

Summary of 2004-2005 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 2004-2005 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 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.

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

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> or UF/IFAS CREC website: <http://www.crec.ifas.ufl.edu>

Table 1. A listing of estimated comparative Southwest Florida citrus production costs per acre for oranges, 2004-2005^z

Costs represent a mature (10+ years old) Southwest Florida Orange Grove.	Low Cost Processed Cultural Program One-Year Alternative	Processed and Reduced Fresh Cost Cultural Program	Typical/Historical Fresh Fruit Cultural Program
PRODUCTION/CULTURAL COSTS:^y			
Weed Management/Control:			
Mechanical Mow Middles (3 times per year)	\$ 22.91	\$ 22.91	\$22.91
Chemical Mow Middles (2 times per year)	9.78	9.78	9.78
General Grove Work (2 labor hours per acre)	27.12	27.12	27.12
Herbicide (1/2 tree acre treated):			
Application (4 glyphosate or 3 residual applications)	\$29.12	\$ 27.18	\$27.18
Material	<u>36.24</u>	<u>85.97</u>	<u>85.97</u>
Total Herbicide Cost	65.36	113.15	113.15
Spray			
Post Bloom: Application (125 GPA)	—	—	23.80
Material	—	—	<u>29.52</u>
Total Post Bloom Cost	—	—	53.32
Summer Oil #1: Application (125 GPA)	—	23.80	23.80
Material	—	<u>64.22</u>	<u>64.22</u>
Total Summer Oil #1 Cost	—	88.02	88.02
Summer Oil #2: Application (PTO -- 125 GPA)	23.80	23.80	23.80
Material	<u>68.14^x</u>	<u>29.37^w</u>	<u>20.85</u>
Total Summer Oil #2 Cost	91.94	53.17	44.65
Fertilizer (Bulk): 3 Applications	16.59	16.59	16.59
Material (17-4-17-2.4 MgO @ 204 lbs N per acre)	<u>142.80</u>	<u>142.80</u>	<u>142.80</u>
Total Fertilizer Cost	159.39	159.39	159.39
Dolomite (one ton applied every 3 years)			
Material/Application	14.56	14.56	14.56
Pruning: Topping (\$27.50/A ÷ 2.5 yrs) ^y	11.00	11.00	11.00
Hedging (\$25.75/A ÷ 2 yrs) ^y	12.88	12.88	12.88
Chop/Mow Brush after Hedging (\$8.99/A ÷ 2 yrs) ^y	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
Total Pruning Cost	28.38	28.38	28.38
Tree Replacement — 1 thru 3 years of age: (4 trees/acre)			
Remove Trees: Pull, Stack & Burn 4 Trees with Front-end Loader	20.32	20.32	20.32
Prepare Site & Plant Tree (Includes 4 reset trees)	47.88	47.88	47.88
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	<u>39.72</u>	<u>39.72</u>	<u>39.72</u>
Total Tree Replacement Cost	107.92	107.92	107.92
Irrigation: Microsprinkler System ^u	166.17	166.17	166.17
Clean Ditches (Weed Control)	14.19	14.19	14.19
Ditch and Canal Maintenance	15.06	15.06	15.06
Water Control (Pump water in/out of Ditches and Canals)	<u>13.21</u>	<u>13.21</u>	<u>13.21</u>
Total Irrigation Cost	<u>208.63</u>	<u>208.63</u>	208.63
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS	<u>\$735.99</u>	<u>\$833.03</u>	
Supplemental Post Bloom:			
Application (250 GPA)		27.95	27.95
Material		<u>55.20</u>	<u>55.20</u>
Total Supplemental Post Bloom Cost		83.15	83.15
Fall Miticide Spray: Aerial Application (15 GPA)		8.82	8.82
Material		<u>29.72</u>	<u>29.72</u>
Total Fall Miticide Cost		<u>38.54</u>	<u>38.54</u>
IRRIGATED FRESH FRUIT PRODUCTION COSTS		<u>\$954.72</u>	<u>\$999.52</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 2. A listing of estimated comparative Southwest Florida citrus production costs per acre for grapefruit, 2004-05

