $0.76 to $0.62 per pounds solids delivered-in.

In Table 7, total revenue for fresh market red seedless grapefruit is estimated to be $1,737.15 per acre. Total specified costs are $922.29, comprised of grove care costs of $874.29 plus management costs of $48.00. Return to land, trees, and ownership or net return above variable costs is $814.86. At 350 and 550 boxes per acre, respectively, the break-even price required to cover grove care costs for seedless grapefruit range from $2.50 to $1.59 per box on-tree and $1.28 to $1.09 per pound solids delivered-in.

Ad valorem taxes, and overhead and administrative costs (e.g., 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, or variety of fruit, 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. Average annual debt payment (principal and interest) may be as high as $435 per acre ($3,700 average debt per acre at 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 processed oranges in Table 6 and fresh packed red grapefruit in Table 8. “Delivered-in” costs include grove care costs (Tables 5 and 7) plus harvesting, regulatory, and grower assessment costs. The "delivered-in" costs are presented as a cost per acre, per box and per pound solids or per carton. Three possible budget cost scenarios are presented (Tables 11-A and 12-A): Low Cost Processed Cultural Program; Reduced Cost Cultural Program; and Typical/Historical Cultural Program. Scenarios 1 and 2 represent costs of two cultural programs directed toward reducing the expenditures for fruit grown primarily for the fresh or processed market. Scenario 3 represents typical costs of grove practices that have been performed for citrus grown for the fresh grapefruit market or the processed orange 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.* In Table 9, the total estimated F.O.B. cost for fresh packed Red 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, processed Hamlin oranges and mature fresh-market seedless grapefruit in the Southwest Florida area have been developed and published in each of the past five years. Estimated cost and return histories for 1999-00 through 2002-03 along with 2003-04 and a five-year average are presented in Tables 10 and 12. To allow comparisons in current values, these same costs and returns, adjusted to 2004 dollars, are presented in Tables 11 and 13.

Table 5.--Estimated annual per acre costs and returns for a mature, Hamlin orange grove producing for the processed market, Southwest Florida area, 2003-04[a]

	Item	Description	Amount		Your Cost
			---------- Dollars ----------		
I.	Revenue	516 boxes @ $1.53[b]		789.48	_____
II.	Expenses				
	Weed control				
	Mow middles	3 times per year	22.76		_____
	Chemical mow (Table 2-A, Program #10)	2 times per year	10.88		_____
	General grove work/sprouting, etc.	(2 labor hours per acre)	25.34		_____
	Herbicide (Table 2-A, Program #1, #6, & #8)		106.54	165.52	_____
	Spray program (Table 1-A, Programs #11 & #13)			131.69	_____
	Fertilizer (Table 3-A, Program #4)			135.33	_____
	Dolomite (Table 6-A, Program #1)			12.01	_____
	Pruning (maintenance)				
	Topping	($275.00/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	11.00		_____
	Hedging	($245.00/hr. ÷ 10 A/hr.) ÷ 2 yrs.	12.25		_____
	Mow brush	($8.52/A ÷ 2 yrs.)	4.26	27.51	_____
	Tree replacement and care (Table 12-A)	(1 through 3 years)			
	Remove trees	4 trees per acre	18.96		_____
	Prepare sites and plant resets	Including 4 trees per acre	47.64		_____
	Supplemental fertilizer, sprout, etc. (Trees 1-3 years)	Including application	36.96	103.56	_____
	Microsprinkler irrigation (Table 7-A, Program #4)			152.07	_____
	Drainage ditch annual costs (Table 7-A, Program #5)			40.52	_____
	Total grove care expenses			768.21	_____
III.	Management	$4.00 per acre per month[c]		48.00	_____
IV.	Total specified costs[d]			816.21	
V.	Return (loss) to land, trees, and ownership			(26.73)	
VI.	Break-even price for total grove care expenses				

Boxes per acre					Boxes per acre				
350	400	450	500	550	350	400	450	500	550
$ On-tree price per box					$ Delivered-in price per pound solids[e]				
2.19	1.92	1.71	1.54	1.40	0.76	0.71	0.67	0.65	0.62

[a] While estimated annual per acre grove costs in Tables 5 and 6 are representative of a mature Southwest Florida Hamlin orange and red seedless grapefruit grove, respectively, grove care costs for specific grove site may differ depending on grove practices performed (e.g., a Temik application would add $109.43 per acre; extensive tree loss due to blight or tristeza may double tree replacement and care costs; truck watering of resets could add another $8.31 per acre).

[b] On-tree price per box is preliminary; assumes price for processed oranges only.

[c] Other methods to estimate a management cost (e.g., 5% of gross sales or 10% of total grove care costs) are used in the industry and vary from situation to situation.

[d] Other cost items not included in budget are ad valorem taxes and interest on grove investment. In addition to these cost items, overhead and administrative costs (e.g., 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.

[e] Assumes 6.0 pounds solids per box and $2.217 pick and haul cost per box (including canker decontamination costs) and Department of Citrus advertising assessment of $0.15 per box.

Table 6.--Estimated total delivered-in cost for Southwest Florida Hamlin oranges grown for the processed market under three cultural cost programs, 2003-04

Represents a mature (10+ years old) Southwest Florida Orange Grove	Processed Hamlin Oranges Low Cost Cultural Program One-Year Alternative			Processed Hamlin Oranges Reduced Cost Cultural Program			Fresh/Processed Hamlin Oranges Historical Cost Cultural Program		
	$/Acre	$/Box	$/P.S.	$/Acre	$/Box	$/P.S.	$/Acre	$/Box	$/P.S.
Total Production/Cultural Costs	$ 642.82	$1.246	$0.2076	$ 768.21	$1.489	$0.2481	$ 879.86	$1.705	$0.2842
Interest on Operating (Cultural) Costs	17.68	0.034	0.0057	38.41	0.074	0.0124	43.99	0.085	0.0142
Management Costs	48.00	0.093	0.0155	48.00	0.093	0.0155	48.00	0.093	0.0155
Taxes/Regulatory Costs:									
Property Tax and Water Management District Tax	64.05	0.124	0.0207	61.00	0.118	0.0197	61.00	0.118	0.0197
Canker Decontamination Costs	6.18	0.012	0.0020	4.54	0.009	0.0015	4.54	0.009	0.0015
Total Direct Grower Costs	$ 778.73	$1.509	$0.2515	$ 920.16	$1.783	$0.2972	$1,037.39	$2.010	$0.3351
Interest on Avg Capital Investment Costs	321.22	0.623	$0.1038	321.22	0.623	0.1038	321.22	0.623	0.1038
Total Grower Costs	$1,099.94	$2.132	$0.3553	$1,241.38	$2.406	$0.4010	$1,358.61	$2.633	$0.4388
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination Costs	1,143.97	2.217	0.3695	1,143.97	2.217	0.3695	1,143.97	2.217	0.3695
DOC Assessment	77.40	0.150	0.0250	77.40	0.150	0.0250	77.40	0.150	0.0250
Total Harvesting & Assessment Costs	1,221.37	2.367	0.3945	1,221.37	2.367	0.3945	1,221.37	2.367	0.3945
Total Delivered-In Cost	$2,321.31	$4.499	$0.7498	$2,462.75	$4.773	$0.7955	$2,579.98	$5.000	$0.8333
P.S. = Pound Solids Yield: 516 boxes/acre @ 6.0 P.S. per box 145 trees per acre	Cultural program (Table 11-A) Only summer oil sprays with oil, copper, miticide and nutritionals			Cultural program (Table 5)			Cultural program (Table 11-A) A Fall Miticide Spray added to the cultural program (Table 5)		

