Planting and Annual Cultural Maintenance Costs for Reset-Replacement Trees in a Florida Citrus Grove – 2010

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Replacement of dead and diseased trees is an important part of the cultural program in a Florida citrus grove. Growers view an empty tree space as costly and non-productive since the cost of weed management must still be incurred and equipment for fertilization and spraying must continue to pass by each tree space in a grove. Also, a successful resetting or tree replacement program gives perpetual life to a citrus grove and does not require the investment of capital and lost income of replanting.

Average annual tree loss in Florida citrus groves has ranged between 3% and 4% but can vary markedly in individual groves. Typical causes of tree loss have been diseases such as blight, tristeza, and root rot and occasionally lightning strikes. However, with the introduction of citrus HLB-greening in 2005, the annual historic tree loss rates could increase an additional 2% to 5%.

Florida citrus growers have had to develop new management strategies to control citrus greening. One recommended program is scouting up to four times per year to identify and remove infected trees along with additional insecticide sprays to control the insect vector, the Asian citrus psyllid. For young reset trees, this includes Admire and other systemic soil drenches. Before citrus greening, the additional costs for a reset-tree replacement program would add about 10% to total grove care costs. With greening, the percentage of total grove care costs has risen to at least 15%.

The costs for tree removal, planting and cultural maintenance through three years of age are shown in Tables 1 and 2. The costs are presented as cost per tree ranging from 1-2 trees per acre up to 26+ trees per acre. As shown in the cost tables, the per tree costs decrease as the number of reset trees per acre increases. The costs in Table 1 are estimated **without greening** and Table 2 presents the estimated additional costs required to manage resets **with citrus greening.** The additional citrus greening costs were based on the cultural programs being implemented in UF/IFAS CREC research groves and information from citrus growers.

Additional information on budgeting and cost analysis can be obtained by contacting the author or your County Extension Citrus Agent or going to the Lake Alfred UF/IFAS CREC **Extension-Economics** website: http://www.crec.ifas.ufl.edu/Extension/Economics.

Reference-Source Information

Muraro, Ronald P. "Average Packing Charges for Florida Fresh Citrus – 2009-10 Season." UF/IFAS CREC Website: www.crec.ifas.ufl.edu/Extension/Economics September 2010. 2 pages.

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Table 1. Estimated Cost of Planting and Maintaining a Reset Citrus Tree Through Three Years of Age – 2010 - **Without Greening**

	Resets/Replacement Trees Per Acre				
	1-2	**3-5**	**6-10**	**11-25**	**26+**
	---------- **$ Cost Per Tree** ----------				
Tree Removal (clip-shear trees; remove with front-end loader)	8.52	6.82	5.68	4.55	3.41
Site Preparation:					
Disk Tree Site	1.49	1.29	1.10	0.93	0.79
Rotovate Tree Site	1.63	1.42	1.20	1.02	0.87
Repair-Rebuild Beds	1.73	1.50	1.28	1.08	0.92
Total Site Preparation	4.85	4.21	3.58	3.03	2.58
Planting Cost:					
Tree Cost (Container Tree)	8.00	8.00	8.00	8.00	8.00
Plant Tree and First Watering (Custom Charge)	2.97	2.58	2.19	1.86	1.58
Total Planting Cost	10.97	10.58	10.19	9.86	9.58
Total Site Preparation and Planting Costs	15.82	14.79	13.77	12.89	12.16
Supplemental Maintenance Year #1	3.13	2.89	2.72	2.56	2.41
(Trees 1-3 years old) Year #2	5.16	4.61	4.03	3.53	3.09
(Fertilizer, Tree Wraps, Sprout, etc.) Year #3	5.71	5.08	4.36	3.75	3.22
Total Supplemental Maintenance Costs	14.00	12.58	11.11	9.84	8.72

	Resets/Replacement Trees Per Acre				
Summary of Tree Replacement Costs	**1-2**	**3-5**	**6-10**	**11-25**	**26+**
Tree Removal Costs	8.52	6.82	5.68	4.55	3.41
Site Preparation and Planting Costs	15.82	14.79	13.77	12.89	12.16
Supplemental Maintenance Costs (Years 1 thru 3)	14.00	12.58	11.11	9.84	8.72
Total Three-Year Cumulative Costs	38.34	34.19	30.56	27.28	24.29

Source: Ronald P. Muraro, UF-IFAS Citrus Research and Education Center, Lake Alfred, Florida, September 2010.

Table 2. Estimated Cost of Planting and Maintaining a Reset Citrus Tree Through Three Years of Age – 2010 - **With Greening**

		Resets/Replacement Trees Per Acre				
		1-2	**3-5**	**6-10**	**11-25**	**26+**
		---------- **$ Cost Per Tree** ----------				
Tree Removal (clip-shear trees; remove with front-end loader)		8.52	6.82	5.68	4.55	3.41
Site Preparation:						
Disk Tree Site		1.49	1.29	1.10	0.93	0.79
Rotovate Tree Site		1.63	1.42	1.20	1.02	0.87
Repair-Rebuild Beds		1.73	1.50	1.28	1.08	0.92
Total Site Preparation		4.85	4.21	3.58	3.03	2.58
Planting Cost:						
Tree Cost (Container Tree)		8.00	8.00	8.00	8.00	8.00
Plant Tree and First Watering (Custom Charge)		2.97	2.58	2.19	1.86	1.58
Total Planting Cost		10.97	10.58	10.19	9.86	9.58
Total Site Preparation and Planting Costs		15.82	14.79	13.77	12.89	12.16
Supplemental Maintenance	Year #1	5.22	4.82	4.54	4.27	4.03
(Trees 1-3 years old)	Year #2	9.26	8.27	7.24	6.34	5.54
(Fertilizer, Tree Wraps, Sprout, etc.)	Year #3	10.76	9.57	8.22	7.06	6.06
Total Supplemental Maintenance Costs		25.24	22.66	20.00	17.67	15.63

	Resets/Replacement Trees Per Acre				
Summary of Tree Replacement Costs	**1-2**	**3-5**	**6-10**	**11-25**	**26+**
Tree Removal Costs	8.52	6.82	5.68	4.55	3.41
Site Preparation and Planting Costs	15.82	14.79	13.77	12.89	12.16
Supplemental Maintenance Costs (Years 1 thru 3)	25.24	22.66	20.00	17.67	15.63
Total Three-Year Cumulative Costs	49.58	44.27	39.45	35.11	31.20

Source: Ronald P. Muraro, UF-IFAS Citrus Research and Education Center, Lake Alfred, Florida, September 2010.