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Budgeting Costs and Returns for Southwest Florida Citrus Production, 2004-05

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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 tenth 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 and 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 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. The 2004-2005 budgets reflect major cost increases in all production inputs: fuel averaged a 22% increase; fertilizer products increased 15%; chemicals averaged an 8% increase; and equipment operation costs increased 7%. Along with the increased costs, three major hurricanes (storms) during August and September 2004 resulted in wide tree damage and fruit loss. The Indian River region experienced fruit loss of 70% to 80% on red and white grapefruit, respectively. Hamlin orange losses in the Central Florida (ridge) region were 30% to 40% with Valencia orange losses between 20% and 30%. The only citrus growing region that was not significantly affected by the three storms was the Southwest Florida citrus region. As a result of the excessive fruit loss, the per box, per pound solid and per carton costs for the Indian River and Central (ridge) growing regions were substantially higher than in recent years.

The budget costs in this report represent an **owner-managed operation** for the 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 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 $11.88 per acre; Diaprepes control could add $84.18 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 ($116.94/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 the grove equipment barn and could add $28.86 per acre; etc.

ACKNOWLEDGEMENTS

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LIST OF TABLES

BUDGETING COSTS AND RETURNS FOR SOUTHWEST FLORIDA CITRUS PRODUCTION, 2004-05

Ronald P. Muraro, Fritz M. Roka, and Robert E. Rouse

INTRODUCTION

Southwest Florida has become a major citrus production area. In 2004 citrus acreage in Southwest Florida represented over 22.6% of total state citrus acreage. Acreage in Southwest Florida increased from 72,480 in 1986 to 179,948 in 1998 then decreased to 169,386 in 2004. The 5.9% 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 counties.

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 two budgets constructed from current data and provides a format for growers to analyze costs and returns from their individual records.

The 2004-2005 budgets reflect major cost increases in all production inputs: fuel averaged a 22% increase; fertilizer products increased 15%; chemicals averaged an 8% increase; and equipment operation costs increased 7%. Along with the increased costs, three major hurricanes (storms) during August and September 2004 resulted in wide tree damage and fruit loss. The Indian River region experienced fruit loss of 70% to 80% on red and white grapefruit, respectively. Hamlin orange losses in the Central Florida (ridge) region were 30% to 40% with Valencia orange losses between 20% and 30%. The only citrus growing region that was not significantly affected by the three storms was the Southwest Florida citrus region. As a result of the excessive fruit loss, the per box, per pound solid and per carton costs for the Indian River and Central (ridge) growing regions were substantially higher than in recent years.

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.

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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. Grower costs are shown in the ADDENDA, Tables 1-A through 7-A. The custom rate charges are shown in Table 8-A and the various chemical and fertilizer costs are shown in Tables 9-A and 10-A in the ADDENDA. Costs of planting and maintaining reset trees through three years of age are shown in Table 13-A. Historic on-tree prices for selected citrus varieties are shown in 16-A. 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 allowing 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, with the 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, 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 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 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. 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.

As a result of tree losses and replacement, the tree ages will vary. The orange and grapefruit budgets reflect the following age distributions:

Table 1.--Schedule of production practices and budget items for a Southwest Florida mature, round orange grove, 2004-05[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, 2004-05[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, 2004-05

Age of Tree	Trees						Boxes /tree		Total boxes
	Total no. all ages		Proportion ea. age[a]		No. ea. age		---------- No. ----------		
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	3.9	=	186.8
Prod. 50% of exp. yield	145	x	0.03	=	4.4	x	2.2	=	9.7
Over 16 years	145	x	0.49	=	71.0	x	4.2	=	298.2
						Total boxes		=	504.4

[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, 2004-05

Age of Tree	Trees						Boxes /tree		Total boxes
	Total no. all ages		Proportion ea. age[a]		No. ea. age		---------- No. ----------		
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. The budgeted costs represent one possible citrus production program and were selected from the costs shown in the ADDENDA tables. **The costs presented in the budgets represent an owner-managed citrus operation.** The gross revenue estimates are based on the projected yields in Tables 3 and 4 and estimated preliminary on-tree prices for the 2004-05 season. Alternative cost scenarios, grove 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 5, the total revenue for processed-market Hamlin oranges is estimated to be $1,149.12 per acre. Total specified costs are $881.03 and are comprised of grove care costs of $833.03, plus management cost of $48.00. Return to land and trees which represents net return above variable costs was $268.09 per acre. At 350 and 550 boxes per acre, respectively, the break-even price required to cover grove care costs for Hamlin oranges range from $2.38 to $1.52 per box on-tree and $0.82 to $0.68 per pounds solids delivered-in.

In Table 7, total revenue for fresh market red seedless grapefruit is estimated to be $7,919.85 per acre. Total specified costs are $997.74, being comprised of grove care costs of $949.74, plus management cost of $48.00. Return to land, trees, and ownership or net return above variable costs is $6,922.11. At 350 and 550 boxes per acre, respectively, the break-even price required to cover grove care costs for seedless grapefruit range from $2.72 to $1.73 per box on-tree and $1.39 to $1.18 per pound 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 $435 per acre ($3,700 average debt per acre @ 10 percent interest amortized over 20 years) which would reduce total available cash for grove expansion or other investment.

An 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 (Refer to Tables 11-A and 12-A): 1) Low Cost Processed Cultural Program; 2) Reduced Cost Cultural Program; and 3) Typical/Historical Cultural Program. Scenarios 1 and 2 represent costs of two possible cultural programs directed toward reducing the expenditures for fruit grown primarily for the fresh/processed market. The third scenario represents typical costs of grove practices which have been performed for citrus grown for the fresh fruit market in the case of grapefruit and the processed market in the case or oranges. 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 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 2000-01 through 2003-04 along with 2004-05, 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 2005 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, 2004-05[a]

	Item	Description	Amount		Your cost
			---------- Dollars ----------		
I.	Revenue	504 boxes @ $2.28[b]		1,149.12	
II.	Expenses				
	Weed control				
	Mow middles	3 times per year	22.91		
	Chemical mow (Table 2-A, Program #10)	2 times per year	9.78		
	General grove work/sprouting, etc.	(2 labor hours per acre)	27.12		
	Herbicide (Table 2-A, Program #1, #6, & #8)		113.15	172.96	
	Spray program (Table 1-A, Programs #11 & #13)			141.19	
	Fertilizer (Table 3-A, Program #4)			159.39	
	Dolomite (Table 6-A, Program #1)			14.56	
	Pruning (maintenance)				
	Topping	($275.00/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	11.00		
	Hedging	($257.50/hr. ÷ 10 A/hr.) ÷ 2 yrs.	12.88		
	Mow brush	($8.99/A ÷ 2 yrs.)	4.50	28.38	
	Tree replacement and care (Table 12-A)	(1 through 3 years)			
	Remove trees	4 trees per acre	20.32		
	Prepare sites and plant resets	Including 4 trees per acre	47.88		
	Supplemental fertilizer, sprout, etc. (Trees 1-3 years)	Including application	39.72	107.92	
	Microsprinkler irrigation (Table 7-A, Program #4)			166.17	
	Drainage ditch annual costs (Table 7-A, Program #5)			42.46	
	Total grove care expenses			833.03	
III.	Management	$4.00 per acre per month[c]		48.00	
IV.	Total specified costs[d]			881.03	
V.	Return (loss) to land, trees, and ownership			268.09	

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]				
2.38	2.09	1.86	1.67	1.52	0.82	0.77	0.73	0.70	0.68

[a]Although the estimated annual per acre grove costs shown in Tables 5 and 6 are representative for a mature Southwest Florida Hamlin orange and red seedless grapefruit grove, respectively, the grove care costs for a specific grove site may differ depending upon the grove practices performed; e.g., a Temik application would add $116.94 per acre; extensive tree loss due to blight or tristeza could at least double, if not increase more, the tree replacement and care costs; etc. Also, truck watering of resets could add another $8.90 per acre (average 5 waterings).