Table 7.--Estimated annual per acre costs and returns for a mature, red seedless grapefruit grove producing for the fresh market, Southwest Florida area, 2003-04[a]

	Item	Description	Amount		Your Cost
			---------- Dollars ----------		
I.	Revenue	555 boxes @ $3.13[b]		1,737.15	
II.	Expenses				
	Weed control				
	Mow middles	3 times per year	22.76		
	Chemical mow (Table 2-A, Program #10)	2 times per year	10.88		
	General grove work/sprouting, etc.	(2 labor hours per acre)	25.34		
	Herbicide (Table 2-A, Program #1, #6, & #8)		106.54	165.52	
	Spray program (Table 1-A, Programs #1, #6, #13, #14, & #16)			285.36	
	Fertilizer (Table 3-A, Program #2)			106.93	
	Dolomite (Table 7-A, Program #1)			12.01	
	Pruning (maintenance)				
	Topping	($275.00/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	11.00		
	Hedging	($245.00/hr. ÷ 8 A/hr.) ÷ 2 yrs.	12.25		
	Raise skirts of trees	($13.00/A ÷ 2 yrs.)	6.50		
	Removing/chop brush	($8.52/A ÷ 2 yrs.)	4.46	34.21	
	Tree replacement and care (Table 12-A)	(1 through 3 years)			
	Remove trees	3 trees per acre	14.22		
	Prepare sites and plant resets	Including 3 trees per acre	35.73		
	Supplemental fertilizer, etc. (Trees 1-3 years)	Including application	27.72	77.67	
	Microsprinkler irrigation (Table 7-A, Program #4)			152.07	
	Drainage ditch annual costs (Table 7-A, Program #5)			40.52	
	Total grove care expenses			874.29	
III.	Management			48.00	
IV.	Total specified costs[d]			922.29	
V.	Return to land, trees, and ownership			814.86	
VI.	Break-even price for total grove care expenses				

Boxes per acre					Boxes per acre				
350	400	450	500	550	350	400	450	500	550
$ On-tree price per box					$ Delivered-in price per pound solids for eliminations[e]				
2.50	2.19	1.94	1.75	1.59	1.28	1.22	1.16	1.12	1.09

[a] While estimated annual per acre grove costsin Tables 5 and 6 are representative for a mature Southwest Florida Hamlin orange and red seedless grapefruit grove, respectively, grove care costs for specific grove site may differ depending on grove practices performed (e.g., a Temik application would add $109.43 per acre; extensive tree loss due to blight or tristeza may double tree replacement and care costs; truck watering of resets could add another $8.31 per acre).

[b] On-tree price per box is preliminary; assumes average of all methods of sale (fresh and processed).

[c] Other methods to estimate a management cost (e.g., 5% of gross sales or 10% of total grove care costs) are used in the industry and vary from situation to situation.

[d] Other cost items not included in the budget are ad valorem taxes and interest on grove investment. In addition to these cost items, overhead and administrative costs (e.g., 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.

[e] Assumes 4.7 pounds solids per box and $2.27 pick and haul cost per box (includes spot picking and fruit drenching and canker decontamination costs), D.O.C. $0.25 advertising tax, $0.55 per box handling through packinghouse, and $0.45 per box delivery to processing plant.

Table 8.--Estimated total delivered-in cost for Southwest Florida Red Grapefruit grown for the fresh/processed market under three cultural cost programs, 2003-04

Represents a mature (10+ years old) Southwest Florida Red Grapefruit Grove	Processed Red Grapefruit Low Cost Cultural Program One-Year Alternative			Fresh Packed Red Grapefruit Reduced Cost Cultural Program			Fresh Packed Red Grapefruit Typical/Historical Cultural Program		
	$/Acre	$/Box	$/P.S.	$/Acre	$/Box	$/Carton	$/Acre	$/Box	$/Carton
Total Production/Cultural Costs	$ 649.91	$1.171	$0.2492	$ 832.27	$1.500	$1.0144	$874.29	$1.575	$1.0144
Interest on Operating (Cultural) Costs	17.87	0.032	0.0069	22.89	0.041	0.0206	24.04	0.043	0.0217
Management Costs	48.00	0.086	0.0184	48.00	0.086	0.0432	48.00	0.086	0.0432
Taxes/Regulatory Costs:									
Property Tax and Water Management District Tax	51.24	0.092	0.0196	51.24	0.092	0.0478	51.24	0.092	0.0478
Fly Protocol Cost	–	–	–	54.73	0.099	0.0477	54.73	0.099	0.0477
Canker Decontamination Costs	6.18	0.011	0.0024	6.18	0.011	0.0016	6.18	0.011	0.0016
Total Taxes/Regulatory Costs	57.42	0.103	0.0220	112.15	0.202	0.0971	112.15	0.202	0.0971
Total Direct Grower Costs	$ 773.20	$1.393	$0.2964	$1,015.31	$1.829	$1.1754	$1,058.48	$1.907	$1.1764
Interest on Average Capital Investment Costs	321.22	0.579	0.1231	321.22	0.579	0.2894	321.22	0.579	0.2894
Total Grower Costs	$1,094.42	$1.972	$0.4196	$1,336.52	$2.408	$1.4648	$1,379.70	$2.486	$1.4658
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination	1,046.18	1.885	0.4011	1,157.73	2.086	1.0430	1,157.73	2.086	1.0430
Fruit Drenching (Fresh)	–	–	–	94.35	0.170	0.0850	94.35	0.170	0.0850
DOC Assessment	133.20	0.240	0.0511	138.75	0.250	0.1250	138.75	0.250	0.1250
Total Harvesting and Assessment Costs	1,179.38	2.125	0.4521	1,390.83	2.506	1.2530	1,390.83	2.506	1.2530
Total Delivered-In Cost	$2,273.79	$4.097	$0.8717	$2,727.35	$4.914	$2.7178	$2,770.53	$4.992	$2.7188
Two cartons per box P.S. = Pound Solids Yield: 555 boxes/acre @ 4.7 P.S. per box 119 trees per acre	Cultural program (Table 12-A) Two summer oil sprays with oil, copper, and miticide			Cultural program (Table 7) Assumes 100% packout			Cultural program (Table 12-A) Assumes 100% packout		

Table 9.--Estimated F.O.B. cost for fresh market Southwest Florida Red grapefruit, 2003-04

