

A photograph of several pecan nuts and green leaves scattered on a weathered wooden surface. The nuts are light brown with dark, wavy stripes. The leaves are large and green with prominent veins. The text is overlaid on the center of the image.

# Cost of Pecan Production

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UGA Horticulture

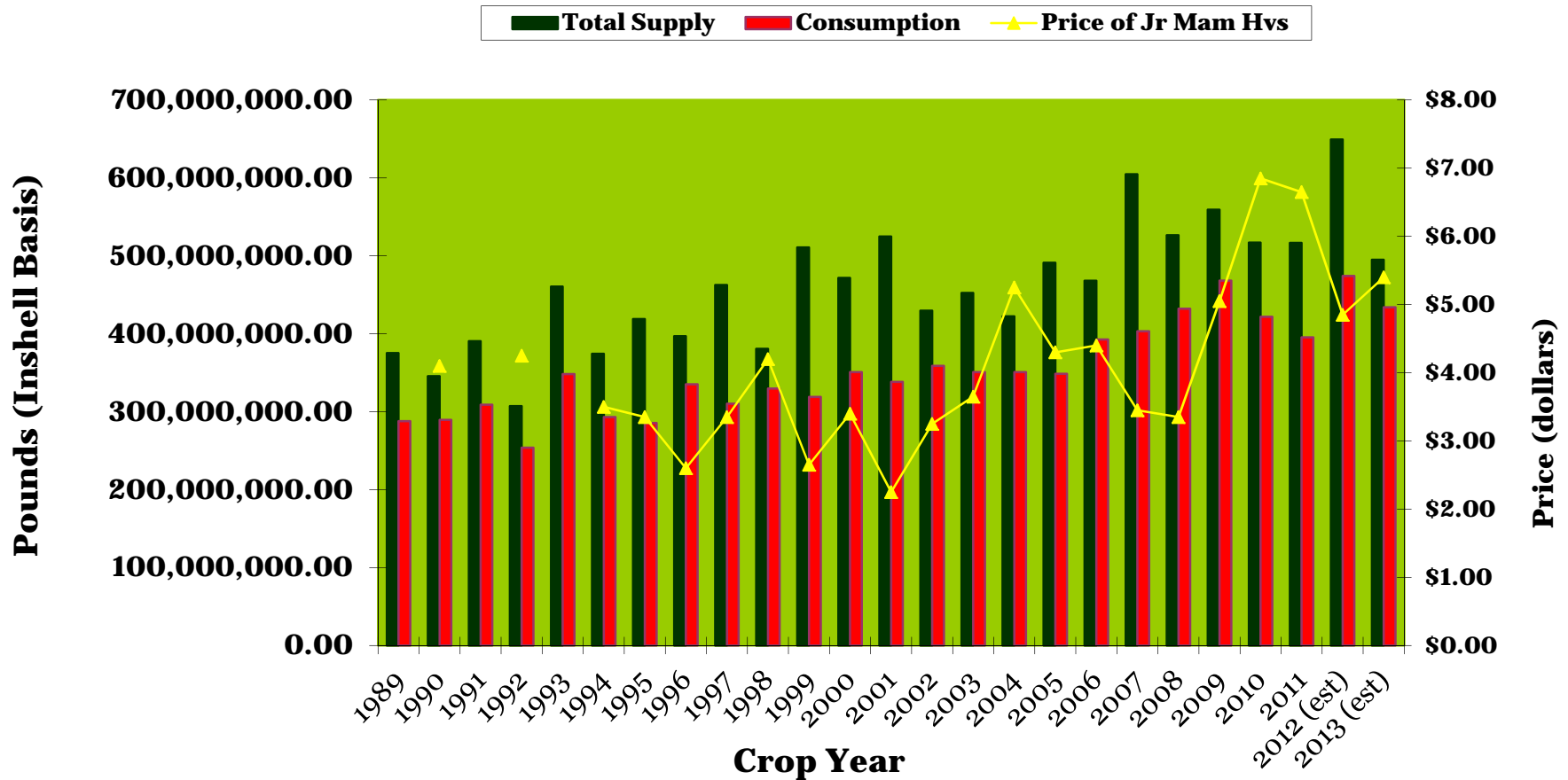
NPSA 2014

Nature's Finest Foods, Ltd.



Specializing in the marketing of tree nuts!

