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



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ABSTRACT

Estimated costs and returns of growing round oranges in the Central Florida citrus area are presented for the twenty-second consecutive year. The Central Florida citrus area refers primarily to Polk and Highlands counties. The format presented may be used by individual growers to budget costs and returns, utilizing individual data on specific groves.

Key words: citrus, Central Florida, budgeting, costs and returns.

NOTE: The Central Florida production area refers to Polk and Highlands counties. However, the costs presented in this report are applicable to other counties such as Hardee, Hillsborough, Lake and Orange counties.

The budgeted cost information presented herein is the most current available. The budget cost items have been revised to reflect current grove practices being used by growers—e.g., chemical mowing, different spray materials and rates of fertilization, microsprinkler irrigation, more reset trees, etc. The 2004-2005 budgets reflect major cost increases in all production inputs: fuel averaged a 22% increase; fertilizer products increased 15%; chemicals averaged an 8% increase; and equipment operation costs increased 7%. Along with the increased costs, three major hurricanes (storms) during August and September 2004 resulted in wide tree damage and fruit loss. The Indian River region experienced fruit loss of 70% to 80% on red and white grapefruit, respectively. Hamlin orange losses in the Central Florida (ridge) region were 30% to 40% with Valencia orange losses between 20% and 30%. The only citrus growing region that was not significantly affected by the three storms was the Southwest Florida citrus region. As a result of the excessive fruit loss, the per box, per pound solid and per carton costs for the Indian River and Central (ridge) growing regions were substantially higher than in recent years.

The budget costs in this report represent a **custom-managed operation**. **Therefore, all equipment costs are based on the average custom rate costs, and a 10 percent handling and supervision charge is added to the material cost.**

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 \$15.34 per acre; Diaprepes control could add \$84.18 per acre for each foliar application; extensive tree loss due to blight or tristeza could substantially increase the tree replacement and care costs; spray applications to control citrus leafminer and nematicide applications such as Temik (\$131.11/acre) could increase the total cultural costs per acre above the average costs shown in the comparative budgets; travel and set-up costs may vary due to size of the citrus grove and distance from the grove equipment barn and could add \$28.86 per acre; etc.

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TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	i
ACKNOWLEDGEMENTS	i
LIST OF TABLES	iii
INTRODUCTION	1
METHOD OF DATA COLLECTION	1
COSTS AND INPUTS	1
THE GROVE SITUATION	2
BUDGET COSTS AND RETURNS	4
HISTORICAL COST TRENDS	5
REFERENCES	10
ADDENDA	11

NOTE: The ADDENDA include a Listing of Grove Care Programs for Central Florida Citrus Production for Both Round Oranges and Grapefruit; 2005 custom rate summary report; cost of establishing a citrus grove; etc. Page 11 is a list of the tables included in the ADDENDA.

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Schedule of production practices and budget items for a Central Florida citrus grove, 2004-05	3
2	Calculation of normal production per acre, 2004-05	4
3	Estimated annual per acre costs and returns for a mature, Valencia orange grove producing for the processed market, Central Florida area, 2004-05	6
4	Estimated total delivered-in cost for Central Florida (Ridge) Valencia oranges grown for the processed juice market under three cultural cost programs, 2004-05	7
5	Estimated annual per acre costs and returns and 5-year average costs and returns for a mature, Valencia orange grove producing citrus for processing in the Central Florida area, 2000-01–2004-05	8
6	Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2005 dollars) for a mature, Valencia orange grove producing citrus for processing in the Central Florida area, 2000-01–2004-05	9

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

Ronald P. Muraro and W. C. Oswalt

INTRODUCTION

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 a budget constructed from current data and serves as a format for growers to analyze costs and returns from their individual records. During the 1980's, several freezes occurred which changed the character of the Central Florida citrus production area. The December 1983 and January 1985 freezes caused extensive tree and acreage losses in north central counties such as Lake and Orange counties. The December 1989 freeze resulted in severe tree damage and tree loss in North and Central Polk County. Thus, Central Florida in this report refers primarily to Polk and Highlands counties.

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

METHOD OF DATA COLLECTION

The data presented here were developed by surveying custom operators, input suppliers, growers, colleagues at the Citrus Research and Education Center in Lake Alfred, and County Extension Citrus Agents in the Central Florida production region. The survey is conducted annually in February and March.

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COSTS AND INPUTS

Costs for various production inputs are those collected from citrus growers as well as the average of the data obtained from annual custom rate, chemical, and fertilizer surveys. Growers' costs are shown in the ADDENDA, Tables 1-A through 7-A. The custom rate costs are shown in Table 8-A and the various chemical and fertilizer costs are shown in Table 9-A and 10-A in the ADDENDA. **The budget costs represent a custom-managed operation. Therefore, all equipment costs are based upon the average custom-rate costs and a 10 percent handling and supervision charge is added to the material cost.**

Although brand names are used in many of the tables in the ADDENDA, this does not imply endorsement by the University of Florida. It is merely an attempt to depict typical production practices.

All tables have a column reserved for the individual growers to insert data from a particular grove allowing a comparison of the grower's costs with those presented.

THE GROVE SITUATION

Production practices for a Central Florida round orange grove are shown in Table 1 with times during the year when they would likely be 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 example represents a Valencia orange grove, 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 10+ year-old, low volume-irrigated grove;
2. Variety is Valencia round orange;
3. Tree loss is 3 percent annually;
4. Trees are pulled and replaced when production falls below 50 percent of expected yield;
5. Production is for processed use;
6. Tree density is 112 trees per acre; and
7. Custom-caretaker is providing grove management.