	Percent Packout 50.00% Box Yield Per Acre 555			Percent Packout 60.00% Box Yield Per Acre 555			Percent Packout 70.00% Box Yield Per Acre 555		
	Per Acre	Per Box	Per Carton	Per Acre	Per Box	Per Carton	Per Acre	Per Box	Per Carton
Total Production/ Cultural Costs	$874.29	$4.193	$2.0966	$874.29	$3.494	$1.7472	$874.29	$2.995	$1.4976
Interest on Operating (Cultural Costs)	24.04	0.115	0.0577	24.04	0.096	0.0480	24.04	0.082	0.0412
Management	48.00	0.230	0.1151	48.00	0.192	0.0959	48.00	0.164	0.0822
Taxes/Regulatory	112.15	0.538	0.2689	112.15	0.448	0.2241	112.15	0.384	0.1921
Interest on Average Capital Investment	321.22	1.541	0.7703	321.22	1.284	0.6419	321.22	1.100	0.5502
Harvesting (Pick, Haul, Etc.) and DOC Assessment	1,390.83	6.671	3.3353	1,390.83	5.559	2.7794	1,390.83	4.765	2.3824
Total Delivered-In Cost	$2,770.53	$13.288	$6.6440	$2,770.53	$11.073	$5.5366	$2,770.53	$9.491	$4.7457
Packing & Selling	2,047.95	7.380	3.6900	2,457.54	7.380	3.6900	2,867.13	7.380	3.6900
Fresh Eliminations Costs (Credit)[a]	-361.58	-1.734	-0.8671	-289.27	-1.156	-0.5781	-216.95	-0.743	-0.3716
Total F.O.B. Costs	$4,456.90	$18.934	$9.4668	$4,938.80	$17.297	$8.6486	$5,420.71	$16.128	$8.0641

	Percent Packout 80.00% Box Yield Per Acre 555			Percent Packout 90.00% Box Yield Per Acre 555			Percent Packout 100.00% Box Yield Per Acre 555		
	Per Acre	Per Box	Per Carton	Per Acre	Per Box	Per Carton	Per Acre	Per Box	Per Carton
Total Production/ Cultural Costs	$874.29	$2.621	$1.3104	$874.29	$2.330	$1.1648	$874.29	$2.097	$1.0483
Interest on Operating (Cultural) Costs	24.04	0.072	0.0360	24.04	0.064	0.0320	24.04	0.058	0.0288
Management	48.00	0.144	0.0719	48.00	0.128	0.0639	48.00	0.115	0.0576
Taxes/Regulatory	112.15	0.336	0.1681	112.15	0.299	0.1494	112.15	0.269	0.1345
Interest on Average Capital Investment	321.22	0.963	0.4814	321.22	0.856	0.4279	321.22	0.770	0.3851
Harvesting (Pick, Haul, Etc.) and DOC Assessment	1,390.83	4.169	2.0846	1,390.83	3.706	1.8530	1,390.83	3.335	1.6677
Total Delivered-In Cost	$2,770.53	$8.305	$4.1525	$2,770.53	$7.382	$3.6911	$2,770.53	$6.644	$3.3220
Packing & Selling	3,276.72	7.380	3.6900	3,686.31	7.380	3.6900	4,095.90	7.380	3.6900
Fresh Eliminations Costs (Credit)[a]	-144.63	-0.434	-0.2168	-72.32	- 0.193	- 0.0963	0.00	0.000	0.0000
Total F.O.B. Costs	$5,902.61	$15.251	$7.6257	$6,384.52	$14.569	$7.2847	$6,866.43	$14.024	$7.0120

[a]"Net Eliminations Cost" equals the average yield of 4.70 pound solids per box times $0.49 per pound solids less packinghouse elimination charge and cannery hauling charge of $1.00 per box.

Table 10.--Estimated annual per acre costs and returns and 5-year average costs and returns for a mature, Hamlin orange grove producing citrus for processed market in the Southwest Florida area, 1999-00–2003-04

Year	On-tree Price/Box[a]	Yield	Gross Revenue	Total Grove Care Expenses	Total Specified Costs[c]	Net Return to Land, Trees, and Ownership
			Dollars			
1999-00	$3.07	504	1,547.28	758.85	806.85	740.43
2000-01	$2.57	504	1,295.28	769.04	817.04	478.14
2001-02	$2.79	504	1,406.16	767.23	815.23	590.93
2002-03	$2.65	504	1,335.60	771.03	819.03	516.57
2003-04	$1.53[b]	516	789.48	768.21	816.21	(26.73)
5-yr. avg.	$2.52	506	1,275.12	766.87	814.87	460.25

[a]On-tree prices for processed oranges only as reported by the Florida Agricultural Statistics Service.

[b]Preliminary estimate by authors at time of printing and is not a published price.

[c]Management cost of $4.00 per acre per month is included. Fixed costs (e.g., taxes, debt service, and crop insurance) are not included.

Table 11.--Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2004 dollars) for a mature, Hamlin orange grove producing citrus for processed market in the Southwest Florida area, 1999-00–2003-04

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		
1999-00	111.1	$3.41	504	1,718.64	929.57	789.07
2000-01	109.8	$2.82	504	1,421.28	919.88	501.40
2001-02	112.4	$3.14	504	1,582.56	962.13	620.43
2002-03	106.7	$2.83	504	1,426.32	873.91	552.41
2003-04	100.0	$1.53	516	789.48	816.21	(26.73)
5-yr. avg.	–	$2.75	506	1,391.50	900.34	491.16

[a]Producer price index for each year adjusted to 2004 prices (2004 = 100), with 2004 producer price index estimated to be 147.4. Producer price index for other years are: 2000 = 132.7; 2001 = 134.2; 2002 = 131.1; and 2003 = 138.1.

[b] Management cost of $4.00 per acre per month is included. Fixed costs (e.g., taxes, debt service, and crop insurance) are not included (Table 10).

Table 12.--Estimated annual per acre costs and returns and 5-year average costs and returns for a mature, red seedless grapefruit grove producing citrus for fresh market packing in the Southwest Florida area, 1999-00–2003-04

Year	On-tree Price/Box[a]	Yield	Gross Revenue	Total Grove Care Expenses	Total Specified Costs[c]	Net Return to Land, Trees, and Ownership
			Dollars			
1999-00	$3.85	555	2,136.75	867.06	915.66	1,221.69
2000-01	$2.28	555	1,265.40	864.79	912.79	352.61
2001-02	$2.54	555	1,409.70	874.54	922.54	487.16
2002-03	$2.49	555	1,381.95	871.47	919.47	462.48
2003-04	$3.13	555	1,737.15	874.29	922.29	814.86
5-yr. avg.	$2.86	555	1,587.30	870.43	918.55	668.87

[a]On-tree prices for all sales methods as reported by the Florida Agricultural Statistics Service.

[b]Preliminary estimate by authors at time of printing and is not a published price.

[c]Management cost of $4.00 per acre per month is included. Fixed costs (e.g., taxes, debt service, and crop insurance) are not included.

Table 13.--Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2004 dollars) for a mature, red seedless grapefruit grove producing citrus for fresh fruit packing in the Southwest Florida area, 1999-00–2003-04

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		
1999-00	111.1	$4.28	555	2,375.40	1,017.30	1,358.10
2000-01	109.8	$2.50	555	1,387.50	1,002.24	385.26
2001-02	112.4	$2.85	555	1,581.75	1,036.93	544.82
2002-03	106.7	$2.66	555	1,476.30	981.07	495.23
2003-04	100.0	$3.13	555	1,737.15	922.29	814.86
5-yr. avg.	–	$3.08	555	1,709.40	991.97	717.43

[a]Producer price index for each year adjusted to 2004 prices (2004 = 100), with 2004 producer price index estimated to be 147.4. Producer price index for other years are: 2000 = 132.7; 2001 = 134.2; 2002 = 131.1; and 2003 = 138.1.

[b] Management cost of $4.00 per acre per month is included. Fixed costs (e.g., taxes, debt service, and crop insurance) are not included (Table 12).