[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. Other selected methods will give a different return to land and trees than reported here.

[d]Other 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.

[e]Assumes 6.0 pounds solids per box and $2.357 pick and haul cost per box (including canker decontamination costs) and Department of Citrus advertising assessment of $0.165 per box.

Table 6.--Estimated total delivered-in cost for Southwest Florida Hamlin oranges grown for the processed market under three cultural cost programs, 2004-05

Represents a mature (10+ years old) Southwest Florida Orange Grove	Processed Hamlin Oranges Low Cost Cultural Program One-Year Alternative			Processed Hamlin Oranges Low 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	$ 735.99	$1.460	$0.2434	$ 833.03	$1.653	$0.2755	$ 954.72	$1.894	$0.3157
Interest on Operating (Cultural) Costs	20.24	0.040	0.0067	41.65	0.083	0.0138	47.74	0.095	0.0158
Management Costs	48.00	0.095	0.0159	48.00	0.095	0.0159	48.00	0.095	0.0159
Taxes/Regulatory Costs:									
Property Tax and Water Management District Tax	64.05	0.127	0.0212	61.00	0.121	0.0202	61.00	0.121	0.0202
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	$ 874.46	$1.735	$0.2892	$ 988.22	$1.961	$0.3268	$1,116.00	$2.214	$0.3690
Interest on Avg Capital Investment Costs	321.22	0.637	$0.1062	321.22	0.637	0.1062	321.22	0.637	0.1062
Total Grower Costs	$1,195.67	$2.372	$0.3954	$1,309.44	$2.598	$0.4330	$1,437.21	$2.852	$0.4753
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination Costs	1,187.93	2.357	0.3928	1,187.93	2.357	0.3928	1,187.93	2.357	0.3928
DOC Assessment	83.16	0.165	0.0275	83.16	0.165	0.0275	83.16	0.165	0.0275
Total Harvesting & Assessment Costs	1,271.09	2.522	0.4203	1,271.09	2.522	0.4203	1,271.09	2.522	0.4203
Total Delivered-In Cost	$2,466.76	$4.894	$0.8157	$2,580.52	$5.120	$0.8533	$2,708.30	$5.374	$0.8956
P.S. = Pound Solids Yield: 504 boxes/acre @ 6.0 P.S. per box 145 trees per acre	Refer to cultural program shown in Table 11-A. Only summer oil sprays with oil, copper, and Agri-mek & nutritionals.			Refer to cultural program shown in Table 5.			Refer to cultural program shown in Table 11-A. A Fall Miticide Spray added to the cultural program shown in 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, 2004-05[a]

	Item	Description	Amount		Your cost
			---------- Dollars ----------		
I.	Revenue	555 boxes @ $14.27[b]		7,919.85	_____
II.	Expenses				
	Weed control				
	Mow middles	3 times per year	22.91		_____
	Chemical mow (Table 2-A, Program #10)	2 times per year	9.78		_____
	General grove work/sprouting, etc.	(2 labor hours per acre)	27.12		_____
	Herbicide (Table 2-A, Program #1, #6, & #8)		113.15	172.96	_____
	Spray program (Table 1-A, Programs #1, #6, #13, #14, & #16)			307.68	_____
	Fertilizer (Table 3-A, Program #2)			129.59	_____
	Dolomite (Table 7-A, Program #1)			14.56	_____
	Pruning (maintenance)				
	Topping	($275.00/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	11.00		_____
	Hedging	($257.50/hr. ÷ 10 A/hr.) ÷ 2 yrs.	12.88		_____
	Raise skirts of trees	($14.00/A ÷ 2 yrs.)	7.00		_____
	Removing/chop brush	($8.99/A ÷ 2 yrs.)	4.50	35.38	
	Tree replacement and care (Table 12-A)	(1 through 3 years)			_____
	Remove trees	3 trees per acre	15.24		_____
	Prepare sites and plant resets	Including 3 trees per acre	35.91		_____
	Supplemental fertilizer, etc. (Trees 1-3 years)	Including application	29.79	80.94	_____
	Microsprinkler irrigation (Table 7-A, Program #4)			166.17	_____
	Drainage ditch annual costs (Table 7-A, Program #5)			42.46	_____
	Total grove care expenses			949.74	
III.	Management			48.00	_____
IV.	Total specified costs[d]			997.74	_____
V.	Return to land, trees, and ownership			6,922.11	_____
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]				
2.72	2.38	2.11	1.90	1.73	1.38	1.32	1.26	1.22	1.18

[a]Although the estimated annual per acre grove costs shown in Tables 5 and 6 are representative for a mature Southwest Florida Hamlin orange and red seedless grapefruit grove, respectively, the grove care costs for a specific grove site may differ depending upon the grove practices performed; e.g., a Temik application would add $116.94 per acre; extensive tree loss due to blight or tristeza could at least double, if not increase more, the tree replacement and care costs; etc. Also, truck watering of resets could add another $8.90 per acre (average 5 waterings).

[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. Other selected methods will give a different return to land and trees than reported here.

[d]Other 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.

[e]Assumes 4.7 pounds solids per box; $2.809 pick and haul cost per box (includes spot picking, fruit drenching and canker decontamination costs and 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, 2004-05

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	$ 701.81	$1.265	$0.2690	$ 904.94	$1.631	$1.0144	$949.74	$1.711	$1.0144
Interest on Operating (Cultural) Costs	19.30	0.035	0.0074	24.89	0.045	0.0224	26.12	0.047	0.0235
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	$ 826.53	$1.489	$0.3169	$1,089.98	$1.964	$1.1772	$1,136.01	$2.047	$1.1783
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	$1,147.74	$2.068	$0.4400	$1,411.19	$2.543	$1.4666	$1,457.22	$2.626	$1.4677
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination	1,207.13	2.175	0.4628	1,317.57	2.374	1.1870	1,317.57	2.374	1.1870
Fruit Drenching (Fresh)	–	–	–	102.68	0.185	0.0925	102.68	0.185	0.0925
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	1,340.33	2.415	0.5138	1,559.00	2.809	1.4045	1,559.00	2.809	1.4045
Total Delivered-In Cost	$2,488.07	$4.483	$0.9538	$2,970.19	$5.352	$2.8711	$3,016.22	$5.435	$2.8722
Two cartons per box P.S. = Pound Solids Yield: 555 boxes/acre @ 4.7 P.S. per box 119 trees per acre	Refer to cultural program shown in Table 12-A. Two summer oil sprays with oil, copper, and Agri-mek.			Refer to cultural program shown in Table 7. Assumes 100% packout			Refer to cultural program shown in Table 12-A. Assumes 100% packout		

