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Budgeting Costs and Returns for Southwest Florida Citrus Production, 2002-03



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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 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. Thus, the 2002-03 budget costs reflect reduced fertilizer for fresh market grapefruit and lower fertilizer and pesticide materials costs and increased per acre yield due to higher per acre tree densities.

The budget costs in this report represent 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 \$9.50 per acre; Diaprepes control could add \$69.54 per acre for soil biological control application and \$73.20 per acre for each foliar application; extensive tree loss due to blight or tristeza could substantially increase the tree replacement and care costs; spray applications to control citrus leafminer and nematicide applications such as Temik (\$117.88/acre) could increase the total cultural costs per acre above the average costs shown in the comparative budgets; travel and set-up costs may vary due to size of the citrus grove and distance from grove equipment barn and could add \$25.98 per acre; etc.

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NOTE: The ADDENDA include a Listing of Grove Care Programs for Southwest Florida Citrus Production for Both Round Oranges and Grapefruit; 2003 custom rate summary report; cost of establishing a citrus grove; etc. Page 18 is a list of the tables included in the ADDENDA.

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BUDGETING COSTS AND RETURNS FOR SOUTHWEST FLORIDA CITRUS PRODUCTION, 2002-03

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INTRODUCTION

Southwest Florida has become a major citrus production area. In 2002 citrus acreage in Southwest Florida represented over 21.5% of total state citrus acreage. Acreage in Southwest Florida increased from 72,480 in 1986 to 179,948 in 1998 then decreased to 170,457 in 2002. The 5.3% 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.

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. Grower costs are shown in the ADDENDA, Table 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 12-A. Also, historic on-tree prices for selected citrus varieties are shown in 17-A. Although brand names are used in many

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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, 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 trees per acre for oranges and 3.5 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 shown on page 5:

Table 1.-Schedule of production practices and budget items for a Southwest Florida mature, round orange grove, 2002-03^a

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

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

Table 2.--Schedule of production practices and budget items for a Southwest Florida mature, red seedless grapefruit grove, 2002-03^a

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

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

Hamlin Oranges

<u>Situation</u>		<u>Yield boxes/tree</u>
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	3.9
3%	producing 50% of expected yield	2.2
49%	over 15 years old	4.2

and

Red Seedless Grapefruit

<u>Situation</u>		<u>Yield boxes/tree</u>
3%	pulled and reset	0.0
3%	1 year old	0.0
3%	2 years old	0.0
3%	3 years old	1.0
3%	4 years old	1.7
33%	5-15 years old	4.0
3%	producing 50% of expected yield	3.0
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, 2002-03

<u>Age of Tree</u>	<u>Trees</u>			<u>Boxes /tree</u>	<u>Total boxes</u>
	<u>Total no. all ages</u>	<u>Proportion ea. age^a</u>	<u>No. ea. age</u>	<u>No.</u>	
3 years	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
				<u>Total boxes</u>	<u>= 504.4</u>

^aProportion 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, 2002-03

Age of Tree	Trees					Boxes /tree	Total boxes	
	Total no. <u>all ages</u>		Proportion <u>ea. age^a</u>	=	No. ea. <u>age</u>			
3 years	119	x	0.03	=	3.6	x	3.6	
4 years	119	x	0.03	=	3.6	x	6.1	
5-15 years	119	x	0.33	=	39.2	x	156.8	
Prod. 50% of exp. yield	119	x	0.03	=	3.6	x	10.8	
Over 16 years	119	x	0.49	=	58.2	x	<u>378.3</u>	
Total boxes							=	555.6

^aProportion 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 2002-03 season. Grove establishment and reset costs, harvesting and packing charges can be found in Tables 11-A through 16-A in the ADDENDA. Also, historical on-tree prices for selected Florida citrus varieties are shown in Table 17-A of the ADDENDA.

As shown in Table 5, the total revenue for processed-market Hamlin oranges is estimated to be \$1,512.00 per acre. Total specified costs are \$819.03 and are comprised of grove care costs of \$771.03, plus management cost of \$48.00. Return to land and trees of \$692.97 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 \$2.20 to \$1.40 per box on-tree and \$0.75 to \$0.62 per pounds solids delivered-in.

In Table 7, total revenue for fresh market red seedless grapefruit is estimated to be \$1,587.30 per acre. Total specified costs are \$919.47, being comprised of grove care costs of \$871.47, plus management cost of \$48.00. Return to land, trees, and ownership or net return above variable costs is \$667.83. At 350 and 550 boxes per acre, respectively, the break-even price required to cover grove care costs for seedless grapefruit range from \$2.49 to \$1.58 per box on-tree and \$1.28 to \$1.09 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 13-A and 14-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 of 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 1998-99 through 2001-02 along with 2002-03, 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 2003 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, 2002-03^a