# Consistent Supply

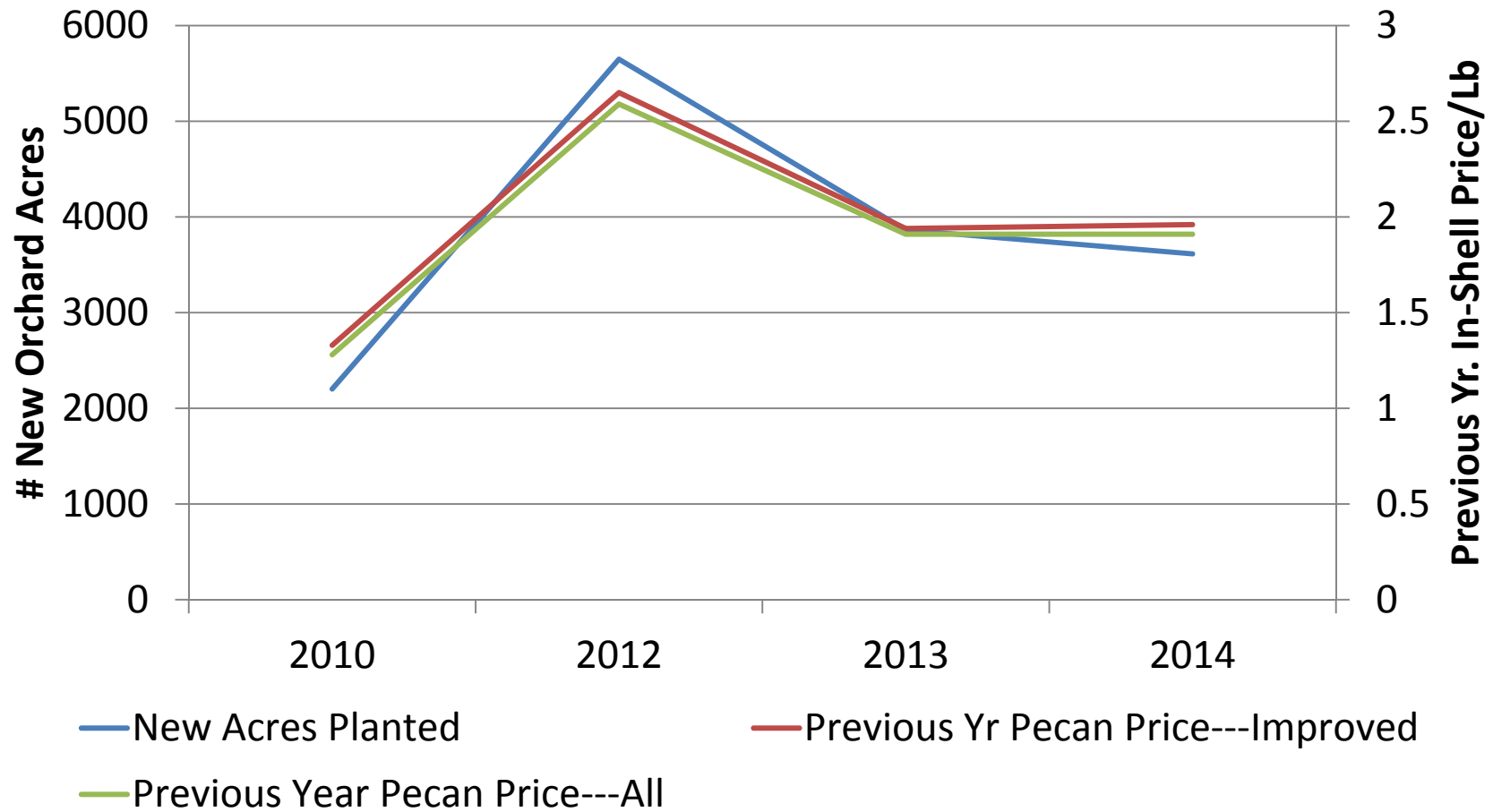


February 17, 2014

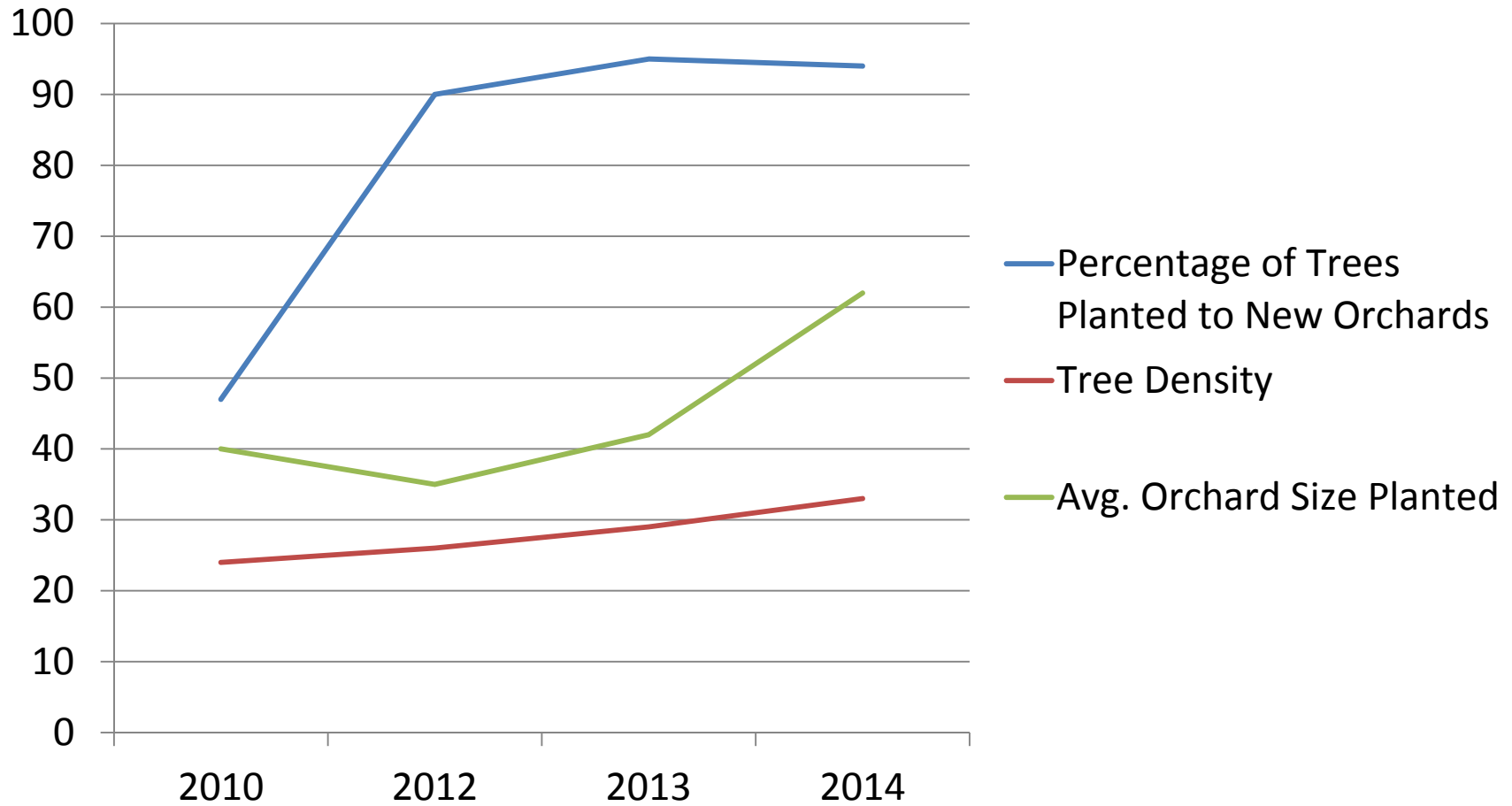
\*Note: Prices are approx. January contract prices

Source: National Ag Statistics Service , Foreign Ag Statistics and Nature's Finest Foods