Table 1.--Schedule of production practices and budget items for a Central Florida citrus grove, 2004-05^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: Pick & haul cost			X									
DOC advertisement tax			X									
<u>Grove expenses:</u>												
Disc			X							X		
Chop												
Mow					X		X		X			
Labor, general grove work, pull vines	X								X			
Herbicide (1/2 grove acre equivalent)			X			X						
Spray: Post bloom/nutritional				X								
Summer oil/greasy spot							X					
Fall miticide										X		
Supplemental miticide												
Dust												
Fertilizer		68# N/A			68# N/A					68# N/A		Dolomite
Hedging and topping			Hedge									
Brush removal/chop brush			Chop brush									
Tree removal			X	X								
Young tree care			X	X		X	X		X			
Microjet irrigation (times/week)	1	1	2	3	3	3	2	2	2	2	1	1
Miscellaneous												
Grove taxes including water management											X	
Interest expense							X					
Annual principal payment on mortgage							X					

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

As a result of tree losses and replacement, the tree ages will vary. The budget reflects the following age distribution:

<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	0.9
45% 5-19 years old	4.0
3% producing 50% of expected yield	2.9
37% mature producing	5.5

Calculation of normal production per acre is shown in Table 2. Note that the proportion-of-trees-by-age column only adds to 91 percent since 9 percent of the trees are non-bearing. The impact of the three hurricanes in 2004 is reflected in a 25% reduction in normal yields.

Table 2.--Calculation of normal production per acre, 2004-05

<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	112	x 0.03	= 3.4	x 0.7	= 2.4
4 years	112	x 0.03	= 3.4	x 0.9	= 3.1
5-19 years	112	x 0.45	= 50.4	x 4.0	= 201.6
Prod. 50% of exp. yield	112	x 0.03	= 3.4	x 2.9	= 9.9
20 years	112	x 0.37	= 41.4	x 5.5	= <u>227.7</u>
				Total boxes	= <u>444.7</u>
Yields adjusted to 75% of normal yields due to three hurricanes in 2004.					<u>333.5</u>

^aProportion adds up to 0.91 (91 percent) as 9 percent of the trees were non-bearing (pulled and reset, 1 and 2 year old trees).

BUDGET COSTS AND RETURNS

The estimated budget costs and returns for the Central Florida grove situation are shown in Table 3. The budgeted costs represent one possible citrus production program and were selected from the costs shown in the ADDENDA tables. The gross revenue estimates are based on the projected yields in Table 3 and estimated preliminary on-tree prices for the 2004-05 season. Reset costs, alternative cost scenarios, harvesting and packing charges can be found in Tables 11-A through 14-A in the ADDENDA.

Also, historical on-tree prices for selected Florida citrus varieties are shown in Table 15-A of the ADDENDA.

As shown in Table 3, the total revenue for processed-market Valencia oranges is estimated to be \$1,425.24 per acre. Total specified costs are \$895.43 and are comprised of grove care costs of \$847.43, plus management cost of \$48.00. Return to land and trees of \$529.81 represents net return above variable costs. At 300 and 500 boxes per acre, respectively, the break-even price required to cover grove care costs for Valencia oranges range from \$2.83 to \$1.70 per box on-tree and \$0.81 to \$0.64 per pounds solids delivered-in.

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 to 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 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 \$440 per acre (\$3,750 average debt per acre @ 10 percent interest amortized over 20 years) which would reduce total available cash for grove expansion or other investment.

Estimated "delivered-in" costs are shown for processed oranges in Table 4. "Delivered-in" costs include grove care costs (Table 3) plus harvesting, regulatory, and grower assessment costs. The "delivered-in" cost is presented as a cost per acre, per box, and per pound solids. Three possible budget cost scenarios are presented (Refer to Table 11-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 processed market. The third scenario represents typical costs of grove practices which have been performed for citrus grown for the fresh/processed fruit market. Modified herbicide and/or spray and fertilizer programs account for the reduced costs. NOTE: Before modifying a grove management program to reduce costs, an evaluation of the market program (processed or fresh), yield, and specific cultural problems (nutrition, disease, etc.) for the specific grove site should be made.

HISTORICAL COST TRENDS

Annual costs and returns for mature, processed Valencia oranges in the Central Florida area have been developed and published the past four years. Estimated cost and return histories for 2000-01 through 2003-04 along with 2004-05 and a five-year average are presented in Table 5. To allow comparisons in current values, these same costs and returns, adjusted to 2005 dollars, are presented in Table 6.

Table 3.--Estimated annual per acre costs and returns for a mature, Valencia orange grove producing for the processed market, Central Florida area, 2004-05^a

Item	Description	Amount	Your cost
		----- Dollars -----	
I. Revenue	333 boxes @ \$4.28 ^b	1,425.24	_____
II. Expenses ^c			
Weed control			
Discing	2 times per year	20.16	_____
Mow middles	4 times per year	42.28	_____
General grove work/sprouting, etc.	(2 labor hours per acre)	26.86	_____
Herbicide (Table 2-A, Program #1, #2 & #7)		<u>121.10</u>	210.40 _____
Spray program (Table 1-A, Programs #8 & #10)			146.93 _____
Fertilizer (Table 3-A, Program #3)			195.21 _____
Dolomite (Table 6-A, Program #2)			11.36 _____
Pruning (maintenance)			
Topping	(\$396.50/hr. ÷ 10 A/hr.) ÷ 2.5 yrs.	15.86	_____
Hedging	(\$336.25/hr. ÷ 10 A/hr.) ÷ 2 yrs.	16.82	_____
Mow/chop brush	(\$9.74/A ÷ 2 yrs.)	<u>4.87</u>	37.55 _____
Tree replacement and care (Table 12-A)	(1 through 3 years)		
Remove trees/stack/burn	3 trees per acre	15.22	_____
Prepare sites and plant resets	Including 3 trees per acre	34.80	_____
Supplemental fertilizer, tree wraps, maintenance, sprout, etc.	Including application	<u>29.79</u>	79.81 _____
Microsprinkler irrigation (Table 7-A, Program #4)			<u>166.17</u> _____
Total grove care expenses			847.43 _____
III. Management	\$4.00 per acre per month ^d	<u>48.00</u>	_____
IV. Total specified costs ^e		<u>895.43</u>	=====
V. Return to land, trees, and ownership		<u>529.81</u>	=====
VI. Break-even price for total grove care expenses			
	Boxes per acre		Boxes per acre
	<u>300</u> <u>350</u> <u>400</u> <u>450</u> <u>500</u>		<u>300</u> <u>350</u> <u>400</u> <u>450</u> <u>500</u>
	\$ On-tree price per box		\$ Delivered-in price per pound solids ^f
	2.83 2.43 2.12 1.89 1.70		0.81 0.75 0.70 0.67 0.64