Item	Description	Amount		Your cost
		----- Dollars -----		
I. Revenue	504 boxes @ \$3.00 ^b	1,512.00		
II. Expenses				
Weed control				
Mow middles	3 times per year	22.32		
Chemical mow (Table 2-A, Program #10)	2 times per year	13.50		
General grove work/sprouting, etc.	(2 labor hours per acre)	25.84		
Herbicide (Table 2-A, Program #1, #6, & #8)		<u>121.47</u>	183.13	
Spray program (Table 1-A, Programs #11 & #13)			137.18	
Fertilizer (Table 3-A, Program #4)			124.05	
Dolomite (Table 6-A, Program #1)			12.04	
Pruning (maintenance)				
Topping	(\$279.00/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	11.16		
Hedging	(\$255.00/hr. ÷ 10 A/hr.) ÷ 2 yrs.	12.75		
Mow brush	(\$8.23/A ÷ 2 yrs.)	<u>4.12</u>	28.03	
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	46.08		
Supplemental fertilizer, sprout, etc. (Trees 1-3 years)	Including application	<u>37.40</u>	102.44	
Microsprinkler irrigation (Table 7-A, Program #4)			145.30	
Drainage ditch annual costs (Table 7-A, Program #5)			<u>38.86</u>	
Total grove care expenses			771.03	
III. Management	\$4.00 per acre per month ^c	<u>48.00</u>		
IV. Total specified costs ^d			<u>819.03</u>	
V. Return to land, trees, and ownership			<u>692.97</u>	
VI. Break-even price for total grove care expenses				
	Boxes per acre	Boxes per acre		
	<u>350</u> <u>400</u> <u>450</u> <u>500</u> <u>550</u>	<u>350</u>	<u>400</u>	<u>450</u> <u>500</u> <u>550</u>
	\$ On-tree price per box	\$ Delivered-in price per pound solids ^e		
	2.20 1.93 1.71 1.54 1.40	0.75	0.70	0.67 0.64 0.62

^aAlthough 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 \$117.88 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 \$8.31 per acre (average 5 waterings).

^bOn-tree price per box is preliminary; assumes price for processed oranges only.

^cOther 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.

^dOther 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.

^eAssumes 6.2 pounds solids per box and \$2.22 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, 2002-03

Represents a mature (10+ years old) Southwest Florida Orange Grove	Processed Hamlin Oranges Low Cost Cultural Program			Processed Hamlin Oranges Reduced Cost Cultural Program			Fresh/Processed Hamlin Oranges Cultural Program		
	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/P.S.
Total Production/Cultural Costs	\$ 725.50	\$1.439	\$0.2322	\$ 771.03	\$1.530	\$0.2467	\$ 873.48	\$1.733	\$0.2795
Interest on Operating (Cultural) Costs	36.28	0.072	0.0116	38.55	0.076	0.0123	43.67	0.087	0.0140
Management Costs	48.00	0.095	0.0154	48.00	0.095	0.0154	48.00	0.095	0.0154
Taxes/Regulatory Costs:									
Property Tax and Water Management District Tax	61.00	0.121	0.0195	61.00	0.121	0.0195	61.00	0.121	0.0195
Canker Decontamination Costs	<u>4.54</u>	<u>0.009</u>	<u>0.0015</u>	<u>4.54</u>	<u>0.009</u>	<u>0.0015</u>	<u>4.54</u>	<u>0.009</u>	<u>0.0015</u>
Total Direct Grower Costs	\$ 875.32	\$1.737	\$0.2801	\$ 923.12	\$1.832	\$0.2954	\$1,030.69	\$2.045	\$0.3298
Interest on Average Capital Investment Costs	<u>378.50</u>	<u>0.751</u>	<u>\$0.1211</u>	<u>378.50</u>	<u>0.751</u>	<u>0.1211</u>	<u>378.50</u>	<u>0.751</u>	<u>0.1211</u>
Total Grower Costs	\$1,253.82	\$2.488	\$0.4012	\$1,301.62	\$2.583	\$0.4165	\$1,409.19	\$2.796	\$0.4510
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination Costs	1,120.39	2.223	0.3585	1,120.39	2.223	0.3585	1,120.39	2.223	0.3585
DOC Assessment	<u>83.16</u>	<u>0.165</u>	<u>0.0266</u>	<u>83.16</u>	<u>0.165</u>	<u>0.0266</u>	<u>83.16</u>	<u>0.165</u>	<u>0.0266</u>
Total Harvesting and Assessment Costs	1,203.55	2.388	0.3852	1,203.55	2.388	0.3852	1,203.55	2.388	0.3852
Total Delivered-In Cost	<u>\$2,457.37</u>	<u>\$4.876</u>	<u>\$0.7864</u>	<u>\$2,505.17</u>	<u>\$4.971</u>	<u>\$0.8017</u>	<u>\$2,612.75</u>	<u>\$5.184</u>	<u>\$0.8361</u>
P.S. = Pound Solids Yield: 504 boxes/acre @ 6.2 P.S. per box 145 trees per acre	Refer to cultural program shown on Table 13-A. Two summer oil sprays with oil, copper, and nutritional.			Refer to cultural program shown in Table 5.			Refer to cultural program shown in Table 13-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, 2002-03^a