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ADDENDA: Listing of Grove Care Programs for Southwest Florida Citrus Production for Both Round Oranges and Grapefruit

Abbreviations for important chemicals are:

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

Table 1-A.--Spray programs

POST BLOOM SPRAY

Spray Program #1	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	15 pounds	$18.00	_____
	Zn	5 pounds	3.95	_____
	Mn	10 pounds	3.10	_____
	B	0.25 pound	1.13	_____
	Ground Application (PTO driven airblast)	150 gallons	24.02	_____
	Total per Application		$50.20	_____

Spray Program #2	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	10 pounds	$12.00	_____
	Zn	5 pounds	3.95	_____
	Mn	10 pounds	3.10	_____
	Micromite 25WP	1.25 pounds	36.25	_____
	Ground Application (PTO driven airblast)	100 gallons	21.10	_____
	Total per Application		$76.40	_____

Spray Program #3	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 pounds	$ 8.40	_____
	Agri-Mek	10 ounces	41.10	_____
	Oil 97+%	3 gallons	6.15	_____
	Ground Application (PTO driven airblast)	100 gallons	21.10	_____
	Total per Application		$76.75	_____

Spray Program #4	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 pounds	$ 8.40	_____
	Potassium Nitrate	10 pounds	1.85	_____
	Lorsban 4EC	4 pints	15.40	_____
	Hystop (pH Reducer)	1 pint	2.13	_____
	Ground Application (PTO driven airblast)	100 gallons	21.10	_____
	Total per Application		$48.88	_____

Table 1-A.--Spray programs (continued)

POST BLOOM SPRAY (continued)

Spray Program #5	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Vendex 4L	2 pounds	$28.50	
	Cu (50% metallic)	10 pounds	12.00	
	Ground Application (PTO driven airblast)	250 gallons	24.33	
	Total per Application		$64.83	

Spray Program #6	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Micromite	1.25 pounds	$36.25	
	Cu (50% metallic)	7 pounds	8.40	
	Oil 97+%	3 gallons	6.15	
	Ground Application (PTO driven airblast)	250 gallons	24.33	
	Total per Application		$75.13	

Spray Program #7	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 pounds	$ 8.40	
	Zn	5 pounds	3.95	
	Mn	10 pounds	3.10	
	B	0.25 pound	1.13	
	Micromite	1.25 pounds	36.25	
	Ground Application (PTO driven airblast)	250 gallons	24.33	
	Total per Application		$77.16	

Spray Program #8	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Vendex 4L	2 pounds	$28.50	
	Ground Application (PTO driven airblast)	150 gallons	24.02	
	Total per Application		$52.52	

Spray Program #9	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
(Scale insects)	Lorsban 4EC	5 pints	$19.25	
	Ground Application (engine driven airblast)	500 gallons	31.85	
	Total per Application		$51.10	

Table 1-A.--Spray programs (continued)

SUMMER SPRAY

Spray Program #10	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Oil 97+%	10 gallons	$20.50	
	Cu (50% copper)	7 pounds	8.40	
	Ground Application (PTO driven airblast)	250 gallons	24.33	
	Total per Application		$53.23	

Spray Program #11	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 pounds	$ 8.40	
	Oil 97+%	5 gallons	10.25	
	Zn	5 pounds	3.95	
	Mn	10 pounds	3.10	
	B	0.25 pound	1.13	
	Ground Application (PTO driven airblast)	150 gallons	24.02	
	Total per Application		$50.85	

Spray Program #12	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 pounds	$ 8.40	
	Oil 97+%	5 gallons	10.25	
	Agri-Mek	10 ounces	41.10	
	Ground Application (PTO driven airblast)	250 gallons	24.33	
	Total per Application		$84.08	

Spray Program #13	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Enable	8 ounces	$10.32	
	Oil 97+%	5 gallons	10.25	
	Micromite	1.25 pounds	36.25	
	Ground Application (PTO driven airblast)	150 gallons	24.02	
	Total per Application		$80.84	

Table 1-A.--Spray programs (continued)

SUMMER SPRAY (continued)

Spray Program #14	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 pounds	$ 8.40	
	Oil 97+%	5 gallons	10.25	
	Ground Application (PTO driven airblast)	150 gallons	24.02	
	Total per Application		$42.67	

FALL SPRAY

Spray Program #15	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Agri-Mek	5 ounces	$20.55	
	Ground Application (PTO driven airblast)	150 gallons	24.02	
	Total per Application		$44.57	

Spray Program #16	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Vendex 4L	2 pounds	$28.50	
	Aerial Application	15 GPA	8.02	
	Total per Application		$36.52	

Table 2-A.--Herbicide

Herbicide Program #1 (Strip/band)	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
	Solicam 80DF	3 pounds	$20.66	
	Karmex WP	4 pounds	6.74	
	Roundup Ultra Max	2 quarts	7.34	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$43.33	

Herbicide Program #2 (Strip/band)	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
	Surflan A80 DF	2 quarts	$19.14	
	Simazine 4L	4 quarts	6.44	
	Roundup Ultra Max	2 quarts	7.34	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$41.51	

[a]With herbicide materials, amount per grove acre *does not equal* amount per treated acre shown on label, only a strip or band is being treated. In this report, it is assumed that only half a surface acre is being treated.

Table 2-A.--Herbicide (continued)

Herbicide Program #3	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Karmex WP	4 pounds	$ 6.74	
	Roundup Ultra Max	2 quarts	7.34	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$22.67	

Herbicide Program #4	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Solicam 80DF	8 pounds	$55.08	
	Simazine 4L	4 quarts	6.44	
	Roundup Ultra Max	2 pints	3.67	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$73.78	

Herbicide Program #5	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Roundup Ultra Max	4 quarts	$ 7.34	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$15.93	

Herbicide Program #6	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Krovar I	5 pounds	$25.25	
	Roundup Ultra Max	2 quarts	7.34	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$41.18	

Herbicide Program #7	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Princep (Caliber 90)	4 pounds	$ 6.10	
	Hyvar X	6 pounds	50.94	
	Adjuvant (Surfactant)	2 pints	2.81	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$68.44	

Table 2-A.--Herbicide (continued)

Herbicide Program #8	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Roundup Ultra Max	2 quarts	$ 7.34	
	Princep (Caliber 90)	4 pounds	6.10	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$22.03	

Herbicide Program #9	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Direx 4L	3 quarts	$ 5.34	
	Solicam	3 pounds	20.66	
	Adjuvant (Surfactant)	1 quart	2.81	
	Ground Application (1 time)		8.59	
	Total for 1 Application		$37.40	

Herbicide Program #10	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Chemical mow)	Roundup Ultra	1 pint	$ 1.84	
	Ground Application (1 time)		3.60	
	Total for 1 Application		$ 5.44	

Herbicide Program #11	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Chemical mow)	Roundup Ultra	1.5 pints	$ 2.76	
	Ground Application (1 time)		3.60	
	Total for 1 Application		$ 6.36	

Herbicide Program #12	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Spot treatment)	Roundup Ultra	2 quarts	$ 7.34	
	Ground Application (1 time)		4.00	
	Total for 1 Application		$11.34	