Costs represent a mature (10+ years old) Southwest Florida Red Grapefruit Grove.	Low Cost Processed Cultural Program One-Year Alternative	Processed and Reduced Fresh Cost Cultural Program	Typical/Historical Fresh Fruit Cultural Program
PRODUCTION/CULTURAL COSTS:y			
Weed Management/Control:			
Mechanical Mow Middles (3 times per year)	\$ 22.91	\$ 22.91	\$22.91
Chemical Mow Middles (2 times per year)	9.78	9.78	9.78
General Grove Work (2 labor hours per acre)	27.12	27.12	27.12
Herbicide (1/2 tree acre treated):			
Application (4 glyphosate or 3 residual applications)	\$29.12	\$27.18	\$27.18
Material	<u>36.24</u>	<u>85.97</u>	<u>85.97</u>
Total Herbicide Cost	65.36	113.15	113.15
Spray			
Post Bloom: Application (125 GPA)	—	—	23.80
Material	—	—	<u>29.52</u>
Total Post Bloom Cost	—	—	53.32
Summer Oil #1 Application (125 GPA)	—	23.80	23.80
Material	—	<u>64.22</u>	<u>64.22</u>
Total Summer Oil #1 Cost	—	88.02	88.02
Summer Oil #2 Application (PTO -- 125 GPA)	23.80	23.80	23.80
Material	<u>68.14^x</u>	<u>29.37^w</u>	<u>20.85</u>
Total Summer Oil #2 Cost	91.94	53.17	44.65
Fertilizer (Bulk)3 Applications	16.59	16.59	16.59
Material (15-2-15-2.4 MgO @ 180 lbs N and @150 lbs N)	<u>135.60</u>	<u>113.00</u>	<u>113.00</u>
Total Fertilizer Cost	152.19	129.59	129.59
Dolomite (one ton applied every 3 years)	14.56	14.56	14.56
Pruning: Topping (\$27.50/A ÷ 2.5 yrs) ^v	11.00	11.00	11.00
Hedging (\$25.75/A ÷ 2 yrs) ^v	12.88	12.88	12.88
Chop/Mow Brush after Hedging (\$8.99/A ÷ 2 yrs) ^v	4.50	4.50	4.50
Raise Skirts of Trees (\$14.00 ÷ 2 yrs) ^v	—	<u>7.00</u>	<u>7.00</u>
Total Pruning Cost	28.38	35.38	35.38
Tree Replacement — 1 thru 3 years of age: (3 trees/acre)			
Remove Trees: Pull, Stack & Burn 3 Trees with Front-end Loader	15.24	15.24	15.24
Prepare Site & Plant Tree (Includes 3 reset trees)	35.91	35.91	35.91
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	<u>29.79</u>	<u>29.79</u>	<u>29.79</u>
Total Tree Replacement Cost	80.94	80.94	80.94
Irrigation:Microsprinkler System^u			
Clean Ditches (Weed Control)	166.17	166.17	166.17
Ditch and Canal Maintenance	14.19	14.19	14.19
Water Control (Pump water in/out of Ditches and Canals)	15.06	15.06	15.06
	<u>13.21</u>	<u>13.21</u>	<u>13.21</u>
Total Irrigation Cost	<u>208.63</u>	<u>208.63</u>	208.63
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS	<u>\$701.81</u>	<u>\$783.25</u>	
Supplemental Post Bloom Spray:			
Application (250 GPA)		27.95	27.95
Material		<u>55.20</u>	<u>55.20</u>
Total Supplemental Post Bloom Cost		83.15	83.15
Fall Miticide Spray/Aerial Application (15 GPA)		8.82	8.82
Material		<u>29.72</u>	<u>29.72</u>
Total Fall Miticide Cost		<u>38.54</u>	<u>38.54</u>
IRRIGATED FRESH FRUIT PRODUCTION COSTS		<u>\$904.94</u>	<u>\$949.74</u>

^zThe listed estimated comparative costs are for the example grove situation described in the Economic Information Report and Returns for Southwest Florida Citrus Production" and may not represent your particular grove situation in South

^ySouthwest 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-\$6/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 \$11.88 per acre; Diaprepes control could add \$84.18 per acre for each foliar application; extensive tree loss due to blight or tristeza could substantially increase the tree replacement and care costs; spray applications to control citrus leafminer and nematicide applications of such as Temik (\$116.94/acre) could increase the total cultural costs per acre above the average costs shown in the comparative budgets; travel and set-up costs may vary due to size of the citrus grove and distance from grove equipment barn and could add \$28.86 per acre; etc.