Table 9.--Estimated F.O.B. cost for fresh market Southwest Florida Red grapefruit, 2004-05

	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	$949.74	$4.268	$2.1342	$949.74	$3.557	$1.7785	$949.74	$3.049	$1.5245
Interest on Operating (Cultural Costs)	26.12	0.117	0.0587	26.12	0.098	0.0489	26.12	0.084	0.0419
Management	48.00	0.216	0.1079	48.00	0.180	0.0899	48.00	0.154	0.0770
Taxes/Regulatory	112.15	0.504	0.2520	112.15	0.420	0.2100	112.15	0.360	0.1800
Interest on Average Capital Investment	321.22	1.444	0.7218	321.22	1.203	0.6015	321.22	1.031	0.5156
Harvesting (Pick, Haul, Etc.) and DOC Assessment	1,559.00	7.007	3.5034	1,559.00	5.839	2.9195	1,559.00	5.005	2.5024
Total Delivered-In Cost	$3,016.22	$13.556	$6.7780	$3,016.22	$11.297	$5.6483	$3,016.22	$9.683	$4.8414
Packing & Selling	2,047.95	7.380	3.6900	2,457.54	7.380	3.6900	2,867.13	7.380	3.6900
Net Costs of Fresh Eliminations[a]	-2,096.24	-9.421	-4.7106	-1,676.99	-6.281	-3.1404	-1,257.74	-4.038	-2.0188
Total F.O.B. Costs	$2,967.93	$11.515	$5.7574	$3,796.77	$12.396	$6.1979	$4,625.61	$13.025	$6.5126

	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	$949.74	$2.668	$1.3339	$949.74	$2.371	$1.1857	$949.74	$2.134	$1.0671
Interest on Operating (Cultural) Costs	26.12	0.073	0.0367	26.12	0.065	0.0326	26.12	0.059	0.0293
Management	48.00	0.135	0.0674	48.00	0.120	0.0599	48.00	0.108	0.0539
Taxes/Regulatory	112.15	0.315	0.1575	112.15	0.280	0.1400	112.15	0.252	0.1260
Interest on Average Capital Investment	321.22	0.902	0.4511	321.22	0.802	0.4010	321.22	0.722	0.3609
Harvesting (Pick, Haul, Etc.) and DOC Assessment	1,559.00	4.379	2.1896	1,559.00	3.893	1.9463	1,559.00	3.503	1.7517
Total Delivered-In Cost	$3,016.22	$8.473	$4.2363	$3,016.22	$7.531	$3.7656	$3,016.22	$6.778	$3.3890
Packing & Selling	3,276.72	7.380	3.6900	3,686.31	7.380	3.6900	4,095.90	7.380	3.6900
Net Costs of Fresh Eliminations[a]	-838.49	-2.355	-1.1777	-419.25	-1.047	-0.5234	0.00	0.000	0.0000
Total F.O.B. Costs	$5,454.44	$13.497	$6.7486	$6,283.28	$13.864	$6.9322	$7,112.12	$14.158	$7.0790

[a]"Net Eliminations Cost" equals the average yield of 4.70 pound solids per box times $1.82 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, 2000-01–2004-05

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			
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	$2.11	516	1,088.76	768.21	816.21	272.55
2004-05	$2.28[b]	504	1,149.12	833.03	881.03	268.09
5-yr. avg.	$2.48	506	1,254.88	781.71	830.71	424.17

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

[b]Preliminary estimate by FASS for 2004-05 season.

[c]A 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 11.--Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2005 dollars) for a mature, Hamlin orange grove producing citrus for processed market in the Southwest Florida area, 2000-01–2004-05

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		
2000-01	117.9	$3.03	504	1,527.12	963.29	563.83
2001-02	120.7	$3.37	504	1,698.48	983.99	714.49
2002-03	114.6	$3.04	504	1,532.16	938.61	593.55
2003-04	107.9	$2.28	516	1,176.48	880.69	295.29
2004-05	100.0	$2.28	504	1,149.12	881.03	268.09
5-yr. avg.	–	$2.80	506	1,416.80	929.53	487.27

[a]Producer price index for each year adjusted to 2005 prices (2005 = 100), with 2005 producer price index estimated to be 158.2. Producer price index for other years are: 2001 = 134.2; 2002 = 131.1; 2003 = 138.1; and 2004 = 146.7.

[b]A 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 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, 2000-01–2004-05

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			
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	$4.17	555	2,314.35	874.29	922.29	1,392.06
2004-05	$14.27[b]	555	7,919.85	949.74	997.74	6,922.11
5-yr. avg.	$5.15	555	2,858.25	886.97	934.97	1,923.28

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

[b]Preliminary estimate by FASS for 2004-05 season.

[c]A 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 13.--Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2005 dollars) for a mature, red seedless grapefruit grove producing citrus for fresh fruit packing in the Southwest Florida area, 2000-01–2004-05

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		
2000-01	117.9	$2.69	555	1,492.95	1,076.18	416.77
2001-02	120.7	$3.07	555	1,703.85	1,113.51	590.34
2002-03	114.6	$2.86	555	1,587.30	1,124.31	462.99
2003-04	107.9	$4.50	555	2,497.50	995.15	1,502.35
2004-05	100.0	$14.27	555	7,919.85	997.74	6,922.11
5-yr. avg.	–	$5.48	555	3,041.40	1,061.38	1,980.02

[a]Producer price index for each year adjusted to 2005 prices (2005 = 100), with 2005 producer price index estimated to be 158.2. Producer price index for other years are: 2001 = 134.2; 2002 = 131.1; 2003 = 138.1; and 2004 = 146.7.

[b]A 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 12.)

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

Abbreviations for important chemicals are:

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

[a]The costs in the ADDENDA represent an owner managed operation. Therefore, the 10 percent handling and supervision charge added to the material cost for a custom-managed operation is not included in the costs.

Table 1-A.--Spray programs

POST BLOOM SPRAY

Spray Program #1	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	15 lbs	$21.00	_____
	Zn	5 lbs	4.15	_____
	Mn	10 lbs	3.20	_____
	B	0.25 lb	1.17	_____
	Ground Application (PTO driven airblast)	125 gals	23.80	_____
	Total per Application		$53.32	_____

Spray Program #2	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	10 lbs	$14.00	_____
	Zn	5 lbs	4.15	_____
	Mn	10 lbs	3.20	_____
	Micromite 25WP	1.25 lbs	38.78	_____
	Ground Application (PTO driven airblast)	100 gals	24.24	_____
	Total per Application		$83.37	_____

Spray Program #3	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 lbs	$ 9.80	_____
	Agri-Mek	10 ozs	44.10	_____
	Oil 97+%	3 gals	6.63	_____
	Ground Application (PTO driven airblast)	100 gals	24.24	_____
	Total per Application		$84.77	_____

Spray Program #4	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 lbs	$ 9.80	_____
	Lorsban 4EC	4 pts	17.08	_____
	Hystop (pH Reducer)	1 pt	2.30	_____
	Ground Application (PTO driven airblast)	100 gals	24.24	_____
	Total per Application		$53.42	_____

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

POST BLOOM SPRAY (cont'd.)