# Trends in the Georgia Pecan Industry



# Trends in the Georgia Pecan Industry

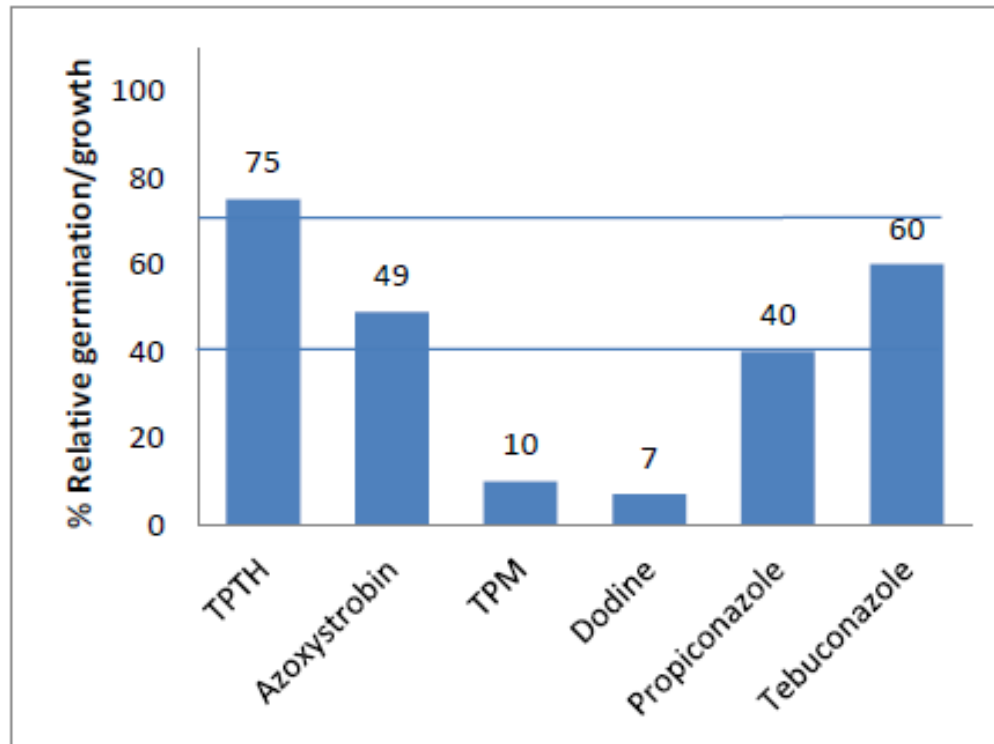


# Insect Management

- Black Aphids and Scorch Mites
  - Heavy pressure from July-September
  - Number of applications and cost of insecticides has gone up



# Fungicide Resistance



high level of insensitivity  
 medium level of insensitivity  
 low level of insensitivity



## Key to interpretation of assay results:

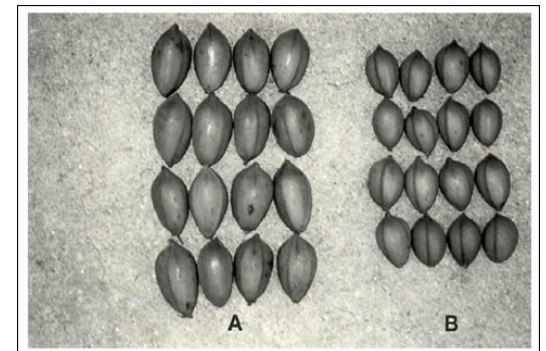
% RG	Level of insensitivity
0	none (sensitive)
1 - 39	low
40-69	medium
70 or more	high

- Fungicide Resistance
  - Leads to more expensive products & application of higher rates, both of which increase cost

# Value of Irrigation

Water Application (Gal/Day/Acre)	Yield/Acre (lbs)	% Increase	Value of Increase (\$) (@ \$2.00/lb)
0	1034*	0	0
1200	1374	32	680
<b>3600</b>	<b>1761</b>	<b>70</b>	<b>1454</b>

