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Summary of 2003-2004 Citrus Budgets for the Southwest Florida Production Region

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Annually, citrus budgets are tabulated for the Central, Southwest and Indian River citrus production regions of Florida. The attached budget costs are for the example grove situation described in the expanded citrus budget series titled: "Budgeting Costs and Returns for the Southwest Florida" region. The budget costs may not represent your particular grove situation. However, they represent the most current comparative cost estimates for Florida citrus. The budget costs items for **Southwest Florida** are more representative of an **owner-managed operation**.

The 2003-2004 comparative budgets are presented in three scenarios: 1) Low Cost Processed Cultural Program Alternative; 2) Processed/Reduced Fresh Cost Cultural Program; and 3) Typical/Historical Fresh Cultural Program. Scenario one represents a possible **"one year"** low cost alternative that would allow growers to provide a maintenance cultural program in a low on-tree price situation. Scenario two represents a typical processed orange cultural program and/or reduced cost fresh fruit program. The third scenario represents typical costs of grove practices which have been performed for citrus grown for the fresh fruit market.

Budget analysis provides the basis for many grower decisions. Budget analysis can be used to calculate potential profits from an operation, determine cash requirements for an operation and determine break-even prices. The budget costs presented will serve as a format for growers to analyze costs from their own individual records. The cost data was developed by surveying custom operators, suppliers, growers, colleagues with UF/IFAS and County Extension Citrus Agents in each production region.

Each budget lists the cost of individual grove care practices normally performed in a citrus grove. These costs are categorized into cumulative sub-totals of irrigated processed and irrigated fresh fruit program and reflecting current grove practices being used by growers. The estimated costs are for a mature 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. For example, extensive tree loss due to blight or tristeza could at least double, if not increase more, the tree replacement and care costs. Also, travel and set-up costs may vary due to the size of a citrus grove and the distance from the grove equipment barn. The mandatory decontamination requirements to control the spread of citrus canker add to the total operational costs. These costs are shown in the expanded "delivered-in" cost table.

Included with the budget summaries are estimated **"delivered-in"** costs for Southwest Florida Hamlin oranges and red grapefruit. The "delivered-in" costs represent cultural programs for both the processed juice fruit and fresh fruit markets. The estimated delivered-in costs include total cultural/production, management, regulatory and harvesting costs.

Additional information on budgeting and cost analysis can be obtained by contacting the author or your County Extension Agent or going to the Extension or Economics section of the EDIS website: http://edis.ifas.ufl.edu

Table 1. A listing of estimated comparative Southwest Florida citrus production costs per acre for oranges, 2003-2004[z]