^aAlthough the estimated annual per acre grove costs shown in Table 3 are representative for a mature Central Florida Valencia orange grove, the grove care costs for a specific grove site may differ depending upon the grove practices performed; e.g., a Temik application would add \$131.11 per acre; extensive tree loss due to blight or tristeza would double the tree replacement and care costs; travel and set-up costs may vary due to size of citrus grove and distance from the grove equipment barn.

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

^cAssumes material custom applied; therefore, a 10 percent handling and supervision charge is added to material cost.

^dOther methods to estimate a management cost--e.g., 5% of gross revenue 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.

^eOther 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.

^fAssumes 6.7 pounds solids per box and \$2.348 pick and haul cost per box (including canker decontamination costs) and Department of Citrus advertising assessment of \$0.165 per box.

Table 4. Estimated total delivered-in cost for Central Florida (Ridge) Valencia oranges grown for the processed market under three cultural cost programs, 2004-05

Represents a mature (10+ years old) Central Florida (Ridge) Orange Grove	Processed Valencia Orange Low Cost Cultural Program			Processed Valencia Orange Cultural Program			Fresh/Processed Valencia Orange Historical Cost Cultural Program		
	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/P.S.	\$/Acre	\$/Box	\$/P.S.
Total Production/Cultural Costs	\$ 756.81	2.266	\$0.3382	\$ 847.43	\$2.537	\$0.3787	\$985.77	\$2.951	\$0.4405
Interest on Operating (Cultural) Costs	20.81	0.062	0.0093	23.30	0.070	0.0104	27.11	0.081	0.0121
Management Costs	48.00	0.144	0.0214	48.00	0.144	0.0214	48.00	0.144	0.0214
Taxes/Regulatory Costs:									
Property Tax and Water Management Tax	61.87	0.185	0.0276	61.87	0.185	0.0276	61.87	0.185	0.0276
Canker Decontamination Costs	<u>5.52</u>	<u>0.017</u>	<u>0.0025</u>	<u>5.52</u>	<u>0.017</u>	<u>0.0025</u>	<u>5.52</u>	<u>0.017</u>	<u>0.0025</u>
Total Direct Grower Costs	\$ 893.01	\$2.674	\$0.3991	\$ 986.12	\$2.952	\$0.4407	\$1,128.26	\$3.378	\$0.5042
Interest on Average Capital Investment Costs	<u>321.22</u>	<u>0.962</u>	<u>\$0.1435</u>	<u>321.22</u>	<u>0.962</u>	<u>0.1435</u>	<u>321.22</u>	<u>0.962</u>	<u>0.1435</u>
Total Grower Costs	\$1,214.22	\$3.635	\$0.5426	\$1,307.34	\$3.914	\$0.5842	\$1,449.48	\$4.340	\$0.6477
Harvesting and Assessment Costs:									
Pick/Spot Pick, Roadside & Haul and Canker Decontamination Costs	784.23	2.348	0.3504	784.23	2.348	0.3504	784.23	2.348	0.3504
DOC Assessment	<u>55.11</u>	<u>0.165</u>	<u>0.0246</u>	<u>55.11</u>	<u>0.165</u>	<u>0.0246</u>	<u>55.11</u>	<u>0.165</u>	<u>0.0246</u>
Total Harvesting and Assessment Costs	839.34	2.513	0.3751	839.34	2.513	0.3751	839.34	2.513	0.3751
Total Delivered-In Cost	<u>\$2,053.57</u>	<u>\$6.148</u>	<u>\$0.9177</u>	<u>\$2,146.68</u>	<u>\$6.427</u>	<u>\$0.9593</u>	<u>\$2,288.82</u>	<u>\$6.853</u>	<u>\$1.0228</u>
P.S. = Pound Solids	Refer to cultural program shown in Table 11-A.			Refer to cultural program shown in Table 3.			Refer to cultural program shown in Table 11-A.		
Yield: 333 boxes/acre @ 6.7 P.S. per box	Only summer oil sprays with oil, copper and Agri-mek & Nutritional.			Refer to cultural program shown in Table 3.			A Fall Miticide Spray added to the cultural program shown in Table 3.		
112 trees per acre									

Table 5.--Estimated annual per acre costs and returns and 5-year average costs and returns for a mature, Valencia orange grove producing citrus for processing in the Central Florida area, 2000-01–2004-05

Year	On-tree price/box ^a	Yield	Gross revenue	Total grove care expenses	Total specified costs ^f	Net return to land, trees, and ownership
			----- Dollars -----			
2000-01	\$3.70	436 ^d	1,613.20	758.85 ^e	806.85	806.35
2001-02	\$4.17	446	1,859.82	767.77	815.77	1,044.05
2002-03	\$3.80	446	1,694.80	777.69	825.59	869.21
2003-04	\$3.67	476 ^c	1,746.92	774.18	822.18	924.74
2004-05	\$4.28 ^b	333 ^d	1,425.24	847.43	895.43	529.81
5-yr. avg.	\$3.93	427	1,678.11	785.19	833.19	844.92

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

^bPreliminary estimate at time of printing published by FASS.

