TECHNICAL DOCUMENTATION REPORT

Intermountain Forest Tree Nutrition Cooperative

April 1993

Part I

Statistical Analysis Documentation

College of Forestry, Wildlife and Range Sciences

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Moscow, Idaho 83844-1133

TABLE OF CONTENTS

SECTION I

Experimental Design Statistical Models for Ten Year Douglas-fir Response

TABLE 1. 10 year results for Douglas-fir installations 103 - 290
Analysis of covariance results

Dependent Variable: GBAI10 10 YEAR GROSS BASAL AREA GROWTH (ft^2/a)

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	108	57869.035098	535.824399	18.91	0.0001
Error	148	4194.021820	28.337985		
Corrected Total	256	62063.056919			

R-Square	C.V.	Root MSE	GBAI10 Mean
0.932423	12.77687	5.3233434	41.663903

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	30437.710964	6087.542193	214.82	0.0001
Installation(Region)	88	23067.237243	262.127696	9.25	0.0001
Treatment	2	3175.973466	1587.986733	56.04	0.0001
Region*Treatment	10	863.752999	86.375300	3.05	0.0015
BA0	1	199.757585	199.757585	7.05	0.0088
BA0*Treatment	2	124.602841	62.301421	2.20	0.1146

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	20923.365875	4184.673175	147.67	0.0001
Installation(Region)	88	22668.004578	257.590961	9.09	0.0001
Treatment	2	564.416581	282.208291	9.96	0.0001
Region*Treatment	10	890.880801	89.088080	3.14	0.0011
BA0	1	178.121646	178.121646	6.29	0.0133
BA0*Treatment	2	124.602841	62.301421	2.20	0.1146

TABLE 2. 10 year results for Douglas-fir installations 103 - 290
Dependent Variable: 10 YEAR GROSS BASAL AREA GROWTH (ft^2/a)

Point estimates (at initial BA = 150 ft^2/a) by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	53.4726957	42.56	0.0001	1.25634706
NI-200 lbs	64.5434099	42.19	0.0001	1.52978105
NI-400 lbs	65.8596856	43.72	0.0001	1.50656471
MO-Control	29.0137444	21.24	0.0001	1.36593715
MO-200 lbs	30.5197190	19.16	0.0001	1.59291939
MO-400 lbs	32.2798380	18.29	0.0001	1.76506727
CI-Control	36.4288426	24.25	0.0001	1.50210043
CI-200 lbs	39.1917021	21.53	0.0001	1.82073481
CI-400 lbs	39.5639139	22.79	0.0001	1.73598356
NEO-Control	27.2315482	15.67	0.0001	1.73758725
NEO-200 lbs	31.9942536	15.84	0.0001	2.01997274
NEO-400 lbs	29.7473861	14.74	0.0001	2.01754344
CW-Control	36.2751378	29.23	0.0001	1.24109358
CW-200 lbs	44.7872091	31.53	0.0001	1.42028878
CW-400 lbs	48.1918697	32.56	0.0001	1.48031260
NEW-Control	39.1445778	28.97	0.0001	1.35142882
NEW-200 lbs	43.1907458	27.45	0.0001	1.57367288
NEW-400 lbs	48.0145940	33.15	0.0001	1.44855922
ALL-Control	38.1912159	62.49	0.0001	0.61115957
ALL-200 lbs	44.0050219	62.94	0.0001	0.69917340
ALL-400 lbs	45.9715567	66.25	0.0001	0.69387674

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	11.0707142	5.61	0.0001	1.97205926
NI:400-Cont	12.3869899	6.45	0.0001	1.92056626
NI:400-200	1.3162757	0.60	0.5487	2.18974353
MO:200-Cont	1.5059746	0.75	0.4554	2.01244039
MO:400-Cont	3.2660936	1.51	0.1324	2.15877305
MO:400-200	1.7601191	0.76	0.4509	2.32834456
CI:200-Cont	2.7628595	1.25	0.2138	2.21282674
CI:400-Cont	3.1350713	1.46	0.1460	2.14490936
CI:400-200	0.3722118	0.16	0.8751	2.36465762
NEO:200-Cont	4.7627054	1.80	0.0743	2.64989847
NEO:400-Cont	2.5158379	0.95	0.3434	2.64663387
NEO:400-200	-2.2468675	-0.79	0.4334	2.86019206
CW:200-Cont	8.5120713	4.61	0.0001	1.84600587
CW:400-Cont	11.9167319	6.38	0.0001	1.86901103
CW:400-200	3.4046606	1.67	0.0969	2.03803306
NEW:200-Cont	4.0461680	2.01	0.0465	2.01504686
NEW:400-Cont	8.8700162	4.65	0.0001	1.90855140
NEW:400-200	4.8238482	2.29	0.0236	2.10844640
ALL:200-Cont	5.8138059	6.71	0.0001	0.86654070
ALL:400-Cont	7.7803407	8.96	0.0001	0.86808400
ALL:400-200	1.9665348	2.07	0.0402	0.95016559

TABLE 3. 10 year results for Douglas-fir installations 103 - 290
Analysis of covariance results

Dependent Variable: GBPAIP1 GROSS BASAL AREA PAI ($ft^2 \cdot a^{-1} \cdot yr^{-1}$)--PERIOD 1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	108	950.62428142	8.80207668	14.23	0.0001
Error	152	94.00391735	0.61844682		
Corrected Total	260	1044.62819877			

R-Square	C.V.	Root MSE	GBPAIP1 Mean
0.910012	15.43099	0.7864139	5.0963269

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	334.72148167	66.94429633	108.25	0.0001
Installation(Region)	88	472.49953068	5.36931285	8.68	0.0001
Treatment	2	117.43523943	58.71761971	94.94	0.0001
Region*Treatment	10	17.53835479	1.75383548	2.84	0.0029
BA0	1	6.66813668	6.66813668	10.78	0.0013
BA0*Treatment	2	1.76153815	0.88076908	1.42	0.2439

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	230.20743094	46.04148619	74.45	0.0001
Installation(Region)	88	459.00441695	5.21595928	8.43	0.0001
Treatment	2	16.26743048	8.13371524	13.15	0.0001
Region*Treatment	10	18.01352263	1.80135226	2.91	0.0023
BA0	1	6.37200260	6.37200260	10.30	0.0016
BA0*Treatment	2	1.76153815	0.88076908	1.42	0.2439

TABLE 4. 10 year results for Douglas-fir installations 103 - 290
Dependent Variable: GROSS BASAL AREA PAI ($ft^2 \bullet a^{-1} \bullet yr^{-1}$)--PERIOD 1

Point estimates (at initial BA = 150 ft^2/a) by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	5.73356286	30.91	0.0001	0.18549808
NI-200 lbs	7.68809299	34.02	0.0001	0.22598713
NI-400 lbs	7.91090157	35.57	0.0001	0.22237574
MO-Control	3.51515420	17.90	0.0001	0.19635603
MO-200 lbs	4.07748669	17.91	0.0001	0.22768720
MO-400 lbs	4.13023292	16.85	0.0001	0.24513057
CI-Control	4.27257939	19.28	0.0001	0.22158209
CI-200 lbs	5.16583321	19.23	0.0001	0.26857464
CI-400 lbs	5.29187072	20.69	0.0001	0.25582816
NEO-Control	3.36416873	13.11	0.0001	0.25660374
NEO-200 lbs	4.25476790	14.26	0.0001	0.29837360
NEO-400 lbs	4.19575219	14.08	0.0001	0.29804140
CW-Control	4.29344704	23.43	0.0001	0.18321319
CW-200 lbs	5.86532268	27.96	0.0001	0.20977731
CW-400 lbs	6.30294580	28.85	0.0001	0.21845942
NEW-Control	4.59743043	23.06	0.0001	0.19940381
NEW-200 lbs	5.58681462	24.04	0.0001	0.23238728
NEW-400 lbs	6.27030236	29.32	0.0001	0.21385251
ALL-Control	4.41495322	49.29	0.0001	0.08957986
ALL-200 lbs	5.62069265	54.83	0.0001	0.10251989
ALL-400 lbs	5.89989284	57.98	0.0001	0.10175588

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	1.95453013	6.71	0.0001	0.29129297
NI:400-Cont	2.17733871	7.67	0.0001	0.28370330
NI:400-200	0.22280858	0.69	0.4919	0.32339957
MO:200-Cont	0.56233248	1.96	0.0521	0.28720066
MO:400-Cont	0.61507872	2.05	0.0420	0.29997171
MO:400-200	0.05274623	0.16	0.8695	0.32060981
CI:200-Cont	0.89325382	2.73	0.0070	0.32687075
CI:400-Cont	1.01929133	3.22	0.0016	0.31679293
CI:400-200	0.12603751	0.36	0.7187	0.34930332
NEO:200-Cont	0.89059917	2.28	0.0242	0.39130540
NEO:400-Cont	0.83158346	2.13	0.0350	0.39088201
NEO:400-200	-0.05901572	-0.14	0.8891	0.42252638
CW:200-Cont	1.57187564	5.76	0.0001	0.27269375
CW:400-Cont	2.00949876	7.28	0.0001	0.27608632
CW:400-200	0.43762312	1.45	0.1481	0.30102060
NEW:200-Cont	0.98938419	3.32	0.0011	0.29765027
NEW:400-Cont	1.67287193	5.93	0.0001	0.28193622
NEW:400-200	0.68348774	2.19	0.0297	0.31147287
ALL:200-Cont	1.20573943	9.48	0.0001	0.12724340
ALL:400-Cont	1.48493962	11.71	0.0001	0.12681560
ALL:400-200	0.27920018	2.01	0.0460	0.13878427

TABLE 5. 10 year results for Douglas-fir installations 103 - 290
Analysis of covariance results

Dependent Variable: GBPAIP2 GROSS BASAL AREA PAI ($ft^2 \bullet a^{-1} \bullet yr^{-1}$)--PERIOD 2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	108	707.36584369	6.54968374	14.67	0.0001
Error	152	67.86737114	0.44649586		
Corrected Total	260	775.23321483			

R-Square	C.V.	Root MSE	GBPAIP2 Mean
0.912456	14.65131	0.6682035	4.5607069

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	303.63392489	60.72678498	136.01	0.0001
Installation(Region)	88	319.93096869	3.63557919	8.14	0.0001
Treatment	2	56.63065615	28.31532807	63.42	0.0001
Region*Treatment	10	18.66783095	1.86678309	4.18	0.0001
BA0	1	5.92465612	5.92465612	13.27	0.0004
BA0*Treatment	2	2.57780690	1.28890345	2.89	0.0588

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	209.51308597	41.90261719	93.85	0.0001
Installation(Region)	88	316.32617701	3.59461565	8.05	0.0001
Treatment	2	10.99866573	5.49933286	12.32	0.0001
Region*Treatment	10	19.59807900	1.95980790	4.39	0.0001
BA0	1	5.49537948	5.49537948	12.31	0.0006
BA0*Treatment	2	2.57780690	1.28890345	2.89	0.0588

TABLE 6. 10 year results for Douglas-fir installations 103 - 290
Dependent Variable: GROSS BASAL AREA PAI ($ft^2 \bullet a^{-1} \bullet yr^{-1}$)--PERIOD 2

Point estimates (at initial BA = 150 ft^2/a) by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	5.18295618	32.88	0.0001	0.15761479
NI-200 lbs	6.49223834	33.81	0.0001	0.19201769
NI-400 lbs	6.95756944	36.82	0.0001	0.18894915
MO-Control	2.91759727	17.49	0.0001	0.16684061
MO-200 lbs	3.20834839	16.58	0.0001	0.19346221
MO-400 lbs	3.15499286	15.15	0.0001	0.20828357
CI-Control	4.54774120	24.15	0.0001	0.18827480
CI-200 lbs	4.98340342	21.84	0.0001	0.22820363
CI-400 lbs	4.99959970	23.00	0.0001	0.21737314
NEO-Control	3.36712067	15.44	0.0001	0.21803214
NEO-200 lbs	3.96720881	15.65	0.0001	0.25352333
NEO-400 lbs	3.58322197	14.15	0.0001	0.25324107
CW-Control	3.94302360	25.33	0.0001	0.15567335
CW-200 lbs	5.23390215	29.36	0.0001	0.17824446
CW-400 lbs	5.73297088	30.89	0.0001	0.18562152
NEW-Control	4.33595019	25.59	0.0001	0.16943026
NEW-200 lbs	4.86609481	24.64	0.0001	0.19745580
NEW-400 lbs	5.32361131	29.30	0.0001	0.18170710
ALL-Control	4.12509349	54.20	0.0001	0.07611459
ALL-200 lbs	4.91836577	56.46	0.0001	0.08710953
ALL-400 lbs	5.15260572	59.60	0.0001	0.08646036

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	1.30928216	5.29	0.0001	0.24750703
NI:400-Cont	1.77461326	7.36	0.0001	0.24105821
NI:400-200	0.46533110	1.69	0.0924	0.27478750
MO:200-Cont	0.29075111	1.19	0.2353	0.24402986
MO:400-Cont	0.23739558	0.93	0.3531	0.25488122
MO:400-200	-0.05335553	-0.20	0.8450	0.27241709
CI:200-Cont	0.43566221	1.57	0.1188	0.27773691
CI:400-Cont	0.45185850	1.68	0.0953	0.26917394
CI:400-200	0.01619628	0.05	0.9566	0.29679751
NEO:200-Cont	0.60008814	1.80	0.0731	0.33248601
NEO:400-Cont	0.21610130	0.65	0.5162	0.33212626
NEO:400-200	-0.38398684	-1.07	0.2865	0.35901398
CW:200-Cont	1.29087855	5.57	0.0001	0.23170357
CW:400-Cont	1.78994728	7.63	0.0001	0.23458618
CW:400-200	0.49906873	1.95	0.0529	0.25577244
NEW:200-Cont	0.53014462	2.10	0.0377	0.25290873
NEW:400-Cont	0.98766112	4.12	0.0001	0.23955675
NEW:400-200	0.45751650	1.73	0.0859	0.26465357
ALL:200-Cont	0.79327228	7.34	0.0001	0.10811670
ALL:400-Cont	1.02751223	9.54	0.0001	0.10775321
ALL:400-200	0.23423995	1.99	0.0488	0.11792280

TABLE 7. 10 year results for Douglas-fir installations 103 - 290
Analysis of covariance results

Dependent Variable: GBPAIP3 GROSS BASAL AREA PAI ($ft^2 \cdot a^{-1} \cdot yr^{-1}$)--PERIOD 3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	108	625.73818294	5.79387206	18.96	0.0001
Error	152	46.45808076	0.30564527		
Corrected Total	260	672.19626371			

R-Square	C.V.	Root MSE	GBPAIP3 Mean
0.930886	14.44334	0.5528519	3.8277299

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	317.49175772	63.49835154	207.75	0.0001
Installation(Region)	88	282.30630436	3.20802619	10.50	0.0001
Treatment	2	14.95168593	7.47584297	24.46	0.0001
Region*Treatment	10	7.67876162	0.76787616	2.51	0.0080
BA0	1	2.76664085	2.76664085	9.05	0.0031
BA0*Treatment	2	0.54303246	0.27151623	0.89	0.4135

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	219.10132900	43.82026580	143.37	0.0001
Installation(Region)	88	279.25417572	3.17334291	10.38	0.0001
Treatment	2	2.31899863	1.15949931	3.79	0.0247
Region*Treatment	10	7.31088961	0.73108896	2.39	0.0116
BA0	1	2.54456194	2.54456194	8.33	0.0045
BA0*Treatment	2	0.54303246	0.27151623	0.89	0.4135

TABLE 8. 10 year results for Douglas-fir installations 103 - 290
Dependent Variable: GROSS BASAL AREA PAI ($ft^2 \bullet a^{-1} \bullet yr^{-1}$)--PERIOD 3

Point estimates (at initial BA = 150 ft^2/a) by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	5.37614181	41.23	0.0001	0.13040585
NI-200 lbs	6.00454558	37.80	0.0001	0.15886981
NI-400 lbs	6.20206936	39.67	0.0001	0.15633099
MO-Control	2.68585134	19.46	0.0001	0.13803903
MO-200 lbs	2.71103781	16.94	0.0001	0.16006496
MO-400 lbs	2.81753782	16.35	0.0001	0.17232772
CI-Control	3.32925104	21.37	0.0001	0.15577304
CI-200 lbs	3.35909100	17.79	0.0001	0.18880899
CI-400 lbs	3.49688193	19.44	0.0001	0.17984816
NEO-Control	2.51661824	13.95	0.0001	0.18039340
NEO-200 lbs	2.83013700	13.49	0.0001	0.20975776
NEO-400 lbs	2.52020903	12.03	0.0001	0.20952423
CW-Control	3.49031446	27.10	0.0001	0.12879956
CW-200 lbs	4.09725716	27.78	0.0001	0.14747424
CW-400 lbs	4.55021800	29.63	0.0001	0.15357780
NEW-Control	3.48023548	24.83	0.0001	0.14018163
NEW-200 lbs	3.78569720	23.17	0.0001	0.16336914
NEW-400 lbs	4.21325044	28.02	0.0001	0.15033912
ALL-Control	3.61552524	57.41	0.0001	0.06297498
ALL-200 lbs	3.95921507	54.93	0.0001	0.07207187
ALL-400 lbs	4.17699522	58.39	0.0001	0.07153477

Contrasts between treatment by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.62840376	3.07	0.0025	0.20478006
NI:400-Cont	0.82592754	4.14	0.0001	0.19944449
NI:400-200	0.19752378	0.87	0.3863	0.22735112
MO:200-Cont	0.02518647	0.12	0.9009	0.20190315
MO:400-Cont	0.13168648	0.62	0.5333	0.21088125
MO:400-200	0.10650002	0.47	0.6372	0.22538991
CI:200-Cont	0.02983997	0.13	0.8969	0.22979137
CI:400-Cont	0.16763090	0.75	0.4528	0.22270662
CI:400-200	0.13779093	0.56	0.5755	0.24556155
NEO:200-Cont	0.31351876	1.14	0.2562	0.27508917
NEO:400-Cont	0.00359078	0.01	0.9896	0.27479153
NEO:400-200	-0.30992798	-1.04	0.2984	0.29703764
CW:200-Cont	0.60694270	3.17	0.0019	0.19170474
CW:400-Cont	1.05990353	5.46	0.0001	0.19408973
CW:400-200	0.45296084	2.14	0.0339	0.21161862
NEW:200-Cont	0.30546171	1.46	0.1464	0.20924926
NEW:400-Cont	0.73301495	3.70	0.0003	0.19820223
NEW:400-200	0.42755324	1.95	0.0527	0.21896660
ALL:200-Cont	0.34368983	3.84	0.0002	0.08945259
ALL:400-Cont	0.56146998	6.30	0.0001	0.08915185
ALL:400-200	0.21778015	2.23	0.0271	0.09756586

TABLE 9. 10 year results for Douglas-fir installations 103 - 290
Analysis of covariance results

Dependent Variable: GBPAIP4 GROSS BASAL AREA PAI ($ft^2 \cdot a^{-1} \cdot yr^{-1}$)--PERIOD 4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	108	561.88378591	5.20262765	22.42	0.0001
Error	148	34.35066282	0.23209907		
Corrected Total	256	596.23444873			

R-Square	C.V.	Root MSE	GBPAIP4 Mean
0.942387	13.01065	0.4817666	3.7028638

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	297.06474501	59.41294900	255.98	0.0001
Installation(Region)	88	247.65564391	2.81426868	12.13	0.0001
Treatment	2	10.59474651	5.29737326	22.82	0.0001
Region*Treatment	10	4.91059596	0.49105960	2.12	0.0265
BA0	1	1.06353607	1.06353607	4.58	0.0339
BA0*Treatment	2	0.59451845	0.29725922	1.28	0.2809

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	204.45803589	40.89160718	176.18	0.0001
Installation(Region)	88	243.29227667	2.76468496	11.91	0.0001
Treatment	2	2.26088544	1.13044272	4.87	0.0089
Region*Treatment	10	5.07845449	0.50784545	2.19	0.0215
BA0	1	0.95592226	0.95592226	4.12	0.0442
BA0*Treatment	2	0.59451845	0.29725922	1.28	0.2809

TABLE 10. 10 year results for Douglas-fir installations 103 - 290
Dependent Variable: GROSS BASAL AREA PAI ($ft^2 \bullet a^{-1} \bullet yr^{-1}$)--PERIOD 4

Point estimates (at initial BA = 150 ft^2/a) by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	5.22058950	45.92	0.0001	0.11370036
NI-200 lbs	6.00562179	43.38	0.0001	0.13844634
NI-400 lbs	6.01732436	44.13	0.0001	0.13634525
MO-Control	2.93742040	23.76	0.0001	0.12361835
MO-200 lbs	2.98347170	20.70	0.0001	0.14416041
MO-400 lbs	3.05691399	19.14	0.0001	0.15973993
CI-Control	3.35345934	24.67	0.0001	0.13594123
CI-200 lbs	3.50374159	21.26	0.0001	0.16477788
CI-400 lbs	3.44595833	21.93	0.0001	0.15710783
NEO-Control	2.23681009	14.22	0.0001	0.15725296
NEO-200 lbs	2.53203621	13.85	0.0001	0.18280907
NEO-400 lbs	2.42316546	13.27	0.0001	0.18258921
CW-Control	3.27132867	29.13	0.0001	0.11231991
CW-200 lbs	3.66516879	28.51	0.0001	0.12853721
CW-400 lbs	3.93463242	29.37	0.0001	0.13396941
NEW-Control	3.20936628	26.24	0.0001	0.12230533
NEW-200 lbs	3.25493090	22.85	0.0001	0.14241859
NEW-400 lbs	3.78606427	28.88	0.0001	0.13109571
ALL-Control	3.51046936	63.47	0.0001	0.05531040
ALL-200 lbs	3.81547980	60.30	0.0001	0.06327572
ALL-400 lbs	3.96183831	63.09	0.0001	0.06279637

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.78503228	4.40	0.0001	0.17847286
NI:400-Cont	0.79673486	4.58	0.0001	0.17381270
NI:400-200	0.01170257	0.06	0.9530	0.19817345
MO:200-Cont	0.04605130	0.25	0.8007	0.18212738
MO:400-Cont	0.11949359	0.61	0.5417	0.19537060
MO:400-200	0.07344229	0.35	0.7279	0.21071695
CI:200-Cont	0.15028225	0.75	0.4542	0.20026250
CI:400-Cont	0.09249899	0.48	0.6344	0.19411592
CI:400-200	-0.05778326	-0.27	0.7875	0.21400331
NEO:200-Cont	0.29522611	1.23	0.2203	0.23981782
NEO:400-Cont	0.18635536	0.78	0.4378	0.23952237
NEO:400-200	-0.10887075	-0.42	0.6747	0.25884955
CW:200-Cont	0.39384012	2.36	0.0197	0.16706493
CW:400-Cont	0.66330375	3.92	0.0001	0.16914692
CW:400-200	0.26946362	1.46	0.1461	0.18444354
NEW:200-Cont	0.04556461	0.25	0.8030	0.18236327
NEW:400-Cont	0.57669799	3.34	0.0011	0.17272535
NEW:400-200	0.53113337	2.78	0.0061	0.19081600
ALL:200-Cont	0.30501044	3.89	0.0002	0.07842259
ALL:400-Cont	0.45136894	5.75	0.0001	0.07856226
ALL:400-200	0.14635850	1.70	0.0908	0.08599071

TABLE 11. 10 year results for Douglas-fir installations 103 - 290
Analysis of covariance results