Spray Program #5	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Vendex 4L	2 lbs	$29.72	_____
	Cu (50% metallic)	10 lbs	14.00	_____
	Ground Application (PTO driven airblast)	250 gals	27.95	_____
	Total per Application		$71.67	_____

Spray Program #6	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Micromite	1.25 lbs	$38.77	_____
	Cu (50% metallic)	7 lbs	9.80	_____
	Oil 97+%	3 gals	6.63	_____
	Ground Application (PTO driven airblast)	250 gals	27.95	_____
	Total per Application		$83.15	_____

Spray Program #7	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 lbs	$ 9.80	_____
	Zn	5 lbs	4.15	_____
	Mn	10 lbs	3.20	_____
	B	0.25 lb	1.17	_____
	Micromite	1.25 lbs	38.78	_____
	Ground Application (PTO driven airblast)	250 gals	27.95	_____
	Total per Application		$85.05	_____

Spray Program #8	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Vendex 4L	2 lbs	$29.72	_____
	Ground Application (PTO driven airblast)	125 gals	23.80	_____
	Total per Application		$53.52	_____

Spray Program #9	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
(Scale insects)	Lorsban 4EC	5 pts	$21.35	_____
	Ground Application (engine driven airblast)	500 gals	36.60	_____
	Total per Application		$57.95	_____

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

SUMMER SPRAY

Spray Program #10	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Oil 97+%	10 gals	$22.10	_____
	Cu (50% copper)	7 lbs	9.80	_____
	Ground Application (PTO driven airblast)	250 gals	27.95	_____
	Total per Application		$59.85	_____

Spray Program #11	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 lbs	$ 9.80	_____
	Oil 97+%	5 gals	11.05	_____
	Zn	5 lbs	4.15	_____
	Mn	10 lbs	3.20	_____
	B	0.25 lb	1.17	_____
	Ground Application (PTO driven airblast)	125 gals	23.80	_____
	Total per Application		$53.17	_____

Spray Program #12	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 lbs	$ 9.80	_____
	Oil 97+%	5 gals	11.05	_____
	Agri-Mek	10 ozs	44.10	_____
	Ground Application (PTO driven airblast)	250 gals	27.95	_____
	Total per Application		$92.90	_____

Spray Program #13	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Enable	8 oz	$14.40	_____
	Oil 97+%	5 gals	11.05	_____
	Micromite	1.25 lbs	38.77	_____
	Ground Application (PTO driven airblast)	125 gals	23.80	_____
	Total per Application		$88.02	_____

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

SUMMER SPRAY (cont'd.)

Spray Program #14	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Cu (50% metallic)	7 lbs	$ 9.80	_____
	Oil 97+%	5 gals	11.05	_____
	Ground Application (PTO driven airblast)	125 gals	23.80	_____
	Total per Application		$44.65	_____

FALL SPRAY

Spray Program #15	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Agri-Mek	5 ozs	$22.05	_____
	Ground Application (PTO driven airblast)	125 gals	23.80	_____
	Total per Application		$45.85	_____

Spray Program #16	Materials/Ingredients	Amount /Acre	Cost/Acre	Your Cost/Acre
	Vendex 4L	2 lbs	$29.72	_____
	Aerial Application	15 GPA	8.82	_____
	Total per Application		$38.54	_____

Table 2-A.--Herbicide

Herbicide Program #1 (Strip/band)	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
	Solicam 80DF	3 lbs	$21.36	_____
	Karmex WP	4 lbs	7.74	_____
	Roundup Ultra Max	2 qts	7.28	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$45.44	_____

Herbicide Program #2 (Strip/band)	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
	Surflan A80 DF	2 qts	$20.42	_____
	Simazine 4L	4 qts	6.84	_____
	Roundup Ultra Max	2 qts	7.28	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$43.60	_____

[a]With 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 surface acre is being treated.

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

Herbicide Program #3	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Karmex WP	4 lbs	$ 7.74	_____
	Roundup Ultra Max	2 qts	7.28	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$33.14	_____

Herbicide Program #4	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Solicam 80DF	8 lbs	$62.68	_____
	Simazine 4L	4 qts	6.84	_____
	Roundup Ultra Max	2 pts	3.64	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$82.22	_____

Herbicide Program #5	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Roundup Ultra Max	4 qts	$ 7.28	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$16.34	_____

Herbicide Program #6	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Krovar I	5 lbs	$28.45	_____
	Roundup Ultra Max	2 qts	7.28	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$44.79	_____

Herbicide Program #7	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Princep (Caliber 90)	4 lbs	$ 6.58	_____
	Hyvar X	6 lbs	56.79	_____
	Adjuvant (Surfactant)	2 pts	3.03	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$75.46	_____

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

Herbicide Program #8	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Roundup Ultra Max	2 qts	$ 7.28	_____
	Princep (Caliber 90)	4 lbs	6.58	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$22.92	_____

Herbicide Program #9	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Strip/band)	Direx 4L	3 qts	$ 6.21	_____
	Solicam	3 lbs	21.36	_____
	Adjuvant (Surfactant)	1 qt	3.04	_____
	Ground Application (1 time)		9.06	_____
	Total for 1 Application		$39.67	_____

Herbicide Program #10	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Chemical mow)	Roundup Ultra	1 pt	$1.82	_____
	Ground Application (1 time)		3.07	_____
	Total for 1 Application		$4.89	_____

Herbicide Program #11	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Chemical mow)	Roundup Ultra	1.5 pts	$2.73	_____
	Ground Application (1 time)		3.07	_____
	Total for 1 Application		$5.80	_____

Herbicide Program #12	Materials	Amount/ Treated Acre	Cost/ Grove Acre[a]	Your Cost/ Grove Acre
(Spot treatment)	Roundup Ultra	2 qts	$ 7.28	_____
	Ground Application (1 time)		4.60	_____
	Total for 1 Application		$11.88	_____

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 lbs	$105.25	_____
	Application	3 times	16.59	_____
	Total for 3 Applications		$121.84	_____

Program #2	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(150 lbs N/Acre)	15-2-15-2.4 MgO	1000 lbs	$113.00	_____
	Application	3 times	16.59	_____
	Total for 3 Applications		$129.59	_____

Program #3	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	15-2-15-2.4 MgO	1200 lbs	$135.60	_____
	Application	3 times	16.59	_____
	Total for 3 Applications		$152.19	_____

Program #4	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(204 lbs N/Acre)	17-4-17-2.4 MgO	1200 lbs	$142.80	_____
	Application	3 times	16.59	_____
	Total for 3 Applications		$159.39	_____

Program #5	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(225 lbs N/Acre)	15-2-15-2.4 MgO	1500 lbs	$169.50	_____
	Application	3 times	16.59	_____
	Total for 3 Applications		$186.09	_____

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 lbs	$151.85	_____
	Double Boom Custom Application	3 times	37.65	_____
	Total for 3 Applications		$189.50	_____