^cHigher per acre yield is due to increased statewide production of Valencia oranges in 2003-04 season.

^dThe severe drought affected yields for the 2000-01 season and three hurricanes reduced yields 25% in 2004-05.

^eBegan using two summer oil sprays (one with nutritionals) in budget estimates.

^fA 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 6.--Estimated annual per acre costs and returns and 5-year average costs and returns (adjusted to 2005 dollars) for a mature, Valencia orange grove producing citrus for processing in the Central Florida area, 2000-01–2004-05

Year	Inflation factor index ^a	Adjusted on-tree price/box	Yield	Gross revenue	Total specified costs ^b	Net return to land, trees, and ownership
				----- Dollars -----		
2000-01	117.9	\$4.37	436	1,905.32	951.28	954.04
2001-02	120.7	\$5.04	446	2,247.84	984.64	1,263.20
2002-03	114.6	\$4.36	446	1,944.56	946.13	998.43
2003-04	107.9	\$3.96	476	1,884.96	887.14	997.82
2004-05	100.0	\$4.28	333	1,425.24	895.43	529.81
5-yr. avg.	–	\$4.41	427	1,883.07	932.93	950.14

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

^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 5.)

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

	<u>Page</u>
Table 1-A. Spray programs	12
Post bloom spray	12
Summer spray	13
Fall spray	14
Table 2-A. Herbicide	15
Table 3-A. Dry fertilizer	16
Table 4-A. Liquid fertilizer (Double boom application)	17
Table 5-A. Nematicides	17
Table 6-A. Soil amendment	18
Table 7-A. Irrigation--annual cost per acre	18
Permanent overhead	18
Microsprinkler	18
Table 8-A. A listing of 2005 custom rates reported by twenty-five Ridge citrus caretakers	19
Table 9-A. 2005 summary of average chemical price estimates	21
Table 10-A. 2005 summary of average fertilizer price estimates	23
Table 11-A. A listing of estimated comparative Central Florida (Ridge) citrus production costs per acre for 2004-05	25
Table 12-A. Estimated cost of planting and maintaining a reset citrus tree through three years of age, July 2004	26
Table 13-A. Estimated average picking, roadsiding and hauling charges for Florida citrus, 2004-05	27
Table 14-A. Estimated average packing charges for Florida citrus, 2004-05	28
Table 15-A. Historic prices for selected citrus varieties	29
Table 16-A. Debt which can be supported per \$1,000.00 annual payment capacity	30

Abbreviations for important chemicals are:

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

^aThe costs in the ADDENDA represent a custom managed operation. Therefore, all equipment costs are based upon the average custom rate costs and a 10 percent handling and supervision charge is added to the material cost.

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>
	Oil 97+%	5 gals	\$12.30	_____
	Cu (50% metallic)	10 lbs	5.60	_____
	Zn	5 lbs	4.60	_____
	Mn	10 lbs	3.60	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$60.25</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>
(Scab/melanose)	Cu (50% metallic)	10 lbs	\$15.60	_____
	Zn	5 lbs	4.60	_____
	Mn	10 lbs	3.60	_____
	Micromite 25WP	1.25 lbs	42.65	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$90.60</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)	15 lbs	\$ 23.40	_____
	Agri-Mek	10 ozs	48.60	_____
	Ground Application (engine driven airblast)	250 gals	<u>30.30</u>	_____
	Total per Application		<u>\$102.30</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>
	Vendex 50WP	2 lbs	\$32.70	_____
	Zn	5 lbs	4.60	_____
	Mn	10 lbs	3.60	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$65.05</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>
(Scale insects)	Lorsban 4EC	5 pts	\$23.50	_____
	Ground Application (engine driven airblast)	500 gals	<u>32.25</u>	_____
	Total per Application		<u>\$55.75</u>	=====

SUMMER SPRAY

Spray Program #6	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Oil 97+%	5 gals	\$12.30	_____
	Cu (50% material)	7 lbs	10.92	_____
	Micromite	1.25 lbs	42.65	_____
	Ground Application (PTO driven airblast)	250 gals	<u>30.30</u>	_____
	Total per Application		<u>\$96.17</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>
	Oil 97+%	5 gals	\$ 12.30	_____
	Agri-Mek	10 ozs	48.60	_____
	Cu (50% material)	7 lbs	10.92	_____
	Ground Application (engine driven airblast)	250 gals	<u>30.30</u>	_____
	Total per Application		<u>\$102.12</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>
	Oil 97+%	5 gals	\$12.30	_____
	Micromite	1.25 lbs	42.65	_____
	Cu (50% material)	7 lbs	10.92	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$90.02</u>	=====

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

SUMMER SPRAY (cont'd.)

Spray Program #9	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Oil 97+%	7 gals	\$17.22	_____
	Ground Application (engine driven airblast)	250 gals	<u>30.30</u>	_____
	Total per Application		<u>\$47.52</u>	=====

Spray Program #10	<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	\$10.92	_____
	Oil 97+%	5 gals	12.30	_____
	Zn	5 lbs	4.60	_____
	Mn	10 lbs	3.60	_____
	B	0.25 lbs	1.34	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$56.91</u>	=====