Item	Description	Amount		Your cost
		Dollars		
I. Revenue	555 boxes @ \$2.86 ^b	1,587.30		
II. Expenses				
Weed control				
Mow middles	3 times per year	22.32		
Chemical mow (Table 2-A, Program #10)	2 times per year	13.50		
General grove work/sprouting, etc.	(2 labor hours per acre)	25.84		
Herbicide (Table 2-A, Program #1, #6, & #8)		<u>121.47</u>	183.13	
Spray program (Table 1-A, Programs #1, #6, #13, #14, & #18)			281.73	
Fertilizer (Table 3-A, Program #2)			99.05	
Dolomite (Table 7-A, Program #1)			12.04	
Pruning (maintenance)				
Topping	(\$279.00/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	11.16		
Hedging	(\$255.00/hr. ÷ 8 A/hr.) ÷ 2 yrs.	12.75		
Raise skirts of trees	(\$13.00/A ÷ 2 yrs.)	6.50		
Removing/chop brush	(\$8.23/A ÷ 2 yrs.)	<u>4.12</u>	34.53	
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	34.56		
Supplemental fertilizer, etc. (Trees 1-3 years)	Including application	<u>28.05</u>	76.83	
Microsprinkler irrigation (Table 7-A, Program #4)			145.30	
Drainage ditch annual costs (Table 7-A, Program #5)			<u>38.86</u>	
Total grove care expenses			871.47	
III. Management			<u>48.00</u>	
IV. Total specified costs ^d			<u>919.47</u>	
V. Return to land, trees, and ownership			<u>667.83</u>	
VI. Break-even price for total grove care expenses				
	Boxes per acre	Boxes per acre		
	<u>350</u> <u>400</u> <u>450</u> <u>500</u> <u>550</u>	<u>350</u> <u>400</u> <u>450</u> <u>500</u> <u>550</u>		
	<u>\$ On-tree price per box</u>	<u>\$ Delivered-in price per pound solids for eliminations^e</u>		
	2.49 2.18 1.94 1.74 1.58	1.28 1.21 1.16 1.12 1.09		

^aAlthough 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 \$117.88 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 \$8.31 per acre (average 5 waterings).

^bOn-tree price per box is preliminary; assumes average of all methods of sale (fresh and processed).

^cOther 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.

^dOther 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.

^eAssumes 4.7 pounds solids per box and \$2.29 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, 2002-03

Represents a mature (10+ years old) Southwest Florida Red Grapefruit Grove	Processed Red Grapefruit Low Cost Cultural Program			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	\$ 697.10	\$1.256	\$0.2672	\$ 829.36	\$1.494	\$1.0144	\$871.47	\$1.570	\$1.0144
Interest on Operating (Cultural) Costs	34.86	0.063	0.0134	41.47	0.075	0.0374	43.57	0.079	0.0393
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	48.80	0.088	0.0187	48.80	0.088	0.0478	48.80	0.088	0.0478
Fly Protocol Cost	—	—	—	52.13	0.094	0.0477	52.13	0.094	0.0477
Canker Decontamination Costs	<u>4.54</u>	<u>0.008</u>	<u>0.0017</u>	<u>4.54</u>	<u>0.008</u>	<u>0.0012</u>	<u>4.54</u>	<u>0.008</u>	<u>0.0012</u>
Total Taxes/Regulatory Costs	<u>53.34</u>	<u>0.096</u>	<u>0.0204</u>	<u>105.47</u>	<u>0.190</u>	<u>0.0967</u>	<u>105.47</u>	<u>0.190</u>	<u>0.0967</u>
Total Direct Grower Costs	\$ 833.30	\$1.501	\$0.3195	\$1,024.30	\$1.846	\$1.1917	\$1,068.51	\$1.925	\$1.1936
Interest on Average Capital Investment Costs	<u>378.50</u>	<u>0.682</u>	<u>0.1451</u>	<u>378.50</u>	<u>0.682</u>	<u>0.3410</u>	<u>378.50</u>	<u>0.682</u>	<u>0.3410</u>
Total Grower Costs	\$1,211.80	\$2.183	\$0.4646	\$1,402.80	\$2.528	\$1.5327	\$1,447.01	\$2.607	\$1.5346
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination	1,046.18	1.885	0.4011	1,178.27	2.123	1.0615	1,178.27	2.123	1.0615
Fruit Drenching (Fresh)	—	—	—	94.35	0.170	0.0850	94.35	0.170	0.0850
DOC Assessment	<u>11.00</u>	<u>0.200</u>	<u>0.0426</u>	<u>138.75</u>	<u>0.250</u>	<u>0.1250</u>	<u>138.75</u>	<u>0.250</u>	<u>0.1250</u>
Total Harvesting and Assessment Costs	1,157.18	2.085	0.4436	1,411.37	2.543	1.2715	1,411.37	2.543	1.2715
Total Delivered-In Cost	<u>\$2,368.97</u>	<u>\$4.268</u>	<u>\$0.9082</u>	<u>\$2,814.16</u>	<u>\$5.071</u>	<u>\$2.8042</u>	<u>\$2,858.38</u>	<u>\$5.150</u>	<u>\$2.8061</u>
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 on Table 14-A. Two summer oil sprays with oil, copper, and nutritional.			Refer to cultural program shown on Table 14-A. Assumes 100% packout			Refer to cultural program shown in Table 7. Assumes 100% packout		

Table 9.--Estimated F.O.B. cost for fresh market Southwest Florida Red grapefruit, 2002-03