Dependent Variable: GBPAIP5 GROSS BASAL AREA PAI ($ft^2 \cdot a^{-1} \cdot yr^{-1}$)--PERIOD 5

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	108	589.15263627	5.45511700	17.27	0.0001
Error	148	46.73683966	0.31578946		
Corrected Total	256	635.88947594			

R-Square	C.V.	Root MSE	GBPAIP5 Mean
0.926502	15.47869	0.5619515	3.6304844

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	344.77364478	68.95472896	218.36	0.0001
Installation(Region)	88	230.50940968	2.61942511	8.29	0.0001
Treatment	2	5.36830782	2.68415391	8.50	0.0003
Region*Treatment	10	7.18176671	0.71817667	2.27	0.0166
BA0	1	0.00032486	0.00032486	0.00	0.9745
BA0*Treatment	2	1.31918243	0.65959122	2.09	0.1275

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	263.79994149	52.75998830	167.07	0.0001
Installation(Region)	88	228.32914034	2.59464932	8.22	0.0001
Treatment	2	2.31671702	1.15835851	3.67	0.0279
Region*Treatment	10	6.78221432	0.67822143	2.15	0.0242
BA0	1	0.01199285	0.01199285	0.04	0.8458
BA0*Treatment	2	1.31918243	0.65959122	2.09	0.1275

TABLE 12. 10 year results for Douglas-fir installations 103 - 290
Dependent Variable: GROSS BASAL AREA PAI ($ft^2 \cdot a^{-1} \cdot yr^{-1}$)--PERIOD 5

Point estimates (at initial BA = 150 ft^2/a) by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	5.19459710	39.17	0.0001	0.13262456
NI-200 lbs	6.07448217	37.62	0.0001	0.16148925
NI-400 lbs	5.79952779	36.47	0.0001	0.15903844
MO-Control	2.55268096	17.70	0.0001	0.14419329
MO-200 lbs	2.41993238	14.39	0.0001	0.16815436
MO-400 lbs	2.61410809	14.03	0.0001	0.18632691
CI-Control	2.75569500	17.38	0.0001	0.15856718
CI-200 lbs	2.62243310	13.64	0.0001	0.19220338
CI-400 lbs	2.59237172	14.15	0.0001	0.18325673
NEO-Control	2.13489007	11.64	0.0001	0.18342602
NEO-200 lbs	2.40589415	11.28	0.0001	0.21323566
NEO-400 lbs	2.14154743	10.06	0.0001	0.21297921
CW-Control	3.21273605	24.52	0.0001	0.13101435
CW-200 lbs	3.60183939	24.02	0.0001	0.14993084
CW-400 lbs	3.71689475	23.79	0.0001	0.15626718
NEW-Control	4.01092982	28.11	0.0001	0.14266174
NEW-200 lbs	4.11914468	24.80	0.0001	0.16612263
NEW-400 lbs	4.47627576	29.27	0.0001	0.15291517
ALL-Control	3.47406141	53.85	0.0001	0.06451622
ALL-200 lbs	3.73363402	50.59	0.0001	0.07380728
ALL-400 lbs	3.76916571	51.46	0.0001	0.07324815

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.87988507	4.23	0.0001	0.20817774
NI:400-Cont	0.60493069	2.98	0.0033	0.20274195
NI:400-200	-0.27495438	-1.19	0.2362	0.23115728
MO:200-Cont	-0.13274858	-0.62	0.5330	0.21244052
MO:400-Cont	0.06142713	0.27	0.7879	0.22788793
MO:400-200	0.19417571	0.79	0.4308	0.24578851
CI:200-Cont	-0.13326190	-0.57	0.5692	0.23359403
CI:400-Cont	-0.16332328	-0.72	0.4719	0.22642442
CI:400-200	-0.03006138	-0.12	0.9043	0.24962185
NEO:200-Cont	0.27100407	0.97	0.3342	0.27973291
NEO:400-Cont	0.00665736	0.02	0.9810	0.27938829
NEO:400-200	-0.26434671	-0.88	0.3827	0.30193226
CW:200-Cont	0.38910334	2.00	0.0477	0.19487109
CW:400-Cont	0.50415870	2.56	0.0116	0.19729959
CW:400-200	0.11505536	0.53	0.5936	0.21514217
NEW:200-Cont	0.10821487	0.51	0.6117	0.21271567
NEW:400-Cont	0.46534594	2.31	0.0223	0.20147362
NEW:400-200	0.35713107	1.60	0.1107	0.22257526
ALL:200-Cont	0.25957261	2.84	0.0052	0.09147518
ALL:400-Cont	0.29510430	3.22	0.0016	0.09163810
ALL:400-200	0.03553168	0.35	0.7237	0.10030293

SECTION II

Experimental Design Statistical Models for Ten Year Douglas-fir Relative Response

TABLE 1. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: GBPAIP1 Relative Gross BA PAI--Period 1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	105	920.73898136	8.76894268	12.33	0.0001
Error	155	110.21183728	0.71104411		
Corrected Total	260	1030.95081863			

R-Square	C.V.	Root MSE	GBPAIP1 Mean
0.893097	20.74802	0.8432343	4.0641671

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	83.85948646	16.77189729	23.59	0.0001
Installation(Region)	88	750.90007430	8.53295539	12.00	0.0001
Treatment	2	78.61963785	39.30981893	55.28	0.0001
Region*Treatment	10	7.35978274	0.73597827	1.04	0.4167

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	101.58138082	20.31627616	28.57	0.0001
Installation(Region)	88	743.44173722	8.44820156	11.88	0.0001
Treatment	2	68.82981368	34.41490684	48.40	0.0001
Region*Treatment	10	7.35978274	0.73597827	1.04	0.4167

TABLE 2. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: Relative Gross BA PAI--Period 1
where relative growth = 100*PAI/Starting BA

Point estimates by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	4.44482714	24.99	0.0001	0.17783015
NI-200 lbs	5.75797745	28.88	0.0001	0.19937809
NI-400 lbs	6.10262289	27.92	0.0001	0.21859847
MO-Control	2.64069000	12.75	0.0001	0.20707647
MO-200 lbs	3.10116107	11.98	0.0001	0.25887886
MO-400 lbs	3.19123219	11.58	0.0001	0.27559882
CI-Control	2.97918011	12.72	0.0001	0.23422083
CI-200 lbs	3.67490675	12.01	0.0001	0.30602172
CI-400 lbs	3.73152711	13.15	0.0001	0.28384746
NEO-Control	2.69756280	10.93	0.0001	0.24685620
NEO-200 lbs	3.50016810	13.19	0.0001	0.26532925
NEO-400 lbs	3.24119164	12.29	0.0001	0.26365853
CW-Control	2.99444270	17.82	0.0001	0.16805213
CW-200 lbs	4.41324806	23.80	0.0001	0.18544787
CW-400 lbs	4.41912314	21.76	0.0001	0.20312570
NEW-Control	3.61803694	15.91	0.0001	0.22746819
NEW-200 lbs	4.10146730	17.61	0.0001	0.23285881
NEW-400 lbs	4.66524727	21.56	0.0001	0.21638299
ALL-Control	3.30947215	37.95	0.0001	0.08720382
ALL-200 lbs	4.20794695	43.12	0.0001	0.09759690
ALL-400 lbs	4.37972551	43.25	0.0001	0.10126859

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	1.31315031	5.12	0.0001	0.25655616
NI:400-Cont	1.65779575	6.68	0.0001	0.24821894
NI:400-200	0.34464545	1.19	0.2353	0.28922440
MO:200-Cont	0.46047107	1.81	0.0729	0.25488610
MO:400-Cont	0.55054219	2.06	0.0413	0.26740166
MO:400-200	0.09007112	0.32	0.7472	0.27895188
CI:200-Cont	0.69572664	2.38	0.0185	0.29213597
CI:400-Cont	0.75234700	2.69	0.0079	0.27924499
CI:400-200	0.05662036	0.19	0.8528	0.30472070
NEO:200-Cont	0.80260530	2.13	0.0348	0.37666311
NEO:400-Cont	0.54362884	1.46	0.1475	0.37335100
NEO:400-200	-0.25897646	-0.70	0.4819	0.36734873
CW:200-Cont	1.41880536	5.96	0.0001	0.23786852
CW:400-Cont	1.42468044	5.92	0.0001	0.24079487
CW:400-200	0.00587508	0.02	0.9823	0.26443969
NEW:200-Cont	0.48343036	1.85	0.0661	0.26106687
NEW:400-Cont	1.04721033	4.22	0.0001	0.24794847
NEW:400-200	0.56377997	2.08	0.0391	0.27083329
ALL:200-Cont	0.89847480	7.82	0.0001	0.11496218
ALL:400-Cont	1.07025336	9.43	0.0001	0.11354157
ALL:400-200	0.17177856	1.40	0.1631	0.12254943

TABLE 3. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: GBPAIP2 Relative Gross BA PAI--Period 2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	105	469.73620256	4.47367812	12.88	0.0001
Error	155	53.82260896	0.34724264		
Corrected Total	260	523.55881152			

R-Square	C.V.	Root MSE	GBPAIP2 Mean
0.897199	17.84216	0.5892730	3.3026993

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	80.82790843	16.16558169	46.55	0.0001
Installation(Region)	88	357.95953539	4.06772199	11.71	0.0001
Treatment	2	25.20203819	12.60101910	36.29	0.0001
Region*Treatment	10	5.74672055	0.57467205	1.65	0.0961

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	76.31319459	15.26263892	43.95	0.0001
Installation(Region)	88	354.10001904	4.02386385	11.59	0.0001
Treatment	2	20.99547670	10.49773835	30.23	0.0001
Region*Treatment	10	5.74672055	0.57467205	1.65	0.0961

TABLE 4. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: Relative Gross BA PAI--Period 2
where relative growth = 100*PAI/Starting BA

Point estimates by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	3.62448356	29.88	0.0001	0.12131577
NI-200 lbs	4.38725417	32.26	0.0001	0.13601578
NI-400 lbs	4.71020954	31.59	0.0001	0.14912793
MO-Control	2.02745218	14.35	0.0001	0.14126762
MO-200 lbs	2.23039081	12.63	0.0001	0.17660723
MO-400 lbs	2.22276998	11.82	0.0001	0.18801359
CI-Control	3.03287742	18.98	0.0001	0.15978551
CI-200 lbs	3.29363652	15.78	0.0001	0.20876810
CI-400 lbs	3.34532219	17.28	0.0001	0.19364081
NEO-Control	2.39075497	14.20	0.0001	0.16840537
NEO-200 lbs	2.89887869	16.02	0.0001	0.18100769
NEO-400 lbs	2.56965232	14.29	0.0001	0.17986792
CW-Control	2.64447915	23.07	0.0001	0.11464521
CW-200 lbs	3.42184051	27.05	0.0001	0.12651259
CW-400 lbs	3.68794167	26.61	0.0001	0.13857241
NEW-Control	3.13179706	20.18	0.0001	0.15517886
NEW-200 lbs	3.32780591	20.95	0.0001	0.15885634
NEW-400 lbs	3.66592911	24.83	0.0001	0.14761654
ALL-Control	2.85922505	48.06	0.0001	0.05949047
ALL-200 lbs	3.32800608	49.98	0.0001	0.06658063
ALL-400 lbs	3.48309967	50.42	0.0001	0.06908546

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.76277061	4.36	0.0001	0.17502269
NI:400-Cont	1.08572598	6.41	0.0001	0.16933503
NI:400-200	0.32295537	1.64	0.1038	0.19730896
MO:200-Cont	0.20293863	1.17	0.2451	0.17388337
MO:400-Cont	0.19531780	1.07	0.2861	0.18242149
MO:400-200	-0.00762083	-0.04	0.9681	0.19030105
CI:200-Cont	0.26075910	1.31	0.1928	0.19929524
CI:400-Cont	0.31244477	1.64	0.1031	0.19050101
CI:400-200	0.05168567	0.25	0.8040	0.20788055
NEO:200-Cont	0.50812372	1.98	0.0499	0.25695967
NEO:400-Cont	0.17889735	0.70	0.4836	0.25470015
NEO:400-200	-0.32922637	-1.31	0.1910	0.25060540
CW:200-Cont	0.77736136	4.79	0.0001	0.16227397
CW:400-Cont	1.04346252	6.35	0.0001	0.16427032
CW:400-200	0.26610116	1.48	0.1423	0.18040083
NEW:200-Cont	0.19600885	1.10	0.2729	0.17809989
NEW:400-Cont	0.53413205	3.16	0.0019	0.16915052
NEW:400-200	0.33812320	1.83	0.0693	0.18476254
ALL:200-Cont	0.46878103	5.98	0.0001	0.07842723
ALL:400-Cont	0.62387462	8.05	0.0001	0.07745809
ALL:400-200	0.15509359	1.86	0.0656	0.08360325

TABLE 5. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: GBPAIP3 Relative Gross BA PAI--Period 3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	105	286.10327776	2.72479312	14.47	0.0001
Error	155	29.18980196	0.18832130		
Corrected Total	260	315.29307973			

R-Square	C.V.	Root MSE	GBPAIP3 Mean
0.907420	16.65990	0.4339600	2.6048170

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	48.52630256	9.70526051	51.54	0.0001
Installation(Region)	88	231.13858569	2.62657484	13.95	0.0001
Treatment	2	4.33318580	2.16659290	11.50	0.0001
Region*Treatment	10	2.10520372	0.21052037	1.12	0.3521

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	55.70107881	11.14021576	59.16	0.0001
Installation(Region)	88	229.08993006	2.60329466	13.82	0.0001
Treatment	2	3.43894549	1.71947274	9.13	0.0002
Region*Treatment	10	2.10520372	0.21052037	1.12	0.3521

TABLE 6. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: Relative Gross BA PAI--Period 3
where relative growth = 100*PAI/Starting BA

Point estimates by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	3.45352120	37.88	0.0001	0.09117695
NI-200 lbs	3.69111049	36.11	0.0001	0.10222499
NI-400 lbs	3.77252174	33.66	0.0001	0.11207965
MO-Control	1.88894517	17.79	0.0001	0.10617210
MO-200 lbs	1.93785396	14.60	0.0001	0.13273219
MO-400 lbs	2.07101880	14.66	0.0001	0.14130483
CI-Control	2.02487563	16.86	0.0001	0.12008954
CI-200 lbs	1.99062345	12.69	0.0001	0.15690324
CI-400 lbs	2.14408431	14.73	0.0001	0.14553407
NEO-Control	1.79463655	14.18	0.0001	0.12656794
NEO-200 lbs	2.14220668	15.75	0.0001	0.13603942
NEO-400 lbs	1.79937889	13.31	0.0001	0.13518282
CW-Control	2.18474681	25.36	0.0001	0.08616357
CW-200 lbs	2.46932644	25.97	0.0001	0.09508270
CW-400 lbs	2.65345582	25.48	0.0001	0.10414646
NEW-Control	2.28650794	19.61	0.0001	0.11662733
NEW-200 lbs	2.40181347	20.12	0.0001	0.11939120
NEW-400 lbs	2.69183109	24.26	0.0001	0.11094373
ALL-Control	2.34809402	52.52	0.0001	0.04471108
ALL-200 lbs	2.51099343	50.18	0.0001	0.05003981
ALL-400 lbs	2.62981482	50.65	0.0001	0.05192236

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.23758929	1.81	0.0729	0.13154130
NI:400-Cont	0.31900054	2.51	0.0133	0.12726664
NI:400-200	0.08141125	0.55	0.5838	0.14829093
MO:200-Cont	0.04890879	0.37	0.7088	0.13068502
MO:400-Cont	0.18207363	1.33	0.1862	0.13710199
MO:400-200	0.13316484	0.93	0.3533	0.14302401
CI:200-Cont	-0.03425218	-0.23	0.8194	0.14978375
CI:400-Cont	0.11920868	0.83	0.4064	0.14317429
CI:400-200	0.15346085	0.98	0.3276	0.15623618
NEO:200-Cont	0.34757013	1.80	0.0740	0.19312244
NEO:400-Cont	0.00474235	0.02	0.9803	0.19142426
NEO:400-200	-0.34282779	-1.82	0.0708	0.18834678
CW:200-Cont	0.28457962	2.33	0.0210	0.12195978
CW:400-Cont	0.46870901	3.80	0.0002	0.12346017
CW:400-200	0.18412938	1.36	0.1765	0.13558333
NEW:200-Cont	0.11530553	0.86	0.3904	0.13385402
NEW:400-Cont	0.40532315	3.19	0.0017	0.12712797
NEW:400-200	0.29001761	2.09	0.0385	0.13886145
ALL:200-Cont	0.16289941	2.76	0.0064	0.05894333
ALL:400-Cont	0.28172080	4.84	0.0001	0.05821495
ALL:400-200	0.11882139	1.89	0.0606	0.06283346

TABLE 7. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: GBPAIP4 Relative Gross BA PAI--Period 4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	105	186.35229869	1.77478380	11.76	0.0001
Error	151	22.78679224	0.15090591		
Corrected Total	256	209.13909093			

R-Square	C.V.	Root MSE	GBPAIP4 Mean
0.891045	16.28086	0.3884661	2.3860295

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	37.79195078	7.55839016	50.09	0.0001
Installation(Region)	88	144.30029069	1.63977603	10.87	0.0001
Treatment	2	2.53536677	1.26768339	8.40	0.0003
Region*Treatment	10	1.72469045	0.17246905	1.14	0.3342

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	40.35044369	8.07008874	53.48	0.0001
Installation(Region)	88	143.25227424	1.62786675	10.79	0.0001
Treatment	2	2.12586515	1.06293257	7.04	0.0012
Region*Treatment	10	1.72469045	0.17246905	1.14	0.3342

TABLE 8. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: Relative Gross BA PAI--Period 4
where relative growth = 100*PAI/Starting BA

Point estimates by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	3.12477970	40.51	0.0001	0.07713682
NI-200 lbs	3.44351465	39.82	0.0001	0.08648411
NI-400 lbs	3.46309640	36.52	0.0001	0.09482180
MO-Control	1.93952661	19.95	0.0001	0.09721768
MO-200 lbs	1.95174017	15.81	0.0001	0.12348161
MO-400 lbs	2.04526691	16.82	0.0001	0.12156605
CI-Control	1.87016051	18.41	0.0001	0.10159973
CI-200 lbs	1.91050021	14.39	0.0001	0.13274535
CI-400 lbs	1.98293920	16.10	0.0001	0.12312740
NEO-Control	1.56923041	14.65	0.0001	0.10708324
NEO-200 lbs	1.81596915	15.78	0.0001	0.11509118
NEO-400 lbs	1.64778081	14.41	0.0001	0.11436678
CW-Control	1.95408064	26.81	0.0001	0.07289558
CW-200 lbs	2.10827458	26.21	0.0001	0.08044069
CW-400 lbs	2.25037609	25.54	0.0001	0.08811288
NEW-Control	2.06407198	20.92	0.0001	0.09867157
NEW-200 lbs	1.97747236	19.58	0.0001	0.10100638
NEW-400 lbs	2.30084887	24.51	0.0001	0.09386098
ALL-Control	2.15877996	56.25	0.0001	0.03838147
ALL-200 lbs	2.27042121	52.53	0.0001	0.04321855
ALL-400 lbs	2.37218994	53.79	0.0001	0.04410224

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.31873495	2.86	0.0048	0.11128606
NI:400-Cont	0.33831670	3.14	0.0020	0.10767158
NI:400-200	0.01958175	0.16	0.8762	0.12545742
MO:200-Cont	0.01221356	0.11	0.9156	0.11509285
MO:400-Cont	0.10574030	0.87	0.3833	0.12090573
MO:400-200	0.09352674	0.72	0.4749	0.13054600
CI:200-Cont	0.04033970	0.32	0.7507	0.12672680
CI:400-Cont	0.11277869	0.93	0.3534	0.12113716
CI:400-200	0.07243899	0.55	0.5846	0.13219093
NEO:200-Cont	0.24673873	1.51	0.1332	0.16338902
NEO:400-Cont	0.07855040	0.49	0.6284	0.16195339
NEO:400-200	-0.16818833	-1.06	0.2930	0.15934452
CW:200-Cont	0.15419395	1.49	0.1373	0.10317936
CW:400-Cont	0.29629546	2.84	0.0052	0.10445264
CW:400-200	0.14210151	1.24	0.2174	0.11470718
NEW:200-Cont	-0.08659962	-0.76	0.4457	0.11324797
NEW:400-Cont	0.23677689	2.20	0.0293	0.10755452
NEW:400-200	0.32337651	2.75	0.0067	0.11748073
ALL:200-Cont	0.11164124	2.22	0.0277	0.05020874
ALL:400-Cont	0.21340998	4.30	0.0001	0.04959174
ALL:400-200	0.10176874	1.89	0.0604	0.05377548

TABLE 9. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: GBPAIP5 Relative Gross BA PAI--Period 5

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	105	186.27243645	1.77402320	10.24	0.0001
Error	151	26.17086971	0.17331702		
Corrected Total	256	212.44330616			

R-Square	C.V.	Root MSE	GBPAIP5 Mean
0.876810	18.50628	0.4163136	2.2495800

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Region	5	53.62737560	10.72547512	61.88	0.0001
Installation(Region)	88	129.81944082	1.47522092	8.51	0.0001
Treatment	2	0.81932589	0.40966294	2.36	0.0975
Region*Treatment	10	2.00629415	0.20062941	1.16	0.3239

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Region	5	55.30822844	11.06164569	63.82	0.0001
Installation(Region)	88	129.90300285	1.47617049	8.52	0.0001
Treatment	2	0.57000770	0.28500385	1.64	0.1966
Region*Treatment	10	2.00629415	0.20062941	1.16	0.3239

TABLE 10. 10 Year Results for Douglas-fir Installations 103 - 290

Dependent Variable: Relative Gross BA PAI--Period 5
where relative growth = 100*PAI/Starting BA

Point estimates by region and treatment

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI-Control	2.98650317	35.67	0.0001	0.08371454
NI-200 lbs	3.28248746	34.97	0.0001	0.09385891
NI-400 lbs	3.17224273	30.83	0.0001	0.10290759
MO-Control	1.63302314	15.48	0.0001	0.10550777
MO-200 lbs	1.56977219	11.71	0.0001	0.13401131
MO-400 lbs	1.75536907	13.31	0.0001	0.13193241
CI-Control	1.47983697	13.42	0.0001	0.11026349
CI-200 lbs	1.31310184	9.11	0.0001	0.14406501
CI-400 lbs	1.46059289	10.93	0.0001	0.13362689
NEO-Control	1.53687394	13.22	0.0001	0.11621460
NEO-200 lbs	1.57802533	12.63	0.0001	0.12490540
NEO-400 lbs	1.37273476	11.06	0.0001	0.12411923
CW-Control	1.82174831	23.03	0.0001	0.07911164
CW-200 lbs	2.00339750	22.95	0.0001	0.08730014
CW-400 lbs	2.00717562	20.99	0.0001	0.09562657
NEW-Control	2.56963703	24.00	0.0001	0.10708563
NEW-200 lbs	2.52876591	23.07	0.0001	0.10961954
NEW-400 lbs	2.69421456	26.45	0.0001	0.10186483
ALL-Control	2.08211235	49.99	0.0001	0.04165439
ALL-200 lbs	2.13960472	45.62	0.0001	0.04690394
ALL-400 lbs	2.18190867	45.59	0.0001	0.04786299