Program #2	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	10-2-10	1800 lbs	$160.20	_____
	Double Boom Custom Application	3 times	37.65	_____
	Total for 3 Applications		$197.85	_____

Program #3	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(180 lbs N/Acre)	10-0-10	1800 lbs	$151.85	_____
	Solicam 80DF	3 lbs	21.36	_____
	Karmex WP	4 lbs	7.74	_____
	Double Boom Custom Application	3 times	37.65	_____
	Total for 3 Applications		$217.95	_____

*Treated acre--one application

Table 5-A.--Nematicides

Program #1	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
	Temik 15G	33 lbs	$105.60	_____
	Application		11.34	_____
	Total per Application		$116.94	_____

Table 6-A.--Soil amendment

Program #1	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(Every 3 years)	Dolomite (Delivered)	1 ton	$36.05	
	Application	1 time	7.61	
	Total for 1 Application		$43.66	
	(Average 1/3 Ton Applied/Yr)		$14.56	

Program #2	Analysis/Material Applied	Amount /Acre	Cost/Acre	Your Cost/Acre
(Every year)	Dolomite (Delivered)	1000 lbs	$18.03	
	Application		7.61	
	Total per Application		$25.64	

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

DRIP	Program #1	Your Cost/Acre	Program #2	Your Cost/Acre
Operating	(Electric) $ 62.10		(Diesel) $ 55.87	
Maintenance of System	44.04		43.82	
Total Cash Expenses	$106.14		$ 99.69	
Fixed Depreciation Expense	42.35		45.25	
Total Cash and Fixed Expenses	$148.49		$144.94	

MICROSPRINKLER	Program #3	Your Cost/Acre	Program #4	Your Cost/Acre
Operating	(Electric) $ 70.60		(Diesel) $ 59.44	
Maintenance of System	49.08		50.17	
Total Cash Expenses	$119.68		$109.61	
Fixed Depreciation Expense	52.94		56.56	
Total Cash and Fixed Expenses	$172.62		$166.17	

DRAINAGE DITCH ANNUAL COSTS	Program #5	Your Cost/Acre
Ditches/Canals Maintenance ($45.17/acre ÷ 3 years)	$15.06	
Weed Control in Ditches/Canals	14.19	
Water Control: In/Out of Ditches and Canals	13.21	
Total	$42.36	

Table 8-A.--A listing of 2005 custom rates reported by sixteen Indian River and South Florida citrus caretakers

Grove Practice	Unit	Range of Rate Reported		Average Rate[y]	Comments
CULTIVATION AND EQUIPMENT:					
Labor	Hour	$ 9.50-	$17.50	$13.56	Plus transportation and equipment
Mechanic Labor	Hour	30.00-	50.00	39.56	Labor and service truck
Rotovate	Hour	33.00-	40.00	37.75	
Disc 7-8'	Hour	27.50-	38.50	33.00	
Disc 10-12'	Hour	32.00-	40.00	35.84	
Mow: 7-8'	Hour	27.50-	35.00	31.14	
9-10'	Hour	31.00-	38.50	33.97	
9-10'	Acre	9.00-	11.00	9.97	
15-16'	Hour	35.00-	41.25	39.85	$9.00/acre
V-Mower	Hour	33.00-	35.00	34.34	
Herbicide[z] (Strip/Band–Single Boom)	Hour	30.00-	32.00	31.33	Plus materials
Herbicide[z] (Strip/Band–Single Boom)	Acre	13.00-	13.75	13.39	Plus materials; $35.00/hour
Herbicide[z] (Strip/Band–Double Boom)	Acre	12.00-	14.00	12.75	Plus materials
Herbicide[z] (Chemical Mow)	Acre	2.50-	3.50	3.07	Plus materials
Temik[z]	Acre	10.50-	12.50	11.34	Plus materials
Plow	Hour	32.50-	38.50	34.67	
Backhoe	Hour	45.00-	47.50	45.70	
Middle Buster	Hour	—	—	38.50	With tractor and driver
Mound Builder	Hour	31.00-	38.50	34.84	With tractor and driver
Grader Blade	Hour	28.00-	38.50	33.60	Tractor/blade and driver
Water Truck with Driver	Hour	30.00-	35.00	32.75	
Pickup Truck with Driver	Hour	28.00-	35.00	31.67	Average miles traveled per year: Pick-up truck – 21,298 miles
Flatbed/Transport Truck with Driver	Hour	35.00-	50.00	45.00	
Tractor with Driver	Hour	28.00-	35.00	31.69	
ATV with Driver	Hour	20.00-	25.00	23.25	

SPRAYING:[z]		PTO AIR BLAST SPRAYER 1,000 Gallon Tank with Electronic Sensing			500 Gallon Tank	
		Low	High	Average	Average	
500 GPA	Acre	—	—	38.00	39.00	
250 GPA	Acre	29.00-	36.00	32.92	29.00	
125 GPA	Acre	25.00-	29.00	28.03	27.00	
Curtec (25 GPA)	Acre	—	—	22.00		
Aerial	Fixed Wing: $ 5.13/acre @ 5 gallons per acre					
Aerial	Fixed Wing: $ 7.17/acre @ 10 gallons per acre				Bell Helicopter: $20.00/acre @ 10 GPA	
Aerial	Fixed Wing: $ 8.82/acre @ 15 gallons per acre					
Aerial	Fixed Wing: $11.25/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	12.00-	13.40	12.55	
Dry (Bulk)		Acre	7.00-	8.75	7.90	Average with VRT: $10.38/acre
Lime or Dolomite		Acre	7.50-	8.75	7.90	
Fertilize Young Trees:[z]	Hand Spread	Hour	9.50-	17.50	13.56	Plus transportation and materials; 15¢/tree
	Fert. Spreader	Average: $7.25/acre; $26.00/hour				Plus materials

(OVER)

Table 8-A.--A listing of 2005 custom rates reported by sixteen Indian River and South Florida citrus caretakers (cont'd.)