FALL SPRAY

Spray Program #11	<u>Materials/Ingredients</u>	<u>Amount</u> <u>/Acre</u>	<u>Cost/Acre</u>	<u>Your</u> <u>Cost/Acre</u>
	Vendex 50WP	2 lbs	\$32.70	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$56.85</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>
	Microthiol	15 lbs	\$11.55	_____
	Ground Application (PTO driven airblast)	125 gals	<u>24.15</u>	_____
	Total per Application		<u>\$35.70</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 80 DF	3 lbs	\$23.51	_____
	Karmex WP	4 lbs	8.52	_____
	Roundup Ultra Max	2 qts	8.02	_____
	Ground Application (1 time)		<u>14.00</u>	_____
	Total for 1 Application		<u>\$54.05</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)	Mandate	2 pts	\$22.85	_____
	Direx 4L	3 qts	6.84	_____
	Roundup Ultra Max	2 qts	8.02	_____
	Ground Application (1 time)		<u>14.00</u>	_____
	Total for 1 Application		<u>\$51.71</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)	Karmex WP	4 lbs	\$ 8.52	_____
	Roundup Ultra Max	2 qts	8.02	_____
	Ground Application (1 time)		<u>14.00</u>	_____
	Total for 1 Application		<u>\$30.54</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)	Roundup Ultra Max	2 qts	\$ 8.02	_____
	Ammonium Sulfate	17 lbs	1.49	_____
	Ground Application (1 time)		<u>14.00</u>	_____
	Total for 1 Application		<u>\$23.51</u>	=====

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	2 qts	\$ 8.02	_____
	Princep (Caliber 90)	4 lbs	7.24	_____
	Ground Application (1 time)		<u>14.00</u>	_____
	Total for 1 Application		<u>\$29.26</u>	=====

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

Herbicide Program #6 (Strip/band)	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
	Direx 4L	3 qts	\$ 6.84	_____
	Solicam	3 lbs	23.51	_____
	Roundup Ultra Max	2 qts	8.02	_____
	Ground Application (1 time)		<u>14.00</u>	_____
	Total for 1 Application		<u>\$52.37</u>	=====

Herbicide Program #7 (Spot herbicide for grass/brush regrowth under trees.)	<u>Materials</u>	<u>Amount/ Treated Acre</u>	<u>Cost/ Grove Acre^a</u>	<u>Your Cost/ Grove Acre</u>
	Roundup Ultra Max	2 qts	\$ 8.02	_____
	Ground Application (1 time)	15 gals	<u>7.32</u>	_____
	Total for 1 Application		<u>\$15.34</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 grove surface is being treated.

Table 3-A.--Dry fertilizer

Program #1 (162 lbs N/Acre)	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	12-2-12-2.4 MgO	1350 lbs	\$151.20	_____
	Application	3 times	<u>26.91</u>	_____
	Total for 3 Applications		<u>\$178.11</u>	=====

Program #2 (180 lbs N/Acre)	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	16-0-16-4 MgO	1125 lbs	\$148.50	_____
	Application	3 times	<u>26.91</u>	_____
	Total for 3 Applications		<u>\$175.41</u>	=====

Program #3 (204 lbs N/Acre)	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	16-0-16-4 MgO	1275 lbs	\$168.30	_____
	Application	3 times	<u>26.91</u>	_____
	Total for 3 Applications		<u>\$195.21</u>	=====

Program #4 (225 lbs N/Acre)	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	15-2-15-2.4 MgO	1500 lbs	\$187.50	_____
	Application	3 times	<u>26.91</u>	_____
	Total for 3 Applications		<u>\$214.41</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	\$167.40	_____
	Double Boom Application	3 times	<u>47.22</u>	_____
	Total for 3 Applications		<u>\$214.62</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	\$176.40	_____
	Double Boom Application	3 times	<u>47.22</u>	_____
	Total for 3 Applications		<u>\$223.62</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	\$167.40	_____
	Solicam 80 DF	3 lbs*	23.51	_____
	Karmex WP	4 lbs*	8.52	_____
	Double Boom Application	3 times	<u>47.22</u>	_____
	Total for 3 Applications		<u>\$246.65</u>	=====
	*Treated acre (one herbicide 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	\$116.16	_____
	Application		<u>14.95</u>	_____
	Total per Application		<u>\$131.11</u>	=====

Program #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
	Temik 15G	17 lbs	\$59.84	_____
	Application		<u>14.95</u>	_____
	Total per Application		<u>\$74.79</u>	=====

Table 6-A.--Soil amendment

Program #1	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(Every 3 years)	Dolomite (Delivered)	1 ton	\$36.05	_____
	Application	1 time	<u>9.39</u>	_____
	Total for 1 Application		<u>\$45.44</u>	=====
	(Average 1/3 Ton Applied/Yr)		<u>\$15.15</u>	=====

Program #2	<u>Analysis/Material Applied</u>	<u>Amount /Acre</u>	<u>Cost/Acre</u>	<u>Your Cost/Acre</u>
(Every 4 years)	Dolomite (Delivered)	1 ton	\$36.05	_____
	Application	1 time	<u>9.39</u>	_____
	Total for 1 Application		<u>\$45.44</u>	=====
	(Average 1/4 Ton Applied/Yr)		<u>\$11.36</u>	=====

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

PERMANENT OVERHEAD

	<u>Program #1</u>	<u>Your Cost/Acre</u>	<u>Program #2</u>	<u>Your Cost/Acre</u>
Operating	(Electric) \$146.69	_____	(Diesel) \$119.15	_____
Maintenance of System	<u>44.98</u>	_____	<u>47.17</u>	_____
Total Cash Expenses	\$191.67	_____	\$166.33	_____
Fixed Depreciation Expense	<u>55.73</u>	_____	<u>59.54</u>	_____
Total Cash and Fixed Expenses	<u>\$247.40</u>	=====	<u>\$222.06</u>	=====

MICROSPRINKLER

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

*Reflects the higher cost of fuel; diesel and electricity.