Contrasts between treatments by region

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
NI:200-Cont	0.29598429	2.45	0.0155	0.12077581
NI:400-Cont	0.18573956	1.59	0.1142	0.11685311
NI:400-200	-0.11024473	-0.81	0.4195	0.13615561
MO:200-Cont	-0.06325096	-0.51	0.6134	0.12490722
MO:400-Cont	0.12234592	0.93	0.3527	0.13121578
MO:400-200	0.18559688	1.31	0.1923	0.14167810
CI:200-Cont	-0.16673514	-1.21	0.2274	0.13753323
CI:400-Cont	-0.01924408	-0.15	0.8838	0.13146694
CI:400-200	0.14749105	1.03	0.3057	0.14346330
NEO:200-Cont	0.04115139	0.23	0.8168	0.17732176
NEO:400-Cont	-0.16413918	-0.93	0.3519	0.17576371
NEO:400-200	-0.20529057	-1.19	0.2372	0.17293238
CW:200-Cont	0.18164918	1.62	0.1070	0.11197782
CW:400-Cont	0.18542730	1.64	0.1041	0.11335967
CW:400-200	0.00377812	0.03	0.9758	0.12448866
NEW:200-Cont	-0.04087113	-0.33	0.7400	0.12290501
NEW:400-Cont	0.12457753	1.07	0.2877	0.11672606
NEW:400-200	0.16544866	1.30	0.1965	0.12749872
ALL:200-Cont	0.05749236	1.06	0.2932	0.05449022
ALL:400-Cont	0.09979631	1.85	0.0658	0.05382060
ALL:400-200	0.04230395	0.72	0.4697	0.05836110

SECTION III

Ten Year Growth Response Summaries for all Douglas-fir Installations

Installation 103 GOLD CREEK
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T16N R4E Section 35 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	61 years	CCF	103.7
Trees per Acre	162 trees/a	Relative Density Index	29.1
Basal Area	93.6 sq.ft/a	Average Crown Length	33.0 ft
Total Volume	2020 cu.ft/a	Average Crown Ratio	59.0 %
Mean Diameter	10.3 in	Site Height (40 tpa)	59.9 ft

Species Composition (% of Total BA)

Douglas-fir	87.4 percent
Grand Fir	2.5 percent
Lodgepole Pine	0.8 percent
Ponderosa Pine	9.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 93.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	38.0		
	200 # N	37.5	-0.5	-1.3
	400 # N	31.0	-7.0	-18.4
10-year Gross Basal Area (sq.feet/acre)	Control	37.5		
	200 # N	37.5	0.0	0.0
	400 # N	35.3	-2.2	-5.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.2			3.8		
	200	4.6	0.4	9.5	3.9	0.1	2.6
	400	3.7	-0.5	-11.9	3.1	-0.7	-18.4
Gross Basal Area PAI (sq.ft/a)	Con	4.2			3.8		
	200	4.5	0.3	7.1	3.8	0.0	0.0
	400	4.2	0.0	0.0	3.3	-0.5	-13.2

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			3.6			3.5		
	200	3.4	-0.2	-5.6	3.1	-0.5	-13.9	3.4	-0.1	-2.9
	400	2.8	-0.8	-22.2	2.2	-1.4	-38.9	3.5	0.0	0.0
Gross Basal Area PAI (sq.ft/a)	Con	3.5			3.4			3.6		
	200	3.3	-0.2	-5.7	3.3	-0.1	-2.9	3.4	-0.2	-5.6
	400	3.2	-0.3	-8.6	3.0	-0.4	-11.8	3.5	-0.1	-2.8

Installation 104 DAVIS CREEK
Region: Northeast Oregon Ownership: Boise Cascade
Legal Description: T1N R45E Section 4 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	42 years	CCF	87.7
Trees per Acre	174 trees/a	Relative Density Index	26.4
Basal Area	80.4 sq.ft/a	Average Crown Length	50.4 ft
Total Volume	1581 cu.ft/a	Average Crown Ratio	89.8 %
Mean Diameter	9.3 in	Site Height (40 tpa)	53.6 ft

Species Composition (% of Total BA)

Douglas-fir	68.0 percent
Western Larch	22.7 percent
Ponderosa Pine	9.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 80.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	36.9		
	200 # N	35.2	-1.7	-4.6
	400 # N	38.0	1.1	3.0
10-year Gross Basal Area (sq.feet/acre)	Control	36.9		
	200 # N	35.2	-1.7	-4.6
	400 # N	40.6	3.7	10.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.3			4.0		
	200	4.3	0.0	0.0	4.4	0.4	10.0
	400	5.0	0.7	16.3	5.1	1.1	27.5
Gross Basal Area PAI (sq.ft/a)	Con	4.3			4.0		
	200	4.3	0.0	0.0	4.3	0.3	7.5
	400	5.0	0.7	16.3	5.0	1.0	25.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.1			3.2			2.7		
	200	3.7	-0.4	-9.8	2.8	-0.4	-12.5	2.4	-0.3	-11.1
	400	4.6	0.5	12.2	3.1	-0.1	-3.1	1.1	-1.6	-59.3
Gross Basal Area PAI (sq.ft/a)	Con	4.1			3.2			2.7		
	200	3.7	-0.4	-9.8	3.0	-0.2	-6.2	2.3	-0.4	-14.8
	400	4.4	0.3	7.3	3.0	-0.2	-6.2	2.8	0.1	3.7

Installation 105 TEANAWAY RIVER
Region: Central Washington Ownership: Boise Cascade
Legal Description: T21N R15E Section 21 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	83 years	CCF	155.6
Trees per Acre	182 trees/a	Relative Density Index	42.9
Basal Area	151.6 sq.ft/a	Average Crown Length	45.0 ft
Total Volume	4731 cu.ft/a	Average Crown Ratio	50.5 %
Mean Diameter	12.5 in	Site Height (40 tpa)	89.7 ft

Species Composition (% of Total BA)

Douglas-fir	81.8 percent
Grand Fir	2.4 percent
Western Larch	8.5 percent
Lodgepole Pine	0.6 percent
Ponderosa Pine	6.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 151.6 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	38.3		
	200 # N	42.3	4.0	10.4
	400 # N	42.7	4.4	11.5
10-year Gross Basal Area (sq.feet/acre)	Control	39.6		
	200 # N	46.4	6.8	17.2
	400 # N	54.3	14.7	37.1

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.3			5.2		
	200	4.4	1.1	33.3	6.5	1.3	25.0
	400	3.2	-0.1	-3.0	7.5	2.3	44.2
Gross Basal Area PAI (sq.ft/a)	Con	3.3			5.2		
	200	4.4	1.1	33.3	6.6	1.4	26.9
	400	5.1	1.8	54.5	7.8	2.6	50.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			4.7			3.0		
	200	4.3	0.4	10.3	3.2	-1.5	-31.9	3.8	0.8	26.7
	400	5.1	1.2	30.8	5.7	1.0	21.3	2.3	-0.7	-23.3
Gross Basal Area PAI (sq.ft/a)	Con	3.8			4.6			3.8		
	200	4.4	0.6	15.8	5.0	0.4	8.7	3.9	0.1	2.6
	400	5.6	1.8	47.4	5.9	1.3	28.3	4.2	0.4	10.5

Installation 106 DEER CREEK
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T30N R39E Section 7 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	41 years	CCF	108.5
Trees per Acre	240 trees/a	Relative Density Index	31.2
Basal Area	90.0 sq.ft/a	Average Crown Length	34.3 ft
Total Volume	2067 cu.ft/a	Average Crown Ratio	58.0 %
Mean Diameter	8.4 in	Site Height (40 tpa)	65.2 ft

Species Composition (% of Total BA)

Douglas-fir	93.5 percent
Grand Fir	0.3 percent
Western Redcedar	0.3 percent
Western Larch	3.0 percent
Ponderosa Pine	2.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 90.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	33.2		
	200 # N	24.4	-8.8	-26.5
	400 # N	49.3	16.1	48.5
10-year Gross Basal Area (sq.feet/acre)	Control	41.1		
	200 # N	45.2	4.1	10.0
	400 # N	49.8	8.7	21.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.4			5.3		
	200	4.2	-0.2	-4.5	5.8	0.5	9.4
	400	6.1	1.7	38.6	6.6	1.3	24.5
Gross Basal Area PAI (sq.ft/a)	Con	4.8			5.3		
	200	5.7	0.9	18.8	5.8	0.5	9.4
	400	6.1	1.3	27.1	6.7	1.4	26.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-0.3			3.7			3.9		
	200	-0.2	0.1	33.3	2.4	-1.3	-35.1	0.7	-3.2	-82.1
	400	4.1	4.4	1466.7	4.1	0.4	10.8	4.0	0.1	2.6
Gross Basal Area PAI (sq.ft/a)	Con	3.1			3.7			3.9		
	200	3.5	0.4	12.9	3.9	0.2	5.4	3.7	-0.2	-5.1
	400	4.2	1.1	35.5	4.2	0.5	13.5	4.0	0.1	2.6

Installation 201 LAFFINWELL CREEK #1
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T16N R4E Section 21 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	59 years	CCF	167.9
Trees per Acre	280 trees/a	Relative Density Index	46.6
Basal Area	145.6 sq.ft/a	Average Crown Length	26.0 ft
Total Volume	3570 cu.ft/a	Average Crown Ratio	42.5 %
Mean Diameter	9.8 in	Site Height (40 tpa)	69.0 ft

Species Composition (% of Total BA)

Douglas-fir	86.6 percent
Grand Fir	4.1 percent
Western Larch	4.1 percent
Lodgepole Pine	1.6 percent
Ponderosa Pine	3.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 145.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	32.5		
	200 # N	.	.	.
	400 # N	39.1	6.6	20.3
10-year Gross Basal Area (sq.feet/acre)	Control	37.1		
	200 # N	.	.	.
	400 # N	45.1	8.0	21.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.6			4.4		
	200	.	.	.	.	.	.
	400	6.3	1.7	37.0	6.0	1.6	36.4
Gross Basal Area PAI (sq.ft/a)	Con	4.6			4.4		
	200	.	.	.	.	.	.
	400	6.3	1.7	37.0	6.0	1.6	36.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.5			1.5			2.2		
	200	.	.	.	.	.	.	.	.	.
	400	3.3	-0.2	-5.7	1.9	0.4	26.7	2.1	-0.1	-4.5
Gross Basal Area PAI (sq.ft/a)	Con	3.5			3.8			2.2		
	200	.	.	.	.	.	.	.	.	.
	400	3.8	0.3	8.6	3.7	-0.1	-2.6	2.8	0.6	27.3

Installation 202 HORSETHIEF RESERVOIR
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T13N R5E Section 18 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	58 years	CCF	88.8
Trees per Acre	210 trees/a	Relative Density Index	25.7
Basal Area	72.5 sq.ft/a	Average Crown Length	23.7 ft
Total Volume	1349 cu.ft/a	Average Crown Ratio	53.7 %
Mean Diameter	8.0 in	Site Height (40 tpa)	51.5 ft

Species Composition (% of Total BA)

Douglas-fir	88.0 percent
Ponderosa Pine	12.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 72.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	25.7		
	200 # N	26.6	0.9	3.5
	400 # N	37.0	11.3	44.0
10-year Gross Basal Area (sq.feet/acre)	Control	25.8		
	200 # N	26.6	0.8	3.1
	400 # N	37.3	11.5	44.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.9			3.2		
	200	3.8	0.9	31.0	4.1	0.9	28.1
	400	4.8	1.9	65.5	5.0	1.8	56.3
Gross Basal Area PAI (sq.ft/a)	Con	2.9			3.2		
	200	3.8	0.9	31.0	4.1	0.9	28.1
	400	4.8	1.9	65.5	5.1	1.9	59.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.4			2.3			2.0		
	200	2.1	-0.3	-12.5	2.6	0.3	13.0	0.8	-1.2	-60.0
	400	3.0	0.6	25.0	3.6	1.3	56.5	2.1	0.1	5.0
Gross Basal Area PAI (sq.ft/a)	Con	2.4			2.3			2.0		
	200	2.1	-0.3	-12.5	2.4	0.1	4.3	0.8	-1.2	-60.0
	400	3.0	0.6	25.0	3.7	1.4	60.9	2.1	0.1	5.0

Installation 203 LAFFINWELL CREEK #2
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T16N R4E Section 29 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	69 years	CCF	122.9
Trees per Acre	190 trees/a	Relative Density Index	35.4
Basal Area	114.7 sq.ft/a	Average Crown Length	30.4 ft
Total Volume	2910 cu.ft/a	Average Crown Ratio	48.0 %
Mean Diameter	10.5 in	Site Height (40 tpa)	74.4 ft

Species Composition (% of Total BA)

Douglas-fir	75.6 percent
Grand Fir	4.4 percent
Western Larch	7.1 percent
Ponderosa Pine	12.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 114.7 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	26.4		
	200 # N	32.4	6.0	22.7
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	26.6		
	200 # N	36.4	9.8	36.8
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.9			3.6		
	200	5.2	2.3	79.3	4.3	0.7	19.4
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.9			3.6		
	200	5.3	2.4	82.8	4.4	0.8	22.2
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.0			2.5			2.2		
	200	3.6	1.6	80.0	1.3	-1.2	-48.0	1.8	-0.4	-18.2
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.0			2.6			2.2		
	200	3.6	1.6	80.0	3.0	0.4	15.4	1.8	-0.4	-18.2
	400	.	.	.	.	.	.	.	.	.

Installation 204 JOHNSON'S MILL #1
Region: Northern Idaho Ownership: IDL
Legal Description: T37N R3E Section 4 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	41 years	CCF	149.7
Trees per Acre	263 trees/a	Relative Density Index	39.8
Basal Area	120.3 sq.ft/a	Average Crown Length	29.6 ft
Total Volume	2916 cu.ft/a	Average Crown Ratio	50.3 %
Mean Diameter	9.2 in	Site Height (40 tpa)	69.2 ft

Species Composition (% of Total BA)

Douglas-fir	88.5 percent
Grand Fir	11.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 120.3 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	29.5		
	200 # N	57.2	27.7	93.9
	400 # N	61.2	31.7	107.5
10-year Gross Basal Area (sq.feet/acre)	Control	46.2		
	200 # N	66.3	20.1	43.5
	400 # N	72.8	26.6	57.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.3			-2.1		
	200	7.6	2.3	43.4	5.7	7.8	371.4
	400	9.2	3.9	73.6	6.9	9.0	428.6
Gross Basal Area PAI (sq.ft/a)	Con	5.3			4.7		
	200	8.4	3.1	58.5	7.1	2.4	51.1
	400	9.2	3.9	73.6	8.2	3.5	74.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.4			4.1			3.1		
	200	3.6	-0.8	-18.2	5.4	1.3	31.7	6.4	3.3	106.5
	400	1.9	-2.5	-56.8	6.0	1.9	46.3	6.6	3.5	112.9
Gross Basal Area PAI (sq.ft/a)	Con	4.4			4.1			4.6		
	200	5.9	1.5	34.1	5.3	1.2	29.3	6.4	1.8	39.1
	400	6.4	2.0	45.5	6.0	1.9	46.3	6.6	2.0	43.5

Installation 205 JOHNSON'S MILL #2
Region: Northern Idaho Ownership: IDL
Legal Description: T37N R3E Section 4 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	41 years	CCF	117.0
Trees per Acre	200 trees/a	Relative Density Index	30.6
Basal Area	93.4 sq.ft/a	Average Crown Length	29.8 ft
Total Volume	2206 cu.ft/a	Average Crown Ratio	52.0 %
Mean Diameter	9.3 in	Site Height (40 tpa)	66.4 ft

Species Composition (% of Total BA)

Douglas-fir	86.0 percent
Grand Fir	14.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 93.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	54.6		
	200 # N	.	.	.
	400 # N	47.6	-7.0	-12.8
10-year Gross Basal Area (sq.feet/acre)	Control	54.2		
	200 # N	.	.	.
	400 # N	56.3	2.1	3.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.7			5.5		
	200	.	.	.	.	.	.
	400	4.6	-1.1	-19.3	5.9	0.4	7.3
Gross Basal Area PAI (sq.ft/a)	Con	5.7			5.5		
	200	.	.	.	.	.	.
	400	6.8	1.1	19.3	6.2	0.7	12.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.6			4.8			5.7		
	200	.	.	.	.	.	.	.	.	.
	400	3.0	-2.6	-46.4	5.1	0.3	6.3	5.3	-0.4	-7.0
Gross Basal Area PAI (sq.ft/a)	Con	5.5			4.6			5.8		
	200	.	.	.	.	.	.	.	.	.
	400	4.7	-0.8	-14.5	5.2	0.6	13.0	5.3	-0.5	-8.6

Installation 206 CARIBEL
Region: Northern Idaho Ownership: IDL
Legal Description: T34N R4E Section 36 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	46 years	CCF	162.1
Trees per Acre	260 trees/a	Relative Density Index	44.1
Basal Area	138.6 sq.ft/a	Average Crown Length	31.6 ft
Total Volume	3501 cu.ft/a	Average Crown Ratio	52.0 %
Mean Diameter	9.9 in	Site Height (40 tpa)	72.3 ft

Species Composition (% of Total BA)

Douglas-fir	85.3 percent
Grand Fir	8.4 percent
Western Redcedar	4.4 percent
Western Larch	1.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 138.6 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	47.5		
	200 # N	59.8	12.3	25.9
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	48.0		
	200 # N	59.8	11.8	24.6
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.3			4.5		
	200	7.4	2.1	39.6	6.0	1.5	33.3
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	5.3			4.5		
	200	7.5	2.2	41.5	6.2	1.7	37.8
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.9			4.4			4.7		
	200	5.8	0.9	18.4	5.4	1.0	22.7	5.3	0.6	12.8
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	5.0			4.7			4.6		
	200	5.8	0.8	16.0	5.0	0.3	6.4	5.4	0.8	17.4
	400	.	.	.	.	.	.	.	.	.

Installation 207 WAHA
Region: Northeast Oregon Ownership: Potlatch
Legal Description: T33N R4W Section 10 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	55 years	CCF	152.5
Trees per Acre	247 trees/a	Relative Density Index	44.3
Basal Area	142.0 sq.ft/a	Average Crown Length	27.2 ft
Total Volume	3546 cu.ft/a	Average Crown Ratio	44.0 %
Mean Diameter	10.3 in	Site Height (40 tpa)	70.2 ft

Species Composition (% of Total BA)

Douglas-fir	70.9 percent
Grand Fir	1.8 percent
Western Larch	3.7 percent
Ponderosa Pine	23.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 142.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	-6.5		
	200 # N	-10.4	-3.9	-60.0
	400 # N	22.0	28.5	438.5
10-year Gross Basal Area (sq.feet/acre)	Control	28.5		
	200 # N	42.0	13.5	47.4
	400 # N	38.9	10.4	36.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.7			1.9		
	200	5.4	1.7	45.9	5.5	3.6	189.5
	400	5.0	1.3	35.1	4.4	2.5	131.6
Gross Basal Area PAI (sq.ft/a)	Con	3.7			3.5		
	200	5.5	1.8	48.6	5.8	2.3	65.7
	400	5.0	1.3	35.1	4.5	1.0	28.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-6.6			-4.4			2.2		
	200	-5.8	0.8	12.1	-14.6	-10.2	-231.8	4.3	2.1	95.5
	400	-2.8	3.8	57.6	3.2	7.6	172.7	1.2	-1.0	-45.5
Gross Basal Area PAI (sq.ft/a)	Con	2.5			2.4			2.1		
	200	3.8	1.3	52.0	2.7	0.3	12.5	3.2	1.1	52.4
	400	3.4	0.9	36.0	3.3	0.9	37.5	3.2	1.1	52.4

Installation 208 LOVELL VALLEY ROAD
Region: Northern Idaho Ownership: Potlatch
Legal Description: T46N R5W Section 25 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	88 years	CCF	179.5
Trees per Acre	155 trees/a	Relative Density Index	48.9
Basal Area	191.4 sq.ft/a	Average Crown Length	32.8 ft
Total Volume	6620 cu.ft/a	Average Crown Ratio	35.5 %
Mean Diameter	15.4 in	Site Height (40 tpa)	102.5 ft

Species Composition (% of Total BA)

Douglas-fir	97.2 percent
Grand Fir	2.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 191.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	22.1		
	200 # N	.	.	.
	400 # N	38.3	16.2	73.3
10-year Gross Basal Area (sq.feet/acre)	Control	38.3		
	200 # N	.	.	.
	400 # N	36.3	-2.0	-5.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.8			3.4		
	200	.	.	.	.	.	.
	400	3.8	0.0	0.0	3.3	-0.1	-2.9
Gross Basal Area PAI (sq.ft/a)	Con	3.7			3.4		
	200	.	.	.	.	.	.
	400	3.8	0.1	2.7	3.0	-0.4	-11.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			-3.2			4.1		
	200	.	.	.	.	.	.	.	.	.
	400	4.3	1.2	38.7	4.0	7.2	225.0	3.6	-0.5	-12.2
Gross Basal Area PAI (sq.ft/a)	Con	4.1			3.8			4.1		
	200	.	.	.	.	.	.	.	.	.
	400	3.9	-0.2	-4.9	3.8	0.0	0.0	3.6	-0.5	-12.2

Installation 209 ADDEY
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T34N R38E Section 27 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	68 years	CCF	157.6
Trees per Acre	210 trees/a	Relative Density Index	41.5
Basal Area	137.4 sq.ft/a	Average Crown Length	25.8 ft
Total Volume	3954 cu.ft/a	Average Crown Ratio	35.0 %
Mean Diameter	11.0 in	Site Height (40 tpa)	80.8 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 137.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	26.6		
	200 # N	.	.	.
	400 # N	32.7	6.1	22.9
10-year Gross Basal Area (sq.feet/acre)	Control	32.5		
	200 # N	.	.	.
	400 # N	34.4	1.9	5.8

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			3.9		
	200	.	.	.	.	.	.
	400	4.0	0.9	29.0	4.1	0.2	5.1
Gross Basal Area PAI (sq.ft/a)	Con	3.1			3.9		
	200	.	.	.	.	.	.
	400	3.9	0.8	25.8	4.3	0.4	10.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	0.1			2.5			3.5		
	200	.	.	.	.	.	.	.	.	.
	400	3.0	2.9	2900.0	2.1	-0.4	-16.0	3.3	-0.2	-5.7
Gross Basal Area PAI (sq.ft/a)	Con	3.2			2.4			3.6		
	200	.	.	.	.	.	.	.	.	.
	400	3.3	0.1	3.1	2.3	-0.1	-4.2	3.3	-0.3	-8.3

Installation 210 BUCK CREEK
Region: Northeast Washington Ownership: Inland Empire
Legal Description: T31N R43E Section 26 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	54 years	CCF	164.8
Trees per Acre	305 trees/a	Relative Density Index	48.9
Basal Area	150.8 sq.ft/a	Average Crown Length	23.5 ft
Total Volume	3233 cu.ft/a	Average Crown Ratio	46.5 %
Mean Diameter	9.5 in	Site Height (40 tpa)	61.5 ft

Species Composition (% of Total BA)

Douglas-fir	77.5 percent
Ponderosa Pine	22.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 150.8 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	-52.1		
	200 # N	16.7	68.8	132.1
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	27.4		
	200 # N	44.2	16.8	61.3
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.2			3.6		
	200	4.6	2.4	109.1	0.1	-3.5	-97.2
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.8			3.6		
	200	4.7	1.9	67.9	5.0	1.4	38.9
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.7			1.5			-36.1		
	200	4.1	1.4	51.9	3.6	2.1	140.0	-4.1	32.0	88.6
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.8			2.2			2.4		
	200	4.2	1.4	50.0	3.2	1.0	45.5	5.0	2.6	108.3
	400	.	.	.	.	.	.	.	.	.