Table 3-A.--Dry fertilizer

Program #1	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(125 lbs N/Acre)	12-2-12-2.4 MgO	1042 pounds	$ 91.70	
	Application	3 times	15.33	
	Total for 3 Applications		$107.03	
Program #2	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(150 lbs N/Acre)	15-2-15-2.4 MgO	1000 pounds	$ 91.60	
	Application	3 times	15.33	
	Total for 3 Applications		$106.93	
Program #3	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	15-2-15-2.4 MgO	1200 pounds	$109.92	
	Application	3 times	15.33	
	Total for 3 Applications		$125.25	
Program #4	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(204 lbs N/Acre)	17-4-17-2.4 MgO	1200 pounds	$ 120.00	
	Application	3 times	15.33	
	Total for 3 Applications		$135.33	
Program #5	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(225 lbs N/Acre)	15-2-15-2.4 MgO	1500 pounds	$137.40	
	Application	3 times	15.33	
	Total for 3 Applications		$152.73	

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

Program #1	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	10-0-10	1800 pounds	$125.82	
	Double Boom Custom Application	3 times	36.75	
	Total for 3 Applications		$162.57	

Program #2	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	10-2-10	1800 pounds	$ 127.44	
	Double Boom Custom Application	3 times	36.75	
	Total for 3 Applications		$164.19	

Program #3	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	10-0-10	1800 pounds	$125.82	
	Solicam 80DF	3 pounds	20.66	
	Karmex WP	4 pounds	7.34	
	Double Boom Custom Application	3 times	36.75	
	Total for 3 Applications		$190.57	

*Treated acre--one application

Table 5-A.--Nematicides

Program #1	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
	Temik 15G	33 pounds	$ 97.68	
	Application		11.75	
	Total per Application		$109.43	

Table 6-A.--Soil amendment

Program #1	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(Every 3 years)	Dolomite (Delivered)	1 ton	$28.68	
	Application	1 time	7.35	
	Total for 1 Application		$36.03	
	(Average 1/3 Ton Applied/Yr)		$12.01	

Program #2	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(Every year)	Dolomite (Delivered)	1000 pounds	$14.34	
	Application		7.35	
	Total per Application		$21.69	

Table 7-A.--Irrigation (annual cost per acre)

DRIP	Program #1	Your Cost/Acre	Program #2	Your Cost/Acre
Operating	(Electric) $50.44		(Diesel) $45.38	
Maintenance of System	41.46		41.25	
Total Cash Expenses	$91.90		$86.63	
Fixed Depreciation Expense	42.35		45.25	
Total Cash and Fixed Expenses	$134.35		$131.88	

MICROSPRINKLER	Program #3	Your Cost/Acre	Program #4	Your Cost/Acre
Operating	(Electric) $ 57.35		(Diesel) $ 48.28	
Maintenance of System	46.21		47.23	
Total Cash Expenses	$103.56		$ 95.51	
Fixed Depreciation Expense	52.94		56.56	
Total Cash and Fixed Expenses	$156.50		$152.07	

DRAINAGE DITCH ANNUAL COSTS	Program #5	Your Cost/Acre
Ditches/Canals Maintenance ($43.47/acre ÷ 3 years)	$14.76	
Weed Control in Ditches/Canals	13.05	
Water Control: In/Out of Ditches and Canals	12.71	
Total	$40.52	

Table 8-A.--A listing of 2004 custom rates reported by fifteen Indian River and South Florida citrus caretakers

Grove Practice	Unit	Range of Rate Reported		Average Rate[y]	Comments
CULTIVATION AND EQUIPMENT:					
Hand Labor	Hour	$ 9.50-	$15.00	$12.67	Plus transportation and equipment
Mechanic Labor	Hour	32.00-	40.00	36.00	Labor and service truck
Rotovate	Hour	30.00-	45.00	36.70	
Disc 7-8'	Hour	25.00-	31.00	27.83	
Disc 10-12'	Hour	27.50-	35.50	32.00	
Mow: 7-8'	Hour	27.50-	32.00	30.05	
9-10'	Hour	30.00-	35.00	31.69	
9-10'	Acre	9.00-	11.00	9.91	
15-16'	Hour	34.00-	41.00	37.42	Average $8.88/acre
V-Mower	Hour	—	—	27.50	
Sickle Mower	Hour	—	—	34.00	
Herbicide[z] (Strip/Band–Single Boom)	Hour	30.00-	32.00	31.33	Plus materials
Herbicide[z] (Strip/Band–Single Boom)	Acre	12.00-	13.40	12.63	Plus materials
Herbicide[z] (Strip/Band–Double Boom)	Acre	11.50-	13.00	12.21	Plus materials
Herbicide[z] (Chemical Mow)	Acre	2.50-	5.00	3.60	Plus materials
Temik[z]	Acre	10.00-	13.00	11.75	Plus materials
Plow	Hour	—	—	32.50	
Backhoe	Hour	40.00-	50.00	46.21	
Vine Puller/Deviner	Hour	—	—	32.00	
Middle Buster	Hour	31.00-	34.00	32.71	With tractor and driver
Mound Builder	Hour	33.00-	35.00	34.17	With tractor and driver
Grader Blade	Hour	28.00-	33.00	30.88	Tractor/blade and driver
Caterpillar Grader	Hour	—	—	65.00	
Water Truck with Driver	Hour	30.00-	34.00	32.33	
Pickup Truck with Driver	Hour	28.00-	35.00	30.33	Average miles traveled per year: Pick-up truck – 22,663 miles
Flatbed/Transport Truck with Driver	Hour	40.00-	45.00	42.50	
Tractor with Driver	Hour	27.00-	33.00	30.00	
ATV with Driver	Hour	20.00-	23.50	21.60	

SPRAYING:[z]		PTO AIR BLAST SPRAYER						
		1,000 Gallon Tank with Electronic Sensing			1,000 Gallon Tank without Electronic Sensing			500 Gallon Tank Average
500 GPA	Acre	37.75-	38.00	37.83	35.00-	38.00	36.00	36.50
250 GPA	Acre	28.00-	33.00	30.85	25.00-	32.00	28.67	29.75
125 GPA	Acre	23.00-	26.50	24.94	24.00-	26.00	24.67	25.50
100 GPA	Acre	—	—	21.50	20.25-	21.00	20.75	—
Curtec (25 GPA)	Acre	—	—	20.00				
Aerial	Fixed Wing: $ 4.81/acre @ 5 gallons per acre							
Aerial	Fixed Wing: $ 6.52/acre @ 10 gallons per acre Bell Helicopter: $15.00/acre @ 10 GPA							
Aerial	Fixed Wing: $ 8.02/acre @ 15 gallons per acre							
Aerial	Fixed Wing: $10.14/acre @ 20 gallons per acre							
	Hand Sprayer (500 gallon tank) with tractor and 2 workers – $45.00/hour							

FERTILIZING:[z]						
Liquid Boom Application: Double Boom	Acre	11.00-	13.50	12.25		
Dry (Bulk)	Acre	7.00-	7.75	7.29		
Lime or Dolomite	Acre	7.00-	7.75	7.35	Average $34.00/ton	
Fertilize Young Trees:[z] Hand Spread	Hour	9.50-	15.00	12.67	Plus transportation and materials	
Fert. Spreader	Hour	30.00-	32.00	30.67	Plus materials; Average $7.25/acre	

Table 8-A.--A listing of 2004 custom rates reported by fifteen Indian River and South Florida citrus caretakers (cont'd.)

