

## 2-Pass Plow - Planting - Return Analysis

Rotation (years)	25
Annual 'Diameter' Growth Maintained after First Thinning (inches)	0.40
Annual Merchantable Height Growth in Feet after First Thinning (Merch. Ht.)	1.0
Acres	100
Seedlings per Acre (Atlantic Coastal 2nd Generation)	545
Mortality between establishment and 1st Thinning	20%
Mortality between thininnings (after 1st Thinning)	10%
Discount and Reinvestment Rate (alternative investment rate)	5.31%
Management Expenses	15%
After thinning dbh increase (inches; smaller trees removed)	0.50
Seedling Cost per Seedling (pickup, storage, & delivery)	\$ 0.050
Planting Cost per Seedling	\$ 0.070
Cumulative Reforestation Cost	\$ (295)
Intermediate Treatment Investments	\$ (285)
Regular Thinning Target Basal Area	70
Seed Tree Thinning Target Basal Area	NA

**Rotation Length:** 25  
**Acres:** 100  
**Rate of Return:** 8.0%  
**Net Present Value:** \$ 590

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Teddy Reynolds, BSF, RF, SR

		Harvest Volumes per Acre										Numbers below do not include appreciation								
		Diameter & Height Growth				Per Tree		Per Acre		Ton Rate		Harvest		Investment		ROR	NPV	NAV		
Year	Age	Treatment	Trees	Thinned Trees	Dbh. (inches)	Merch. Ht. (feet)	Logs (16 feet)	CF	Tons	CF	Tons	Per Tree	Ton Rate	Per Acre	Total	Per Acre	Total	Per Acre	Per Acre	Per Acre
25	2004	0 Land Investment														\$ (400)	\$ (40,000)	\$ (400)	\$ (400)	\$ (1,458)
25	2004	0 Shear														\$ (105)	\$ (10,500)	\$ (105)	\$ (105)	\$ (383)
25	2004	0 Plow														\$ (90)	\$ (9,000)	\$ (90)	\$ (90)	\$ (328)
25	2004	0 Seedlings	545													\$ (27)	\$ (2,725)	\$ (27)	\$ (27)	\$ (99)
25	2004	0 Plant	545													\$ (38)	\$ (3,815)	\$ (38)	\$ (38)	\$ (139)
25	2004	0 Grass Spray	545													\$ (35)	\$ (3,500)	\$ (32)	\$ (33)	\$ (121)
24	2005	1 Seedling Survival	436	109																
22	2007	3 Release Spray (if needed)	436													\$ (85)	\$ (8,500)	\$ (67)	\$ (73)	\$ (265)
14	2015	11 Thinning #1	177	233	8.5	30	1.88	4.5	0.15	1,049	35	\$ 6	\$ 180	\$ 18,028			\$ 77	\$ 102	\$ 372	
13	2016	12 Fertilization	177		8.9	31	1.94									\$ (100)	\$ (10,000)	\$ (40)	\$ (54)	\$ (196)
12	2017	13	177		9.3	32	2.00													
11	2018	14	177		9.7	33	2.06													
10	2019	15	177		10.1	34	2.13													
9	2020	16	177		10.5	35	2.19													
8	2021	17	177		10.9	36	2.25													
7	2022	18 Thinning #2	92	77	11.8	37	2.31	17.1	0.58	1,308	44	\$ 20	\$ 749	\$ 74,944			\$ 188	\$ 295	\$ 1,077	
6	2023	19 Fertilization	92		12.2	38	2.38									\$ (100)	\$ (10,000)	\$ (23)	\$ (37)	\$ (136)
5	2024	20	92		12.5	39	2.44													
4	2025	21	92		13.0	40	2.50													
3	2026	22	92		13.4	41	2.56													
2	2027	23	92		13.8	42	2.63													
1	2028	24	92		14.2	43	2.69													
0	2029	25 Final Harvest Seed Trees	92	83	14.6	44	2.75	34.4	1.16	2,848	96	\$ 42	\$ 3,427	\$ 342,679			\$ 500	\$ 940	\$ 3,427	
0	2029	25 Land Sale																\$ 58	\$ 110	\$ 400
<b>Total (without appreciation)</b>														\$ 4,757	\$ 475,651	\$ (980)	\$ (98,040)	\$ 0	\$ 590	\$ 86

Note:

- Cost of land was included in the analysis and sold at the end without appreciation (\$400/acre).
- Analysis was after costs, without tax treatment, and with no appreciation or inflation added.
- 15% management expense was removed for administrative costs.
- Alternative investment rate was based on August 25, 2003 30-Year Treasury Bill rate of 5.31%.
- ROR = Rate of Return
- NPV = Net Present Value
- NAR = Net Annual Value

<b>Rate of Return - ROR (without appreciation*)</b>	<b>8.0%</b>
<b>Net Present Value - NPV (without appreciation*)</b>	<b>\$ 590</b>

\* Add 5% to include appreciation.