Regeneration Technique Return Comparisons

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Includes land invested at $400/acre and sold at end of rotation at $400/acre (no appreciation included)

Regeneration Technique	Management Method	Utilized Seed Source	Rate of Return (ROR) Based on "0" NPV	Net Present Value (NPV) Based on 5.31% alternative investment rate	Rotation (years)	Reduced Rotation Years Compared to Shelterwood	Year of First Thinning (when stand dbh averages eight inches)	Annual dbh Growth following first thinning (inches)	Average Annual Tons	Percent Tonnage Production over Shelterwood	Total Gross Proceeds (over different rotations)	Annual Average Gross Proceeds	Annual Average Percentile Gross over Shelterwood	Annual Average Cost	Cost Percentile to Gross Proceeds	Mature Sawlog Rate	Average Blended Rate for all Products	Seedlings	Seedling Spacing		Silviculture Investment				Interplanting Expected 2nd Year	Negative Aesthetics
																			Between Rows (feet)	Inside Rows (feet)	Reforestation Costs (primarily first year)	Intermediate Costs (after reforestation)	All costs over life of Stand	Fertilization over life of stand		
			Per Acre		Per Acre		Per Acre		Per Acre		Per Acre			Per Acre		Per Ton		Per Acre	Per Row	In Row	Per Acre				All have risk	Years
Shelterwood	Natural Seeding	Natural	6.1%	$ 181	51	0	20	0.25	4.3	0%	$ 5,758	$ 113	0%	$ (4)	4%	$ 48	$ 26.40	1000	NA	NA	$ (120)	$ (90)	$ (210)	0	No	0
Seed Tree	Natural Seeding	Natural	6.3%	$ 225	45	6	19	0.25	4.6	8%	$ 5,317	$ 118	5%	$ (5)	4%	$ 44	$ 25.49	1000	NA	NA	$ (120)	$ (90)	$ (210)	0	No	0
Burn	Planting	Arkansas Native 1st Generation	5.8%	$ 100	35	16	18	0.30	4.4	2%	$ 3,876	$ 111	-2%	$ (7)	6%	$ 42	$ 25.43	681	8	8	$ (240)	$ -	$ (240)	0	Yes	6
Chemical/Burn	Planting	Arkansas Native 1st Generation	6.8%	$ 308	30	21	16	0.34	5.4	26%	$ 4,244	$ 141	25%	$ (12)	8%	$ 42	$ 26.21	681	8	8	$ (254)	$ (100)	$ (354)	1	No	4
Subsoil/Chemical	Planting	Arkansas Native 2nd Generation	7.3%	$ 458	28	23	14	0.38	6.2	44%	$ 4,679	$ 167	48%	$ (15)	9%	$ 42	$ 27.05	545	10	8	$ (316)	$ (100)	$ (416)	1	No	3
2-Pass Plow	Planting	Atlantic Coastal 2nd Generation	8.0%	$ 590	25	26	11	0.40	7.0	64%	$ 4,757	$ 190	69%	$ (23)	12%	$ 42	$ 27.11	545	16	5	$ (295)	$ (285)	$ (580)	2	No	2
3-Pass Plow	Planting	Atlantic Coastal 2nd Generation	7.9%	$ 572	25	26	11	0.39	7.0	65%	$ 4,748	$ 190	68%	$ (23)	12%	$ 42	$ 26.98	558	12	6.5	$ (382)	$ (200)	$ (582)	2	No	0
Natural Seeding Average			6.2%	$ 203	48	3	20	0.25	4.5	4%	$ 5,538	$ 116	2.3%	$ (4)	4%	$ 46	$ 25.95	1000	NA	NA	$ (120)	$ (90)	$ (210)	0	NA	0
Planting Average			7.2%	$ 406	29	22.4	14	0.36	6.0	40%	$ 4,461	$ 160	41.6%	$ (16)	10%	$ 42	$ 26.56	602	11	7	$ (297)	$ (137)	$ (434)	1.2	NA	3

Note:

1) Dbh = diameter at 4.5 feet (diameter at breast height).

2) Intermediate treatments = treatments after initial reforestation (fertilization and release sprays). Reforestation treatments generally occur the first and second year.

3) Returns after expenses; but before tax treatment, appreciation, and inflation. An additional 15% management expense was added for administrative costs.

4) Alternative investment for NPV and ERR based on 30-year Treasury Bill as of August 25, 2003 of 5.31%.

5) Net Annual Value (NAV) is the averange net annual return.

6) All costs and thinnings in Rate of Return (ROR) were discounted to year one and the discount rate was adjusted until the Net Present Value (NPV) was equal to "0".

7) Differing site indices, precipitation, treatment timing, and treatment quality will alter individual stand results and rotation lengths.

8) Above data chronologically ordered by increasing intensity and rotation length (term of investment).

9) Plowing should not be attempted on droughty or deep sands, and subsoiling or chemical alone should not be employed on low wet sites.

10) The "Burn" technique included cost for interplanting the second year due to average expected poor survival thereby reducing Rate of Return, Net Present Value, and Net Annual Value.

11) "NA" = Not Applicable; "Silviculture" is as to forestry as "row-crop" is to agronomy.

12) All above planting techniques include a grass spray following planting.

13) Planting Treatments: "3-Pass" = shear, rake, plow, plant, and grass spray (2 fertilizations); "2-Pass" = shear, plow, plant and grass spray (2 fertilizations and release); "Subsoi/Chemical" = Chemical, subsoil, plant, and grass spray (1 fertilization); "Chemical" = Chemical, burn, plant, and grass spray (1 fertilizaiton); "Burn" = burn, plant, and grass spray.

14) Natural Seeding Treatments: "Shelterwood" = burn and chemical; "Seed Tree" = burn and chemical.

15) All above returns before appreciation. Appreciation for timber is approximately 5% over a 30-year period.