Grove Practice	Unit	Range of Rate Reported		Average Rate[y]	Comments
IRRIGATION:					
Ditch Mower	Hour	$33.00-	$48.00	$ 39.60	
Water Furrow Disc	Hour	30.00-	37.50	33.63	
Water Furrow Cleaner	Hour	—	—	34.50	
Water Furrow Shaper (Laser Control)	Hour	—	—	75.00	
Rotary Ditcher or Auger	Hour	33.00-	35.00	34.17	
Microsprinkler/Drip Irrigation Maintenance	Acre/Month	3.50-	6.00	4.38	Check & repair system; parts extra
Microsprinkler	30.00/setting-application				Start/stop and supervision
REMOVING TREES:					
Front-end Loader	Hour	$45.00-	$57.20	$52.74	Avg. range 3-15 trees per hour
Tree Shearing (Cutting Tree at Ground Level)	Hour	45.00-	55.00	51.33	Avg. range 5-20 trees per hour
PRUNING:					
Power Saw with Operator	Hour	$17.00-	$ 22.50	$ 19.88	
Hedging:					
Double Side (Tractor Pulled)	Hour	100.00-	145.00	130.00	6 to 10 acres/hour
Double Side (Tractor Mounted)	Hour	145.00-	200.00	172.50	
Double Side (Self Propelled)	Hour	225.00-	265.00	245.00	8 to 20 A/H depending on wood size; $14/A annual cut
Double Side Rotary Boom (Self Propelled)[x]	Hour	—	—	320.00	5 to 15 A/H bed tops only; add 25% for furrows only
Double Side Self-Propelled Fixed Boom Hedger[x]	Hour	—	—	360.00	12 to 30 A/H - bed tops only; 8 to 20 acres - bed top \and furrow; depending on wood size
Topping:					
Tractor Pulled	Hour	115.00-	175.00	145.00	2-5 acres/hour depending on wood size
Double Sided Topper (Self Propelled)	Hour	265.00-	285.00	275.00	Avg. 8-15 A depending on wood size type of cut;$25/A
Double Boom (Self Propelled)	Hour	—	—	550.00	15 to 30 A flattop 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	—	—	120.00	6 to 20 acres/hour
Removing Brush:					
Haul Brush out of Grove (Front-end Loader)	Hour	45.00-	55.00	52.00	
Mow/Chop Brush	Hour	32.00-	45.00	37.85	
OTHER CUSTOM RATES:					
Install Tree Wraps	15¢-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	$ 1.10	Varies as to density
Plant Trees (Resets)	Tree	2.00-	3.25	2.42	Varies as to the number of resets
Travel/Setup Charge	Hour	—	—	25.23	
Grove Management Charge/Month:					
Supervising Grove Care Operations	Acre	3.25-	8.00	4.78	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				
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	600-	8,000	2,922	Total acres reporting: 26,298

[z]Plus materials. Caretakers reporting rates include labor, tractor and sprayer; supply truck included by most caretakers.

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

[x]Low 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, July 2004.

Table 9-A.--2004 summary of average chemical price estimates

Item		Unit	Average Price	Your Price (2004)
Fungicides:	Abound EC	gallon	196.38	
	Aliette 80WP	pound	10.16	
	Basic Copper Sulfate	pound	1.20	
	Copper Hydroxide	pound		
	Copper (Kocide 101)	pound	1.58	
	Copper (Kocide 2000)	pound	2.07	
	Copper (Champ II Flowable)	gallon	21.80	
	Cuprofix Disperss	pound	1.79	
	Nu-Cop 50 DF	pound	1.78	
	Enable	gallon	51.60	
	Gem 25	40 ounces	103.33	
	Headline EC	gallon	182.52	
	Oil - 435 or 455	gallon	2.05	
	Oil - 470 (Bio-lever)	gallon	2.35	
	Ridomil Gold EC	gallon	591.67	
	Topsin	pound	13.40	
Insecticides/Nematicides:				
	Admire 2F	gallon	454.00	
	Agri-Mek (0.15EC)	gallon	526.67	
	Carbaryl 4L	gallon	26.55	
	Carbaryl 80S	pound	4.46	
	Chlorpyrifos 4E	gallon	50.18	
	Clinch Fire Ant Bait	pound	8.63	
	Danitol	gallon	129.38	
	Guthion 2L	gallon	29.96	
	Guthion 50WP	pound	8.19	
	Imidan 70W (Diaprepes)	pound	7.50	
	Lorsban 4EC	gallon	30.82	
	Lorsban 15G	pound	1.74	
	Malathion 5 EC	gallon	21.66	
	Micromite 25 WS	pound	29.00	
	Micromite 80 WG	gallon	82.25	
	Microthiol	pound	0.58	
	Nexter 75WP	pound	85.16	
	Sevin 80S	pound	4.59	
	Sevin XLR	gallon	26.62	
	Sulphur 6F	gallon	3.10	
	Temik 15G	pound	2.96	
	Vendex 50W	pound	14.25	

Table 9-A.--2004 summary of average chemical price estimates (cont'd.)

Item		Unit	Average Price	Your Price (2004)
Herbicides:	Aqua Master	gallon	42.53	
	Diuron 4L	gallon	16.13	
	Direx 4L	gallon	14.23	
	Direx 80 DF	pound	3.06	
	Fusilade DX 2E	gallon	117.67	
	Glyphosate:			
	Glyphomax Plus	gallon	15.25	
	Roundup (Original)	gallon	22.25	
	Roundup - Ultra Max	gallon	29.37	
	Touchdown	gallon	33.17	
	Gramoxone E (Paraquat)	gallon	34.92	
	Hyvar X 80 WP	pound	16.98	
	Karmex 80 DF	pound	3.37	
	Krovar I	pound	10.10	
	Landmaster II	gallon	17.39	
	Mandate 2E	gallon	161.53	
	Pendimax	gallon	22.73	
	Poast Plus 1.0 EC	gallon	52.39	
	Princep (Caliber 90)	pound	3.05	
	Princep 4L	gallon	13.22	
	Prowl	gallon	21.48	
	Simazine 90 DF	pound	2.66	
	Simazine 4L	gallon	12.87	
	Solicam 80 DF	pound	13.77	
	Simtrol		18.00	
	Surflan	gallon	76.53	
Growth Regulators:				
	Citrus Fix	gallon	457.00	
	Pro-Gibb 3.91%	20-ounce bottle	30.79	
	Tree-Hold	gallon	79.17	
Other Spray Materials:				
	Borates (15%)	pound	0.68	
	Manganese (32%)	pound	0.31	
	Zinc (78%)	pound	0.79	
	Adjuvant (Surfactant)	gallon	22.50	

Source: Ronald P. Muraro, Extension Farm Management Economist, University of Florida, IFAS, CREC, Lake Alfred, Florida, August 2004.

Table 10-A.--2004 summary of average fertilizer price estimates

Item	Unit	Average Price	Your Price (2004)
FERTILIZER (FOB Price @ Plant)			
		$	
Dry Mix (Bulk)			
17-0-17-3$_{Mg}$	ton	196.99	_____
17-4-17-2.4$_{Mg}$	ton	200.79	_____
16-0-16	ton	181.72	_____
16-0-16-4$_{Mg}$	ton	200.13	_____
16-2-16-3$_{Mg}$	ton	198.99	_____
15-2-15-2.4$_{Mg}$	ton	183.26	_____
12-2-12-2.4$_{Mg}$	ton	176.29	_____
8-8-8 w/minors*	ton	169.82	_____
8-4-8 w/minors*	ton	155.77	_____
8-2-8 w/minors*	ton	141.94	_____
6-6-6 w/minors*	ton	150.77	_____
Liquid Mix (Bulk)			
8-2-8	ton	126.89	_____
8-4-8	ton	126.55	_____
9-3-9	ton	130.31	_____
9-4-9	ton	138.77	_____
10-0-10	ton	139.81	_____
10-2-10	ton	141.62	_____
12-0-6	ton	143.28	_____
12-3-6	ton	150.88	_____

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

Table 10-A.--2004 summary of average fertilizer price estimates (cont'd.)