Table 8-A.--A listing of 2005 custom rates reported by twenty-five Ridge citrus caretakers

Grove Practice	Unit	Range of Rate Reported		Average Rate ^y	Comments		
CULTIVATION AND EQUIPMENT:							
Labor	Hour	\$10.50-	\$15.00	\$13.43	Plus transportation		
Mechanic Labor	Hour	25.00-	45.00	35.05	Includes truck		
Rotovate	Hour	30.00-	45.00	36.90			
Disc 7'	Hour	30.00-	40.00	33.78			
Disc 9'-10'	Hour	30.00-	40.00	33.22			
Disc 9'-10'	Acre	9.00-	11.00	10.08	One-way discing; Disc 7': \$8.77/acre		
Chop	Hour	30.00-	45.00	33.35			
Chop	Acre	7.50-	11.00	9.41			
Mow 5'-7'	Hour	31.10-	40.00	35.27			
Mow 9'-12'	Hour	34.90-	40.00	35.97			
Mow 5'-7'	Acre	8.00-	11.25	9.95			
Mow 9'-12'	Acre	8.00-	12.75	10.57			
Mow 15'-16'	Acre	10.00-	12.75	11.43			
Herbicide ^z (Strip/Band--Single Boom)	Hour	31.50-	35.00	33.50	Plus materials		
Herbicide ^z (Strip/Band--Single Boom)	Acre	12.00-	17.50	14.58	Plus materials		
Herbicide ^z (Strip/Band--Double Boom)	Acre	12.00-	15.50	14.00	Plus materials; Avg. \$40.16/hour		
Herbicide ^z (Chemical Mow)	Acre	6.00-	9.75	7.63	Plus materials		
Temik ^z	Acre	14.00-	16.00	14.95	Plus materials		
Plow	Hour	25.00-	35.00	31.25			
Deviner	Hour	—	—	42.00			
Bush Hog	Hour	32.50-	42.50	37.07	One reporting \$13.00/acre		
Backhoe	Hour	42.50-	75.00	49.50			
Pickup Truck with Driver	Hour	25.00-	35.00	28.99	Average miles/year/pickup: 23,400		
Pickup Truck w/out Driver	Hour	15.00-	20.00	18.73			
Flatbed Transport Truck with Driver	Hour	28.50-	50.00	36.65	Average miles/year: 24,803		
Low-Boy Transport	Hour	50.00-	65.00	55.00	Average miles/year: 30,000		
Tractor with Driver	Hour	27.00-	35.00	30.42			
Water/Supply Truck	Hour	28.00-	40.00	32.15			
ATV with Driver	Hour	20.00-	26.50	24.47			
SPRAYING:^z							
PTO AIR BLAST SPRAYER							
		<u>1,000 Gallon Tank with Electronic Sensing</u>			<u>1,000 Gallon Tank without Electronic Sensing</u>		
		Low	High	Average	Low	High	Average
500 GPA	Acre	—	—	40.00	28.00 -	36.00	32.25
250 GPA	Acre	29.00-	35.00	31.94	25.00 -	35.00	30.30
125 GPA	Acre	27.00-	33.00	28.49	22.50 -	27.00	24.15
100 GPA	Acre	24.00-	25.00	24.34	22.50 -	25.00	22.64
50 GPA	Acre	—	—	—	18.50 -	22.50	20.45
Aerial (Bell-47 Helicopter)		\$12.00 @ 5 GPA; \$16.50 @ 10 GPA; \$18.50 @ 15 GPA; \$25.00 @ 20 GPA					
FERTILIZE AND SOIL AMENDMENTS:^z							
Inject Liquid Fertilizer into Irrigation System	Hour	\$32.50-	\$50.00	\$37.36	Truck plus labor		
Inject Liquid Fertilizer into Irrigation System	Acre	1.75-	3.50	2.74	Average \$66.88/irrigation injection hookup		
Liquid Boom Application: Double Boom	Acre	14.75-	17.00	15.74			
Dry (Bulk)	Acre	7.00-	11.00	8.97			
Lime or Dolomite	Acre	8.50-	10.75	9.39			
Lime or Dolomite	Ton	7.50-	9.20	8.15			
Fertilize Young Trees: ^z Hand Spread	Hour	10.50-	15.00	13.43	Plus transportation and materials		
Fert. Spreader	Hour	30.00-	40.00	32.50	Plus materials; Average \$8.28/acre		
Airblast Spreader with Gator for Resets		\$30.00/hour; \$3.00/acre					
IRRIGATION:							
Microsprinkler		Avg. \$3.47/acre; Avg. \$37.50/month			Start/stop and supervision		
Microsprinkler	Hour	25.00-	35.00	28.88	Start/stop and supervision; truck and driver		
ATV with Driver	Hour	20.00-	26.50	24.47	Check/repair microsprinkler irrigation system-plus materials		
Ring Young Trees: Hand Labor	Hour	10.50-	15.00	13.43	Plus transportation		
Mechanical	Hour	25.00-	27.50	26.42	Labor and equipment		

Table 8-A.--A listing of 2005 custom rates reported by twenty-five Ridge citrus caretakers (cont'd.)