Grove Practice	Unit	Range of Rate Reported		Average Rate[y]	Comments
IRRIGATION:					
Ditch Mower	Hour	$32.00-	$44.50	$ 36.20	
Water Furrow Disc	Hour	30.00-	38.50	34.67	
Water Furrow Cleaner	Hour	35.00-	38.50	36.34	
Water Furrow Shaper (Non-Laser Control)	Hour	—	—	65.00	
Water Furrow Shaper (Laser Control)	Hour	—	—	80.00	
Rotary Ditcher or Auger	Hour	33.00-	38.50	35.50	
Microsprinkler/Drip Irrigation Maintenance	Acre/Month	3.50-	4.75	4.25	Check & repair system; parts extra
REMOVING TREES:					
Front-end Loader	Hour	$50.00-	$65.00	$56.79	Avg. range 3-15 trees per hour
Tree Shearing (Cutting Tree at Ground Level)	Hour	50.00-	65.00	56.25	Avg. range 5-20 trees per hour
Prepare Site for Replanting	Tree	$0.25 - $1.00			
PRUNING:					
Hedging:					
Single Side (Tractor Mounted)	Hour	$ —	$ —	$ 55.00	
Double Side (Tractor Pulled)	Hour	—	—	65.00	
Double Side (Self Propelled)	Hour	250.00-	265.00	257.50	8 to 20 A/H depending on wood size; $14/A annual cut
Double Side Rotary (Self Propelled)[x]	Hour	—	—	185.00	5 to 15 A/H bed tops only; add 25% for furrows only
Topping:					
Double Sided Topper (Self Propelled)	Hour	265.00-	285.00	275.00	Avg. 8-15 ac depending on wood size type of cut;$30/acre
Topping Self Propelled	Hour	—	—	150.00	
Limb Lifter/Tree Skirt Trimmer	Acre	—	—	14.00	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	55.00-	65.00	59.25	
Mow/Chop Brush	Hour	32.00-	40.00	34.60	
OTHER CUSTOM RATES:					
Install Tree Wraps	15¢-50¢/tree depending on type of wrap and number of trees; Annual maintenance cost: 35¢/tree				
Plant Trees (Solid Set)	Tree	$ 0.90-	$ 1.75	$ 1.32	Varies as to density
Plant Trees (Resets)	Tree	2.00-	2.50	2.17	Varies as to the number of resets
Travel/Setup Charge	Hour	—	—	22.62	
Grove Management Charge/Month:					
Supervising Grove Care Operations	Acre	3.00-	7.50	5.15	In addition to caretaking charges
Handling Fruit Marketing	$0.10-$0.25/box – For Supervising and Marketing fruit				
Supervising/Handling Chemicals/Fertilizer	5% to 15% 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	$ 0.05-	$ 0.25	$ 0.15	
Consulting	Hour	$125.00-	$200.00	$150.00	Horticultural Evaluation and/or Financial Analysis/prospectus.
Total Reported Acreage Provided Grove Service to:	Acre	1,000-	14,000	4,870	Total acres reporting: 48,700

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

[y]Calculated by dividing the 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 2005.

Table 9-A.--2005 summary of average chemical price estimates

Item		Unit	Average Price	Your Price (2005)
Fungicides:	Abound EC	gal.	218.12	
	Aliette 80WP	lb.	11.59	
	Basic Copper Sulfate	lb.	1.40	
	Copper (Kocide 101)	lb.	1.80	
	Copper (Kocide 2000)	lb.	2.33	
	Copper (Champ II Flowable)	gal.	22.55	
	Cuprofix Disperss	lb.	1.75	
	Nu-Cop 50 DF	lb.	1.88	
	Enable	gal.	57.55	
	Gem 25	40 ozs.	120.59	
	Headline EC	gal.	206.13	
	Oil - 435 or 455	gal.	2.21	
	Oil - 470 (Bio-lever)	gal.	2.46	
	Ridomil Gold EC	gal.	649.15	
	Safe-T-Oil	gal.	3.15	
	Topsin	lb.	14.08	
Insecticides/Nematicides:				
	Admire 2F	gal.	520.28	
	Agri-Mek (0.15EC)	gal.	563.52	
	Award Fire Ant Bait	lb.	9.01	
	Bio-Vector	gal.	412.50	
	Carbaryl 4L	gal.	27.25	
	Carbaryl 80S	lb.	4.47	
	Chlorpyrifos 4E	gal.	57.26	
	Danitol	gal.	147.58	
	Guthion 2L	gal.	32.48	
	Guthion 50WP	lb.	10.07	
	Imidan 70W (Diaprepes)	lb.	8.25	
	Lorsban 4EC	gal.	34.15	
	Lorsban 15G	lb.	1.72	
	Malathion 5 EC	gal.	25.18	
	Micromite 80 WG	gal.	87.95	
	Microthiol	lb.	0.70	
	Nexter 75WP	lb.	89.56	
	Provado 1.6 F (nursery)	gal.	417.75	
	Sevin 80S	lb.	5.17	
	Sevin XLR	gal.	30.96	
	Spintor 2 S C	gal.	492.50	
	Sulphur 6F	gal.	4.00	
	Temik 15G	lb.	3.20	
	Vendex 50W	lb.	14.86	
	Vydate	gal.	56.28	

Table 9-A.--2005 summary of average chemical price estimates (cont'd.)

Item		Unit	Average Price	Your Price (2005)
Herbicides:	Aqua Master	gal.	48.39	
	Diuron 4L	gal.	16.04	
	Direx 4L	gal.	16.50	
	Direx 80 DF	lb.	3.87	
	Fusilade DX 2E	gal.	131.14	
	Glyphosate:			
	Glyphomax Plus	gal.	18.22	
	Roundup (Original)	gal.	23.60	
	Roundup - Ultra Max	gal.	29.12	
	Roundup Weather Max	gal.	50.16	
	Roundup Original Max	gal.	43.50	
	Touchdown	gal.	37.05	
	Gramoxone E (Paraquat)	gal.	37.53	
	Hyvar X 80 WP	lb.	18.93	
	Karmex 80 DF	lb.	3.87	
	Krovar I	lb.	11.38	
	Landmaster II	gal.	18.66	
	Mandate 2E	gal.	166.09	
	Pendimax	gal.	24.37	
	Poast Plus 1.0 EC	gal.	52.50	
	Princep (Caliber 90)	lb.	3.29	
	Princep 4L	gal.	14.51	
	Prowl	gal.	22.12	
	Simazine 90 DF	lb.	2.80	
	Simazine 4L	gal.	13.66	
	Solicam 80 DF	lb.	14.24	
	Simtrol		19.00	
	Surflan	gal.	81.64	
Growth Regulators:				
	Citrus Fix	gal.	494.00	
	Pro-Gibb 3.91%	20 oz. bottle	33.16	
	Tree-Hold	gal.	79.17	
Other Spray Materials:				
	Borates (15%)	lb.	0.70	
	Manganese (32%)	lb.	0.32	
	Zinc (78%)	lb.	0.83	
	Adjuvant (Surfactant)	gal.	23.59	

SOURCE: Ronald P. Muraro, Extension Farm Management Economist, University of Florida, IFAS, CREC, Lake Alfred, Florida, August 2005.

Table 10-A.--2005 summary of average fertilizer price estimates

Item	Unit	Average Price	Your Price (2005)
FERTILIZER (FOB Price @ Plant)			
		$	
Dry Mix (Bulk)			
17-0-17-3_{Mg}	ton	238.82	_____
17-4-17-2.4_{Mg}	ton	243.35	_____
16-0-16	ton	218.35	_____
16-0-16-4_{Mg}	ton	239.49	_____
16-2-16-3_{Mg}	ton	240.45	_____
15-2-15-2.4_{Mg}	ton	224.47	_____
12-2-12-2.4_{Mg}	ton	201.02	_____
8-8-8 w/minors*	ton	182.90	_____
8-4-8 w/minors*	ton	170.29	_____
8-2-8 w/minors*	ton	162.12	_____
6-6-6 w/minors*	ton	159.99	_____
Liquid Mix (Bulk)			
8-2-8	ton	151.53	_____
8-4-8	ton	159.73	_____
9-3-9	ton	166.33	_____
9-4-9	ton	172.47	_____
10-0-10	ton	166.62	_____
10-2-10	ton	176.25	_____
12-0-6	ton	166.89	_____
12-3-6	ton	180.25	_____
7-0-0-6 (Magnesium Nitrate)	ton	218.00	_____

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

Table 10-A.--2005 summary of average fertilizer price estimates (cont'd.)