Installation 211 HEEL CREEK
Region: Northeast Washington Ownership: Inland Empire
Legal Description: T31N R43E Section 20 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	34 years	CCF	208.4
Trees per Acre	435 trees/a	Relative Density Index	59.5
Basal Area	174.5 sq.ft/a	Average Crown Length	25.0 ft
Total Volume	3920 cu.ft/a	Average Crown Ratio	47.0 %
Mean Diameter	8.6 in	Site Height (40 tpa)	66.6 ft

Species Composition (% of Total BA)

Douglas-fir	97.1 percent
Lodgepole Pine	0.7 percent
White Pine	1.2 percent
Ponderosa Pine	1.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 174.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	56.4		
	200 # N	.	.	.
	400 # N	14.0	-42.4	-75.2
10-year Gross Basal Area (sq.feet/acre)	Control	61.3		
	200 # N	.	.	.
	400 # N	73.9	12.6	20.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.3			6.4		
	200	.	.	.	.	.	.
	400	8.1	1.8	28.6	-8.2	-14.6	-228.1
Gross Basal Area PAI (sq.ft/a)	Con	6.2			6.4		
	200	.	.	.	.	.	.
	400	10.3	4.1	66.1	7.5	1.1	17.2

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.1			3.3			7.2		
	200	.	.	.	.	.	.	.	.	.
	400	4.6	-0.5	-9.8	-2.6	-5.9	-178.8	5.2	-2.0	-27.8
Gross Basal Area PAI (sq.ft/a)	Con	5.7			5.2			7.2		
	200	.	.	.	.	.	.	.	.	.
	400	6.5	0.8	14.0	5.6	0.4	7.7	7.0	-0.2	-2.8

Installation 212 SWAMP CREEK
Region: Northeast Oregon Ownership: Boise Cascade
Legal Description: T1N R45E Section 5 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	71 years	CCF	101.6
Trees per Acre	197 trees/a	Relative Density Index	28.4
Basal Area	85.0 sq.ft/a	Average Crown Length	27.7 ft
Total Volume	1945 cu.ft/a	Average Crown Ratio	50.7 %
Mean Diameter	8.9 in	Site Height (40 tpa)	65.0 ft

Species Composition (% of Total BA)

Douglas-fir	96.1 percent
Western Larch	1.5 percent
Ponderosa Pine	2.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 85.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	23.5		
	200 # N	33.1	9.6	40.9
	400 # N	27.5	4.0	17.0
10-year Gross Basal Area (sq.feet/acre)	Control	23.2		
	200 # N	33.1	9.9	42.7
	400 # N	27.4	4.2	18.1

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.3			2.4		
	200	4.9	2.6	113.0	3.7	1.3	54.2
	400	3.8	1.5	65.2	3.0	0.6	25.0
Gross Basal Area PAI (sq.ft/a)	Con	2.3			2.4		
	200	4.9	2.6	113.0	3.6	1.2	50.0
	400	3.8	1.5	65.2	2.9	0.5	20.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.6			2.6			1.8		
	200	3.4	0.8	30.8	2.6	0.0	0.0	2.0	0.2	11.1
	400	2.7	0.1	3.8	2.5	-0.1	-3.8	1.8	0.0	0.0
Gross Basal Area PAI (sq.ft/a)	Con	2.5			2.5			1.8		
	200	3.3	0.8	32.0	2.9	0.4	16.0	1.9	0.1	5.6
	400	2.7	0.2	8.0	2.4	-0.1	-4.0	1.8	0.0	0.0

Installation 213 KAMELA
Region: Northeast Oregon Ownership: Boise Cascade
Legal Description: T2S R35E Section 3 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	80 years	CCF	93.5
Trees per Acre	120 trees/a	Relative Density Index	26.0
Basal Area	88.8 sq.ft/a	Average Crown Length	27.2 ft
Total Volume	2746 cu.ft/a	Average Crown Ratio	35.7 %
Mean Diameter	11.6 in	Site Height (40 tpa)	91.4 ft

Species Composition (% of Total BA)

Douglas-fir	30.0 percent
Grand Fir	23.5 percent
Western Larch	44.3 percent
Engelmann Spruce	2.1 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 88.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	4.3		
	200 # N	-7.5	-11.8	-274.4
	400 # N	-6.5	-10.8	-251.2
10-year Gross Basal Area (sq.feet/acre)	Control	17.6		
	200 # N	19.1	1.5	8.5
	400 # N	14.5	-3.1	-17.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.1			-4.5		
	200	2.3	0.2	9.5	-11.0	-6.5	-144.4
	400	2.4	0.3	14.3	-2.6	1.9	42.2
Gross Basal Area PAI (sq.ft/a)	Con	2.2			2.4		
	200	2.3	0.1	4.5	2.3	-0.1	-4.2
	400	2.4	0.2	9.1	2.1	-0.3	-12.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.5			1.5			1.5		
	200	1.9	0.4	26.7	7.1	5.6	373.3	-4.0	-5.5	-366.7
	400	-4.4	-5.9	-393.3	0.8	-0.7	-46.7	0.6	-0.9	-60.0
Gross Basal Area PAI (sq.ft/a)	Con	1.5			1.2			1.5		
	200	2.0	0.5	33.3	1.5	0.3	25.0	1.5	0.0	0.0
	400	1.1	-0.4	-26.7	1.1	-0.1	-8.3	0.6	-0.9	-60.0

Installation 214 FIFTEENMILE CREEK #1
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T39N R37E Section 25 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	50 years	CCF	120.4
Trees per Acre	207 trees/a	Relative Density Index	32.5
Basal Area	99.6 sq.ft/a	Average Crown Length	27.4 ft
Total Volume	2253 cu.ft/a	Average Crown Ratio	48.7 %
Mean Diameter	9.5 in	Site Height (40 tpa)	64.5 ft

Species Composition (% of Total BA)

Douglas-fir	99.2 percent
Grand Fir	0.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 99.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	49.0		
	200 # N	45.6	-3.4	-6.9
	400 # N	64.0	15.0	30.6
10-year Gross Basal Area (sq.feet/acre)	Control	49.2		
	200 # N	45.6	-3.6	-7.3
	400 # N	64.2	15.0	30.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.4			5.5		
	200	5.5	0.1	1.9	5.9	0.4	7.3
	400	7.5	2.1	38.9	8.1	2.6	47.3
Gross Basal Area PAI (sq.ft/a)	Con	5.4			5.5		
	200	5.5	0.1	1.9	5.9	0.4	7.3
	400	7.5	2.1	38.9	7.8	2.3	41.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.5			3.8			5.3		
	200	4.1	-0.4	-8.9	3.4	-0.4	-10.5	3.9	-1.4	-26.4
	400	6.4	1.9	42.2	4.0	0.2	5.3	6.0	0.7	13.2
Gross Basal Area PAI (sq.ft/a)	Con	4.5			4.0			5.2		
	200	4.1	-0.4	-8.9	3.4	-0.6	-15.0	3.9	-1.3	-25.0
	400	6.0	1.5	33.3	4.7	0.7	17.5	6.0	0.8	15.4

Installation 215 FIFTEENMILE CREEK #2
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T39N R37E Section 25 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	51 years	CCF	100.2
Trees per Acre	240 trees/a	Relative Density Index	28.0
Basal Area	78.1 sq.ft/a	Average Crown Length	24.1 ft
Total Volume	1612 cu.ft/a	Average Crown Ratio	49.0 %
Mean Diameter	7.7 in	Site Height (40 tpa)	57.7 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 78.1 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	49.3		
	200 # N	59.0	9.7	19.7
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	49.5		
	200 # N	59.0	9.5	19.2
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.0			5.7		
	200	7.1	1.1	18.3	6.9	1.2	21.1
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	6.0			5.7		
	200	7.2	1.2	20.0	7.0	1.3	22.8
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.5			4.0			4.5		
	200	5.5	1.0	22.2	4.5	0.5	12.5	5.4	0.9	20.0
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	4.5			4.1			4.5		
	200	5.5	1.0	22.2	4.2	0.1	2.4	5.5	1.0	22.2
	400	.	.	.	.	.	.	.	.	.

Installation 216 SCHMIDT MEADOWS
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T32N R38E Section 28 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	66 years	CCF	164.8
Trees per Acre	280 trees/a	Relative Density Index	46.1
Basal Area	143.8 sq.ft/a	Average Crown Length	25.9 ft
Total Volume	3734 cu.ft/a	Average Crown Ratio	39.7 %
Mean Diameter	9.8 in	Site Height (40 tpa)	71.7 ft

Species Composition (% of Total BA)

Douglas-fir	82.4 percent
Western Larch	7.3 percent
Ponderosa Pine	10.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 143.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	19.7		
	200 # N	29.1	9.4	47.7
	400 # N	26.5	6.8	34.5
10-year Gross Basal Area (sq.feet/acre)	Control	31.5		
	200 # N	35.3	3.8	12.1
	400 # N	40.4	8.9	28.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.6			-0.2		
	200	4.0	1.4	53.8	1.1	1.3	650.0
	400	4.3	1.7	65.4	2.2	2.4	1200.0
Gross Basal Area PAI (sq.ft/a)	Con	2.6			3.7		
	200	4.0	1.4	53.8	4.1	0.4	10.8
	400	4.3	1.7	65.4	4.9	1.2	32.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.2			2.5			3.7		
	200	3.5	2.3	191.7	2.0	-0.5	-20.0	4.0	0.3	8.1
	400	3.9	2.7	225.0	-1.2	-3.7	-148.0	4.1	0.4	10.8
Gross Basal Area PAI (sq.ft/a)	Con	3.4			2.4			3.7		
	200	3.5	0.1	2.9	2.1	-0.3	-12.5	3.9	0.2	5.4
	400	4.2	0.8	23.5	2.8	0.4	16.7	4.1	0.4	10.8

Installation 217 EMANUEL CREEK
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T39N R33E Section 29 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	142.3
Trees per Acre	253 trees/a	Relative Density Index	39.2
Basal Area	119.6 sq.ft/a	Average Crown Length	26.6 ft
Total Volume	2858 cu.ft/a	Average Crown Ratio	44.7 %
Mean Diameter	9.3 in	Site Height (40 tpa)	69.1 ft

Species Composition (% of Total BA)

Douglas-fir	96.2 percent
Western Larch	3.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 119.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	33.1		
	200 # N	40.5	7.4	22.4
	400 # N	50.8	17.7	53.5
10-year Gross Basal Area (sq.feet/acre)	Control	33.1		
	200 # N	41.9	8.8	26.6
	400 # N	50.6	17.5	52.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.2			3.4		
	200	5.8	1.6	38.1	4.5	1.1	32.4
	400	6.9	2.7	64.3	5.2	1.8	52.9
Gross Basal Area PAI (sq.ft/a)	Con	4.2			3.4		
	200	5.8	1.6	38.1	4.4	1.0	29.4
	400	6.9	2.7	64.3	5.1	1.7	50.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.4			1.8			3.7		
	200	3.1	-0.3	-8.8	2.5	0.7	38.9	4.5	0.8	21.6
	400	4.6	1.2	35.3	3.2	1.4	77.8	5.5	1.8	48.6
Gross Basal Area PAI (sq.ft/a)	Con	3.4			1.8			3.7		
	200	3.8	0.4	11.8	2.5	0.7	38.9	4.5	0.8	21.6
	400	4.5	1.1	32.4	3.2	1.4	77.8	5.5	1.8	48.6

Installation 218 SECOND CREEK
Region: Northeast Washington Ownership: Boise Cascade
Legal Description: T39N R34E Section 13 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	100 years	CCF	104.3
Trees per Acre	150 trees/a	Relative Density Index	28.1
Basal Area	91.6 sq.ft/a	Average Crown Length	25.2 ft
Total Volume	2139 cu.ft/a	Average Crown Ratio	42.3 %
Mean Diameter	10.6 in	Site Height (40 tpa)	66.4 ft

Species Composition (% of Total BA)

Douglas-fir	98.5 percent
Western Larch	1.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 91.6 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	24.1		
	200 # N	30.7	6.6	27.4
	400 # N	40.0	15.9	66.0
10-year Gross Basal Area (sq.feet/acre)	Control	36.0		
	200 # N	30.7	-5.3	-14.7
	400 # N	42.5	6.5	18.1

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.3			4.3		
	200	3.9	-0.4	-9.3	3.4	-0.9	-20.9
	400	5.4	1.1	25.6	4.7	0.4	9.3
Gross Basal Area PAI (sq.ft/a)	Con	4.3			4.3		
	200	3.9	-0.4	-9.3	3.4	-0.9	-20.9
	400	5.4	1.1	25.6	4.7	0.4	9.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.3			-3.9			4.1		
	200	3.0	-0.3	-9.1	1.6	5.5	141.0	3.4	-0.7	-17.1
	400	4.1	0.8	24.2	2.6	6.5	166.7	3.2	-0.9	-22.0
Gross Basal Area PAI (sq.ft/a)	Con	3.3			2.0			4.1		
	200	2.9	-0.4	-12.1	1.7	-0.3	-15.0	3.4	-0.7	-17.1
	400	4.1	0.8	24.2	2.6	0.6	30.0	4.5	0.4	9.8

Installation 219 LITTLE SALMON
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T18N R1E Section 13 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	67 years	CCF	130.8
Trees per Acre	230 trees/a	Relative Density Index	38.3
Basal Area	119.9 sq.ft/a	Average Crown Length	25.6 ft
Total Volume	2843 cu.ft/a	Average Crown Ratio	45.0 %
Mean Diameter	9.7 in	Site Height (40 tpa)	64.3 ft

Species Composition (% of Total BA)

Douglas-fir	80.2 percent
Ponderosa Pine	19.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 119.9 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	29.4		
	200 # N	.	.	.
	400 # N	47.3	17.9	60.9
10-year Gross Basal Area (sq.feet/acre)	Control	30.0		
	200 # N	.	.	.
	400 # N	44.4	14.4	48.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.3			3.4		
	200	.	.	.	.	.	.
	400	6.0	2.7	81.8	5.5	2.1	61.8
Gross Basal Area PAI (sq.ft/a)	Con	3.3			3.4		
	200	.	.	.	.	.	.
	400	6.0	2.7	81.8	5.0	1.6	47.1

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.7			2.6			2.7		
	200	.	.	.	.	.	.	.	.	.
	400	4.7	2.0	74.1	4.0	1.4	53.8	3.3	0.6	22.2
Gross Basal Area PAI (sq.ft/a)	Con	2.8			2.9			2.6		
	200	.	.	.	.	.	.	.	.	.
	400	4.1	1.3	46.4	3.7	0.8	27.6	3.3	0.7	26.9

Installation 220 GROUSE CREEK
Region: Central Idaho Ownership: IDL
Legal Description: T16N R4E Section 36 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	89 years	CCF	136.4
Trees per Acre	270 trees/a	Relative Density Index	37.5
Basal Area	110.8 sq.ft/a	Average Crown Length	24.3 ft
Total Volume	2762 cu.ft/a	Average Crown Ratio	42.0 %
Mean Diameter	8.8 in	Site Height (40 tpa)	69.4 ft

Species Composition (% of Total BA)

Douglas-fir	92.9 percent
Grand Fir	5.6 percent
Lodgepole Pine	1.0 percent
Ponderosa Pine	0.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 110.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	29.8		
	200 # N	22.8	-7.0	-23.5
	400 # N	31.0	1.2	4.0
10-year Gross Basal Area (sq.feet/acre)	Control	30.0		
	200 # N	25.5	-4.5	-15.0
	400 # N	32.5	2.5	8.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.0			3.5		
	200	1.2	-1.8	-60.0	3.1	-0.4	-11.4
	400	4.3	1.3	43.3	3.4	-0.1	-2.9
Gross Basal Area PAI (sq.ft/a)	Con	2.9			3.5		
	200	2.6	-0.3	-10.3	3.1	-0.4	-11.4
	400	4.3	1.4	48.3	4.1	0.6	17.1

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.4			2.9			2.3		
	200	2.8	-0.6	-17.6	2.4	-0.5	-17.2	1.9	-0.4	-17.4
	400	3.1	-0.3	-8.8	3.0	0.1	3.4	1.8	-0.5	-21.7
Gross Basal Area PAI (sq.ft/a)	Con	3.4			3.0			2.2		
	200	2.8	-0.6	-17.6	2.3	-0.7	-23.3	1.9	-0.3	-13.6
	400	3.1	-0.3	-8.8	3.0	0.0	0.0	1.8	-0.4	-18.2

Installation 221 LITTLE MUD CREEK #1
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T20N R1E Section 33 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	82 years	CCF	126.9
Trees per Acre	203 trees/a	Relative Density Index	36.3
Basal Area	116.5 sq.ft/a	Average Crown Length	28.8 ft
Total Volume	2820 cu.ft/a	Average Crown Ratio	53.0 %
Mean Diameter	10.2 in	Site Height (40 tpa)	73.1 ft

Species Composition (% of Total BA)

Douglas-fir	81.7 percent
Grand Fir	2.9 percent
Western Larch	4.3 percent
Lodgepole Pine	1.8 percent
Ponderosa Pine	8.4 percent
Engelmann Spruce	0.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 116.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	25.8		
	200 # N	42.6	16.8	65.1
	400 # N	39.7	13.9	53.9
10-year Gross Basal Area (sq.feet/acre)	Control	29.2		
	200 # N	42.6	13.4	45.9
	400 # N	41.2	12.0	41.1

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	0.1			2.8		
	200	4.3	4.2	4200.0	4.1	1.3	46.4
	400	3.6	3.5	3500.0	3.6	0.8	28.6
Gross Basal Area PAI (sq.ft/a)	Con	2.2			2.8		
	200	4.2	2.0	90.9	3.9	1.1	39.3
	400	3.5	1.3	59.1	3.8	1.0	35.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.7			4.1			3.1		
	200	4.2	1.5	55.6	4.2	0.1	2.4	4.6	1.5	48.4
	400	3.9	1.2	44.4	4.5	0.4	9.8	4.3	1.2	38.7
Gross Basal Area PAI (sq.ft/a)	Con	2.6			3.7			3.2		
	200	4.1	1.5	57.7	4.7	1.0	27.0	4.5	1.3	40.6
	400	4.3	1.7	65.4	4.7	1.0	27.0	4.3	1.1	34.4

Installation 222 WEST MILL CREEK #1
Region: Central Idaho Ownership: IDL
Legal Description: T18N R3W Section 36 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	71 years	CCF	143.3
Trees per Acre	310 trees/a	Relative Density Index	41.6
Basal Area	121.8 sq.ft/a	Average Crown Length	22.8 ft
Total Volume	2614 cu.ft/a	Average Crown Ratio	45.5 %
Mean Diameter	8.7 in	Site Height (40 tpa)	63.0 ft

Species Composition (% of Total BA)

Douglas-fir	88.8 percent
Ponderosa Pine	11.2 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 121.8 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	33.6		
	200 # N	24.0	-9.6	-28.6
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	33.7		
	200 # N	24.0	-9.7	-28.8
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.8			4.9		
	200	3.6	-1.2	-25.0	3.1	-1.8	-36.7
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	4.8			4.9		
	200	3.7	-1.1	-22.9	3.1	-1.8	-36.7
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.0			2.3			1.9		
	200	1.8	-1.2	-40.0	2.0	-0.3	-13.0	1.4	-0.5	-26.3
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.0			2.3			1.9		
	200	1.8	-1.2	-40.0	1.9	-0.4	-17.4	1.5	-0.4	-21.1
	400	.	.	.	.	.	.	.	.	.

Installation 223 WEST MILL CREEK #2
Region: Central Idaho Ownership: IDL
Legal Description: T18N R3W Section 36 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	120.6
Trees per Acre	253 trees/a	Relative Density Index	35.5
Basal Area	104.8 sq.ft/a	Average Crown Length	24.4 ft
Total Volume	2441 cu.ft/a	Average Crown Ratio	45.7 %
Mean Diameter	8.7 in	Site Height (40 tpa)	65.1 ft

Species Composition (% of Total BA)

Douglas-fir	79.6 percent
Grand Fir	1.6 percent
Ponderosa Pine	18.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 104.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	36.2		
	200 # N	34.9	-1.3	-3.6
	400 # N	35.1	-1.1	-3.0
10-year Gross Basal Area (sq.feet/acre)	Control	36.1		
	200 # N	34.9	-1.2	-3.3
	400 # N	41.7	5.6	15.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.3			4.4		
	200	5.5	1.2	27.9	4.7	0.3	6.8
	400	6.1	1.8	41.9	5.7	1.3	29.5
Gross Basal Area PAI (sq.ft/a)	Con	4.3			4.4		
	200	5.5	1.2	27.9	4.6	0.2	4.5
	400	6.1	1.8	41.9	5.4	1.0	22.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.8			3.0			2.5		
	200	3.5	-0.3	-7.9	2.2	-0.8	-26.7	1.6	-0.9	-36.0
	400	4.5	0.7	18.4	-1.1	-4.1	-136.7	2.4	-0.1	-4.0
Gross Basal Area PAI (sq.ft/a)	Con	3.8			3.0			2.5		
	200	3.4	-0.4	-10.5	2.5	-0.5	-16.7	1.5	-1.0	-40.0
	400	4.2	0.4	10.5	2.7	-0.3	-10.0	2.4	-0.1	-4.0

Installation 224 KAISER BUTTE #1
Region: Central Washington Ownership: Boise Cascade
Legal Description: T6N R15E Section 20 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	74 years	CCF	137.7
Trees per Acre	98 trees/a	Relative Density Index	38.5
Basal Area	160.4 sq.ft/a	Average Crown Length	40.6 ft
Total Volume	6071 cu.ft/a	Average Crown Ratio	45.7 %
Mean Diameter	17.3 in	Site Height (40 tpa)	113.5 ft

Species Composition (% of Total BA)

Douglas-fir	92.4 percent
Grand Fir	7.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 160.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	37.6		
	200 # N	56.2	18.6	49.5
	400 # N	27.1	-10.5	-27.9
10-year Gross Basal Area (sq.feet/acre)	Control	41.6		
	200 # N	56.2	14.6	35.1
	400 # N	46.4	4.8	11.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			4.7		
	200	6.1	3.0	96.8	6.3	1.6	34.0
	400	5.6	2.5	80.6	5.7	1.0	21.3
Gross Basal Area PAI (sq.ft/a)	Con	4.6			4.7		
	200	6.2	1.6	34.8	6.6	1.9	40.4
	400	5.6	1.0	21.7	5.6	0.9	19.1

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.7			3.4			3.1		
	200	6.0	1.3	27.7	5.6	2.2	64.7	4.0	0.9	29.0
	400	5.9	1.2	25.5	3.6	0.2	5.9	-7.3	-10.4	-335.5
Gross Basal Area PAI (sq.ft/a)	Con	4.8			3.8			3.0		
	200	6.2	1.4	29.2	4.9	1.1	28.9	4.2	1.2	40.0
	400	5.7	0.9	18.8	3.5	-0.3	-7.9	2.8	-0.2	-6.7

Installation 225 BOWMAN CREEK
Region: Central Washington Ownership: Boise Cascade
Legal Description: T5N R15E Section 18 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	85 years	CCF	113.7
Trees per Acre	160 trees/a	Relative Density Index	30.8
Basal Area	101.0 sq.ft/a	Average Crown Length	29.0 ft
Total Volume	2630 cu.ft/a	Average Crown Ratio	45.5 %
Mean Diameter	10.7 in	Site Height (40 tpa)	75.8 ft