Grove Practice	Unit	Range of Rate Reported		Average Rate ²	Comments
REMOVING TREES:					
Tree Shearing (Cutting Tree at Ground Level)	Hour	\$50.00-	\$70.00	\$61.25	Average trees sheared: 5 to 20 trees/hour
Front-end Loader	Hour	50.00-	65.00	57.63	Average trees removed: 5 to 15 trees/hour
Bulldozer	Hour	—	—	50.00	
Front-end Loader with Tree Spade	Hour	—	—	65.00	
PRUNING:					
Power Saw with Operator	Hour	\$17.00-	\$27.25	\$ 21.08	Plus transportation; Average \$7.00/hour without operator
Limb Lifter/Tree Skirt Trimmer (Double Sided)	Hour	—	—	180.00	Cover 8-12 acres one pass
Hedging:					
Double Side (Tractor Pulled)	Hour	85.00-	100.00	91.32	Cover 3-5 acres/hour
Double Side (Tractor Mounted)	Hour	—	—	280.00	
Single Side (Self Propelled)	Hour	65.00-	77.00	71.00	
Double Side (Self Propelled) ^x	Hour	330.00-	340.00	336.25	Cover 10-25 acres/hour depending on wood size
Double Side (Self Propelled) ^x	Hour	190.00-	250.00	216.67	Cover 4-12 acres/hour depending on wood size
Topping:					
Tractor Pulled	Hour	—	—	280.00	Cover 5-7 acres/hour
Tractor Pulled	Hour	—	—	105.00	Cover 1-3 acres/hour
Self Propelled	Hour	375.00-	418.00	396.50	Cover 5-10 acres/hr (Roof Top); 5-20 acres/hr (Flat Top)
Self Propelled	Hour	190.00-	250.00	230.00	
Removing Brush:					
Haul Brush out of Grove	Hour	32.50-	47.00	40.63	Tractor-trailer/truck; plus 2 people
Front-end Loader (Push Brush)	Hour	50.30-	65.00	58.43	2-10 acres/hour
Chop/Mow Brush	Hour	31.00-	47.25	36.62	3-6 acres/hour; Average \$11.63/acre
COLD PROTECTION:					
Mechanical (Bank and Unbank)	Hour	\$ —	\$ —	\$ 28.75	
Install Wraps	Each	0.35-	0.50	0.43	
Annual Maintenance Costs	Tree	0.30-	0.50	0.37	
OTHER CUSTOM RATES:					
Plant Resets	Per Tree	\$ 2.00-	\$ 3.00	\$ 2.55	Stake, plant and first watering
Solid Set Planting	Per Tree	1.50-	1.75	1.55	Stake, plant and first watering
Travel/Setup Charge	Hour	—	—	33.33	Average for those reporting
Grove Management Charge/Month:					
Supervising Grove Care Operations	Acre	2.00-	6.00	3.38	In addition to caretaking charges; One reporting 6% of
Handling Fruit Marketing	Box	0.10-	0.30	0.17	equipment labor charge
Supervising/Handling Chemicals/Fertilizer	15% to 25% of materials cost				
Charge for personnel to oversee harvesting operations and coordinate harvest in different blocks/groves and keeping of harvesting labor compliance record.	10¢/box to 20¢/box; average 14¢/box	Note: One reporting adding a 5% fuel surcharge on all billed equipment charges.			
Consulting	Cultural Management/Horticultural Evaluation - \$50/hr to \$300/hr Financial Analysis Prospectus - \$100/hr to \$300/hr				
Total Reported Acreage Provided Grove Service to:	Acre	800-	15,603	3,445	Total acres reporting: 68,895

² Plus materials. Caretakers reporting rates include labor, tractor and sprayer; supply truck included by most caretakers.

³ Calculated by dividing the total number of caretakers reporting a grove practice rate into the sum reported. Unless otherwise stated, labor included with all charges.

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

Source: Ronald P. Muraro, Extension Farm Management Economist, Lake Alfred CREC, July 2005.

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

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

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

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

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

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

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

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

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

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

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

Table 11-A.--A listing of estimated comparative Central Florida (Ridge) citrus production costs per acre for oranges, 2004-2005^z

Costs represent a mature (10+ years old) Central Florida (Ridge) 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:			
Discing (2 times per year)	\$ 20.16	\$ 20.16	\$ 20.16
Mechanical Mow Middles (4 times per year)	42.28	42.28	42.28
General Grove Work (2 labor hours per acre)	26.86	26.86	26.86
Herbicide (1/2 tree acre treated):			
Application (4 glyphosate or 2 residual applications)	\$56.00	\$28.00	\$28.00
Material	32.08	77.76	77.76
Spot Treatment (Material/application)	—	<u>15.34</u>	<u>15.34</u>
Total Herbicide Cost	88.08	121.10	121.10
Spray:			
Summer Oil #1 (Processed @ 125 GPA) or Post Bloom (Fresh @ 150 GPA):			
Application	—	24.15	24.15
Material	—	<u>65.87</u>	<u>66.45</u>
Total Summer Oil #1 or Post Bloom Cost	—	90.02	90.60
Summer Oil #2: Application (PTO – 125 GPA)	24.15	24.15	30.30
Material	<u>75.41^w</u>	<u>32.76</u>	<u>71.82</u>
Total Summer Oil #2 Cost	99.56	56.91	102.12
Supplemental Fall Miticide:			
Application (PTO – 150 GPA)	—	—	24.15
Material	—	—	<u>11.55</u>
Total Supplemental Fall Miticide Cost	—	—	35.70
Fertilizer (Bulk): 3 Applications			
Material (16-0-16-4 MgO @ 204 lbs N per acre)	26.91	26.91	26.91
Total Fertilizer Cost	<u>168.30</u>	<u>168.30</u>	<u>168.30</u>
Dolomite (one ton applied every 4 years) Material/Application	11.36	11.36	11.36
Pruning: Topping (\$39.65/A ÷ 2.5 yrs) ^v			
Hedging (\$33.63/A ÷ 2 yrs) ^v	15.86	15.86	15.86
Chop/Mow Brush after Hedging (\$9.70/A ÷ 2 yrs) ^v	16.82	16.82	16.82
Total Pruning Cost	<u>4.87</u>	<u>4.87</u>	<u>4.87</u>
Total Pruning Cost	37.55	37.55	37.55
Tree Replacement--1 thru 3 years of age: (3 trees/acre)			
Remove Trees: Pull, Stack & Burn 3 Trees with Front-end Loader	15.22	15.22	15.22
Prepare Site & Plant Tree (Includes 3 reset trees)	34.80	34.80	34.80
Supplemental Fertilizer, Tree Wraps Maintenance, Sprout, Etc. (Trees 1-3 years old)	<u>19.56</u>	<u>29.79</u>	<u>29.79</u>
Total Tree Replacement Cost	69.58	79.81	79.81
Irrigation: Microsprinkler System ^u	<u>166.17</u>	<u>166.17</u>	166.17
IRRIGATED PROCESSED FRUIT PRODUCTION COSTS	<u>\$756.81</u>	<u>\$847.43</u>	
Fall Miticide: Application (125 GPA)			
Material		24.15	24.15
Total Fall Miticide Cost		<u>32.70</u>	<u>32.70</u>
IRRIGATED FRESH FRUIT PRODUCTION COSTS		<u>\$904.28</u>	<u>\$985.77</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 Central Florida Citrus Production" and may not represent your particular grove situation in Central Florida.

