3-Pass Plow - Planting - Return Analysis

Rotation Length: 25
Acres: 100
Rate of Return: 7.9%
Net Present Value: $ 572

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Teddy Reynolds, BSF, RF, SR

Rotation (years)	25
Annual 'Diameter' Growth Maintained after First Thinning (inches)	0.39
Annual Merchantable Height Growth in Feet after First Thinning (Merch. Ht.)	1.0
Acres	100
Seedlings per Acre (Atlantic Coastal 2nd Generation)	558
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 Reforestaton Cost	$ (382)
Intermediate Treatment Investments	$ (200)
Regular Thinning Target Basal Area	70
Seed Tree Thinning Target Basal Area	NA

								Harvest Volumes per Acre													
					Diameter & Height Growth			Per Tree		Per Acre			*Numbers below do not include appreciation*									
	Year	Age	Treatment	Trees	Thinned Trees	Dbh. (inches)	Merch. Ht. (feet)	Logs (16 feet)	CF	Tons	CF	Tons	Ton Rate	Harvest		Investment		ROR	NPV	NAV
														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	Rake													$ (85)	$ (8,500)	$ (85)	$ (85)	$ (310)
25	2004	0	Plow													$ (90)	$ (9,000)	$ (90)	$ (90)	$ (328)
25	2004	0	Seedlings	558												$ (28)	$ (2,790)	$ (28)	$ (28)	$ (102)
25	2004	0	Plant	558												$ (39)	$ (3,906)	$ (39)	$ (39)	$ (142)
25	2004	0	Grass Spray	558												$ (35)	$ (3,500)	$ (35)	$ (35)	$ (128)
24	2005	1	Seedling Survival	446	112															
14	2015	11	Thinning #1	177	242	8.5	33	2.06	4.5	0.15	1,091	37	$ 6	$ 188	$ 18,752			$ 82	$ 106	$ 387
13	2016	12	Fertilization	177		8.9	34	2.13								$ (100)	$ (10,000)	$ (40)	$ (54)	$ (196)
12	2017	13		177		9.3	35	2.19												
11	2018	14		177		9.7	36	2.25												
10	2019	15		177		10.1	37	2.31												
9	2020	16		177		10.5	38	2.38												
8	2021	17		177		10.8	39	2.44												
7	2022	18	Thinning #2	93	76	11.7	40	2.50	17.0	0.57	1,285	43	$ 20	$ 736	$ 73,629			$ 188	$ 290	$ 1,058
6	2023	19	Fertilization	93		12.1	41	2.56								$ (100)	$ (10,000)	$ (24)	$ (37)	$ (136)
5	2024	20		93		12.5	42	2.63												
4	2025	21		93		12.9	43	2.69												
3	2026	22		93		13.3	44	2.75												
2	2027	23		93		13.7	45	2.81												
1	2028	24		93		14.1	46	2.88												
0	2029	25	Final Harvest Seed Trees	93	84	14.5	47	2.94	34.0	1.15	2,846	96	$ 42	$ 3,424	$ 342,375			$ 516	$ 939	$ 3,424
0	2029	25	Land Sale											$ 400	$ 40,000			$ 60	$ 110	$ 400
													Total (without appreciation)	$ 4,748	$ 474,757	$ (982)	$ (98,196)	$ (0)	**$ 572**	**$ 83**

Rate of Return - ROR (without appreciation*)	**7.9%**
Net Present Value - NPV (without appreciation*)	**$ 572**

* Add 5% to include appreciation.

Note:

1) Cost of land was included in the analysis and sold at the end without appreciation ($400/acre).
2) Analysis was after costs, without tax treatment, and with no appreciation or inflation added.
3) 15% management expense was removed for administrative costs.
4) Alternative investment rate was based on August 25, 2003 30-Year Treasury Bill rate of 5.31%.
5) ROR = Rate of Return
6) NPV = Net Present Value
7) NAR = Net Annual Value