Species Composition (% of Total BA)

Douglas-fir	98.3 percent
Ponderosa Pine	1.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 101.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	40.1		
	200 # N	.	.	.
	400 # N	51.4	11.3	28.2
10-year Gross Basal Area (sq.feet/acre)	Control	40.3		
	200 # N	.	.	.
	400 # N	50.1	9.8	24.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.6			5.0		
	200	.	.	.	.	.	.
	400	6.6	2.0	43.5	6.8	1.8	36.0
Gross Basal Area PAI (sq.ft/a)	Con	4.6			5.0		
	200	.	.	.	.	.	.
	400	6.6	2.0	43.5	6.6	1.6	32.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.2			3.3			3.0		
	200	.	.	.	.	.	.	.	.	.
	400	5.3	1.1	26.2	3.9	0.6	18.2	3.1	0.1	3.3
Gross Basal Area PAI (sq.ft/a)	Con	4.2			3.4			3.0		
	200	.	.	.	.	.	.	.	.	.
	400	5.0	0.8	19.0	3.7	0.3	8.8	3.1	0.1	3.3

Installation 226 CLEMAN MTN
Region: Central Washington Ownership: Boise Cascade
Legal Description: T16N R15E Section 16 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	79 years	CCF	99.6
Trees per Acre	130 trees/a	Relative Density Index	26.6
Basal Area	89.4 sq.ft/a	Average Crown Length	34.4 ft
Total Volume	2138 cu.ft/a	Average Crown Ratio	58.0 %
Mean Diameter	11.2 in	Site Height (40 tpa)	68.0 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 89.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	24.6		
	200 # N	29.9	5.3	21.5
	400 # N	33.0	8.4	34.1
10-year Gross Basal Area (sq.feet/acre)	Control	24.3		
	200 # N	29.9	5.6	23.0
	400 # N	35.3	11.0	45.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.0			3.0		
	200	4.2	1.2	40.0	3.7	0.7	23.3
	400	5.0	2.0	66.7	4.3	1.3	43.3
Gross Basal Area PAI (sq.ft/a)	Con	3.0			3.0		
	200	4.2	1.2	40.0	3.7	0.7	23.3
	400	4.9	1.9	63.3	4.6	1.6	53.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.4			2.6			1.4		
	200	2.6	0.2	8.3	2.8	0.2	7.7	1.6	0.2	14.3
	400	2.7	0.3	12.5	2.5	-0.1	-3.8	2.1	0.7	50.0
Gross Basal Area PAI (sq.ft/a)	Con	2.3			2.4			1.4		
	200	2.7	0.4	17.4	2.7	0.3	12.5	1.6	0.2	14.3
	400	3.2	0.9	39.1	2.8	0.4	16.7	2.1	0.7	50.0

Installation 227 JOHNSON CANYON
Region: Central Washington Ownership: Boise Cascade
Legal Description: T16N R15E Section 20 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	80 years	CCF	98.4
Trees per Acre	115 trees/a	Relative Density Index	25.5
Basal Area	88.0 sq.ft/a	Average Crown Length	34.8 ft
Total Volume	2302 cu.ft/a	Average Crown Ratio	51.0 %
Mean Diameter	11.8 in	Site Height (40 tpa)	72.7 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 88.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	19.7		
	200 # N	28.9	9.2	46.7
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	20.1		
	200 # N	28.9	8.8	43.8
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.2			2.9		
	200	4.2	2.0	90.9	3.8	0.9	31.0
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.2			2.9		
	200	4.3	2.1	95.5	3.9	1.0	34.5
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.1			1.6			1.2		
	200	2.6	0.5	23.8	2.5	0.9	56.3	1.3	0.1	8.3
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.2			1.7			1.1		
	200	2.7	0.5	22.7	2.2	0.5	29.4	1.3	0.2	18.2
	400	.	.	.	.	.	.	.	.	.

Installation 228 LOOKOUT MTN WEST
Region: Central Washington Ownership: Washington DNR
Legal Description: T20N R16E Section 36 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	64 years	CCF	140.3
Trees per Acre	180 trees/a	Relative Density Index	37.7
Basal Area	127.6 sq.ft/a	Average Crown Length	33.9 ft
Total Volume	3531 cu.ft/a	Average Crown Ratio	46.5 %
Mean Diameter	11.6 in	Site Height (40 tpa)	74.0 ft

Species Composition (% of Total BA)

Douglas-fir	91.9 percent
Ponderosa Pine	8.1 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 127.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	18.4		
	200 # N	.	.	.
	400 # N	31.0	12.6	68.5
10-year Gross Basal Area (sq.feet/acre)	Control	30.7		
	200 # N	.	.	.
	400 # N	31.4	0.7	2.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.2			4.2		
	200	.	.	.	.	.	.
	400	3.7	0.5	15.6	4.3	0.1	2.4
Gross Basal Area PAI (sq.ft/a)	Con	3.2			4.2		
	200	.	.	.	.	.	.
	400	3.7	0.5	15.6	4.4	0.2	4.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-3.7			2.7			2.8		
	200	.	.	.	.	.	.	.	.	.
	400	2.7	6.4	173.0	2.6	-0.1	-3.7	2.2	-0.6	-21.4
Gross Basal Area PAI (sq.ft/a)	Con	2.5			2.7			2.8		
	200	.	.	.	.	.	.	.	.	.
	400	2.8	0.3	12.0	2.6	-0.1	-3.7	2.2	-0.6	-21.4

Installation 229 LOOKOUT MTN EAST
Region: Central Washington Ownership: Boise Cascade
Legal Description: T20N R17E Section 31 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	69 years	CCF	127.9
Trees per Acre	115 trees/a	Relative Density Index	34.3
Basal Area	130.6 sq.ft/a	Average Crown Length	40.3 ft
Total Volume	3991 cu.ft/a	Average Crown Ratio	48.5 %
Mean Diameter	14.5 in	Site Height (40 tpa)	86.1 ft

Species Composition (% of Total BA)

Douglas-fir	98.2 percent
Ponderosa Pine	1.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 130.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	38.8		
	200 # N	.	.	.
	400 # N	44.5	5.7	14.7
10-year Gross Basal Area (sq.feet/acre)	Control	38.8		
	200 # N	.	.	.
	400 # N	44.4	5.6	14.4

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.4			4.4		
	200	.	.	.	.	.	.
	400	4.5	0.1	2.3	5.6	1.2	27.3
Gross Basal Area PAI (sq.ft/a)	Con	4.4			4.4		
	200	.	.	.	.	.	.
	400	4.5	0.1	2.3	5.6	1.2	27.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.3			3.3			4.1		
	200	.	.	.	.	.	.	.	.	.
	400	3.2	-0.1	-3.0	4.4	1.1	33.3	4.5	0.4	9.8
Gross Basal Area PAI (sq.ft/a)	Con	3.3			3.3			4.0		
	200	.	.	.	.	.	.	.	.	.
	400	3.2	-0.1	-3.0	4.4	1.1	33.3	4.5	0.5	12.5

Installation 230 M.F. TEANAWAY RIVER
Region: Central Washington Ownership: Boise Cascade
Legal Description: T21N R15E Section 20 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	81 years	CCF	118.2
Trees per Acre	133 trees/a	Relative Density Index	34.1
Basal Area	123.8 sq.ft/a	Average Crown Length	38.1 ft
Total Volume	3949 cu.ft/a	Average Crown Ratio	48.5 %
Mean Diameter	13.2 in	Site Height (40 tpa)	93.3 ft

Species Composition (% of Total BA)

Douglas-fir	85.0 percent
Grand Fir	0.4 percent
Ponderosa Pine	14.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 123.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	41.8		
	200 # N	44.8	3.0	7.2
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	42.0		
	200 # N	45.6	3.6	8.6
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.9			4.2		
	200	3.5	0.6	20.7	4.9	0.7	16.7
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.9			4.2		
	200	3.5	0.6	20.7	5.0	0.8	19.0
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.0			4.5			5.4		
	200	3.7	-0.3	-7.5	4.7	0.2	4.4	5.6	0.2	3.7
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	4.0			4.5			5.4		
	200	4.1	0.1	2.5	4.6	0.1	2.2	5.6	0.2	3.7
	400	.	.	.	.	.	.	.	.	.

Installation 231 ELMO
Region: Montana Ownership: Flathead (BIA)
Legal Description: T24N R21W Section 30 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	61 years	CCF	110.1
Trees per Acre	168 trees/a	Relative Density Index	30.2
Basal Area	97.0 sq.ft/a	Average Crown Length	27.6 ft
Total Volume	2247 cu.ft/a	Average Crown Ratio	47.3 %
Mean Diameter	10.3 in	Site Height (40 tpa)	64.4 ft

Species Composition (% of Total BA)

Douglas-fir	95.0 percent
Western Larch	0.1 percent
Ponderosa Pine	4.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 97.0 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	23.0		
	200 # N	28.7	5.7	24.8
	400 # N	25.7	2.7	11.7
10-year Gross Basal Area (sq.feet/acre)	Control	26.9		
	200 # N	28.7	1.8	6.7
	400 # N	29.7	2.8	10.4

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			2.2		
	200	4.2	0.6	16.7	2.5	0.3	13.6
	400	4.6	1.0	27.8	2.6	0.4	18.2
Gross Basal Area PAI (sq.ft/a)	Con	3.6			2.2		
	200	4.2	0.6	16.7	2.4	0.2	9.1
	400	4.6	1.0	27.8	2.4	0.2	9.1

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.8			0.0			2.8		
	200	2.8	0.0	0.0	1.8	1.8	.	3.0	0.2	7.1
	400	3.2	0.4	14.3	-0.3	-0.3	.	2.7	-0.1	-3.6
Gross Basal Area PAI (sq.ft/a)	Con	2.8			1.9			2.9		
	200	2.8	0.0	0.0	2.2	0.3	15.8	2.9	0.0	0.0
	400	3.0	0.2	7.1	2.1	0.2	10.5	2.7	-0.2	-6.9

Installation 232 SUNNY SLOPE
Region: Montana Ownership: Flathead (BIA)
Legal Description: T23N R21W Section 12 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	54 years	CCF	147.0
Trees per Acre	197 trees/a	Relative Density Index	40.8
Basal Area	137.4 sq.ft/a	Average Crown Length	33.0 ft
Total Volume	3646 cu.ft/a	Average Crown Ratio	47.3 %
Mean Diameter	11.3 in	Site Height (40 tpa)	76.4 ft

Species Composition (% of Total BA)

Douglas-fir	85.2 percent
Western Larch	9.4 percent
Ponderosa Pine	5.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 137.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	40.1		
	200 # N	41.9	1.8	4.5
	400 # N	34.3	-5.8	-14.5
10-year Gross Basal Area (sq.feet/acre)	Control	40.0		
	200 # N	41.9	1.9	4.7
	400 # N	39.1	-0.9	-2.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.7			3.1		
	200	6.4	0.7	12.3	3.7	0.6	19.4
	400	6.4	0.7	12.3	0.6	-2.5	-80.6
Gross Basal Area PAI (sq.ft/a)	Con	5.7			3.1		
	200	6.4	0.7	12.3	3.7	0.6	19.4
	400	6.4	0.7	12.3	2.9	-0.2	-6.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.4			3.7			3.1		
	200	4.1	-0.3	-6.8	3.7	0.0	0.0	3.0	-0.1	-3.2
	400	3.9	-0.5	-11.4	3.6	-0.1	-2.7	2.8	-0.3	-9.7
Gross Basal Area PAI (sq.ft/a)	Con	4.4			3.7			3.1		
	200	4.1	-0.3	-6.8	3.8	0.1	2.7	3.0	-0.1	-3.2
	400	3.9	-0.5	-11.4	3.6	-0.1	-2.7	2.8	-0.3	-9.7

Installation 233 HELLROARING CREEK
Region: Montana Ownership: Flathead (BIA)
Legal Description: T23N R19W Section 33 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	54 years	CCF	150.0
Trees per Acre	157 trees/a	Relative Density Index	39.6
Basal Area	142.4 sq.ft/a	Average Crown Length	36.6 ft
Total Volume	3947 cu.ft/a	Average Crown Ratio	50.0 %
Mean Diameter	12.9 in	Site Height (40 tpa)	77.7 ft

Species Composition (% of Total BA)

Douglas-fir	97.0 percent
Ponderosa Pine	3.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 142.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	28.9		
	200 # N	33.3	4.4	15.2
	400 # N	38.8	9.9	34.3
10-year Gross Basal Area (sq.feet/acre)	Control	29.0		
	200 # N	33.3	4.3	14.8
	400 # N	39.0	10.0	34.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.7			2.6		
	200	5.1	1.4	37.8	3.0	0.4	15.4
	400	5.9	2.2	59.5	3.7	1.1	42.3
Gross Basal Area PAI (sq.ft/a)	Con	3.7			2.6		
	200	5.1	1.4	37.8	3.1	0.5	19.2
	400	5.9	2.2	59.5	3.7	1.1	42.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.3			2.5			2.4		
	200	3.5	0.2	6.1	3.0	0.5	20.0	2.0	-0.4	-16.7
	400	4.2	0.9	27.3	3.1	0.6	24.0	2.6	0.2	8.3
Gross Basal Area PAI (sq.ft/a)	Con	3.3			2.6			2.4		
	200	3.5	0.2	6.1	2.8	0.2	7.7	2.1	-0.3	-12.5
	400	4.2	0.9	27.3	3.1	0.5	19.2	2.6	0.2	8.3

Installation 234 RONAN
Region: Montana Ownership: Flathead (BIA)
Legal Description: T20N R19W Section 5 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	59 years	CCF	137.8
Trees per Acre	177 trees/a	Relative Density Index	38.4
Basal Area	131.5 sq.ft/a	Average Crown Length	36.0 ft
Total Volume	3491 cu.ft/a	Average Crown Ratio	53.0 %
Mean Diameter	11.7 in	Site Height (40 tpa)	73.8 ft

Species Composition (% of Total BA)

Douglas-fir	76.7 percent
Grand Fir	1.0 percent
Western Larch	5.1 percent
Ponderosa Pine	17.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 131.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	37.9		
	200 # N	32.7	-5.2	-13.7
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	37.7		
	200 # N	32.7	-5.0	-13.3
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.0			3.4		
	200	5.1	0.1	2.0	2.8	-0.6	-17.6
	400	4.5	-0.5	-10.0	2.2	-1.2	-35.3
Gross Basal Area PAI (sq.ft/a)	Con	5.0			3.4		
	200	5.2	0.2	4.0	2.9	-0.5	-14.7
	400	4.4	-0.6	-12.0	2.6	-0.8	-23.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			2.8			3.3		
	200	3.9	0.0	0.0	2.4	-0.4	-14.3	2.6	-0.7	-21.2
	400	1.1	-2.8	-71.8	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.9			2.7			3.4		
	200	3.9	0.0	0.0	2.3	-0.4	-14.8	2.6	-0.8	-23.5
	400	3.1	-0.8	-20.5	.	.	.	.	.	.

Installation 235 FISH CREEK
Region: Montana Ownership: Champion
Legal Description: T14N R24W Section 5 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	74 years	CCF	124.6
Trees per Acre	297 trees/a	Relative Density Index	36.4
Basal Area	103.1 sq.ft/a	Average Crown Length	21.3 ft
Total Volume	2310 cu.ft/a	Average Crown Ratio	39.0 %
Mean Diameter	8.1 in	Site Height (40 tpa)	62.2 ft

Species Composition (% of Total BA)

Douglas-fir	89.1 percent
Ponderosa Pine	10.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 103.1 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	17.3		
	200 # N	21.9	4.6	26.6
	400 # N	16.7	-0.6	-3.5
10-year Gross Basal Area (sq.feet/acre)	Control	18.8		
	200 # N	25.8	7.0	37.2
	400 # N	29.1	10.3	54.8

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.9			1.9		
	200	3.0	1.1	57.9	1.3	-0.6	-31.6
	400	2.8	0.9	47.4	3.4	1.5	78.9
Gross Basal Area PAI (sq.ft/a)	Con	1.8			1.9		
	200	3.1	1.3	72.2	3.0	1.1	57.9
	400	2.8	1.0	55.6	3.3	1.4	73.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.8			1.5			1.6		
	200	2.1	0.3	16.7	3.1	1.6	106.7	1.3	-0.3	-18.8
	400	2.9	1.1	61.1	-0.5	-2.0	-133.3	-0.2	-1.8	-112.5
Gross Basal Area PAI (sq.ft/a)	Con	1.8			2.3			1.6		
	200	2.5	0.7	38.9	2.8	0.5	21.7	1.4	-0.2	-12.5
	400	2.8	1.0	55.6	3.3	1.0	43.5	2.3	0.7	43.8

Installation 236 DEER CREEK
Region: Montana Ownership: Champion
Legal Description: T13N R18W Section 20 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	80 years	CCF	204.2
Trees per Acre	347 trees/a	Relative Density Index	56.5
Basal Area	175.4 sq.ft/a	Average Crown Length	17.4 ft
Total Volume	4432 cu.ft/a	Average Crown Ratio	27.7 %
Mean Diameter	9.6 in	Site Height (40 tpa)	74.8 ft

Species Composition (% of Total BA)

Douglas-fir	97.3 percent
Ponderosa Pine	2.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 175.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	18.8		
	200 # N	15.3	-3.5	-18.6
	400 # N	0.7	-18.1	-96.3
10-year Gross Basal Area (sq.feet/acre)	Control	21.0		
	200 # N	19.4	-1.6	-7.6
	400 # N	19.9	-1.1	-5.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			2.1		
	200	2.7	-0.4	-12.9	1.8	-0.3	-14.3
	400	2.7	-0.4	-12.9	2.2	0.1	4.8
Gross Basal Area PAI (sq.ft/a)	Con	3.0			2.1		
	200	2.8	-0.2	-6.7	1.9	-0.2	-9.5
	400	2.7	-0.3	-10.0	1.9	-0.2	-9.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.0			1.2			1.1		
	200	1.6	-0.4	-20.0	1.3	0.1	8.3	0.2	-0.9	-81.8
	400	-0.6	-2.6	-130.0	-4.0	-5.2	-433.3	0.0	-1.1	-100.0
Gross Basal Area PAI (sq.ft/a)	Con	2.1			2.3			1.0		
	200	1.6	-0.5	-23.8	2.1	-0.2	-8.7	1.2	0.2	20.0
	400	2.0	-0.1	-4.8	2.0	-0.3	-13.0	1.3	0.3	30.0

Installation 237 MOLLET PARK
Region: Montana Ownership: Champion
Legal Description: T15N R12W Section 9 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	90 years	CCF	168.2
Trees per Acre	215 trees/a	Relative Density Index	46.4
Basal Area	158.2 sq.ft/a	Average Crown Length	22.8 ft
Total Volume	4526 cu.ft/a	Average Crown Ratio	31.5 %
Mean Diameter	11.7 in	Site Height (40 tpa)	80.8 ft

Species Composition (% of Total BA)

Douglas-fir	99.0 percent
Ponderosa Pine	1.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 158.2 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	30.7		
	200 # N	23.2	-7.5	-24.4
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	30.3		
	200 # N	25.2	-5.1	-16.8
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.0			2.7		
	200	3.6	-0.4	-10.0	2.4	-0.3	-11.1
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	4.0			2.7		
	200	3.5	-0.5	-12.5	2.2	-0.5	-18.5
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.4			3.0			2.2		
	200	2.7	-0.7	-20.6	2.1	-0.9	-30.0	1.0	-1.2	-54.5
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.4			2.8			2.3		
	200	2.6	-0.8	-23.5	2.4	-0.4	-14.3	1.9	-0.4	-17.4
	400	.	.	.	.	.	.	.	.	.

Installation 238 BULLALO BILL CREEK
Region: Montana Ownership: Champion
Legal Description: T22N R26W Section 34 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	32 years	CCF	61.3
Trees per Acre	235 trees/a	Relative Density Index	19.3
Basal Area	47.6 sq.ft/a	Average Crown Length	23.4 ft
Total Volume	760 cu.ft/a	Average Crown Ratio	69.5 %
Mean Diameter	6.1 in	Site Height (40 tpa)	41.3 ft

Species Composition (% of Total BA)

Douglas-fir	75.3 percent
Western Larch	6.0 percent
Lodgepole Pine	17.0 percent
Ponderosa Pine	1.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 47.6 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	31.8		
	200 # N	.	.	.
	400 # N	34.6	2.8	8.8
10-year Gross Basal Area (sq.feet/acre)	Control	31.6		
	200 # N	.	.	.
	400 # N	35.6	4.0	12.7

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.5			2.5		
	200	.	.	.	.	.	.
	400	4.2	0.7	20.0	3.0	0.5	20.0
Gross Basal Area PAI (sq.ft/a)	Con	3.5			2.5		
	200	.	.	.	.	.	.
	400	4.2	0.7	20.0	3.1	0.6	24.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.3			3.7			2.8		
	200	.	.	.	.	.	.	.	.	.
	400	3.3	0.0	0.0	3.3	-0.4	-10.8	3.5	0.7	25.0
Gross Basal Area PAI (sq.ft/a)	Con	3.3			3.6			2.8		
	200	.	.	.	.	.	.	.	.	.
	400	3.5	0.2	6.1	3.4	-0.2	-5.6	3.6	0.8	28.6

Installation 239 WAHA #2
Region: Northeast Oregon Ownership: Potlatch
Legal Description: T33N R4W Section 10 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	87 years	CCF	167.5
Trees per Acre	149 trees/a	Relative Density Index	48.5
Basal Area	189.7 sq.ft/a	Average Crown Length	33.5 ft
Total Volume	6291 cu.ft/a	Average Crown Ratio	41.5 %
Mean Diameter	15.2 in	Site Height (40 tpa)	93.2 ft

Species Composition (% of Total BA)

Douglas-fir	86.7 percent
Ponderosa Pine	13.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 189.7 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	27.9		
	200 # N	.	.	.
	400 # N	-19.0	-46.9	-168.1
10-year Gross Basal Area (sq.feet/acre)	Control	30.6		
	200 # N	.	.	.
	400 # N	32.2	1.6	5.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.0			4.0		
	200	.	.	.	.	.	.
	400	4.7	1.7	56.7	-8.3	-12.3	-307.5
Gross Basal Area PAI (sq.ft/a)	Con	3.8			4.0		
	200	.	.	.	.	.	.
	400	4.7	0.9	23.7	3.8	-0.2	-5.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.4			1.5			3.2		
	200	.	.	.	.	.	.	.	.	.
	400	-11.7	-14.1	-587.5	3.6	2.1	140.0	2.1	-1.1	-34.4
Gross Basal Area PAI (sq.ft/a)	Con	2.6			2.8			2.3		
	200	.	.	.	.	.	.	.	.	.
	400	2.4	-0.2	-7.7	3.2	0.4	14.3	2.0	-0.3	-13.0

Installation 240 QUARTZ CREEK #1
Region: Northern Idaho Ownership: Potlatch
Legal Description: T37N R5E Section 8 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	41 years	CCF	170.5
Trees per Acre	330 trees/a	Relative Density Index	47.9
Basal Area	144.4 sq.ft/a	Average Crown Length	30.7 ft
Total Volume	3623 cu.ft/a	Average Crown Ratio	51.3 %
Mean Diameter	8.9 in	Site Height (40 tpa)	69.6 ft

Species Composition (% of Total BA)