\*Non-Irrigated pecan orchards rarely produce >1000 lbs/acre

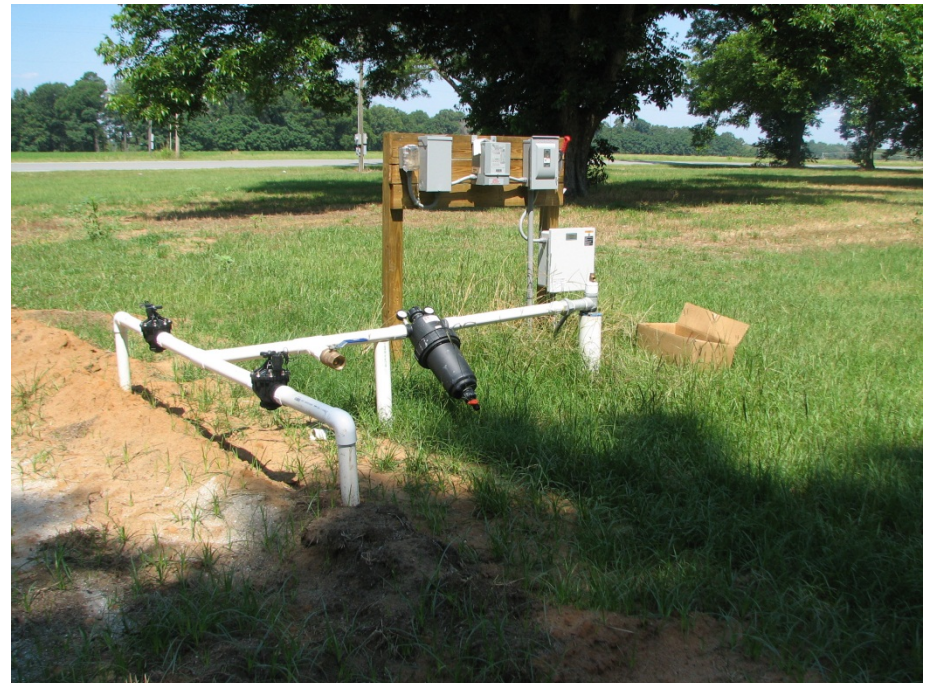


'Stuart'

Daniel, J.W. 1982

# Costs of Drip Irrigation

- Most irrigation in the SE uses well water
  - No water quality issues
- System Parts and Installation:
  - \$800 per acre
- Well & Pump: 4" + 5 hp = \$7800
  - 6"+30 hp = \$34,000
- Operation Cost: \$40-\$60 per acre





# Orchard Establishment

Items	Units	Quantity	Price	Amount
Lime	Ton	1	30	30
Fertilizer	Lbs	29	.35	10.15
Zinc Sulfate	Lbs	29	.68	19.72
Foliar Zn	Acre	3	.5	1.50
Herbicide	Acre	4	29.25	117
Trees	Trees	29	20	580
Labor	Hrs	20	8	160
Fuel	Gallons	10	3.14	31.40
Repair/Maintenance	Acre	1	40.08	40.08
Irrigation System*	Acre	1	1140	1140
Irrigation Operation	Acre	1	39	39.00
Interest	---	2168.85	.05	<b>2277.29</b>

\*Includes 6"well+pump, materials, installation

# Variable Cost of SE Pecan Production

Items	Units	Quantity	Price	Amount
Lime	Ton	1	30	30
Nitrogen	Lbs	125	.49	61.25
Phosphorous	Lbs	40	.51	20.4
Potassium	Acre	60	.39	23.4
Zinc Sulfate	Acre	25	.5	12.5
Foliar Zn	Trees	3	2	6
Foliar Boron	Hrs	3	1.30	3.9
Fungicides	Acre	10	16	160
Herbicides	Acre	4	29.25	117
Insecticides	Acre	8	14.97	119.76
Labor	Hours	25	8	200
Fuel	Gal	33	3.14	103.62
Repairs & Maint.	Acre	1	55	55
Irrigation Op & Maint	Acre	1	70	70
Interest		982.83	0.05	1031.97
Harvest Variable Cost	Acre	1	453.91	453.91
Total				1485.88

# Variable Cost of SE Pecan Production

Items	Units	Quantity	Price	Amount
Lime	Ton	1	30	30
Nitrogen	Lbs	125 (-17%)	.49	61.25
Phosphorous	Lbs	40	.51	20.4
Potassium	Acre	60	.39	23.4
Zinc Sulfate	Acre	25 (-50%)	.5	12.5
Foliar Zn	Trees	3	2	6
Foliar Boron	Hrs	3	1.30	3.9
Fungicides	Acre	10 (+25%)	16 (+43.7%)	160
Herbicides	Acre	4 (+33%)	29.25	117
Insecticides	Acre	8 (+33%)	14.97 (+39%)	119.76
Labor	Hours	25	8	200
Fuel	Gal	33	3.14 (-11%)	103.62
Repairs & Maint.	Acre	1	55 (+8%)	55
Irrigation	Acre	1	70 (+7.5%)	70
Interest		982.83	0.05	1031.97
Harvest Variable Cost	Acre	1	453.91	453.91
Total				1485.88 (+3.9%)