^xSpray materials include copper (Cu), oil, miticide and nutritionals.

^wSpray materials include copper (Cu), oil and nutritionals.

^vPer acre costs shown in parenthesis are for 2005.

^uIrrigation Expense includes the following:

	<u>Microsprinkler</u>	<u>Drip</u>
Variable Operating Expense (Diesel)*	\$ 59.44	\$ 55.87
Fixed-Variable Expense (annual maintenance repairs to system)	<u>50.17</u>	<u>43.82</u>
Total Cash Expenses**	\$109.61	\$ 99.69
Fixed-Depreciation Expense	<u>56.56</u>	<u>45.25</u>
Total Cash and Fixed Expense	<u>\$166.17</u>	<u>\$144.94</u>

* Adjusted for higher fuel costs.

** Where applies, there may be an additional cost of \$13.21 per acre for water control in/out of ditches and canals plus \$15.06 per acre for ditch and canal maintenance plus \$14.19 for weed control in ditches and canals.

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

Table 3. Estimated total delivered-in cost for Southwest Florida Hamlin oranges grown for the processed market under three cultural cost programs, 2004-05

Represents a mature (10+ years old) Southwest Florida Orange Grove	Processed Hamlin Oranges Low Cost Cultural Program One-Year Alternative			Processed Hamlin Oranges Low Cost Cultural Program			Fresh/Processed Hamlin Oranges Historical Cost Cultural Program		
	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/P.S.
Total Production/Cultural Costs	\$ 735.99	\$1.460	\$0.2434	\$ 833.03	\$1.653	\$0.2755	\$ 954.72	\$1.894	\$0.3157
Interest on Operating (Cultural) Costs	20.24	0.040	0.0067	41.65	0.083	0.0138	47.74	0.095	0.0158
Management Costs	48.00	0.095	0.0159	48.00	0.095	0.0159	48.00	0.095	0.0159
Taxes/Regulatory Costs:									
Property Tax and Water Management District Tax	64.05	0.127	0.0212	61.00	0.121	0.0202	61.00	0.121	0.0202
Canker Decontamination Costs	<u>6.18</u>	<u>0.012</u>	<u>0.0020</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	\$ 874.46	\$1.735	\$0.2892	\$ 988.22	\$1.961	\$0.3268	\$1,116.00	\$2.214	\$0.3690
Interest on Avg Capital Investment Costs	<u>321.22</u>	<u>0.637</u>	<u>\$0.1062</u>	<u>321.22</u>	<u>0.637</u>	<u>0.1062</u>	<u>321.22</u>	<u>0.637</u>	<u>0.1062</u>
Total Grower Costs	\$1,195.67	\$2.372	\$0.3954	\$1,309.44	\$2.598	\$0.4330	\$1,437.21	\$2.852	\$0.4753
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination Costs	1,187.93	2.357	0.3928	1,187.93	2.357	0.3928	1,187.93	2.357	0.3928
DOC Assessment	<u>83.16</u>	<u>0.165</u>	<u>0.0275</u>	<u>83.16</u>	<u>0.165</u>	<u>0.0275</u>	<u>83.16</u>	<u>0.165</u>	<u>0.0275</u>
Total Harvesting & Assessment Costs	1,271.09	2.522	0.4203	1,271.09	2.522	0.4203	1,271.09	2.522	0.4203
Total Delivered-In Cost	<u>\$2,466.76</u>	<u>\$4.894</u>	<u>\$0.8157</u>	<u>\$2,580.52</u>	<u>\$5.120</u>	<u>\$0.8533</u>	<u>\$2,708.30</u>	<u>\$5.374</u>	<u>\$0.8956</u>
P.S. = Pound Solids	Refer to cultural program shown in Table 1.			Refer to cultural program shown in Table 1.			Refer to cultural program shown in Table 1.		
Yield: 504 boxes/acre @ 6.0 P.S. per box 145 trees per acre	Only summer oil sprays with oil, copper, and Agri-mek & nutritional.			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 2005.