Douglas-fir	85.1 percent
Grand Fir	3.4 percent
Western Redcedar	1.1 percent
Western Larch	10.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 144.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	62.4		
	200 # N	72.0	9.6	15.4
	400 # N	78.6	16.2	26.0
10-year Gross Basal Area (sq.feet/acre)	Control	62.2		
	200 # N	82.0	19.8	31.8
	400 # N	73.4	11.2	18.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.9			6.2		
	200	7.6	1.7	28.8	9.3	3.1	50.0
	400	8.3	2.4	40.7	8.7	2.5	40.3
Gross Basal Area PAI (sq.ft/a)	Con	5.9			6.2		
	200	9.2	3.3	55.9	8.8	2.6	41.9
	400	8.3	2.4	40.7	7.9	1.7	27.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	7.0			6.3			5.8		
	200	8.5	1.5	21.4	2.8	-3.5	-55.6	7.8	2.0	34.5
	400	9.0	2.0	28.6	7.0	0.7	11.1	6.2	0.4	6.9
Gross Basal Area PAI (sq.ft/a)	Con	6.9			6.2			5.9		
	200	8.3	1.4	20.3	7.2	1.0	16.1	7.6	1.7	28.8
	400	7.8	0.9	13.0	6.5	0.3	4.8	6.1	0.2	3.4

Installation 241 WOODY MTN
Region: Central Washington Ownership: Washington DNR
Legal Description: T33N R24E Section 9 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	72 years	CCF	132.6
Trees per Acre	283 trees/a	Relative Density Index	37.8
Basal Area	109.9 sq.ft/a	Average Crown Length	26.8 ft
Total Volume	2582 cu.ft/a	Average Crown Ratio	47.7 %
Mean Diameter	8.4 in	Site Height (40 tpa)	64.2 ft

Species Composition (% of Total BA)

Douglas-fir	90.7 percent
Lodgepole Pine	1.8 percent
Ponderosa Pine	7.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 109.9 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	33.2		
	200 # N	30.2	-3.0	-9.0
	400 # N	52.6	19.4	58.4
10-year Gross Basal Area (sq.feet/acre)	Control	34.2		
	200 # N	41.8	7.6	22.2
	400 # N	56.2	22.0	64.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.1			4.7		
	200	5.6	1.5	36.6	5.9	1.2	25.5
	400	7.4	3.3	80.5	8.8	4.1	87.2
Gross Basal Area PAI (sq.ft/a)	Con	4.1			4.7		
	200	5.7	1.6	39.0	6.1	1.4	29.8
	400	7.4	3.3	80.5	8.6	3.9	83.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.2			2.4			2.3		
	200	-1.6	-4.8	-150.0	2.4	0.0	0.0	2.8	0.5	21.7
	400	5.0	1.8	56.3	1.5	-0.9	-37.5	3.5	1.2	52.2
Gross Basal Area PAI (sq.ft/a)	Con	3.4			2.8			2.2		
	200	3.3	-0.1	-2.9	2.8	0.0	0.0	2.9	0.7	31.8
	400	4.7	1.3	38.2	4.0	1.2	42.9	3.5	1.3	59.1

Installation 242 N.F. NINEMILE CREEK
Region: Central Washington Ownership: Washington DNR
Legal Description: T39N R24E Section 13 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	87 years	CCF	184.2
Trees per Acre	407 trees/a	Relative Density Index	52.7
Basal Area	151.6 sq.ft/a	Average Crown Length	22.0 ft
Total Volume	3719 cu.ft/a	Average Crown Ratio	39.3 %
Mean Diameter	8.3 in	Site Height (40 tpa)	72.4 ft

Species Composition (% of Total BA)

Douglas-fir	99.5 percent
Lodgepole Pine	0.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 151.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	20.5		
	200 # N	31.8	11.3	55.1
	400 # N	33.0	12.5	61.0
10-year Gross Basal Area (sq.feet/acre)	Control	23.7		
	200 # N	31.8	8.1	34.2
	400 # N	36.7	13.0	54.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.6			2.9		
	200	4.0	1.4	53.8	3.7	0.8	27.6
	400	4.9	2.3	88.5	4.0	1.1	37.9
Gross Basal Area PAI (sq.ft/a)	Con	2.7			2.9		
	200	4.2	1.5	55.6	3.9	1.0	34.5
	400	4.9	2.2	81.5	4.6	1.7	58.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	0.9			1.6			2.2		
	200	1.8	0.9	100.0	3.6	2.0	125.0	2.7	0.5	22.7
	400	1.9	1.0	111.1	2.6	1.0	62.5	3.2	1.0	45.5
Gross Basal Area PAI (sq.ft/a)	Con	1.7			2.4			2.2		
	200	1.9	0.2	11.8	3.0	0.6	25.0	2.8	0.6	27.3
	400	2.8	1.1	64.7	2.9	0.5	20.8	3.3	1.1	50.0

Installation 243 STARVATION LAKE
Region: Northeast Washington Ownership: Washington DNR
Legal Description: T35N R40E Section 13 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	73 years	CCF	142.6
Trees per Acre	220 trees/a	Relative Density Index	39.1
Basal Area	125.0 sq.ft/a	Average Crown Length	24.2 ft
Total Volume	3284 cu.ft/a	Average Crown Ratio	37.5 %
Mean Diameter	10.2 in	Site Height (40 tpa)	73.0 ft

Species Composition (% of Total BA)

Douglas-fir	87.1 percent
Western Larch	10.0 percent
Ponderosa Pine	2.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 125.0 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	20.2		
	200 # N	33.1	12.9	63.9
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	34.7		
	200 # N	36.7	2.0	5.8
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.1			1.4		
	200	4.7	0.6	14.6	4.6	3.2	228.6
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	4.1			3.7		
	200	4.7	0.6	14.6	4.4	0.7	18.9
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-1.1			2.4			3.3		
	200	3.6	4.7	427.3	-0.1	-2.5	-104.2	3.8	0.5	15.2
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.1			2.2			4.2		
	200	3.6	0.5	16.1	2.1	-0.1	-4.5	3.7	-0.5	-11.9
	400	.	.	.	.	.	.	.	.	.

Installation 244 BIG LOOKOUT MTN #1
Region: Northeast Oregon Ownership: BLM (Oregon)
Legal Description: T11S R45E Section 19 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	90 years	CCF	269.4
Trees per Acre	250 trees/a	Relative Density Index	74.6
Basal Area	284.3 sq.ft/a	Average Crown Length	27.2 ft
Total Volume	8984 cu.ft/a	Average Crown Ratio	33.7 %
Mean Diameter	14.6 in	Site Height (40 tpa)	97.5 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 284.3 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	29.6		
	200 # N	13.8	-15.8	-53.4
	400 # N	20.1	-9.5	-32.1
10-year Gross Basal Area (sq.feet/acre)	Control	30.1		
	200 # N	25.9	-4.2	-14.0
	400 # N	23.9	-6.2	-20.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.0			4.0		
	200	2.4	-0.6	-20.0	3.5	-0.5	-12.5
	400	2.3	-0.7	-23.3	3.2	-0.8	-20.0
Gross Basal Area PAI (sq.ft/a)	Con	2.9			4.0		
	200	2.5	-0.4	-13.8	3.6	-0.4	-10.0
	400	2.3	-0.6	-20.7	3.1	-0.9	-22.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.0			2.1			2.8		
	200	2.5	-0.5	-16.7	0.6	-1.5	-71.4	-2.1	-4.9	-175.0
	400	2.2	-0.8	-26.7	1.9	-0.2	-9.5	0.5	-2.3	-82.1
Gross Basal Area PAI (sq.ft/a)	Con	3.1			2.3			2.8		
	200	2.5	-0.6	-19.4	1.9	-0.4	-17.4	2.3	-0.5	-17.9
	400	2.1	-1.0	-32.3	2.3	0.0	0.0	2.2	-0.6	-21.4

Installation 245 BIG LOOKOUT MTN #2
Region: Northeast Oregon Ownership: BLM (Oregon)
Legal Description: T12S R44E Section 12 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	52 years	CCF	197.3
Trees per Acre	335 trees/a	Relative Density Index	55.1
Basal Area	172.2 sq.ft/a	Average Crown Length	17.5 ft
Total Volume	3142 cu.ft/a	Average Crown Ratio	39.5 %
Mean Diameter	9.7 in	Site Height (40 tpa)	54.4 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 172.2 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	3.0		
	200 # N	0.1	-2.9	-96.7
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	23.6		
	200 # N	29.2	5.6	23.7
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			0.3		
	200	4.0	0.9	29.0	-3.4	-3.7	-1233.3
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.0			3.4		
	200	4.2	1.2	40.0	3.7	0.3	8.8
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-0.4			-2.5			1.1		
	200	0.5	0.9	225.0	-3.5	-1.0	-40.0	2.3	1.2	109.1
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.0			1.6			1.7		
	200	2.2	0.2	10.0	2.0	0.4	25.0	2.5	0.8	47.1
	400	.	.	.	.	.	.	.	.	.

Installation 246 KETTLE FALLS
Region: Northeast Washington Ownership: Washington DNR
Legal Description: T36N R37E Section 36 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	34 years	CCF	126.2
Trees per Acre	310 trees/a	Relative Density Index	35.8
Basal Area	99.4 sq.ft/a	Average Crown Length	24.7 ft
Total Volume	2299 cu.ft/a	Average Crown Ratio	46.0 %
Mean Diameter	7.8 in	Site Height (40 tpa)	66.4 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 99.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	23.9		
	200 # N	.	.	.
	400 # N	21.1	-2.8	-11.7
10-year Gross Basal Area (sq.feet/acre)	Control	25.5		
	200 # N	.	.	.
	400 # N	36.2	10.7	42.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.0			3.0		
	200	.	.	.	.	.	.
	400	6.1	2.1	52.5	3.7	0.7	23.3
Gross Basal Area PAI (sq.ft/a)	Con	4.0			3.0		
	200	.	.	.	.	.	.
	400	6.1	2.1	52.5	4.3	1.3	43.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.6			1.8			1.6		
	200	.	.	.	.	.	.	.	.	.
	400	-5.4	-7.0	-437.5	2.9	1.1	61.1	3.2	1.6	100.0
Gross Basal Area PAI (sq.ft/a)	Con	1.6			2.2			2.0		
	200	.	.	.	.	.	.	.	.	.
	400	1.6	0.0	0.0	2.9	0.7	31.8	3.2	1.2	60.0

Installation 247 PARK RAPIDS
Region: Northeast Washington Ownership: Washington DNR
Legal Description: T35N R40E Section 24 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	76 years	CCF	139.8
Trees per Acre	200 trees/a	Relative Density Index	38.7
Basal Area	127.4 sq.ft/a	Average Crown Length	30.4 ft
Total Volume	3509 cu.ft/a	Average Crown Ratio	43.3 %
Mean Diameter	10.8 in	Site Height (40 tpa)	78.5 ft

Species Composition (% of Total BA)

Douglas-fir	88.3 percent
Western Larch	2.5 percent
Lodgepole Pine	1.9 percent
Ponderosa Pine	7.2 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 127.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	26.2		
	200 # N	28.5	2.3	8.8
	400 # N	32.7	6.5	24.8
10-year Gross Basal Area (sq.feet/acre)	Control	28.6		
	200 # N	40.3	11.7	40.9
	400 # N	36.0	7.4	25.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.0			1.8		
	200	6.3	2.3	57.5	-2.0	-3.8	-211.1
	400	5.7	1.7	42.5	1.5	-0.3	-16.7
Gross Basal Area PAI (sq.ft/a)	Con	4.0			3.0		
	200	6.3	2.3	57.5	3.9	0.9	30.0
	400	5.8	1.8	45.0	3.5	0.5	16.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.1			2.6			2.7		
	200	3.0	0.9	42.9	3.2	0.6	23.1	3.7	1.0	37.0
	400	2.9	0.8	38.1	3.3	0.7	26.9	2.9	0.2	7.4
Gross Basal Area PAI (sq.ft/a)	Con	2.1			2.6			2.7		
	200	2.9	0.8	38.1	3.3	0.7	26.9	3.7	1.0	37.0
	400	2.6	0.5	23.8	3.2	0.6	23.1	2.9	0.2	7.4

Installation 248 QUINEY FLAT
Region: Central Washington Ownership: Boise Cascade
Legal Description: T5N R14E Section 1 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	64 years	CCF	128.8
Trees per Acre	193 trees/a	Relative Density Index	35.0
Basal Area	112.6 sq.ft/a	Average Crown Length	33.5 ft
Total Volume	2768 cu.ft/a	Average Crown Ratio	55.0 %
Mean Diameter	10.3 in	Site Height (40 tpa)	71.1 ft

Species Composition (% of Total BA)

Douglas-fir	93.5 percent
Ponderosa Pine	6.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 112.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	54.3		
	200 # N	56.1	1.8	3.3
	400 # N	56.5	2.2	4.1
10-year Gross Basal Area (sq.feet/acre)	Control	54.2		
	200 # N	56.1	1.9	3.5
	400 # N	54.3	0.1	0.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	7.2			5.7		
	200	8.0	0.8	11.1	6.5	0.8	14.0
	400	8.1	0.9	12.5	6.1	0.4	7.0
Gross Basal Area PAI (sq.ft/a)	Con	7.2			5.7		
	200	7.9	0.7	9.7	6.2	0.5	8.8
	400	8.1	0.9	12.5	5.8	0.1	1.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.8			4.2			4.3		
	200	5.7	-0.1	-1.7	3.6	-0.6	-14.3	4.3	0.0	0.0
	400	5.7	-0.1	-1.7	4.1	-0.1	-2.4	4.1	-0.2	-4.7
Gross Basal Area PAI (sq.ft/a)	Con	5.8			4.2			4.3		
	200	5.7	-0.1	-1.7	4.1	-0.1	-2.4	4.2	-0.1	-2.3
	400	5.3	-0.5	-8.6	3.9	-0.3	-7.1	4.0	-0.3	-7.0

Installation 249 KAISER BUTTE #2
Region: Central Washington Ownership: Boise Cascade
Legal Description: T6N R15E Section 20 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	77 years	CCF	179.6
Trees per Acre	240 trees/a	Relative Density Index	50.4
Basal Area	170.4 sq.ft/a	Average Crown Length	32.5 ft
Total Volume	5428 cu.ft/a	Average Crown Ratio	42.0 %
Mean Diameter	11.4 in	Site Height (40 tpa)	96.8 ft

Species Composition (% of Total BA)

Douglas-fir	99.0 percent
Ponderosa Pine	1.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 170.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	37.4		
	200 # N	43.2	5.8	15.5
	400 # N	55.5	18.1	48.4
10-year Gross Basal Area (sq.feet/acre)	Control	43.3		
	200 # N	43.2	-0.1	-0.2
	400 # N	56.5	13.2	30.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.1			4.3		
	200	6.1	1.0	19.6	5.0	0.7	16.3
	400	7.7	2.6	51.0	6.3	2.0	46.5
Gross Basal Area PAI (sq.ft/a)	Con	5.1			4.7		
	200	6.1	1.0	19.6	4.9	0.2	4.3
	400	7.7	2.6	51.0	6.1	1.4	29.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.1			2.5			1.6		
	200	4.8	-0.3	-5.9	2.6	0.1	4.0	3.1	1.5	93.8
	400	6.0	0.9	17.6	3.5	1.0	40.0	4.3	2.7	168.8
Gross Basal Area PAI (sq.ft/a)	Con	5.1			3.3			3.4		
	200	4.8	-0.3	-5.9	2.7	-0.6	-18.2	3.1	-0.3	-8.8
	400	6.4	1.3	25.5	3.7	0.4	12.1	4.3	0.9	26.5

Installation 250 QUARTZ CREEK #2
Region: Northern Idaho Ownership: Potlatch
Legal Description: T37N R5E Section 5 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	38 years	CCF	141.5
Trees per Acre	290 trees/a	Relative Density Index	39.5
Basal Area	115.8 sq.ft/a	Average Crown Length	32.5 ft
Total Volume	2292 cu.ft/a	Average Crown Ratio	71.0 %
Mean Diameter	8.7 in	Site Height (40 tpa)	58.5 ft

Species Composition (% of Total BA)

Douglas-fir	94.6 percent
Grand Fir	4.9 percent
White Pine	0.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 115.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	75.9		
	200 # N	.	.	.
	400 # N	111.4	35.5	46.8
10-year Gross Basal Area (sq.feet/acre)	Control	75.8		
	200 # N	.	.	.
	400 # N	115.2	39.4	52.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	8.4			7.1		
	200	.	.	.	.	.	.
	400	13.6	5.2	61.9	10.2	3.1	43.7
Gross Basal Area PAI (sq.ft/a)	Con	8.4			7.1		
	200	.	.	.	.	.	.
	400	13.6	5.2	61.9	12.0	4.9	69.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	7.9			7.0			7.4		
	200	.	.	.	.	.	.	.	.	.
	400	10.8	2.9	36.7	10.1	3.1	44.3	11.0	3.6	48.6
Gross Basal Area PAI (sq.ft/a)	Con	7.9			7.0			7.4		
	200	.	.	.	.	.	.	.	.	.
	400	10.9	3.0	38.0	10.2	3.2	45.7	11.0	3.6	48.6

Installation 251 GAME CREEK
Region: Montana Ownership: Champion
Legal Description: T13N R16W Section 30 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	60 years	CCF	175.2
Trees per Acre	330 trees/a	Relative Density Index	50.1
Basal Area	152.1 sq.ft/a	Average Crown Length	23.9 ft
Total Volume	3431 cu.ft/a	Average Crown Ratio	44.5 %
Mean Diameter	9.3 in	Site Height (40 tpa)	65.1 ft

Species Composition (% of Total BA)

Douglas-fir	89.9 percent
Western Larch	4.1 percent
Lodgepole Pine	3.3 percent
Ponderosa Pine	2.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 152.1 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	22.0		
	200 # N	.	.	.
	400 # N	23.0	1.0	4.5
10-year Gross Basal Area (sq.feet/acre)	Control	21.6		
	200 # N	.	.	.
	400 # N	24.6	3.0	13.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.1			2.1		
	200	.	.	.	.	.	.
	400	3.2	1.1	52.4	2.1	0.0	0.0
Gross Basal Area PAI (sq.ft/a)	Con	2.1			2.1		
	200	.	.	.	.	.	.
	400	3.1	1.0	47.6	2.4	0.3	14.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.4			3.0			2.3		
	200	.	.	.	.	.	.	.	.	.
	400	1.4	0.0	0.0	2.8	-0.2	-6.7	2.1	-0.2	-8.7
Gross Basal Area PAI (sq.ft/a)	Con	1.3			2.8			2.4		
	200	.	.	.	.	.	.	.	.	.
	400	1.8	0.5	38.5	2.9	0.1	3.6	2.1	-0.3	-12.5

Installation 252 BLACK CANYON RANCH
Region: Montana Ownership: Champion
Legal Description: T15N R13W Section 6 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	89 years	CCF	161.2
Trees per Acre	355 trees/a	Relative Density Index	47.0
Basal Area	136.1 sq.ft/a	Average Crown Length	24.5 ft
Total Volume	2896 cu.ft/a	Average Crown Ratio	52.0 %
Mean Diameter	8.4 in	Site Height (40 tpa)	57.8 ft

Species Composition (% of Total BA)

Douglas-fir	84.5 percent
Western Larch	3.4 percent
Lodgepole Pine	12.1 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 136.1 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	13.3		
	200 # N	.	.	.
	400 # N	22.3	9.0	67.7
10-year Gross Basal Area (sq.feet/acre)	Control	17.7		
	200 # N	.	.	.
	400 # N	26.5	8.8	49.7

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.3			2.1		
	200	.	.	.	.	.	.
	400	3.8	1.5	65.2	2.8	0.7	33.3
Gross Basal Area PAI (sq.ft/a)	Con	2.4			2.1		
	200	.	.	.	.	.	.
	400	3.8	1.4	58.3	3.1	1.0	47.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.1			1.2			0.0		
	200	.	.	.	.	.	.	.	.	.
	400	1.6	0.5	45.5	2.0	0.8	66.7	0.9	0.9	.
Gross Basal Area PAI (sq.ft/a)	Con	1.0			2.1			1.3		
	200	.	.	.	.	.	.	.	.	.
	400	2.0	1.0	100.0	2.2	0.1	4.8	2.2	0.9	69.2

Installation 253 ELK CREEK RESERVOIR
Region: Northern Idaho Ownership: IDL
Legal Description: T40N R2E Section 36 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	53 years	CCF	208.2
Trees per Acre	215 trees/a	Relative Density Index	55.5
Basal Area	201.3 sq.ft/a	Average Crown Length	42.1 ft
Total Volume	7178 cu.ft/a	Average Crown Ratio	47.5 %
Mean Diameter	13.2 in	Site Height (40 tpa)	105.3 ft

Species Composition (% of Total BA)

Douglas-fir	78.1 percent
Grand Fir	13.4 percent
Western Redcedar	7.6 percent
White Pine	0.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 201.3 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	38.6		
	200 # N	51.3	12.7	32.9
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	43.8		
	200 # N	51.3	7.5	17.1
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.1			5.1		
	200	6.1	1.0	19.6	5.8	0.7	13.7
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	5.1			5.1		
	200	6.1	1.0	19.6	5.8	0.7	13.7
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.0			3.9			4.2		
	200	4.8	3.8	380.0	4.4	0.5	12.8	4.5	0.3	7.1
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.6			3.9			4.2		
	200	4.8	1.2	33.3	4.4	0.5	12.8	4.5	0.3	7.1
	400	.	.	.	.	.	.	.	.	.

Installation 254 CRANBERRY CREEK
Region: Northern Idaho Ownership: IDL
Legal Description: T38N R2E Section 12 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	27 years	CCF	133.2
Trees per Acre	480 trees/a	Relative Density Index	38.6
Basal Area	95.8 sq.ft/a	Average Crown Length	26.2 ft
Total Volume	1706 cu.ft/a	Average Crown Ratio	67.0 %
Mean Diameter	6.2 in	Site Height (40 tpa)	49.1 ft

Species Composition (% of Total BA)

Douglas-fir	74.2 percent
Grand Fir	14.9 percent
Western Redcedar	8.2 percent
Western Larch	2.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 95.8 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	73.9		
	200 # N	86.4	12.5	16.9
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	74.1		
	200 # N	86.8	12.7	17.1
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	9.0			7.1		
	200	10.9	1.9	21.1	9.3	2.2	31.0
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	9.0			7.1		
	200	11.0	2.0	22.2	9.4	2.3	32.4
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	7.3			6.9			6.7		
	200	7.4	0.1	1.4	7.7	0.8	11.6	7.8	1.1	16.4
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	7.3			6.9			6.7		
	200	7.7	0.4	5.5	7.6	0.7	10.1	7.8	1.1	16.4
	400	.	.	.	.	.	.	.	.	.