	Percent Packout 50.00%			Percent Packout 60.00%			Percent Packout 70.00%		
	Box Yield Per Acre 555			Box Yield Per Acre 555			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	\$871.47	\$4.180	\$2.0899	\$871.47	\$3.483	\$1.7415	\$871.47	\$2.986	\$1.4928
Interest on Operating (Cultural Costs)	43.57	0.209	0.1045	43.57	0.174	0.0871	43.57	0.149	0.0746
Management	48.00	0.230	0.1151	48.00	0.192	0.0959	48.00	0.164	0.0822
Taxes/Regulatory	105.47	0.506	0.2529	105.47	0.422	0.2108	105.47	0.361	0.1807
Interest on Average Capital Investment	378.50	1.815	0.9077	378.50	1.513	0.7564	378.50	1.297	0.6483
Harvesting (Pick, Haul, Etc.) and DOC Assessment	<u>1,411.37</u>	<u>6.769</u>	<u>3.3846</u>	<u>1,411.37</u>	<u>5.641</u>	<u>2.8205</u>	<u>1,411.37</u>	<u>4.835</u>	<u>2.4175</u>
Total Delivered-In Cost	\$2,858.38	\$13.709	\$6.8546	\$2,858.38	\$11.424	\$5.7122	\$2,858.38	\$9.792	\$4.8962
Packing & Selling	2,183.93	7.870	3.9350	2,620.71	7.870	3.9350	3,057.50	7.870	3.9350
Fresh Eliminations Costs (Credit) ^a	<u>-244.20</u>	<u>-1.171</u>	<u>-0.5856</u>	<u>-195.36</u>	<u>-0.781</u>	<u>-0.3904</u>	<u>-146.52</u>	<u>-0.502</u>	<u>-0.2510</u>
Total F.O.B. Costs	<u>\$4,798.10</u>	<u>\$20.408</u>	<u>\$10.2040</u>	<u>\$5,283.73</u>	<u>\$18.514</u>	<u>\$9.2568</u>	<u>\$5,769.35</u>	<u>\$17.160</u>	<u>\$8.5802</u>
	Percent Packout 80.00%			Percent Packout 90.00%			Percent Packout 100.00%		
	Box Yield Per Acre 555			Box Yield Per Acre 555			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	\$871.47	\$2.612	\$1.3062	\$871.47	\$2.322	\$1.1610	\$871.47	\$2.090	\$1.0449
Interest on Operating (Cultural) Costs	43.57	0.131	0.0653	43.57	0.116	0.0581	43.57	0.104	0.0522
Management	48.00	0.144	0.0719	48.00	0.128	0.0639	48.00	0.115	0.0576
Taxes/Regulatory	105.47	0.316	0.1581	105.47	0.281	0.1405	105.47	0.253	0.1265
Interest on Average Capital Investment	378.50	1.135	0.5673	378.50	1.009	0.5043	378.50	0.908	0.4538
Harvesting (Pick, Haul, Etc.) and DOC Assessment	<u>1,411.37</u>	<u>4.231</u>	<u>2.1154</u>	<u>1,411.37</u>	<u>3.761</u>	<u>1.8803</u>	<u>1,411.37</u>	<u>3.385</u>	<u>1.6923</u>
Total Delivered-In Cost	\$2,858.38	\$8.568	\$4.2841	\$2,858.38	\$7.616	\$3.8081	\$2,858.38	\$6.855	\$3.4273
Packing & Selling	3,494.28	7.870	3.9350	3,931.07	7.870	3.9350	4,367.85	7.870	3.9350
Fresh Eliminations Costs (Credit) ^a	<u>-97.68</u>	<u>-0.293</u>	<u>-0.1464</u>	<u>-48.84</u>	<u>-0.130</u>	<u>-0.0651</u>	<u>0.00</u>	<u>0.000</u>	<u>0.0000</u>
Total F.O.B. Costs	<u>\$6,254.98</u>	<u>\$16.145</u>	<u>\$8.0727</u>	<u>\$6,740.60</u>	<u>\$15.356</u>	<u>\$7.6781</u>	<u>\$7,226.23</u>	<u>\$14.725</u>	<u>\$7.3623</u>

^a"Net Eliminations Cost" equals the average yield of 4.70 pound solids per box times \$0.40 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, 1998-99–2002-03

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 -----			
1998-99	\$4.12	504	2,076.48	745.18	793.18	1,283.30
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	\$2.39	504	1,204.56	767.23	815.23	389.33
2002-03	\$3.00 ^b	504	1,512.00	771.03	819.03	692.97
5-yr. avg.	\$3.03	504	1,557.12	762.27	810.27	716.85

^aOn-tree prices for processed oranges only as reported by the Florida Agricultural Statistics Service.

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

^cA 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 2003 dollars) for a mature, Hamlin orange grove producing citrus for processed market in the Southwest Florida area, 1998-99–2002-03

Year	Inflation factor index ^a	Adjusted on-tree price/box	Yield	Gross revenue	Total specified costs ^b	Net return to land, trees, and ownership
					----- Dollars -----	
1998-99	109.6	\$4.52	504	2,278.08	869.33	1,408.75
1999-00	103.7	\$3.18	504	1,604.72	836.70	766.02
2000-01	102.5	\$2.63	504	1,325.52	837.47	488.05
2001-02	105.0	\$2.51	504	1,265.04	855.99	409.05
2002-03	100.0	\$3.00	504	1,512.00	819.03	692.97
5-yr. avg.	–	\$3.17	504	1,597.68	843.70	753.98

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

^bA management cost of \$4.00 per acre per month is included. Fixed costs such as taxes, debt service, and crop insurance are not included. (Refer to Table 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, 1998-99–2002-03

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 -----			
1998-99	\$2.65	555	1,470.75	843.97	891.97	578.78
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	\$2.17	555	1,204.35	874.54	922.54	281.81
2002-03	\$2.86 ^b	555	1,587.30	871.47	919.47	667.83
5-yr. avg.	\$2.76	555	1,531.80	864.37	912.37	619.43

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

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

^cA 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 2003 dollars) for a mature, red seedless grapefruit grove producing citrus for fresh fruit packing in the Southwest Florida area, 1998-99–2002-03

Year	Inflation factor index ^a	Adjusted on-tree price/box	Yield	Gross revenue	Total specified costs ^b	Net return to land, trees, and ownership
				----- <u>Dollars</u> -----		
1998-99	109.6	\$2.90	555	1,609.50	977.60	631.90
1999-00	103.7	\$3.99	555	2,214.45	949.54	1,264.91
2000-01	102.5	\$2.34	555	1,298.70	935.61	363.09
2001-02	105.0	\$2.28	555	1,265.40	968.67	296.73
2002-03	100.0	\$2.86	555	1,587.30	919.47	667.83
5-yr. avg.	–	\$2.87	555	1,592.85	950.18	642.67

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

^bA management cost of \$4.00 per acre per month is included. Fixed costs such as taxes, debt service, and crop insurance are not included. (Refer to Table 12.)