Table 4. Estimated total delivered-in cost for Southwest Florida Red Grapefruit grown for the fresh/processed market under three cultural cost programs, 2004-05

Represents a mature (10+ years old) Southwest Florida Red Grapefruit Grove	Processed Red Grapefruit Low Cost Cultural Program One-Year Alternative			Fresh Packed Red Grapefruit Reduced Cost Cultural Program			Fresh Packed Red Grapefruit Typical/Historical Cultural Program		
	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/Carton	\$/Acre	\$/Box	\$/Carton
Total Production/Cultural Costs	\$ 701.81	\$1.265	\$0.2690	\$ 904.94	\$1.631	\$1.0144	\$949.74	\$1.711	\$1.0144
Interest on Operating (Cultural) Costs	19.30	0.035	0.0074	24.89	0.045	0.0224	26.12	0.047	0.0235
Management Costs	48.00	0.086	0.0184	48.00	0.086	0.0432	48.00	0.086	0.0432
Taxes/Regulatory Costs:									
Property Tax and Water Management									
District Tax	51.24	0.092	0.0196	51.24	0.092	0.0478	51.24	0.092	0.0478
Fly Protocol Cost	–	–	–	54.73	0.099	0.0477	54.73	0.099	0.0477
Canker Decontamination Costs	<u>6.18</u>	<u>0.011</u>	<u>0.0024</u>	<u>6.18</u>	<u>0.011</u>	<u>0.0016</u>	<u>6.18</u>	<u>0.011</u>	<u>0.0016</u>
Total Taxes/Regulatory Costs	<u>57.42</u>	<u>0.103</u>	<u>0.0220</u>	<u>112.15</u>	<u>0.202</u>	<u>0.0971</u>	<u>112.15</u>	<u>0.202</u>	<u>0.0971</u>
Total Direct Grower Costs	\$ 826.53	\$1.489	\$0.3169	\$1,089.98	\$1.964	\$1.1772	\$1,136.01	\$2.047	\$1.1783
Interest on Average Capital Investment Costs	<u>321.22</u>	<u>0.579</u>	<u>0.1231</u>	<u>321.22</u>	<u>0.579</u>	<u>0.2894</u>	<u>321.22</u>	<u>0.579</u>	<u>0.2894</u>
Total Grower Costs	\$1,147.74	\$2.068	\$0.4400	\$1,411.19	\$2.543	\$1.4666	\$1,457.22	\$2.626	\$1.4677
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination	1,207.13	2.175	0.4628	1,317.57	2.374	1.1870	1,317.57	2.374	1.1870
Fruit Drenching (Fresh)	–	–	–	102.68	0.185	0.0925	102.68	0.185	0.0925
DOC Assessment	<u>133.20</u>	<u>0.240</u>	<u>0.0511</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	1,340.33	2.415	0.5138	1,559.00	2.809	1.4045	1,559.00	2.809	1.4045
Total Delivered-In Cost	<u>\$2,488.07</u>	<u>\$4.483</u>	<u>\$0.9538</u>	<u>\$2,970.19</u>	<u>\$5.352</u>	<u>\$2.8711</u>	<u>\$3,016.22</u>	<u>\$5.435</u>	<u>\$2.8722</u>
Two cartons per box	Refer to cultural program shown in Table 2.			Refer to cultural program shown in Table 2.			Refer to cultural program shown in Table 2.		
P.S. = Pound Solids									
Yield: 555 boxes/acre @ 4.7 P.S. per box									
119 trees per acre	Two summer oil sprays with oil, copper, and Agri-mek.			Assumes 100% packout			Assumes 100% packout		

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