Installation 255 BIRCH CREEK
Region: Northern Idaho Ownership: Inland Empire
Legal Description: T53N R5W Section 2 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	34 years	CCF	218.2
Trees per Acre	647 trees/a	Relative Density Index	64.8
Basal Area	171.4 sq.ft/a	Average Crown Length	19.4 ft
Total Volume	3576 cu.ft/a	Average Crown Ratio	40.3 %
Mean Diameter	7.0 in	Site Height (40 tpa)	60.3 ft

Species Composition (% of Total BA)

Douglas-fir	86.7 percent
Grand Fir	3.1 percent
Western Larch	7.5 percent
Lodgepole Pine	1.5 percent
Ponderosa Pine	1.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 171.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	46.1		
	200 # N	34.8	-11.3	-24.5
	400 # N	60.7	14.6	31.7
10-year Gross Basal Area (sq.feet/acre)	Control	81.7		
	200 # N	79.2	-2.5	-3.1
	400 # N	74.8	-6.9	-8.4

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	8.7			2.4		
	200	8.8	0.1	1.1	-2.1	-4.5	-187.5
	400	9.2	0.5	5.7	7.8	5.4	225.0
Gross Basal Area PAI (sq.ft/a)	Con	8.8			8.8		
	200	10.0	1.2	13.6	8.4	-0.4	-4.5
	400	9.2	0.4	4.5	9.1	0.3	3.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			8.5			-0.2		
	200	1.4	-2.2	-61.1	6.5	-2.0	-23.5	2.8	3.0	1500.0
	400	5.5	1.9	52.8	7.3	-1.2	-14.1	0.6	0.8	400.0
Gross Basal Area PAI (sq.ft/a)	Con	7.9			8.8			6.4		
	200	7.0	-0.9	-11.4	8.1	-0.7	-8.0	6.0	-0.4	-6.2
	400	6.2	-1.7	-21.5	7.7	-1.1	-12.5	5.2	-1.2	-18.7

Installation 256 SLY MEADOWS
Region: Northern Idaho Ownership: Inland Empire
Legal Description: T46N R1E Section 31 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	36 years	CCF	227.8
Trees per Acre	610 trees/a	Relative Density Index	68.3
Basal Area	187.5 sq.ft/a	Average Crown Length	20.3 ft
Total Volume	4755 cu.ft/a	Average Crown Ratio	40.0 %
Mean Diameter	7.6 in	Site Height (40 tpa)	79.2 ft

Species Composition (% of Total BA)

Douglas-fir	69.5 percent
Grand Fir	15.4 percent
Western Larch	4.8 percent
Lodgepole Pine	10.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 187.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	56.0		
	200 # N	.	.	.
	400 # N	10.5	-45.5	-81.3
10-year Gross Basal Area (sq.feet/acre)	Control	61.8		
	200 # N	.	.	.
	400 # N	51.8	-10.0	-16.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.2			5.9		
	200	.	.	.	.	.	.
	400	6.1	-0.1	-1.6	-13.1	-19.0	-322.0
Gross Basal Area PAI (sq.ft/a)	Con	6.2			6.2		
	200	.	.	.	.	.	.
	400	6.1	-0.1	-1.6	4.9	-1.3	-21.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.5			4.0			5.3		
	200	.	.	.	.	.	.	.	.	.
	400	4.3	-2.2	-33.8	4.5	0.5	12.5	3.4	-1.9	-35.8
Gross Basal Area PAI (sq.ft/a)	Con	7.0			5.8			5.7		
	200	.	.	.	.	.	.	.	.	.
	400	6.2	-0.8	-11.4	5.1	-0.7	-12.1	3.6	-2.1	-36.8

Installation 257 LITTLE CATHERINE CR
Region: Northeast Oregon Ownership: Boise Cascade
Legal Description: T4S R41E Section 28 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	87 years	CCF	130.5
Trees per Acre	122 trees/a	Relative Density Index	36.1
Basal Area	136.7 sq.ft/a	Average Crown Length	45.8 ft
Total Volume	3666 cu.ft/a	Average Crown Ratio	67.5 %
Mean Diameter	14.4 in	Site Height (40 tpa)	77.6 ft

Species Composition (% of Total BA)

Douglas-fir	96.7 percent
Ponderosa Pine	3.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 136.7 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	17.5		
	200 # N	.	.	.
	400 # N	31.6	14.1	80.6
10-year Gross Basal Area (sq.feet/acre)	Control	23.1		
	200 # N	.	.	.
	400 # N	28.0	4.9	21.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.1			2.8		
	200	.	.	.	.	.	.
	400	5.9	1.8	43.9	3.6	0.8	28.6
Gross Basal Area PAI (sq.ft/a)	Con	4.0			2.8		
	200	.	.	.	.	.	.
	400	6.0	2.0	50.0	3.1	0.3	10.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.1			0.4			0.4		
	200	.	.	.	.	.	.	.	.	.
	400	1.8	0.7	63.6	2.3	1.9	475.0	2.0	1.6	400.0
Gross Basal Area PAI (sq.ft/a)	Con	1.3			1.7			1.8		
	200	.	.	.	.	.	.	.	.	.
	400	1.0	-0.3	-23.1	1.9	0.2	11.8	2.0	0.2	11.1

Installation 258 RONDOWA
Region: Northeast Oregon Ownership: Boise Cascade
Legal Description: T3N R40E Section 23 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	72 years	CCF	152.3
Trees per Acre	130 trees/a	Relative Density Index	41.4
Basal Area	160.5 sq.ft/a	Average Crown Length	38.2 ft
Total Volume	5377 cu.ft/a	Average Crown Ratio	43.0 %
Mean Diameter	15.1 in	Site Height (40 tpa)	98.1 ft

Species Composition (% of Total BA)

Douglas-fir	97.0 percent
Grand Fir	1.2 percent
Western Larch	1.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 160.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	-23.4		
	200 # N	42.5	65.9	281.6
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	27.9		
	200 # N	42.5	14.6	52.3
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.4			3.5		
	200	4.9	1.5	44.1	4.7	1.2	34.3
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.4			3.5		
	200	4.9	1.5	44.1	4.8	1.3	37.1
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.8			-12.7			-8.6		
	200	4.1	1.3	46.4	4.0	16.7	131.5	3.5	12.1	140.7
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.8			2.0			2.2		
	200	4.2	1.4	50.0	3.7	1.7	85.0	3.6	1.4	63.6
	400	.	.	.	.	.	.	.	.	.

Installation 259 RAILROAD CANYON
Region: Central Washington Ownership: Longview Fiber
Legal Description: T25N R18E Section 2 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	71 years	CCF	215.3
Trees per Acre	360 trees/a	Relative Density Index	59.2
Basal Area	184.4 sq.ft/a	Average Crown Length	23.6 ft
Total Volume	4912 cu.ft/a	Average Crown Ratio	36.0 %
Mean Diameter	9.7 in	Site Height (40 tpa)	80.3 ft

Species Composition (% of Total BA)

Douglas-fir	99.4 percent
Ponderosa Pine	0.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 184.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	29.1		
	200 # N	33.2	4.1	14.1
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	29.2		
	200 # N	33.2	4.0	13.7
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.5			2.0		
	200	4.6	0.1	2.2	2.8	0.8	40.0
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	4.5			2.0		
	200	4.6	0.1	2.2	2.9	0.9	45.0
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.4			2.6			3.0		
	200	3.0	0.6	25.0	3.2	0.6	23.1	3.0	0.0	0.0
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.4			2.7			3.0		
	200	3.0	0.6	25.0	3.1	0.4	14.8	3.1	0.1	3.3
	400	.	.	.	.	.	.	.	.	.

Installation 260 TUMWATER MTN
Region: Central Washington Ownership: Longview Fiber
Legal Description: T24N R17E Section 3 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	74 years	CCF	220.1
Trees per Acre	237 trees/a	Relative Density Index	60.3
Basal Area	217.5 sq.ft/a	Average Crown Length	30.3 ft
Total Volume	7232 cu.ft/a	Average Crown Ratio	35.7 %
Mean Diameter	13.0 in	Site Height (40 tpa)	96.9 ft

Species Composition (% of Total BA)

Douglas-fir	96.1 percent
Grand Fir	2.8 percent
Ponderosa Pine	1.1 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 217.5 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	24.0		
	200 # N	43.6	19.6	81.7
	400 # N	-4.1	-28.1	-117.1
10-year Gross Basal Area (sq.feet/acre)	Control	37.3		
	200 # N	43.6	6.3	16.9
	400 # N	38.6	1.3	3.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.0			3.4		
	200	4.9	-0.1	-2.0	4.7	1.3	38.2
	400	2.6	-2.4	-48.0	4.4	1.0	29.4
Gross Basal Area PAI (sq.ft/a)	Con	5.0			3.4		
	200	4.9	-0.1	-2.0	4.6	1.2	35.3
	400	4.8	-0.2	-4.0	4.5	1.1	32.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			-3.5			3.9		
	200	3.7	0.6	19.4	3.8	7.3	208.6	4.7	0.8	20.5
	400	-15.9	-19.0	-612.9	3.0	6.5	185.7	3.9	0.0	0.0
Gross Basal Area PAI (sq.ft/a)	Con	3.0			3.2			4.0		
	200	3.7	0.7	23.3	4.1	0.9	28.1	4.6	0.6	15.0
	400	3.1	0.1	3.3	3.1	-0.1	-3.1	3.9	-0.1	-2.5

Installation 261 SECOND CREEK
Region: Central Washington Ownership: Longview Fiber
Legal Description: T26N R18E Section 22 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	172.3
Trees per Acre	273 trees/a	Relative Density Index	46.7
Basal Area	148.4 sq.ft/a	Average Crown Length	28.6 ft
Total Volume	4636 cu.ft/a	Average Crown Ratio	39.7 %
Mean Diameter	9.9 in	Site Height (40 tpa)	88.3 ft

Species Composition (% of Total BA)

Douglas-fir	94.8 percent
Grand Fir	5.2 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 148.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	24.6		
	200 # N	39.8	15.2	61.8
	400 # N	44.3	19.7	80.1
10-year Gross Basal Area (sq.feet/acre)	Control	23.0		
	200 # N	51.4	28.4	123.5
	400 # N	54.6	31.6	137.4

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.3			1.5		
	200	7.7	5.4	234.8	5.8	4.3	286.7
	400	7.5	5.2	226.1	5.0	3.5	233.3
Gross Basal Area PAI (sq.ft/a)	Con	2.5			1.5		
	200	7.5	5.0	200.0	5.3	3.8	253.3
	400	7.4	4.9	196.0	5.4	3.9	260.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.2			3.7			2.4		
	200	1.4	-0.8	-36.4	2.0	-1.7	-45.9	3.2	0.8	33.3
	400	4.1	1.9	86.4	0.8	-2.9	-78.4	4.9	2.5	104.2
Gross Basal Area PAI (sq.ft/a)	Con	1.9			3.0			2.5		
	200	4.3	2.4	126.3	3.9	0.9	30.0	4.7	2.2	88.0
	400	4.7	2.8	147.4	4.8	1.8	60.0	4.9	2.4	96.0

Installation 262 STEVENS PASS
Region: Central Washington Ownership: Longview Fiber
Legal Description: T26N R15E Section 3 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	250.1
Trees per Acre	355 trees/a	Relative Density Index	64.9
Basal Area	210.2 sq.ft/a	Average Crown Length	26.3 ft
Total Volume	6993 cu.ft/a	Average Crown Ratio	34.5 %
Mean Diameter	10.4 in	Site Height (40 tpa)	91.5 ft

Species Composition (% of Total BA)

Douglas-fir	63.1 percent
Grand Fir	36.3 percent
Hemlock	0.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 210.2 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	6.7		
	200 # N	-7.2	-13.9	-207.5
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	39.0		
	200 # N	47.6	8.6	22.1
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.0			0.5		
	200	5.7	1.7	42.5	4.3	3.8	760.0
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.9			3.8		
	200	5.9	2.0	51.3	4.7	0.9	23.7
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.7			-2.5			-2.2		
	200	4.9	1.2	32.4	-22.7	-20.2	-808.0	4.0	6.2	281.8
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.9			4.0			4.0		
	200	5.1	1.2	30.8	3.8	-0.2	-5.0	4.2	0.2	5.0
	400	.	.	.	.	.	.	.	.	.

Installation 263 N.F. TEANAWAY RIVER
Region: Central Washington Ownership: Washington DNR
Legal Description: T21N R16E Section 20 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	87 years	CCF	141.5
Trees per Acre	197 trees/a	Relative Density Index	39.6
Basal Area	132.2 sq.ft/a	Average Crown Length	34.0 ft
Total Volume	3842 cu.ft/a	Average Crown Ratio	49.0 %
Mean Diameter	11.1 in	Site Height (40 tpa)	86.8 ft

Species Composition (% of Total BA)

Douglas-fir	79.9 percent
Grand Fir	4.8 percent
Ponderosa Pine	15.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 132.2 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	32.0		
	200 # N	47.2	15.2	47.5
	400 # N	47.7	15.7	49.1
10-year Gross Basal Area (sq.feet/acre)	Control	35.0		
	200 # N	47.2	12.2	34.9
	400 # N	54.4	19.4	55.4

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			3.3		
	200	6.1	2.5	69.4	4.9	1.6	48.5
	400	6.5	2.9	80.6	5.5	2.2	66.7
Gross Basal Area PAI (sq.ft/a)	Con	3.6			3.3		
	200	6.0	2.4	66.7	4.9	1.6	48.5
	400	6.5	2.9	80.6	5.3	2.0	60.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.7			3.3			2.2		
	200	4.6	0.9	24.3	3.7	0.4	12.1	4.3	2.1	95.5
	400	5.7	2.0	54.1	1.1	-2.2	-66.7	5.0	2.8	127.3
Gross Basal Area PAI (sq.ft/a)	Con	3.7			3.3			3.7		
	200	4.6	0.9	24.3	3.8	0.5	15.2	4.3	0.6	16.2
	400	5.5	1.8	48.6	4.8	1.5	45.5	5.0	1.3	35.1

Installation 264 RENFRO PEAK
Region: Northern Idaho Ownership: Potlatch
Legal Description: T44N R1E Section 11 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	50 years	CCF	254.0
Trees per Acre	417 trees/a	Relative Density Index	70.5
Basal Area	222.3 sq.ft/a	Average Crown Length	27.3 ft
Total Volume	6102 cu.ft/a	Average Crown Ratio	44.3 %
Mean Diameter	10.0 in	Site Height (40 tpa)	81.1 ft

Species Composition (% of Total BA)

Douglas-fir	67.8 percent
Grand Fir	21.3 percent
Western Redcedar	0.1 percent
Western Larch	9.9 percent
Engelmann Spruce	0.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 222.3 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	29.8		
	200 # N	59.0	29.2	98.0
	400 # N	71.1	41.3	138.6
10-year Gross Basal Area (sq.feet/acre)	Control	41.6		
	200 # N	59.0	17.4	41.8
	400 # N	69.6	28.0	67.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			-0.1		
	200	6.5	2.6	66.7	5.8	5.9	5900.0
	400	7.9	4.0	102.6	7.3	7.4	7400.0
Gross Basal Area PAI (sq.ft/a)	Con	3.9			3.2		
	200	6.4	2.5	64.1	5.6	2.4	75.0
	400	8.0	4.1	105.1	6.9	3.7	115.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.5			3.2			3.5		
	200	6.0	1.5	33.3	5.6	2.4	75.0	5.6	2.1	60.0
	400	7.0	2.5	55.6	7.2	4.0	125.0	6.1	2.6	74.3
Gross Basal Area PAI (sq.ft/a)	Con	4.5			5.0			4.2		
	200	6.0	1.5	33.3	6.0	1.0	20.0	5.5	1.3	31.0
	400	7.0	2.5	55.6	6.9	1.9	38.0	6.0	1.8	42.9

Installation 265 MALLORY CREEK
Region: Northern Idaho Ownership: Potlatch
Legal Description: T41N R2E Section 18 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	32 years	CCF	146.1
Trees per Acre	330 trees/a	Relative Density Index	40.8
Basal Area	115.7 sq.ft/a	Average Crown Length	29.3 ft
Total Volume	2361 cu.ft/a	Average Crown Ratio	64.0 %
Mean Diameter	8.0 in	Site Height (40 tpa)	58.4 ft

Species Composition (% of Total BA)

Douglas-fir	84.6 percent
Grand Fir	11.8 percent
White Pine	3.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 115.7 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	68.0		
	200 # N	73.3	5.3	7.8
	400 # N	72.3	4.3	6.3
10-year Gross Basal Area (sq.feet/acre)	Control	69.5		
	200 # N	79.6	10.1	14.5
	400 # N	73.7	4.2	6.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	7.0			6.5		
	200	9.1	2.1	30.0	4.6	-1.9	-29.2
	400	8.7	1.7	24.3	7.5	1.0	15.4
Gross Basal Area PAI (sq.ft/a)	Con	6.9			6.5		
	200	9.2	2.3	33.3	7.9	1.4	21.5
	400	8.7	1.8	26.1	7.4	0.9	13.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.4			6.8			7.4		
	200	7.4	1.0	15.6	7.9	1.1	16.2	7.6	0.2	2.7
	400	6.8	0.4	6.2	5.9	-0.9	-13.2	7.2	-0.2	-2.7
Gross Basal Area PAI (sq.ft/a)	Con	7.0			7.0			7.4		
	200	7.4	0.4	5.7	7.5	0.5	7.1	7.7	0.3	4.1
	400	6.7	-0.3	-4.3	6.9	-0.1	-1.4	7.2	-0.2	-2.7

Installation 266 DOUGLAS FALLS #1
Region: Northeast Washington Ownership: Washington DNR
Legal Description: T36N R39E Section 16 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	83 years	CCF	143.3
Trees per Acre	243 trees/a	Relative Density Index	39.5
Basal Area	122.7 sq.ft/a	Average Crown Length	27.8 ft
Total Volume	3056 cu.ft/a	Average Crown Ratio	45.3 %
Mean Diameter	9.6 in	Site Height (40 tpa)	71.7 ft

Species Composition (% of Total BA)

Douglas-fir	99.1 percent
Ponderosa Pine	0.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 122.7 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	27.5		
	200 # N	33.1	5.6	20.4
	400 # N	47.9	20.4	74.2
10-year Gross Basal Area (sq.feet/acre)	Control	27.8		
	200 # N	33.1	5.3	19.1
	400 # N	46.1	18.3	65.8

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.9			2.0		
	200	3.9	1.0	34.5	2.7	0.7	35.0
	400	5.3	2.4	82.8	4.4	2.4	120.0
Gross Basal Area PAI (sq.ft/a)	Con	2.9			2.0		
	200	3.9	1.0	34.5	2.7	0.7	35.0
	400	5.4	2.5	86.2	4.1	2.1	105.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.7			2.6			3.6		
	200	3.2	0.5	18.5	3.0	0.4	15.4	3.8	0.2	5.6
	400	4.6	1.9	70.4	4.7	2.1	80.8	4.8	1.2	33.3
Gross Basal Area PAI (sq.ft/a)	Con	2.7			2.7			3.5		
	200	3.2	0.5	18.5	3.0	0.3	11.1	3.8	0.3	8.6
	400	4.2	1.5	55.6	4.6	1.9	70.4	4.8	1.3	37.1

Installation 267 DOUGLAS FALLS #2
Region: Northeast Washington Ownership: Washington DNR
Legal Description: T36N R39E Section 16 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	81 years	CCF	145.5
Trees per Acre	217 trees/a	Relative Density Index	40.3
Basal Area	130.8 sq.ft/a	Average Crown Length	29.3 ft
Total Volume	3488 cu.ft/a	Average Crown Ratio	45.0 %
Mean Diameter	10.5 in	Site Height (40 tpa)	78.5 ft

Species Composition (% of Total BA)

Douglas-fir	99.5 percent
Lodgepole Pine	0.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 130.8 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	34.1		
	200 # N	29.9	-4.2	-12.3
	400 # N	43.1	9.0	26.4
10-year Gross Basal Area (sq.feet/acre)	Control	34.3		
	200 # N	31.5	-2.8	-8.2
	400 # N	39.7	5.4	15.7

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			3.2		
	200	3.7	-0.2	-5.1	3.4	0.2	6.2
	400	4.2	0.3	7.7	4.5	1.3	40.6
Gross Basal Area PAI (sq.ft/a)	Con	3.9			3.2		
	200	3.6	-0.3	-7.7	3.2	0.0	0.0
	400	4.3	0.4	10.3	4.0	0.8	25.0

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.8			3.2			4.0		
	200	2.0	-0.8	-28.6	2.3	-0.9	-28.1	3.7	-0.3	-7.5
	400	3.7	0.9	32.1	4.2	1.0	31.3	4.8	0.8	20.0
Gross Basal Area PAI (sq.ft/a)	Con	2.8			3.3			4.0		
	200	2.7	-0.1	-3.6	2.8	-0.5	-15.2	3.6	-0.4	-10.0
	400	3.0	0.2	7.1	3.8	0.5	15.2	4.7	0.7	17.5

Installation 268 SHEEP CREEK
Region: Northeast Washington Ownership: Inland Empire
Legal Description: T40N R39E Section 8 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	55 years	CCF	217.2
Trees per Acre	373 trees/a	Relative Density Index	61.3
Basal Area	191.0 sq.ft/a	Average Crown Length	24.5 ft
Total Volume	5214 cu.ft/a	Average Crown Ratio	38.0 %
Mean Diameter	9.7 in	Site Height (40 tpa)	79.9 ft

Species Composition (% of Total BA)

Douglas-fir	95.9 percent
Grand Fir	0.1 percent
Western Redcedar	1.7 percent
Ponderosa Pine	0.7 percent
Engelmann Spruce	1.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 191.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	44.4		
	200 # N	47.0	2.6	5.9
	400 # N	43.3	-1.1	-2.5
10-year Gross Basal Area (sq.feet/acre)	Control	44.3		
	200 # N	47.0	2.7	6.1
	400 # N	51.7	7.4	16.7

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.0			4.8		
	200	6.3	1.3	26.0	5.1	0.3	6.3
	400	6.1	1.1	22.0	4.3	-0.5	-10.4
Gross Basal Area PAI (sq.ft/a)	Con	5.0			4.8		
	200	6.2	1.2	24.0	5.0	0.2	4.2
	400	6.1	1.1	22.0	5.2	0.4	8.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			4.4			4.4		
	200	3.9	0.3	8.3	4.0	-0.4	-9.1	4.2	-0.2	-4.5
	400	1.6	-2.0	-55.6	5.0	0.6	13.6	4.7	0.3	6.8
Gross Basal Area PAI (sq.ft/a)	Con	3.6			4.3			4.4		
	200	3.9	0.3	8.3	4.3	0.0	0.0	4.2	-0.2	-4.5
	400	4.5	0.9	25.0	5.3	1.0	23.3	4.7	0.3	6.8

Installation 269 UPPER BURNT FORK CR
Region: Montana Ownership: Champion
Legal Description: T15N R16W Section 27 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	57 years	CCF	169.5
Trees per Acre	307 trees/a	Relative Density Index	47.7
Basal Area	146.2 sq.ft/a	Average Crown Length	25.0 ft
Total Volume	2834 cu.ft/a	Average Crown Ratio	54.0 %
Mean Diameter	9.4 in	Site Height (40 tpa)	56.9 ft

Species Composition (% of Total BA)

Douglas-fir	93.5 percent
Western Larch	3.0 percent
Lodgepole Pine	2.8 percent
Engelmann Spruce	0.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 146.2 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	23.5		
	200 # N	27.6	4.1	17.4
	400 # N	26.2	2.7	11.5
10-year Gross Basal Area (sq.feet/acre)	Control	24.3		
	200 # N	27.6	3.3	13.6
	400 # N	30.0	5.7	23.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			2.6		
	200	3.5	0.4	12.9	3.3	0.7	26.9
	400	3.4	0.3	9.7	3.5	0.9	34.6
Gross Basal Area PAI (sq.ft/a)	Con	3.1			2.6		
	200	3.4	0.3	9.7	3.1	0.5	19.2
	400	3.4	0.3	9.7	3.4	0.8	30.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.2			3.5			1.3		
	200	1.6	0.4	33.3	3.3	-0.2	-5.7	2.2	0.9	69.2
	400	2.1	0.9	75.0	1.7	-1.8	-51.4	2.4	1.1	84.6
Gross Basal Area PAI (sq.ft/a)	Con	1.1			3.4			2.0		
	200	1.5	0.4	36.4	3.6	0.2	5.9	2.1	0.1	5.0
	400	2.1	1.0	90.9	3.6	0.2	5.9	2.4	0.4	20.0

Installation 270 HOWARD CREEK
Region: Montana Ownership: Champion
Legal Description: T12N R23W Section 19 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	49 years	CCF	134.1
Trees per Acre	213 trees/a	Relative Density Index	37.6
Basal Area	120.4 sq.ft/a	Average Crown Length	31.5 ft
Total Volume	2243 cu.ft/a	Average Crown Ratio	70.0 %
Mean Diameter	10.3 in	Site Height (40 tpa)	52.3 ft

Species Composition (% of Total BA)

Douglas-fir	96.5 percent
Ponderosa Pine	3.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 120.4 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	28.1		
	200 # N	29.0	0.9	3.2
	400 # N	35.9	7.8	27.8
10-year Gross Basal Area (sq.feet/acre)	Control	28.5		
	200 # N	29.0	0.5	1.8
	400 # N	35.3	6.8	23.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			3.2		
	200	3.6	0.5	16.1	2.8	-0.4	-12.5
	400	4.8	1.7	54.8	3.8	0.6	18.7
Gross Basal Area PAI (sq.ft/a)	Con	3.1			3.2		
	200	3.6	0.5	16.1	2.9	-0.3	-9.4
	400	4.8	1.7	54.8	3.7	0.5	15.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.9			3.0			2.8		
	200	1.7	-0.2	-10.5	3.5	0.5	16.7	2.8	0.0	0.0
	400	2.4	0.5	26.3	3.7	0.7	23.3	3.2	0.4	14.3
Gross Basal Area PAI (sq.ft/a)	Con	2.0			3.1			2.8		
	200	1.8	-0.2	-10.0	3.3	0.2	6.5	2.8	0.0	0.0
	400	2.3	0.3	15.0	3.6	0.5	16.1	3.2	0.4	14.3

Installation 271 WHITNEY CREEK
Region: Montana Ownership: Champion
Legal Description: T25N R27W Section 7 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	57 years	CCF	177.7
Trees per Acre	435 trees/a	Relative Density Index	56.1
Basal Area	161.3 sq.ft/a	Average Crown Length	22.1 ft
Total Volume	3931 cu.ft/a	Average Crown Ratio	38.0 %
Mean Diameter	8.4 in	Site Height (40 tpa)	65.3 ft

Species Composition (% of Total BA)

Douglas-fir	57.6 percent
Western Larch	20.2 percent
Lodgepole Pine	11.4 percent
Ponderosa Pine	10.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 161.3 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	-6.4		
	200 # N	19.5	25.9	404.7
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	29.3		
	200 # N	33.7	4.4	15.0
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-4.3			0.1		
	200	3.9	8.2	190.7	-1.8	-1.9	-1900.0
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.4			3.7		
	200	3.8	1.4	58.3	4.4	0.7	18.9
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-3.9			3.7			1.3		
	200	1.8	5.7	146.2	3.1	-0.6	-16.2	2.7	1.4	107.7
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.4			3.5			2.6		
	200	2.3	-0.1	-4.2	3.7	0.2	5.7	2.7	0.1	3.8
	400	.	.	.	.	.	.	.	.	.