# Variable Cost of SE Pecan Production

Items	Units	Quantity	Price	Amount
Lime	Ton	1	30	30
Nitrogen	Lbs	125	.49	61.25
Phosphorous	Lbs	40	.51	20.4
Potassium	Acre	60	.39	23.4
Zinc Sulfate	Acre	25	.5	12.5
Foliar Zn	Trees	3	2	6
Foliar Boron	Hrs	3	1.30	3.9
Fungicides	Acre	16 (+60%)	16	256 (+60%)
Herbicides	Acre	4	29.25	117
Insecticides	Acre	8	14.97	119.76
Labor	Hours	25	8	200
Fuel	Gal	33	3.14	103.62
Repairs & Maint.	Acre	1	55	55
Irrigation	Acre	1	70	70
Interest		1118.32	0.05	1174.24
Harvest Variable Cost	Acre	1	453.91	453.91
Total				1628.15 (+9.5%)

# Hedging



Average Cost=\$200/acre

Most hedging in SE on 4-5 yr cycle, so:

$\$200 \times .25 = \$40-50/\text{acre}/\text{year}$

# Net Returns/acre

## Assumes \$1485.88/acre cost

	500	800	1000	1200	1500	2000
1	-985.88	-685.88	-485.88	-285.88	14.12	514.12
1.1	-935.88	-605.88	-385.88	-165.88	164.12	714.12
1.2	-885.88	-525.88	-285.88	-45.88	314.12	914.12
1.3	-835.88	-445.88	-185.88	74.12	464.12	1114.12
1.4	-785.88	-365.88	-85.88	194.12	614.12	1314.12
1.5	-735.88	-285.88	14.12	314.12	764.12	1514.12
1.6	-685.88	-205.88	114.12	434.12	914.12	1714.12
1.7	-635.88	-125.88	214.12	554.12	1064.12	1914.12
1.8	-585.88	-45.88	314.12	674.12	1214.12	2114.12
1.9	-535.88	34.12	414.12	794.12	1364.12	2314.12
2	-485.88	114.12	514.12	914.12	1514.12	2514.12
2.1	-435.88	194.12	614.12	1034.12	1664.12	2714.12
2.2	-385.88	274.12	714.12	1154.12	1814.12	2914.12
2.3	-335.88	354.12	814.12	1274.12	1964.12	3114.12
2.4	-285.88	434.12	914.12	1394.12	2114.12	3314.12
2.5	-235.88	514.12	1014.12	1514.12	2264.12	3514.12

# Net Returns/acre

## Assumes \$1628.15/acre cost

	500	800	1000	1200	1500	2000
1	-1128.15	-828.15	-628.15	-428.15	-128.15	371.85
1.1	-1078.15	-748.15	-528.15	-308.15	21.85	571.85
1.2	-1028.15	-668.15	-428.15	-188.15	171.85	771.85
1.3	-978.15	-588.15	-328.15	-68.15	321.85	971.85
1.4	-928.15	-508.15	-228.15	51.85	471.85	1171.85
1.5	-878.15	-428.15	-128.15	171.85	621.85	1371.85
1.6	-828.15	-348.15	-28.15	291.85	771.85	1571.85
1.7	-778.15	-268.15	71.85	411.85	921.85	1771.85
1.8	-728.15	-188.15	171.85	531.85	1071.85	1971.85
1.9	-678.15	-108.15	271.85	651.85	1221.85	2171.85
2	-628.15	-28.15	371.85	771.85	1371.85	2371.85
2.1	-578.15	51.85	471.85	891.85	1521.85	2571.85
2.2	-528.15	131.85	571.85	1011.85	1671.85	2771.85
2.3	-478.15	211.85	671.85	1131.85	1821.85	2971.85
2.4	-428.15	291.85	771.85	1251.85	1971.85	3171.85
2.5	-378.15	371.85	871.85	1371.85	2121.85	3371.85

# Pecan Production in Brazil





# Pecan Production Costs in Brazil

	Rate	Price (U.S. \$)	Amount	SE U.S. cost	Diff.
Nitrogen	150	1.67	89.89	61.25	+28.64
P & K	50	0.9	45	43.80	+1.20
Fungicide	1 acre X 10 gal	10.75	107.50	160	-52.50
Labor	55	2.14	117.7	200	-82.30
Fuel	40 gal	3.56	142.4	103.62	+38.78
Totals			502.49	568.67	-66.18