REFERENCES

1. Citrus Summary 2001-02. Florida Agricultural Statistics Service. Florida Agricultural Statistics. January 2003.
2. Muraro, Ronald P. "A Listing of Estimated Comparative Southwest Florida Citrus Production Costs Per Acre for 2002-03." Lake Alfred Citrus Research and Education Center (CREC) Report. Lake Alfred, FL: June 2003.
3. _____. "Cost for Establishing, Planting, and Maintaining a Citrus Grove through Four Years of Age, South Florida Flatwoods Area." Lake Alfred CREC Report. Lake Alfred, FL: Nov. 1989.
4. _____. "Estimated Cost of Planting and Maintaining a Reset Citrus Tree through Three Years of Age." Lake Alfred CREC Report. Lake Alfred, FL: Dec. 2000.
5. _____. "A Listing of 2003 Custom Rates Reported by Twenty-two Indian River and South Florida Citrus Caretakers." Lake Alfred CREC Report. Lake Alfred, FL: June 2003.
6. Savage, Zach. Citrus Yields Per Tree Age. Univ. of Fla. Agr. Ext. Ser. 60-8. Gainesville: 1960.
7. Timmer, L. W. (Ed.). 2003 Florida Citrus Pest Management Guide. Univ. of Fla. Coop. Ext. Svc. SP 43. Gainesville: Jan. 2003. 150 p.
8. Tucker, D. P. H., A. K. Alva, L. K. Jackson, and T. A. Wheaton (Eds.). Nutrition of Florida Citrus Trees. Univ. of Fla. Coop. Ext. Svc. SP 169. Gainesville: 1995. 61 pp.

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

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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	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	15 lbs	\$19.05	_____
	Zn	5 lbs	3.95	_____
	Mn	10 lbs	3.10	_____
	B	0.25 lb	1.27	_____
	Ground Application (PTO driven airblast)	150 gals	<u>23.02</u>	_____
	Total per Application		<u>\$50.39</u>	=====

Spray Program #2	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	10 lbs	\$12.70	_____
	Zn	5 lbs	3.95	_____
	Mn	10 lbs	3.10	_____
	Micromite 25WP	1.25 lbs	39.03	_____
	Ground Application (PTO driven airblast)	100 gals	<u>20.22</u>	_____
	Total per Application		<u>\$79.00</u>	=====

Spray Program #3	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 8.89	_____
	Ethion	5 pts	21.10	_____
	Oil 97+%	3 gals	6.75	_____
	Ground Application (PTO driven airblast)	100 gals	<u>20.22</u>	_____
	Total per Application		<u>\$56.96</u>	=====

Spray Program #4	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 8.89	_____
	Potassium Nitrate	10 lbs	2.00	_____
	Lorsban 4EC	4 pts	20.64	_____
	Hystop (pH Reducer)	1 pt	2.13	_____
	Ground Application (PTO driven airblast)	100 gals	<u>20.22</u>	_____
	Total per Application		<u>\$53.88</u>	=====

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

POST BLOOM SPRAY (cont'd.)

Spray Program #5	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Kelthane MF	5 pts	\$21.25	_____
	Cu (50% metallic)	10 lbs	12.70	_____
	Ground Application (PTO driven airblast)	250 gals	<u>24.18</u>	_____
	Total per Application		<u>\$58.13</u>	=====

Spray Program #6	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Ethion	6 pts	\$25.31	_____
	Cu (50% metallic)	7 lbs	8.89	_____
	Oil 97+%	3 gals	6.75	_____
	Ground Application (PTO driven airblast)	250 gals	<u>24.18</u>	_____
	Total per Application		<u>\$65.13</u>	=====

Spray Program #7	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 8.89	_____
	Zn	5 lbs	3.95	_____
	Mn	10 lbs	3.10	_____
	B	0.25 lb	1.27	_____
	Ethion	6 pts	25.32	_____
	Ground Application (engine driven airblast)	500 gals	<u>30.52</u>	_____
	Total per Application		<u>\$72.75</u>	=====

Spray Program #8	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Vendex 4L	2 lbs	\$29.76	_____
	Ground Application (PTO driven airblast)	150 gals	<u>23.02</u>	_____
	Total per Application		<u>\$52.78</u>	=====

Spray Program #9 (Scale insects)	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Lorsban 4EC	5 pts	\$25.80	_____
	Ground Application (engine driven airblast)	500 gals	<u>30.52</u>	_____
	Total per Application		<u>\$56.32</u>	=====

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

SUMMER SPRAY

Spray Program #10	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Oil 97+%	10 gals	\$22.50	_____
	Cu (50% copper)	7 lbs	8.89	_____
	Ground Application (PTO driven airblast)	250 gals	<u>24.18</u>	_____
	Total per Application		<u>\$58.57</u>	=====

Spray Program #11	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 8.89	_____
	Oil 97+%	5 gals	11.25	_____
	Zn	5 lbs	3.95	_____
	Mn	10 lbs	3.10	_____
	B	0.25 lb	1.23	_____
	Ground Application (PTO driven airblast)	150 gals	<u>23.02</u>	_____
	Total per Application		<u>\$51.44</u>	=====

Spray Program #12	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 8.89	_____
	Oil 97+%	5 gals	11.25	_____
	Agri-Mek	10 ozs	47.20	_____
	Ground Application (PTO driven airblast)	250 gals	<u>24.18</u>	_____
	Total per Application		<u>\$91.52</u>	=====

Spray Program #13	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Enable	8 oz	\$11.28	_____
	Oil 97+%	5 gals	11.25	_____
	Micromite	1.25 lbs	39.03	_____
	Ground Application (PTO driven airblast)	250 gals	<u>24.18</u>	_____
	Total per Application		<u>\$85.74</u>	=====

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

SUMMER SPRAY (cont'd.)