Item	Unit	Average Price	Your Price (2004)
Other Fertilizer Materials (Bulk)			
Ammonium Nitrate (21% N Liquid)	ton	168.83	_____
Ammonium Nitrate (33.5% N Dry)	ton	235.60	_____
Ammonium Sulfate (21% N)	ton	147.92	_____
Calcium Nitrate (19% Ca, 15.5% N)	ton	223.85	_____
Dolomite (at mine--49% $CaCO_3$, 36% $MgCO_3$)	ton	15.90	_____
Muriate of Potash (60% K_2O)	ton	183.78	_____
Potassium Nitrate (14% N; 46% K_2O)	ton	370.75	_____
Sul-Po-Mag (SPM--21.9% K_2O)	ton	183.33	_____
Super Phosphate (20% P_2O_5)	ton	204.17	_____
Triple Superphosphate (48% P_2O_5)	ton	225.36	_____
Average Delivery Cost	ton	12.78	_____
Foliar Macronutrients			
Phos Might 0-22-20	gallon	24.87	_____
Nutriphite Magnum 2-40-16	gallon	30.00	_____
MKP (0-52-34) (Mono-Potassium Phosphate)	pound	0.65	_____

**SRN, Slow Release Nitrogen

Source: Ronald P. Muraro, Extension Farm Management Economist, University of Florida, IFAS, CREC, Lake Alfred, Florida, August 2004.

Table 11-A.--A listing of estimated comparative Southwest Florida citrus production costs per acre for oranges, 2003-2004[z]

Costs represent a mature (10+ years old) Southwest Florida Orange Grove.	Low Cost Processed Cultural Program One-Year Alternative		Processed and Reduced Fresh Cost Cultural Program		Typical/Historical Fresh Fruit Cultural Program	
PRODUCTION/CULTURAL COSTS:[y]						
Weed Management/Control:						
Mechanical Mow Middles (3 times per year)		$ 22.76		$ 22.76		$22.76
Chemical Mow Middles (2 times per year)		10.88		10.88		10.88
General Grove Work (2 labor hours per acre)		25.34		25.34		25.34
Herbicide (1/2 tree acre treated):						
Application (6 glyphosate or 3 residual applications)	$51.54		$ 25.77		$25.77	
Material	44.04		80.77		80.77	
Total Herbicide Cost		95.58		106.54		106.54
Spray						
Post Bloom: Application (150 GPA)	—		—		24.02	
Material	—		—		26.18	
Total Post Bloom Cost		—		—		50.20
Summer Oil #1: Application (150 GPA)	—		24.02		24.02	
Material	—		56.82		56.82	
Total Summer Oil #1 Cost		—		80.84		80.84
Summer Oil #2: Application (PTO -- 150 GPA)	24.02		24.02		24.02	
Material	63.08[x]		26.83[w]		18.65	
Total Summer Oil #2 Cost		87.10		50.85		42.67
Fertilizer (Bulk): 3 Applications	15.33		15.33		15.33	
Material (15-2-15-2.4 MgO @ 180 lbs N and 204 lbs N per acre)	109.92		120.00		120.00	
Total Fertilizer Cost		125.25		135.33		135.33
Dolomite (one ton applied every 3 years)						
Material/Application		12.01		12.01		12.01
Pruning: Topping ($27.50/A ÷ 2.5 yrs)[v]	11.00		11.00		11.00	
Hedging ($24.50/A ÷ 2 yrs)[v]	12.25		12.25		12.25	
Chop/Mow Brush after Hedging ($8.52/A ÷ 2 yrs)[v]	4.26		4.26		4.26	
Total Pruning Cost		27.51		27.51		27.51
Tree Replacement — 1 thru 3 years of age: (4 trees/acre)						
Remove Trees: Pull, Stack & Burn 4 Trees with Front-end Loader	18.96		18.96		18.96	
Prepare Site & Plant Tree (Includes 4 reset trees)	—		47.64		47.64	
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	24.84		36.96		36.96	
Total Tree Replacement Cost		43.80		103.56		103.56
Irrigation: Microsprinkler System[u]	152.07		152.07		152.07	
Clean Ditches (Weed Control)	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)	12.71		12.71		12.71	
Total Irrigation Cost		192.59		192.59		192.59
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS		$642.82		$768.21		
Supplemental Post Bloom:						
Application (250 GPA)			24.33		24.33	
Material			50.80		50.80	
Total Supplemental Post Bloom Cost				75.13		75.13
Fall Miticide Spray: Aerial Application (15 GPA)			8.02		8.02	
Material			28.50		28.50	
Total Fall Miticide Cost				36.52		36.52
IRRIGATED FRESH FRUIT PRODUCTION COSTS				$879.86		$921.88

[z]Listed estimated comparative costs are for example grove situation described in Economic Information Report Series, Budgeting Costs and Returns for Southwest Florida Citrus Production, and may not represent your particular grove situation in Southwest Florida.

Source: Ronald P. Muraro, University of Florida-IFAS, Citrus Research and Education Center, Lake Alfred, FL, August 2004.

Table12-A.--A listing of estimated comparative Southwest Florida citrus production costs per acre for grapefruit, 2003-04[z]

Costs represent a mature (10+ years old) Southwest Florida Red Grapefruit Grove	Low Cost Processed Cultural Program One-Year Alternative		Processed and Reduced Fresh Cost Cultural Program		Typical/Historical Fresh Fruit Cultural Program	
PRODUCTION/CULTURAL COSTS:[y]						
Weed Management/Control:						
Mechanical Mow Middles (3 times per year)		$ 22.76		$ 22.76		$22.76
Chemical Mow Middles (2 times per year)		10.88		10.88		10.88
General Grove Work (2 labor hours per acre)		25.34		25.34		25.34
Herbicide (1/2 tree acre treated):						
Application (6 glyphosate or 3 residual applications)	$51.54		$25.77		$25.77	
Material	44.04		80.77		80.77	
Total Herbicide Cost		95.58		106.54		106.54
Spray						
Post Bloom: Application (150 GPA)	—		—		24.02	
Material	—		—		26.18	
Total Post Bloom Cost		—		—		50.20
Summer Oil #1: Application (250 GPA)	24.02		24.02		24.02	
Material	56.82[x]		56.82		56.82	
Total Summer Oil #1 Cost		80.84		80.84		80.84
Summer Oil #2: Application (PTO -- 150 GPA)	24.02		24.02		24.02	
Material	26.83[x]		26.83		18.65	
Total Summer Oil #2 Cost		50.85		50.85		42.67
Fertilizer (Bulk): 3 Applications	15.33		15.33		15.33	
Material (12-2-12-2.4 MgO @ 180 lbs N and 15-2-15-2.4 MgO @ 150 lbs N)	91.60		91.60		91.60	
Total Fertilizer Cost		106.93		106.93		106.93
Dolomite (one ton applied every 3 years)						
Material/Application		12.01		12.01		12.01
Pruning: Topping ($27.50/A ÷ 2.5 yrs)[v]	11.00		11.00		11.00	
Hedging ($24.50/A ÷ 2 yrs)[v]	12.25		12.25		12.25	
Chop/Mow Brush after Hedging ($8.52/A ÷ 2 yrs)[v]	4.46		4.46		4.46	
Raise Skirts of Trees ($13.00 ÷ 2 yrs)[v]	—		6.50		6.50	
Total Pruning Cost		27.71		34.21		34.21
Tree Replacement — 1 thru 3 years of age: (3 trees/acre)						
Remove Trees: Pull, Stack & Burn 3 Trees with Front-end Loader	14.22		14.22		14.22	
Prepare Site & Plant Tree (Includes 3 reset trees)	—		35.73		35.73	
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	18.63		27.72		27.72	
Total Tree Replacement Cost		32.85		77.67		77.67
Irrigation: Microsprinkler System[u]	145.30		152.07		152.07	
Clean Ditches (Weed Control)	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)	11.05		12.71		12.71	
Total Irrigation Cost		184.16		192.59		192.59
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS		$649.91		$720.62		
Supplemental Post Bloom Spray:						
Application (250 GPA)			24.33		24.33	
Material			50.80		50.80	
Total Supplemental Post Bloom Cost				75.13		75.13
Fall Miticide Spray: Aerial Application (15 GPA)			8.02		8.02	
Material			28.50		28.50	
Total Fall Miticide Cost				36.52		36.52
IRRIGATED FRESH FRUIT PRODUCTION COSTS				$832.27		$874.29