Costs represent a mature (10+ years old) Southwest Florida Orange Grove.	Low Cost Processed Cultural Program One-Year Alternative		Processed and Reduced Fresh Cost Cultural Program		Typical/Historical Fresh Fruit Cultural Program	
PRODUCTION/CULTURAL COSTS:[y]						
Weed Management/Control:						
Mechanical Mow Middles (3 times per year)		$ 22.76		$ 22.76		$22.76
Chemical Mow Middles (2 times per year)		10.88		10.88		10.88
General Grove Work (2 labor hours per acre)		25.34		25.34		25.34
Herbicide (1/2 tree acre treated):						
Application (6 glyphosate or 3 residual applications)	$51.54		$ 25.77		$25.77	
Material	44.04		80.77		80.77	
Total Herbicide Cost		95.58		106.54		106.54
Spray						
Post Bloom: Application (150 GPA)	—		—		24.02	
Material	—		—		26.18	
Total Post Bloom Cost		—		—		50.20
Summer Oil #1: Application (150 GPA)	—		24.02		24.02	
Material	—		56.82		56.82	
Total Summer Oil #1 Cost		—		80.84		80.84
Summer Oil #2: Application (PTO -- 150 GPA)	24.02		24.02		24.02	
Material	63.08[x]		26.83[w]		18.65	
Total Summer Oil #2 Cost		87.10		50.85		42.67
Fertilizer (Bulk): 3 Applications	15.33		15.33		15.33	
Material (15-2-15-2.4 MgO @ 180 lbs N and 204 lbs N per acre)	109.92		120.00		120.00	
Total Fertilizer Cost		125.25		135.33		135.33
Dolomite (one ton applied every 3 years) Material/Application		12.01		12.01		12.01
Pruning: Topping ($27.50/A ÷ 2.5 yrs)[v]	11.00		11.00		11.00	
Hedging ($24.50/A ÷ 2 yrs)[v]	12.25		12.25		12.25	
Chop/Mow Brush after Hedging ($8.52/A ÷ 2 yrs)[v]	4.26		4.26		4.26	
Total Pruning Cost		27.51		27.51		27.51
Tree Replacement — 1 thru 3 years of age: (4 trees/acre)						
Remove Trees: Pull, Stack & Burn 4 Trees with Front-end Loader	18.96		18.96		18.96	
Prepare Site & Plant Tree (Includes 4 reset trees)	—		47.64		47.64	
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	24.84		36.96		36.96	
Total Tree Replacement Cost		43.80		103.56		103.56
Irrigation: Microsprinkler System[u]	152.07		152.07		152.07	
Clean Ditches (Weed Control)	13.05		13.05		13.05	
Ditch and Canal Maintenance	14.76		14.76		14.76	
Water Control (Pump water in/out of Ditches and Canals)	12.71		12.71		12.71	
Total Irrigation Cost		192.59		192.59		192.59
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS		$642.82		$768.21		
Supplemental Post Bloom:						
Application (250 GPA)			24.33		24.33	
Material			50.80		50.80	
Total Supplemental Post Bloom Cost				75.13		75.13
Fall Miticide Spray: Aerial Application (15 GPA)			8.02		8.02	
Material			28.50		28.50	
Total Fall Miticide Cost				36.52		36.52
IRRIGATED FRESH FRUIT PRODUCTION COSTS				$879.86		$921.88

[z]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 2004.

Table 2. A listing of estimated comparative Southwest Florida citrus production costs per acre for grapefruit, 2003-04[z]