Spray Program #14	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Cu (50% metallic)	7 lbs	\$ 8.89	_____
	Oil 97+%	5 gals	11.25	_____
	Ground Application (PTO driven airblast)	150 gals	<u>23.02</u>	_____
	Total per Application		<u>\$43.16</u>	=====

FALL SPRAY

Spray Program #15	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Agri-Mek	5 ozs	\$23.60	_____
	Ground Application (PTO driven airblast)	150 gals	<u>23.02</u>	_____
	Total per Application		<u>\$46.62</u>	=====

Spray Program #16	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Thiolux 80 DF (sulfur)	15 lbs	\$10.05	_____
	Aerial Application	15 GPA	<u>7.55</u>	_____
	Total per Application		<u>\$17.60</u>	=====

Spray Program #17	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Kelthane MF	6 pts	\$25.50	_____
	Aerial Application	15 GPA	<u>7.55</u>	_____
	Total per Application		<u>\$33.05</u>	=====

Spray Program #18	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Vendex 4L	2 lbs	\$29.76	_____
	Aerial Application	15 GPA	<u>7.55</u>	_____
	Total per Application		<u>\$37.31</u>	=====

Table 2-A.--Herbicide

Herbicide Program #1	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Solicam 80DF	3 lbs	\$22.62	_____
	Kamex WP	4 lbs	7.38	_____
	Roundup Ultra Max	2 qts	11.00	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$49.59</u>	=====

Herbicide Program #2	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Surflan A80 DF	2 qts	\$17.68	_____
	Simazine 4L	4 qts	6.52	_____
	Roundup Ultra Max	2 qts	11.00	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$43.79</u>	=====

Herbicide Program #3	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Kamex WP	4 lbs	\$ 7.38	_____
	Roundup Ultra Max	2 qts	11.00	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$26.97</u>	=====

Herbicide Program #4	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Solicam 80DF	8 lbs	\$60.32	_____
	Simazine 4L	4 qts	6.52	_____
	Roundup Ultra Max	2 pts	5.50	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$80.93</u>	=====

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

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

Herbicide Program #5	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Roundup Ultra Max	4 qts	\$11.00	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$19.59</u>	=====

Herbicide Program #6	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Krovar I	5 lbs	\$26.70	_____
	Roundup Ultra Max	2 qts	11.00	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$46.29</u>	=====

Herbicide Program #7	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Princep (Caliber 90)	4 lbs	\$ 6.00	_____
	Hyvar X	6 lbs	54.57	_____
	Adjuvant (Surfactant)	2 pts	1.86	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$71.02</u>	=====

Herbicide Program #8	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Roundup Ultra Max	2 qts	\$11.00	_____
	Princep (Caliber 90)	4 lbs	6.00	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$25.59</u>	=====

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

Herbicide Program #9	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Strip/band)	Direx 4L	3 qts	\$ 6.48	_____
	Solicam	3 lbs	22.62	_____
	Adjuvant (Surfactant)	1 qt	1.86	_____
	Ground Application (1 time)		<u>8.59</u>	_____
	Total for 1 Application		<u>\$39.55</u>	=====

Herbicide Program #10	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Chemical mow)	Roundup Ultra	1 pt	\$ 2.75	_____
	Ground Application (1 time)		<u>4.00</u>	_____
	Total for 1 Application		<u>\$ 6.75</u>	=====

Herbicide Program #11	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Chemical mow)	Roundup Ultra	1.5 pts	\$ 4.13	_____
	Ground Application (1 time)		<u>4.00</u>	_____
	Total for 1 Application		<u>\$ 8.13</u>	=====

Herbicide Program #12	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
(Spot treatment)	Roundup Ultra	2 qts	\$5.50	_____
	Ground Application (1 time)		<u>4.00</u>	_____
	Total for 1 Application		<u>\$9.50</u>	=====

Table 3-A.--Dry fertilizer

Program #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(125 lbs N/Acre)	12-2-12-2.4 MgO	1042 lbs	\$ 77.11	_____
	Application	3 times	<u>16.05</u>	_____
	Total for 3 Applications		<u>\$93.16</u>	=====

Program #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(150 lbs N/Acre)	15-2-15-2.4 MgO	1000 lbs	\$83.00	_____
	Application	3 times	<u>16.05</u>	_____
	Total for 3 Applications		<u>\$99.05</u>	=====

Program #3	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	15-2-15-2.4 MgO	1200 lbs	\$ 99.60	_____
	Application	3 times	<u>16.05</u>	_____
	Total for 3 Applications		<u>\$115.65</u>	=====

Program #4	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(204 lbs N/Acre)	17-4-17-2.4 MgO	1200 lbs	\$ 108.00	_____
	Application	3 times	<u>16.05</u>	_____
	Total for 3 Applications		<u>\$124.05</u>	=====