[z]Listed estimated comparative costs are for example grove situation described in Economic Information Report Series, Budgeting Costs and Returns for Southwest Florida Citrus Production, and may not represent your particular grove situation in Southwest Florida.

Source: Ronald P. Muraro, University of Florida-IFAS, Citrus Research and Education Center, Lake Alfred, FL, August 2004.

Table 13-A.--Estimated cost of planting and maintaining a reset citrus tree through three years of age, July 2004

	Number of Resets/Replacement Trees Per Acre				
	1-2	3-5	6-10	11-25	26+
	---------- Cost Per Tree ----------				
Year #1:	$	$	$	$	$
Tree Removal	5.45	4.74	3.79	3.07	2.45
Tree Cost (Container Tree)	4.50	4.50	4.35	4.25	4.25
Site Preparation[a]	5.71	4.95	4.19	3.88	3.04
Plant Tree and First Watering	2.84	2.46	2.08	1.93	1.51
Total Planting Cost	13.05	11.91	10.62	10.06	8.80
Supplemental Fertilization – 4 Times (Application & Materials)	1.37	1.20	1.10	1.00	0.92
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	0.42	0.42	0.39	0.39	0.35
Miscellaneous	0.17	0.16	0.15	0.14	0.14
Supervision & Overhead	0.27	0.25	0.24	0.23	0.21
Total Tree Care Cost Year #1	3.92	3.62	3.42	3.25	3.07
Total Cost Year #1	22.42	20.27	17.83	16.38	14.32
Year #2:					
Supplemental Fertilization – 3 Times (Application & Materials)	1.81	1.61	1.41	1.19	1.09
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	0.50	0.50	0.42	0.42	0.38
Miscellaneous	0.15	0.14	0.12	0.11	0.10
Supervision & Overhead	0.24	0.20	0.19	0.17	0.15
Total Cost Year #2	3.45	3.12	2.73	2.39	2.18
Year #3:					
Supplemental Fertilization – 3 Times (Application & Materials)	2.48	2.21	1.90	1.62	1.37
Miscellaneous	0.12	0.11	0.09	0.08	0.07
Supervision & Overhead	0.20	0.17	0.15	0.13	0.11
Total Cost Year #3[b]	2.80	2.49	2.14	1.83	1.55
Total Three-Year Cumulative Costs	28.67	25.88	22.70	20.60	18.05

[a]Site preparation for bedded citrus grove; cost of root removal, rotovating/leveling tree planting site. Fumigate planting site would cost approximately $2.50 per tree.

[b]Additional spray costs may be incurred if leafminer is a problem.

Source: Ronald P. Muraro, Farm Management Economist, CREC, Lake Alfred, FL, July 2004.

Table 14-A.--Estimated average picking, roadsiding and hauling charges for Florida citrus, 2003-04

	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	$/Box	$/Box	$/Box	$/Box
Picking Charges:				
Early and Mid-Season Oranges	0.80 - 1.00	0.840	0.65 - 0.95	0.772
Valencia Oranges	0.80 - 1.00	0.840	0.65 - 0.95	0.791
Pink/Red Grapefruit	0.60 - 0.85	0.658	0.55 - 0.70	0.590
White/Marsh Grapefruit	0.60 - 0.70	0.633	0.55 - 0.70	0.590
Temples/Tangelos	0.85 - 1.25	0.950	0.70 - 1.25	0.851
Tangerines	1.35 - 1.75	1.563	–	–

	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	$/Box	$/Box	$/Box	$/Box
Roadsiding Charges:				
Early and Mid-Season Oranges	0.70 - 1.06	0.860	0.65 - 1.07	0.801
Valencia Oranges	0.75 - 1.06	0.868	0.65 - 1.07	0.817
Pink/Red Grapefruit	0.65 - 0.87	0.766	0.55 - 0.66	0.620
White/Marsh Grapefruit	0.65 - 0.85	0.743	0.55 - 0.66	0.620
Temples/Tangelos	0.75 - 1.11	0.938	0.75 - 1.07	0.833
Tangerines	1.12 - 1.21	1.155	–	–

	Fresh Fruit	Processed Fruit
	All Varieties	All Varieties
	$/Box	$/Box
Hauling Charges:		
0 - 30 miles	0.410	0.392
31 - 50 miles	0.460	0.457
51 - 80 miles	0.553	0.530
81 - 100 miles	0.625	0.570
100 + miles	0.687	0.625

Table 15-A.--Estimated average packing charges for Florida citrus, 2003-04

	Domestic Grapefruit	Export Grapefruit	Oranges	Temples/ Tangelos	Tangerines
	----------	----------	$/Carton	----------	----------
Total Packing Charge[a]	3.636	3.741	3.993	4.026	4.795
	----------	----------	$/Box	----------	----------
Drenching Charge	0.158	0.158	0.173	0.173	0.173
Packinghouse Elimination Charges	0.523	0.523	0.544	0.544	0.544
Hauling Charges for Eliminations	0.423	0.423	0.496	0.496	0.496

[a]Total 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; repairs maintenance; miscellaneous supplies; etc.
4. Indirect packing costs include items such 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. Selling expenses include sales salaries, travel, telephone and telegraph and brokerage fees.
7. Special assessments include items such 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.

Source: Ronald P. Muraro, University of Florida-IFAS, Citrus Research and Education Center, Lake Alfred, FL, August 2004.

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

	Variety						
						Seedless Grapefruit[e]	
Crop Year	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	2.88	4.20	2.19	7.81	2.47	1.96	2.54
2002-03[f]	2.81	3.95	2.35	8.53	3.23	1.62	2.49

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

[b]Navel and Hamlin [c]Parson Brown and Pineapple [d]Valencia [e]Marsh (white) or pink [f]Preliminary

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

[a]Example. 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).