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

Table 12-A.--Estimated cost of planting and maintaining a reset citrus tree through three years of age, Central Florida area, August 2005

	Resets/Replacement Trees Per Acre					
	1-2	3-5	6-10	11-25	26+	
	----- \$ Cost Per Tree -----					
Tree Removal	6.67	5.34	4.45	3.56	2.67	
<u>Plant Reset Tree</u>						
Tree Cost (Container Tree)	4.50	4.50	4.35	4.35	4.35	
Plant Tree and First Watering (Custom Charge)	<u>2.93</u>	<u>2.55</u>	<u>2.17</u>	<u>1.84</u>	<u>1.57</u>	
Total Planting Costs	7.43	7.05	6.52	6.19	5.92	
<u>Site Preparation^a</u>						
Disk Tree Site	2.65	2.31	1.96	1.67	1.42	
Rotovate	<u>2.65</u>	<u>2.31</u>	<u>1.97</u>	<u>1.67</u>	<u>1.42</u>	
Total Site Preparation	5.30	4.62	3.93	3.34	2.84	
Total Planting and Site Preparation Costs	12.73	11.67	10.45	9.53	8.76	
=====						
<u>Supplemental Maintenance</u>	Year #1	4.13	3.82	3.59	3.39	3.19
(Trees 1-3 years old)	Year #2	3.79	3.39	2.96	2.59	2.27
(Fertilizer, Tree Wraps, Sprout, etc.)	Year #3	<u>3.07</u>	<u>2.73</u>	<u>2.34</u>	<u>2.01</u>	<u>1.73</u>
Total Supplemental Maintenance Costs		10.99	9.94	8.89	7.99	7.19
=====						
<u>Summary of Tree Replacement Costs</u>		1	3	6	6	6
Tree Removal Costs		6.67	5.34	4.45	3.56	2.67
Planting and Site Preparation Costs		12.73	11.67	10.45	9.53	8.76
Supplemental Maintenance Costs (Years 1 thru 3)		<u>10.99</u>	<u>9.94</u>	<u>8.89</u>	<u>7.99</u>	<u>7.19</u>
Total Three-Year Cumulative Costs		<u>30.39</u>	<u>26.95</u>	<u>23.79</u>	<u>21.08</u>	<u>18.62</u>

^aFumigate planting site would cost approximately \$2.50 per tree.

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

Table 13-A.-- Estimated average picking, roadsiding and hauling charges for Florida citrus, 2004-05

	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	\$/Box	\$/Box	\$/Box	\$/Box
<u>Picking Charges:</u>				
Early and Mid-Season Oranges	0.70 - 1.75	0.954	0.65 - 1.05	0.829
Valencia Oranges	0.70 - 1.25	0.938	0.65 - 1.25	0.870
Pink/Red Grapefruit	0.60 - 1.25	0.739	0.55 - 1.25	0.669
White/Marsh Grapefruit	0.60 - 1.25	0.744	0.55 - 1.25	0.667
Temples/Tangelos	0.85 - 1.65	1.163	0.80 - 1.50	1.043
Tangerines	1.25 - 2.00	1.529	1.00 - 1.70	1.204
Add for Spot Picking	0.10 - 0.50	0.314	—	—
	Fresh Fruit		Processed Fruit	
	Range	Average	Range	Average
	\$/Box	\$/Box	\$/Box	\$/Box
<u>Roadsiding Charges:</u>				
Early and Mid-Season Oranges	0.60 - 1.15	0.895	0.65 - 1.17	0.817
Valencia Oranges	0.67 - 1.12	0.899	0.65 - 1.17	0.836
Pink/Red Grapefruit	0.65 - 1.03	0.840	0.65 - 1.20	0.796
White/Marsh Grapefruit	0.65 - 1.03	0.854	0.65 - 1.20	0.789
Temples/Tangelos	0.70 - 1.35	1.003	0.75 - 1.23	0.890
Tangerines	0.75 - 1.35	1.095	0.85 - 1.70	1.054
	Fresh Fruit		Processed Fruit	
	All Varieties		All Varieties	
	\$/Box		\$/Box	
<u>Hauling Charges:</u>				
0 - 30 miles	0.417		0.393	
31 - 50 miles	0.512		0.464	
51 - 80 miles	0.573		0.515	
81 - 100 miles	0.640		0.632	
100 + miles	0.746		0.728	

Table 14-A.--Estimated Average Packing Charges for Florida Citrus, 2004-05^a

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

^aPacking charges represents a total of nine citrus packinghouses from both the Indian River and Interior production regions.

^bTotal Packing Charge includes the following items:

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

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

Table 15-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	2.88	4.20	2.19	7.81	2.47	1.96	2.54
2002-03	2.62	3.85	2.01	8.40	2.60	1.59	2.79
2003-04	2.20	3.64	1.07	7.46	7.48	1.88	3.28
2004-05 ^f	2.56	4.34	2.48	12.02	2.45	11.95	13.65

^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 16-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	<u>6,997^a</u>	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	<u>7,710^a</u>	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	8,688	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).