Program #5	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(225 lbs N/Acre)	15-2-15-2.4 MgO	1500 lbs	\$124.50	_____
	Application	3 times	<u>16.05</u>	_____
	Total for 3 Applications		<u>\$140.55</u>	=====

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

Program #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	10-0-10	1800 lbs	\$ 100.80	_____
	Double Boom Custom Application	3 times	<u>43.50</u>	_____
	Total for 3 Applications		<u>\$144.30</u>	=====

Program #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	10-2-10	1800 lbs	\$ 106.20	_____
	Double Boom Custom Application	3 times	<u>43.50</u>	_____
	Total for 3 Applications		<u>\$146.70</u>	=====

Program #3	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(180 lbs N/Acre)	10-0-10	1800 lbs	\$100.80	_____
	Solicam 80DF	3 lbs*	22.62	_____
	Karmex WP	4 lbs*	7.38	_____
	Double Boom Custom Application	3 times	<u>43.50</u>	_____
	Total for 3 Applications		<u>\$174.30</u>	=====

*Treated acre--one application

Table 5-A.--Nematicides

Program #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	Temik 15G	33 lbs	\$103.62	_____
	Application		<u>14.26</u>	_____
	Total per Application		<u>\$117.88</u>	=====

Table 6-A.--Soil amendment

Program #1	Analysis/Material <u>Applied</u>	Amount <u>/Acre</u>	<u>Cost/Acre</u>	Your <u>Cost/Acre</u>
(Every 3 years)	Dolomite (Delivered)	1 ton	\$28.49	_____
	Application	1 time	<u>7.63</u>	_____
	Total for 1 Application		<u>\$36.12</u>	=====
	(Average 1/3 Ton Applied/Yr)		<u>\$12.04</u>	=====

Program #2	Analysis/Material <u>Applied</u>	Amount <u>/Acre</u>	<u>Cost/Acre</u>	Your <u>Cost/Acre</u>
(Every year)	Dolomite (Delivered)	1000 lbs	\$14.25	_____
	Application		<u>7.63</u>	_____
	Total per Application		<u>\$21.88</u>	=====

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

<u>DRIP</u>	<u>Program #1</u>	Your <u>Cost/Acre</u>	<u>Program #2</u>	Your <u>Cost/Acre</u>
Operating	(Electric) \$43.86	_____	(Diesel) \$39.46	_____
Maintenance of System	<u>41.05</u>	_____	<u>40.84</u>	_____
Total Cash Expenses	\$84.91	_____	\$80.30	_____
Fixed Depreciation Expense	<u>42.35</u>	_____	<u>45.25</u>	_____
Total Cash and Fixed Expenses	<u>\$127.26</u>	=====	<u>\$125.55</u>	=====
<u>MICROSPRINKLER</u>	<u>Program #3</u>	Your <u>Cost/Acre</u>	<u>Program #4</u>	Your <u>Cost/Acre</u>
Operating	(Electric) \$ 49.87	_____	(Diesel) \$ 41.98	_____
Maintenance of System	<u>45.75</u>	_____	<u>46.76</u>	_____
Total Cash Expenses	\$ 95.62	_____	\$ 88.74	_____
Fixed Depreciation Expense	<u>52.94</u>	_____	<u>56.56</u>	_____
Total Cash and Fixed Expenses	<u>\$148.56</u>	=====	<u>\$145.30</u>	=====
<u>DRAINAGE DITCH ANNUAL COSTS</u>			<u>Program #5</u>	Your <u>Cost/Acre</u>
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			<u>11.05</u>	_____
Total			<u>\$38.86</u>	=====

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**SRN, Slow Release Nitrogen

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 13-A.—A listing of estimated comparative Southwest Florida citrus production costs per acre for oranges, 2002-2003²

Costs represent a mature (10+ years old) Southwest Florida Orange Grove.	Low Cost Processed Cultural Program	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)	\$ 22.32	\$ 22.32	\$22.32
Chemical Mow Middles (2 times per year)	13.50	13.50	13.50
General Grove Work (2 labor hours per acre)	25.84	25.84	25.84
Herbicide (1/2 tree acre treated):			
Application (3 applications)	\$25.77	\$ 25.77	\$25.77
Material	<u>74.67</u>	<u>95.70</u>	<u>95.70</u>
Total Herbicide Cost	100.44	121.47	121.47
Spray			
Post Bloom: Application (150 GPA)	—	—	23.02
Material	—	—	<u>27.37</u>
Total Post Bloom Cost	—	—	50.39
Summer Oil #1: Application (250 GPA)	24.18	24.18	24.18
Material	<u>45.46</u>	<u>61.56</u>	<u>61.56</u>
Total Summer Oil #1 Cost	69.64	85.74	85.74
Summer Oil #2: Application (PTO -- 150 GPA)	23.02	23.02	23.02
Material	<u>28.42^x</u>	<u>28.42^x</u>	<u>20.14</u>
Total Summer Oil #2 Cost	51.44	51.44	43.16
Fertilizer (Bulk): 3 Applications	16.05	16.05	16.05
Material (15-2-15-2.4 MgO @ 180 lbs N per acre and 204 lbs N per acre)	<u>99.60</u>	<u>108.00</u>	<u>108.00</u>
Total Fertilizer Cost	115.65	124.05	124.05
Dolomite (one ton applied every 3 years)			
Material/Application	12.04	12.04	12.04
Pruning:			
Topping (\$27.90/A ÷ 2.5 yrs) ^w	11.16	11.16	11.16
Hedging (\$25.50/A ÷ 2 yrs) ^w	12.75	12.75	12.75
Chop/Mow Brush after Hedging (\$8.23/A ÷ 2 yrs) ^w	<u>4.12</u>	<u>4.12</u>	<u>4.12</u>
Total Pruning Cost	28.03	28.03	28.03
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)	46.08	46.08	46.08
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	<u>37.40</u>	<u>37.40</u>	<u>37.40</u>
Total Tree Replacement Cost	102.44	102.44	102.44
Irrigation: Microsprinkler System ^y			
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)	<u>11.05</u>	<u>11.05</u>	<u>11.05</u>
Total Irrigation Cost	<u>184.16</u>	<u>184.16</u>	184.16
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS			
	<u>\$725.50</u>	<u>\$771.03</u>	
Supplemental Post Bloom:			
Application (250 GPA)		24.18	24.18
Material		<u>40.96</u>	<u>40.96</u>
Total Supplemental Post Bloom Cost		65.14	65.14
Fall Miticide Spray: Aerial Application (15 GPA)			
Material		<u>29.76</u>	<u>29.76</u>
Total Fall Miticide Cost		<u>37.31</u>	<u>37.31</u>
IRRIGATED FRESH FRUIT PRODUCTION COSTS			
		<u>\$873.48</u>	<u>\$915.59</u>