Item	Unit	Average Price	Your Price (2005)
Other Fertilizer Materials (Bulk)			
Ammonium Nitrate (21% N Liquid)	ton	179.88	_____
Ammonium Nitrate (33.5% N Dry)	ton	259.38	_____
Ammonium Sulfate (21% N)	ton	152.94	_____
Calcium Nitrate (19% Ca, 15.5% N)	ton	288.13	_____
Dolomite (at mine--49% $CaCO_3$, 36% $MgCO_3$)	ton	19.75	_____
Muriate of Potash (60% K_2O)	ton	242.29	_____
Potassium Nitrate (14% N; 46% K_2O)	ton	453.57	_____
Sul-Po-Mag (SPM--21.9% K_2O)	ton	202.43	_____
Super Phosphate (20% P_2O_5)	ton	214.25	_____
Triple Superphosphate (48% P_2O_5)	ton	242.92	_____
Average Delivery Cost	ton	14.32	_____
Foliar Macronutrients			
Phos Might 0-22-20	gal.	24.29	_____
Nutriphite Magnum 2-40-16	gal.	35.00	_____
MKP (0-52-34) (Mono-Potassium Phosphate)	lb.	0.80	_____
RSA ActaPhos 0-28-25	gal.	18.00	_____
Peter’s 20-20-20 Foliar	lb.	0.54	_____
MZF	gal.	6.53	_____
Slow Release Nitrogen (SRN)			
CitriBlen			
15-3-19	ton	245.15	_____
17-5-12	ton	237.50	_____
18-6-11	ton	243.80	_____
Sulfur Coated Urea (SCU)	ton	586.80	_____
Agriform 20-10-5 (500 tablets/box)	box	40.00	_____

SOURCE: Ronald P. Muraro, Extension Farm Management Economist, University of Florida, IFAS, CREC, Lake Alfred, Florida, August 2005.

Table 11-A.--A listing of estimated comparative Southwest Florida citrus production costs per acre for oranges, 2004-2005[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)		$ 22.91		$ 22.91		$22.91
Chemical Mow Middles (2 times per year)		9.78		9.78		9.78
General Grove Work (2 labor hours per acre)		27.12		27.12		27.12
Herbicide (1/2 tree acre treated):						
Application (4 glyphosate or 3 residual applications)	$29.12		$ 27.18		$27.18	
Material	36.24		85.97		85.97	
Total Herbicide Cost		65.36		113.15		113.15
Spray						
Post Bloom: Application (125 GPA)	—		—		23.80	
Material	—		—		29.52	
Total Post Bloom Cost		—		—		53.32
Summer Oil #1: Application (125 GPA)	—		23.80		23.80	
Material	—		64.22		64.22	
Total Summer Oil #1 Cost		—		88.02		88.02
Summer Oil #2: Application (PTO -- 125 GPA)	23.80		23.80		23.80	
Material	68.14[x]		29.37[w]		20.85	
Total Summer Oil #2 Cost		91.94		53.17		44.65
Fertilizer (Bulk): 3 Applications	16.59		16.59		16.59	
Material (17-4-17-2.4 MgO @ 204 lbs N per acre)	142.80		142.80		142.80	
Total Fertilizer Cost		159.39		159.39		159.39
Dolomite (one ton applied every 3 years) Material/Application		14.56		14.56		14.56
Pruning: Topping ($27.50/A ÷ 2.5 yrs)[v]	11.00		11.00		11.00	
Hedging ($25.75/A ÷ 2 yrs)[v]	12.88		12.88		12.88	
Chop/Mow Brush after Hedging ($8.99/A ÷ 2 yrs)[v]	4.50		4.50		4.50	
Total Pruning Cost		28.38		28.38		28.38
Tree Replacement — 1 thru 3 years of age: (4 trees/acre)						
Remove Trees: Pull, Stack & Burn 4 Trees with Front-end Loader	20.32		20.32		20.32	
Prepare Site & Plant Tree (Includes 4 reset trees)	47.88		47.88		47.88	
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	39.72		39.72		39.72	
Total Tree Replacement Cost		107.92		107.92		107.92
Irrigation: Microsprinkler System[u]	166.17		166.17		166.17	
Clean Ditches (Weed Control)	14.19		14.19		14.19	
Ditch and Canal Maintenance	15.06		15.06		15.06	
Water Control (Pump water in/out of Ditches and Canals)	13.21		13.21		13.21	
Total Irrigation Cost		208.63		208.63		208.63
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS		$735.99		$833.03		
Supplemental Post Bloom:						
Application (250 GPA)			27.95		27.95	
Material			55.20		55.20	
Total Supplemental Post Bloom Cost				83.15		83.15
Fall Miticide Spray: Aerial Application (15 GPA)			8.82		8.82	
Material			29.72		29.72	
Total Fall Miticide Cost				38.54		38.54
IRRIGATED FRESH FRUIT PRODUCTION COSTS				$954.72		$999.52

[z]The listed estimated comparative costs are for the example grove situation described in the Economic Information Report Series entitled: "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 2005.

Table 12-A.--A listing of estimated comparative Southwest Florida citrus production costs per acre for grapefruit, 2004-05[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)		$ 22.91		$ 22.91		$22.91
Chemical Mow Middles (2 times per year)		9.78		9.78		9.78
General Grove Work (2 labor hours per acre)		27.12		27.12		27.12
Herbicide (1/2 tree acre treated):						
Application (4 glyphosate or 3 residual applications)	$29.12		$27.18		$27.18	
Material	36.24		85.97		85.97	
Total Herbicide Cost		65.36		113.15		113.15
Spray						
Post Bloom: Application (125 GPA)	—		—		23.80	
Material	—		—		29.52	
Total Post Bloom Cost		—		—		53.32
Summer Oil #1: Application (125 GPA)	—		23.80		23.80	
Material	—		64.22		64.22	
Total Summer Oil #1 Cost		—		88.02		88.02
Summer Oil #2: Application (PTO -- 125 GPA)	23.80		23.80		23.80	
Material	68.14[x]		29.37[w]		20.85	
Total Summer Oil #2 Cost		91.94		53.17		44.65
Fertilizer (Bulk): 3 Applications	16.59		16.59		16.59	
Material (15-2-15-2.4 MgO @ 180 lbs N and @150 lbs N)	135.60		113.00		113.00	
Total Fertilizer Cost		152.19		129.59		129.59
Dolomite (one ton applied every 3 years)						
Material/Application		14.56		14.56		14.56
Pruning: Topping ($27.50/A ÷ 2.5 yrs)[v]	11.00		11.00		11.00	
Hedging ($25.75/A ÷ 2 yrs)[v]	12.88		12.88		12.88	
Chop/Mow Brush after Hedging ($8.99/A ÷ 2 yrs)[v]	4.50		4.50		4.50	
Raise Skirts of Trees ($14.00 ÷ 2 yrs)[v]	—		7.00		7.00	
Total Pruning Cost		28.38		35.38		35.38
Tree Replacement — 1 thru 3 years of age: (3 trees/acre)						
Remove Trees: Pull, Stack & Burn 3 Trees with Front-end Loader	15.24		15.24		15.24	
Prepare Site & Plant Tree (Includes 3 reset trees)	35.91		35.91		35.91	
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	29.79		29.79		29.79	
Total Tree Replacement Cost		80.94		80.94		80.94
Irrigation: Microsprinkler System[u]	166.17		166.17		166.17	
Clean Ditches (Weed Control)	14.19		14.19		14.19	
Ditch and Canal Maintenance	15.06		15.06		15.06	
Water Control (Pump water in/out of Ditches and Canals)	13.21		13.21		13.21	
Total Irrigation Cost		208.63		208.63		208.63
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS		$701.81		$783.25		
Supplemental Post Bloom Spray:						
Application (250 GPA)			27.95		27.95	
Material			55.20		55.20	
Total Supplemental Post Bloom Cost				83.15		83.15
Fall Miticide Spray: Aerial Application (15 GPA)			8.82		8.82	
Material			29.72		29.72	
Total Fall Miticide Cost				38.54		38.54
IRRIGATED FRESH FRUIT PRODUCTION COSTS				$904.94		$949.74