Costs represent a mature (10+ years old) Southwest Florida Red Grapefruit Grove.	Low Cost Processed Cultural Program One-Year Alternative		Processed and Reduced Fresh Cost Cultural Program		Typical/Historical Fresh Fruit Cultural Program	
PRODUCTION/CULTURAL COSTS:[y]						
Weed Management/Control:						
Mechanical Mow Middles (3 times per year)		$ 22.76		$ 22.76		$22.76
Chemical Mow Middles (2 times per year)		10.88		10.88		10.88
General Grove Work (2 labor hours per acre)		25.34		25.34		25.34
Herbicide (1/2 tree acre treated):						
Application (6 glyphosate or 3 residual applications)	$51.54		$25.77		$25.77	
Material	44.04		80.77		80.77	
Total Herbicide Cost		95.58		106.54		106.54
Spray						
Post Bloom: Application (150 GPA)	—		—		24.02	
Material	—		—		26.18	
Total Post Bloom Cost		—		—		50.20
Summer Oil #1: Application (250 GPA)	24.02		24.02		24.02	
Material	56.82[x]		56.82		56.82	
Total Summer Oil #1 Cost		80.84		80.84		80.84
Summer Oil #2: Application (PTO -- 150 GPA)	24.02		24.02		24.02	
Material	26.83[x]		26.83		18.65	
Total Summer Oil #2 Cost		50.85		50.85		42.67
Fertilizer (Bulk): 3 Applications	15.33		15.33		15.33	
Material (12-2-12-2.4 MgO @ 180 lbs N and 15-2-15-2.4 MgO @ 150 lbs N)	91.60		91.60		91.60	
Total Fertilizer Cost		106.93		106.93		106.93
Dolomite (one ton applied every 3 years) Material/Application		12.01		12.01		12.01
Pruning: Topping ($27.50/A ÷ 2.5 yrs)[v]	11.00		11.00		11.00	
Hedging ($24.50/A ÷ 2 yrs)[v]	12.25		12.25		12.25	
Chop/Mow Brush after Hedging ($8.52/A ÷ 2 yrs)[v]	4.46		4.46		4.46	
Raise Skirts of Trees ($13.00 ÷ 2 yrs)[v]	—		6.50		6.50	
Total Pruning Cost		27.71		34.21		34.21
Tree Replacement — 1 thru 3 years of age: (3 trees/acre)						
Remove Trees: Pull, Stack & Burn 3 Trees with Front-end Loader	14.22		14.22		14.22	
Prepare Site & Plant Tree (Includes 3 reset trees)	—		35.73		35.73	
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	18.63		27.72		27.72	
Total Tree Replacement Cost		32.85		77.67		77.67
Irrigation: Microsprinkler System[u]	145.30		152.07		152.07	
Clean Ditches (Weed Control)	13.05		13.05		13.05	
Ditch and Canal Maintenance	14.76		14.76		14.76	
Water Control (Pump water in/out of Ditches and Canals)	11.05		12.71		12.71	
Total Irrigation Cost		184.16		192.59		192.59
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS		$649.91		$720.62		
Supplemental Post Bloom Spray:						
Application (250 GPA)			24.33		24.33	
Material			50.80		50.80	
Total Supplemental Post Bloom Cost				75.13		75.13
Fall Miticide Spray: Aerial Application (15 GPA)			8.02		8.02	
Material			28.50		28.50	
Total Fall Miticide Cost				36.52		36.52
IRRIGATED FRESH FRUIT PRODUCTION COSTS				$832.27		$874.29

[z]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 2004.

[y]Southwest Florida refers to those counties in the Florida Agricultural Statistics Service "Southern Production Area." However, the costs shown are applicable to other South Central Florida counties such as DeSoto and Sarasota counties.

Where **equipment use** or **application** is listed (mowing, spray and herbicide application, etc.), the costs include a charge for equipment repairs, maintenance, labor and overhead management charges/costs. The exception are costs items such as hedging and topping where average custom charges are used. A **management charge** for equipment supervision and fruit marketing is not included. Management charges/costs could be based on a monthly charge ($3-$4/acre) or percentage of gross sales. In addition to these charges, a harvesting supervision cost (10¢/box to 20¢/box) for overseeing and coordinating harvesting may be charged. 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 establishment.

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.

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, hedging and topping practices, etc. Therefore, the revised costs for each grove practice shown may be higher, or lower, than previously reported.

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 $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 of such as Temik ($109.43/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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[x]Spray materials include copper (Cu), oil, miticide and nutritionals.

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[w]Spray materials include copper (Cu), oil and nutritionals.

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[v]Per acre costs shown in parenthesis are for 2004.

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[u]Irrigation Expense includes the following:

	Microsprinkler	Drip
Variable Operating Expense (Diesel)*	$ 48.28	$ 45.38
Fixed-Variable Expense (annual maintenance repairs to system)	47.23	41.25
Total Cash Expenses**	$ 95.51	$ 86.63
Fixed-Depreciation Expense	56.56	45.25
Total Cash and Fixed Expense	$152.04	$131.88

* Adjusted for higher fuel costs.

** Where applies, there may be an additional cost of $11.05 per acre for water control in/out of ditches and canals plus $14.76 per acre for ditch and canal maintenance plus $13.05 for weed control in ditches and canals.

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

Table 3. Estimated total delivered-in cost for Southwest Florida Hamlin oranges grown for the processed market under three cultural cost programs, 2003-04

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

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

Table 4. Estimated total delivered-in cost for Southwest Florida Red Grapefruit grown for the fresh/processed market under three cultural cost programs, 2003-04

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

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