^yThe 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.

Table 14-A.—A listing of estimated comparative Southwest Florida citrus production costs per acre for grapefruit, 2002-03^z

Costs represent a mature (10+ years old) Southwest Florida Red Grapefruit Grove.	Low Cost Processed Cultural Program	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)	\$ 22.32	\$ 22.32	\$22.32
Chemical Mow Middles (2 times per year)	13.50	13.50	13.50
General Grove Work (2 labor hours per acre)	25.84	25.84	25.84
Herbicide (1/2 tree acre treated):			
Application (3 applications)	\$25.77	\$25.77	\$25.77
Material	<u>76.38</u>	<u>95.70</u>	<u>95.70</u>
Total Herbicide Cost	102.15	121.47	121.47
Spray			
Post Bloom: Application (150 GPA)	—	—	23.02
Material	—	—	<u>27.37</u>
Total Post Bloom Cost	—	—	50.39
Summer Oil #1: Application (250 GPA)	24.18	24.18	24.18
Material	<u>40.96^x</u>	<u>61.56</u>	<u>61.56</u>
Total Summer Oil #1 Cost	65.14	85.74	85.74
Summer Oil #2: Application (PTO – 150 GPA)	23.02	23.02	23.02
Material	<u>28.42^x</u>	<u>28.42</u>	<u>20.14</u>
Total Summer Oil #2 Cost	51.44	51.44	43.16
Fertilizer (Bulk): 3 Applications			
Material (12-2-12-2.4 MgO @ 180 lbs N and 15-2-15-2.4 MgO @ 150 lbs N)	<u>99.60</u>	<u>83.00</u>	<u>83.00</u>
Total Fertilizer Cost	115.65	99.05	99.05
Dolomite (one ton applied every 3 years)			
Material/Application	12.04	12.04	12.04
Pruning: Topping (\$27.90/A ÷ 2.5 yrs) ^w			
Hedging (\$25.50/A ÷ 2 yrs) ^w	11.16	11.16	11.16
Chop/Mow Brush after Hedging (\$8.23/A ÷ 2 yrs) ^w	12.75	12.75	12.75
Raise Skirts of Trees (\$13.00 ÷ 2 yrs) ^w	4.12	4.12	4.12
Total Pruning Cost	<u>—</u>	<u>6.50</u>	<u>6.50</u>
Total Pruning Cost	28.03	34.53	34.53
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)	34.56	34.56	34.56
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	<u>28.05</u>	<u>28.05</u>	<u>28.05</u>
Total Tree Replacement Cost	76.83	76.83	76.83
Irrigation: Microsprinkler System ^v			
Clean Ditches (Weed Control)	145.30	145.30	145.30
Ditch and Canal Maintenance	13.05	13.05	13.05
Water Control (Pump water in/out of Ditches and Canals)	14.76	14.76	14.76
Total Irrigation Cost	<u>11.05</u>	<u>11.05</u>	<u>11.05</u>
Total Irrigation Cost	<u>184.16</u>	<u>184.16</u>	<u>184.16</u>
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS	<u>\$697.10</u>	<u>\$726.92</u>	
Supplemental Post Bloom Spray:			
Application (250 GPA)		24.18	24.18
Material		<u>40.95</u>	<u>40.95</u>
Total Supplemental Post Bloom Cost		65.13	65.13
Fall Miticide Spray: Aerial Application (15 GPA)			
Material		7.55	7.55
Total Fall Miticide Cost		<u>29.76</u>	<u>29.76</u>
IRRIGATED FRESH FRUIT PRODUCTION COSTS		<u>\$829.36</u>	<u>\$871.47</u>

^zThe 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.

Table 15-A.—Estimated average picking, roadsiding and hauling charges for Florida citrus, 2002-03

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

Table 16-A.—Estimated average packing charges for Florida citrus, 2002-03

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

^aTotal Packing Charge includes the following items:

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

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

Table 17-A.--Historic prices^a for selected citrus varieties

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

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

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

Source: Florida Agricultural Statistics Service.

Table 18-A.--Debt which can be supported per \$1,000.00 annual payment capacity

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

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