[z]The listed estimated comparative costs are for the example grove situation described in the Economic Information Report Series entitled: "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 2005.

Table 13-A.--Estimated cost of planting and maintaining a reset citrus tree through three years of age, Southwest Florida area, August 2005

	Resets/Replacement Trees Per Acre				
	1-2	3-5	6-10	11-25	26+
	---------- $ Cost Per Tree ----------				
Tree Removal	6.67	5.34	4.45	3.56	2.67
Plant ResetTree					
Tree Cost (Container Tree)	4.50	4.50	4.35	4.35	4.35
Plant Tree and First Watering (Custom Charge)	2.93	2.55	2.17	1.84	1.57
Total Planting Costs	7.43	7.05	6.52	6.19	5.92
Site Preparation[a]					
Rotovate	2.65	2.31	1.96	1.67	1.42
Re-Build Beds	3.00	2.61	2.22	1.89	1.60
Total Site Preparation	5.65	4.92	4.18	3.56	3.02
Total Planting and Site Preparation Costs	13.08	11.97	10.70	9.75	8.94
Supplemental Maintenance Year #1	4.13	3.82	3.59	3.39	3.19
(Trees 1-3 years old) Year #2	3.79	3.39	2.96	2.59	2.27
(Fertilizer, Tree Wraps, Sprout, etc.) Year #3	3.07	2.73	2.34	2.01	1.73
Total Supplemental Maintenance Costs	10.99	9.94	8.89	7.99	7.19
Summary of Tree Replacement Costs	1	3	6	6	6
Tree Removal Costs	6.67	5.34	4.45	3.56	2.67
Planting and Tree Removal Costs	13.08	11.97	10.70	9.75	8.94
Supplemental Maintenance Costs (Years 1 thru 3)	10.99	9.93	8.90	7.99	7.19
Total Three-Year Cumulative Costs	30.74	27.24	24.05	21.30	18.80

[a]Site preparation for bedded citrus grove. Fumigate planting site would cost approximately $2.50 per tree.

Source: Ronald P. Muraro, Farm Management Economist, CREC, Lake Alfred, FL, August 2005.

Table 14-A.-- Estimated average picking, roadsiding and hauling charges for Florida citrus, 2004-05

	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	$/Box	$/Box	$/Box	$/Box
Picking Charges:				
Early and Mid-Season Oranges	0.70 - 1.75	0.954	0.65 - 1.05	0.829
Valencia Oranges	0.70 - 1.25	0.938	0.65 - 1.25	0.870
Pink/Red Grapefruit	0.60 - 1.25	0.739	0.55 - 1.25	0.669
White/Marsh Grapefruit	0.60 - 1.25	0.744	0.55 - 1.25	0.667
Temples/Tangelos	0.85 - 1.65	1.163	0.80 - 1.50	1.043
Tangerines	1.25 - 2.00	1.529	1.00 - 1.70	1.204
Add for Spot Picking	0.10 - 0.50	0.314	—	—

	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	$/Box	$/Box	$/Box	$/Box
Roadsiding Charges:				
Early and Mid-Season Oranges	0.60 - 1.15	0.895	0.65 - 1.17	0.817
Valencia Oranges	0.67 - 1.12	0.899	0.65 - 1.17	0.836
Pink/Red Grapefruit	0.65 - 1.03	0.840	0.65 - 1.20	0.796
White/Marsh Grapefruit	0.65 - 1.03	0.854	0.65 - 1.20	0.789
Temples/Tangelos	0.70 - 1.35	1.003	0.75 - 1.23	0.890
Tangerines	0.75 - 1.35	1.095	0.85 - 1.70	1.054

	Fresh Fruit	Processed Fruit
	All Varieties	All Varieties
	$/Box	$/Box
Hauling Charges:		
0 - 30 miles	0.417	0.393
31 - 50 miles	0.512	0.464
51 - 80 miles	0.573	0.515
81 - 100 miles	0.640	0.632
100 + miles	0.746	0.728

Table 15-A.--Estimated Average Packing Charges for Florida Citrus, 2004-05[a]

	Domestic Grapefruit	Export Grapefruit	Oranges	Temples/ Tangelos	Tangerines
	----------	----------	$/Carton	----------	----------
Total Packing Charge[b]	3.835	4.245	4.192	4.495	5.056
	----------	----------	$/Box	----------	----------
Drenching Charge	0.178	0.178	0.186	0.186	0.186
Packinghouse Elimination Charges	0.594	0.594	0.571	0.571	0.571
Hauling Charges for Eliminations	0.425	0.425	0.410	0.410	0.410

[a]Packing charges represents a total of nine citrus packinghouses from both the Indian River and Interior production regions.

[b]Total Packing Charge includes the following items:

1. Materials including mesh/plastic bags, labels/Price Lookup Codes (PLUs), etc.
2. Includes supervisor/foreman labor, grading, palletizing, shipping and general labor. Includes payroll taxes, 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 such items as: insurance-fire and casualty; taxes and licenses; depreciation and rent.
5. General and Administrative (G&A) costs include: office personnel (payroll taxes, w/comp); packinghouse and general manager; office supplies; telephone; etc.
6. Selling Expenses which include sales salaries, travel, telephone and telegraph and brokerage fees.
7. Special assessments include such items as: advertising taxes; inspection fees; a Florida Citrus Packers tax; and a Citrus Administrative Committee (CAC) tax.

SOURCE: Ronald P. Muraro, University of Florida-IFAS, Citrus Research and Education Center, Lake Alfred, FL, September 2005.

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

	Variety						
	Early[b] and mid[c]-season oranges	Late season oranges[d]	Temple oranges	All Tangerines	Tangelos	Seedless grapefruit[e]	
Crop year						(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	2.62	3.85	2.01	8.40	2.60	1.59	2.79
2003-04	2.20	3.64	1.07	7.46	7.48	1.88	3.28
2004-05[f]	2.56	4.34	2.48	12.02	2.45	11.95	13.65

[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).