Installation 272 INDIAN CREEK
Region: Montana Ownership: Champion
Legal Description: T25N R27W Section 5 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	57 years	CCF	179.3
Trees per Acre	630 trees/a	Relative Density Index	55.9
Basal Area	141.6 sq.ft/a	Average Crown Length	17.2 ft
Total Volume	3338 cu.ft/a	Average Crown Ratio	33.5 %
Mean Diameter	6.4 in	Site Height (40 tpa)	65.6 ft

Species Composition (% of Total BA)

Douglas-fir	72.5 percent
Grand Fir	0.8 percent
Western Larch	9.7 percent
Lodgepole Pine	16.6 percent
Engelmann Spruce	0.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 141.6 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	4.2		
	200 # N	19.4	15.2	361.9
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	30.9		
	200 # N	40.9	10.0	32.4
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.2			-9.1		
	200	-0.1	-3.3	-103.1	0.6	9.7	106.6
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.2			2.8		
	200	4.9	1.7	53.1	4.9	2.1	75.0
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.2			2.7			3.1		
	200	3.2	1.0	45.5	2.8	0.1	3.7	3.2	0.1	3.2
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.8			3.4			3.1		
	200	3.6	0.8	28.6	3.9	0.5	14.7	3.2	0.1	3.2
	400	.	.	.	.	.	.	.	.	.

Installation 273 LITTLE BEAVER CREEK
Region: Northern Idaho Ownership: Potlatch
Legal Description: T37N R5E Section 1 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	36 years	CCF	185.2
Trees per Acre	447 trees/a	Relative Density Index	51.7
Basal Area	143.5 sq.ft/a	Average Crown Length	28.1 ft
Total Volume	3066 cu.ft/a	Average Crown Ratio	54.7 %
Mean Diameter	7.8 in	Site Height (40 tpa)	59.0 ft

Species Composition (% of Total BA)

Douglas-fir	69.0 percent
Grand Fir	15.2 percent
Western Redcedar	11.4 percent
Western Larch	4.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 143.5 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	65.2		
	200 # N	85.7	20.5	31.4
	400 # N	92.1	26.9	41.3
10-year Gross Basal Area (sq.feet/acre)	Control	81.6		
	200 # N	97.5	15.9	19.5
	400 # N	103.9	22.3	27.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	9.7			6.4		
	200	8.7	-1.0	-10.3	6.1	-0.3	-4.7
	400	13.8	4.1	42.3	9.5	3.1	48.4
Gross Basal Area PAI (sq.ft/a)	Con	9.7			7.7		
	200	11.2	1.5	15.5	9.3	1.6	20.8
	400	13.8	4.1	42.3	11.0	3.3	42.9

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	8.1			5.6			2.7		
	200	8.1	0.0	0.0	9.8	4.2	75.0	10.2	7.5	277.8
	400	4.8	-3.3	-40.7	9.4	3.8	67.9	8.5	5.8	214.8
Gross Basal Area PAI (sq.ft/a)	Con	8.1			7.8			7.4		
	200	8.1	0.0	0.0	10.1	2.3	29.5	10.1	2.7	36.5
	400	9.4	1.3	16.0	9.2	1.4	17.9	8.5	1.1	14.9

Installation 274 CAREYWOOD CREEK
Region: Northern Idaho Ownership: IDL
Legal Description: T54N R2W Section 16 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	60 years	CCF	143.3
Trees per Acre	177 trees/a	Relative Density Index	39.4
Basal Area	136.8 sq.ft/a	Average Crown Length	32.0 ft
Total Volume	3911 cu.ft/a	Average Crown Ratio	42.7 %
Mean Diameter	12.2 in	Site Height (40 tpa)	81.2 ft

Species Composition (% of Total BA)

Douglas-fir	98.3 percent
Western Larch	0.8 percent
Lodgepole Pine	0.9 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 136.8 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	37.3		
	200 # N	42.3	5.0	13.4
	400 # N	44.0	6.7	18.0
10-year Gross Basal Area (sq.feet/acre)	Control	40.4		
	200 # N	42.3	1.9	4.7
	400 # N	47.8	7.4	18.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.1			4.2		
	200	5.3	0.2	3.9	4.4	0.2	4.8
	400	5.9	0.8	15.7	4.1	-0.1	-2.4
Gross Basal Area PAI (sq.ft/a)	Con	5.1			4.2		
	200	5.3	0.2	3.9	4.4	0.2	4.8
	400	5.9	0.8	15.7	4.9	0.7	16.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.4			1.9			4.0		
	200	3.4	0.0	0.0	4.0	2.1	110.5	4.1	0.1	2.5
	400	4.2	0.8	23.5	3.1	1.2	63.2	4.7	0.7	17.5
Gross Basal Area PAI (sq.ft/a)	Con	3.4			3.5			4.0		
	200	3.4	0.0	0.0	3.9	0.4	11.4	4.1	0.1	2.5
	400	4.4	1.0	29.4	4.0	0.5	14.3	4.7	0.7	17.5

Installation 275 SMITH LAKE
Region: Northern Idaho Ownership: IDL
Legal Description: T63N R1E Section 36 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	180.4
Trees per Acre	305 trees/a	Relative Density Index	51.0
Basal Area	159.7 sq.ft/a	Average Crown Length	27.4 ft
Total Volume	4040 cu.ft/a	Average Crown Ratio	46.5 %
Mean Diameter	9.8 in	Site Height (40 tpa)	73.7 ft

Species Composition (% of Total BA)

Douglas-fir	91.1 percent
Western Larch	0.3 percent
Ponderosa Pine	8.6 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 159.7 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	34.3		
	200 # N	.	.	.
	400 # N	53.3	19.0	55.4
10-year Gross Basal Area (sq.feet/acre)	Control	34.3		
	200 # N	.	.	.
	400 # N	53.1	18.8	54.8

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.4			4.0		
	200	.	.	.	.	.	.
	400	6.4	2.0	45.5	5.9	1.9	47.5
Gross Basal Area PAI (sq.ft/a)	Con	4.4			4.0		
	200	.	.	.	.	.	.
	400	6.4	2.0	45.5	5.9	1.9	47.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.4			3.1			3.3		
	200	.	.	.	.	.	.	.	.	.
	400	4.2	1.8	75.0	5.4	2.3	74.2	4.7	1.4	42.4
Gross Basal Area PAI (sq.ft/a)	Con	2.4			3.1			3.3		
	200	.	.	.	.	.	.	.	.	.
	400	4.2	1.8	75.0	5.4	2.3	74.2	4.7	1.4	42.4

Installation 276 MILL CREEK
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T19N R1E Section 34 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	61 years	CCF	171.9
Trees per Acre	267 trees/a	Relative Density Index	48.0
Basal Area	153.9 sq.ft/a	Average Crown Length	27.4 ft
Total Volume	3510 cu.ft/a	Average Crown Ratio	47.7 %
Mean Diameter	10.3 in	Site Height (40 tpa)	64.4 ft

Species Composition (% of Total BA)

Douglas-fir	89.6 percent
Ponderosa Pine	10.4 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 153.9 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	37.5		
	200 # N	4.3	-33.2	-88.5
	400 # N	29.2	-8.3	-22.1
10-year Gross Basal Area (sq.feet/acre)	Control	37.8		
	200 # N	36.4	-1.4	-3.7
	400 # N	40.8	3.0	7.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			4.4		
	200	4.2	0.6	16.7	5.0	0.6	13.6
	400	4.2	0.6	16.7	5.2	0.8	18.2
Gross Basal Area PAI (sq.ft/a)	Con	3.5			4.4		
	200	4.2	0.7	20.0	5.1	0.7	15.9
	400	4.1	0.6	17.1	5.2	0.8	18.2

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.5			3.8			3.5		
	200	-7.0	-10.5	-300.0	-3.0	-6.8	-178.9	2.9	-0.6	-17.1
	400	3.2	-0.3	-8.6	-1.4	-5.2	-136.8	3.4	-0.1	-2.9
Gross Basal Area PAI (sq.ft/a)	Con	3.5			3.9			3.5		
	200	2.0	-1.5	-42.9	3.8	-0.1	-2.6	3.0	-0.5	-14.3
	400	3.3	-0.2	-5.7	4.4	0.5	12.8	3.4	-0.1	-2.9

Installation 277 LITTLE MUD CREEK #2
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T20N R1E Section 34 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	63 years	CCF	174.2
Trees per Acre	267 trees/a	Relative Density Index	49.1
Basal Area	158.7 sq.ft/a	Average Crown Length	31.5 ft
Total Volume	3855 cu.ft/a	Average Crown Ratio	53.0 %
Mean Diameter	10.4 in	Site Height (40 tpa)	67.9 ft

Species Composition (% of Total BA)

Douglas-fir	77.9 percent
Ponderosa Pine	22.1 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 158.7 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	56.3		
	200 # N	59.0	2.7	4.8
	400 # N	24.8	-31.5	-56.0
10-year Gross Basal Area (sq.feet/acre)	Control	55.7		
	200 # N	59.0	3.3	5.9
	400 # N	48.0	-7.7	-13.8

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.9			6.7		
	200	6.1	0.2	3.4	7.4	0.7	10.4
	400	5.8	-0.1	-1.7	5.0	-1.7	-25.4
Gross Basal Area PAI (sq.ft/a)	Con	5.9			6.7		
	200	6.3	0.4	6.8	7.6	0.9	13.4
	400	5.7	-0.2	-3.4	5.9	-0.8	-11.9

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.7			6.1			4.7		
	200	4.4	-0.3	-6.4	6.6	0.5	8.2	4.8	0.1	2.1
	400	1.3	-3.4	-72.3	-3.0	-9.1	-149.2	3.5	-1.2	-25.5
Gross Basal Area PAI (sq.ft/a)	Con	4.6			5.9			4.8		
	200	4.5	-0.1	-2.2	6.1	0.2	3.4	5.0	0.2	4.2
	400	4.0	-0.6	-13.0	4.9	-1.0	-16.9	3.6	-1.2	-25.0

Installation 278 WET GULCH
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T7N R5E Section 19 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	92 years	CCF	111.3
Trees per Acre	185 trees/a	Relative Density Index	31.2
Basal Area	98.1 sq.ft/a	Average Crown Length	27.7 ft
Total Volume	2575 cu.ft/a	Average Crown Ratio	44.0 %
Mean Diameter	9.9 in	Site Height (40 tpa)	77.9 ft

Species Composition (% of Total BA)

Douglas-fir	93.2 percent
Ponderosa Pine	6.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 98.1 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	26.1		
	200 # N	.	.	.
	400 # N	37.1	11.0	42.1
10-year Gross Basal Area (sq.feet/acre)	Control	32.3		
	200 # N	.	.	.
	400 # N	37.7	5.4	16.7

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			4.1		
	200	.	.	.	.	.	.
	400	5.1	1.2	30.8	4.7	0.6	14.6
Gross Basal Area PAI (sq.ft/a)	Con	3.9			4.1		
	200	.	.	.	.	.	.
	400	5.1	1.2	30.8	4.8	0.7	17.1

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	0.3			2.7			2.1		
	200	.	.	.	.	.	.	.	.	.
	400	3.1	2.8	933.3	3.0	0.3	11.1	2.7	0.6	28.6
Gross Basal Area PAI (sq.ft/a)	Con	2.8			2.6			2.8		
	200	.	.	.	.	.	.	.	.	.
	400	3.2	0.4	14.3	3.1	0.5	19.2	2.7	-0.1	-3.6

Installation 279 HENRY CREEK
Region: Central Idaho Ownership: Boise Cascade
Legal Description: T7N R5E Section 28 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	79 years	CCF	157.4
Trees per Acre	210 trees/a	Relative Density Index	45.1
Basal Area	153.6 sq.ft/a	Average Crown Length	32.3 ft
Total Volume	4476 cu.ft/a	Average Crown Ratio	44.7 %
Mean Diameter	11.7 in	Site Height (40 tpa)	83.0 ft

Species Composition (% of Total BA)

Douglas-fir	79.2 percent
Ponderosa Pine	20.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 153.6 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	33.3		
	200 # N	38.0	4.7	14.1
	400 # N	26.3	-7.0	-21.0
10-year Gross Basal Area (sq.feet/acre)	Control	33.3		
	200 # N	38.0	4.7	14.1
	400 # N	34.8	1.5	4.5

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.2			4.2		
	200	5.7	1.5	35.7	5.3	1.1	26.2
	400	4.5	0.3	7.1	5.4	1.2	28.6
Gross Basal Area PAI (sq.ft/a)	Con	4.2			4.2		
	200	5.6	1.4	33.3	5.0	0.8	19.0
	400	4.6	0.4	9.5	4.8	0.6	14.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.1			2.9			2.2		
	200	3.1	0.0	0.0	2.1	-0.8	-27.6	2.8	0.6	27.3
	400	0.1	-3.0	-96.8	3.0	0.1	3.4	0.1	-2.1	-95.5
Gross Basal Area PAI (sq.ft/a)	Con	3.1			2.9			2.2		
	200	3.0	-0.1	-3.2	2.8	-0.1	-3.4	2.7	0.5	22.7
	400	3.2	0.1	3.2	2.6	-0.3	-10.3	2.1	-0.1	-4.5

Installation 280 SMITH CREEK
Region: Central Idaho Ownership: IDL
Legal Description: T7N R5E Section 2 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	65 years	CCF	144.5
Trees per Acre	213 trees/a	Relative Density Index	41.3
Basal Area	136.0 sq.ft/a	Average Crown Length	31.1 ft
Total Volume	3420 cu.ft/a	Average Crown Ratio	51.0 %
Mean Diameter	10.8 in	Site Height (40 tpa)	68.6 ft

Species Composition (% of Total BA)

Douglas-fir	77.2 percent
Ponderosa Pine	22.8 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 136.0 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	34.1		
	200 # N	45.9	11.8	34.6
	400 # N	38.0	3.9	11.4
10-year Gross Basal Area (sq.feet/acre)	Control	33.4		
	200 # N	45.9	12.5	37.4
	400 # N	41.1	7.7	23.1

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	4.3			4.9		
	200	6.9	2.6	60.5	6.6	1.7	34.7
	400	7.2	2.9	67.4	6.0	1.1	22.4
Gross Basal Area PAI (sq.ft/a)	Con	4.3			4.9		
	200	6.8	2.5	58.1	6.3	1.4	28.6
	400	7.2	2.9	67.4	6.0	1.1	22.4

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.6			2.7			2.4		
	200	3.5	0.9	34.6	3.4	0.7	25.9	2.6	0.2	8.3
	400	0.8	-1.8	-69.2	3.2	0.5	18.5	1.8	-0.6	-25.0
Gross Basal Area PAI (sq.ft/a)	Con	2.5			2.4			2.5		
	200	3.4	0.9	36.0	4.1	1.7	70.8	2.4	-0.1	-4.0
	400	2.4	-0.1	-4.0	3.2	0.8	33.3	1.8	-0.7	-28.0

Installation 281 O'NEIL HILL
Region: Northern Idaho Ownership: Potlatch
Legal Description: T46N R1E Section 32 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	44 years	CCF	265.2
Trees per Acre	513 trees/a	Relative Density Index	73.9
Basal Area	220.0 sq.ft/a	Average Crown Length	21.9 ft
Total Volume	5761 cu.ft/a	Average Crown Ratio	35.0 %
Mean Diameter	8.9 in	Site Height (40 tpa)	77.0 ft

Species Composition (% of Total BA)

Douglas-fir	90.8 percent
Grand Fir	4.9 percent
Western Redcedar	1.1 percent
Hemlock	0.7 percent
Western Larch	1.3 percent
Lodgepole Pine	1.2 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 220.0 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	51.1		
	200 # N	34.4	-16.7	-32.7
	400 # N	29.9	-21.2	-41.5
10-year Gross Basal Area (sq.feet/acre)	Control	53.8		
	200 # N	56.2	2.4	4.5
	400 # N	61.0	7.2	13.4

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.5			5.1		
	200	5.4	-0.1	-1.8	-0.9	-6.0	-117.6
	400	5.2	-0.3	-5.5	-7.0	-12.1	-237.3
Gross Basal Area PAI (sq.ft/a)	Con	5.5			5.1		
	200	5.9	0.4	7.3	5.1	0.0	0.0
	400	5.7	0.2	3.6	5.6	0.5	9.8

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.3			5.1			3.6		
	200	6.3	0.0	0.0	2.2	-2.9	-56.9	4.2	0.6	16.7
	400	6.3	0.0	0.0	5.9	0.8	15.7	4.6	1.0	27.8
Gross Basal Area PAI (sq.ft/a)	Con	6.3			5.3			4.8		
	200	6.3	0.0	0.0	5.4	0.1	1.9	5.4	0.6	12.5
	400	7.5	1.2	19.0	5.8	0.5	9.4	5.9	1.1	22.9

Installation 282 COOK MTN
Region: Central Washington Ownership: Washington DNR
Legal Description: T33N R24E Section 15 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	69 years	CCF	120.8
Trees per Acre	277 trees/a	Relative Density Index	34.6
Basal Area	98.4 sq.ft/a	Average Crown Length	29.2 ft
Total Volume	2271 cu.ft/a	Average Crown Ratio	53.0 %
Mean Diameter	8.1 in	Site Height (40 tpa)	66.5 ft

Species Composition (% of Total BA)

Douglas-fir	92.0 percent
Western Larch	2.6 percent
Ponderosa Pine	5.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 98.4 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	39.3		
	200 # N	55.5	16.2	41.2
	400 # N	47.4	8.1	20.6
10-year Gross Basal Area (sq.feet/acre)	Control	39.1		
	200 # N	55.5	16.4	41.9
	400 # N	50.7	11.6	29.7

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	6.0			3.3		
	200	9.6	3.6	60.0	5.7	2.4	72.7
	400	8.8	2.8	46.7	5.1	1.8	54.5
Gross Basal Area PAI (sq.ft/a)	Con	6.0			3.3		
	200	9.6	3.6	60.0	5.5	2.2	66.7
	400	8.8	2.8	46.7	4.9	1.6	48.5

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.5			3.0			3.8		
	200	4.7	1.2	34.3	3.6	0.6	20.0	4.1	0.3	7.9
	400	2.4	-1.1	-31.4	3.7	0.7	23.3	3.8	0.0	0.0
Gross Basal Area PAI (sq.ft/a)	Con	3.5			2.9			3.8		
	200	4.7	1.2	34.3	3.9	1.0	34.5	4.1	0.3	7.9
	400	4.2	0.7	20.0	3.6	0.7	24.1	3.8	0.0	0.0

Installation 283 SUMMIT CREEK
Region: Central Washington Ownership: Washington DNR
Legal Description: T33N R24E Section 4 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	122.4
Trees per Acre	290 trees/a	Relative Density Index	34.9
Basal Area	98.1 sq.ft/a	Average Crown Length	27.0 ft
Total Volume	2120 cu.ft/a	Average Crown Ratio	52.5 %
Mean Diameter	7.9 in	Site Height (40 tpa)	60.5 ft

Species Composition (% of Total BA)

Douglas-fir	93.0 percent
Western Larch	4.5 percent
Lodgepole Pine	2.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 98.1 sq.ft/a

			RESPONSE	
	Treatment	Increment	Difference	% of Control
10-year Net Basal Area (sq.feet/acre)	Control	37.4		
	200 # N	.	.	.
	400 # N	67.9	30.5	81.6
10-year Gross Basal Area (sq.feet/acre)	Control	37.2		
	200 # N	.	.	.
	400 # N	68.9	31.7	85.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.7			3.6		
	200	.	.	.	.	.	.
	400	11.0	5.3	93.0	7.7	4.1	113.9
Gross Basal Area PAI (sq.ft/a)	Con	5.7			3.6		
	200	.	.	.	.	.	.
	400	11.0	5.3	93.0	7.8	4.2	116.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.4			2.9			3.0		
	200	.	.	.	.	.	.	.	.	.
	400	5.8	2.4	70.6	4.9	2.0	69.0	4.6	1.6	53.3
Gross Basal Area PAI (sq.ft/a)	Con	3.4			2.8			3.1		
	200	.	.	.	.	.	.	.	.	.
	400	6.0	2.6	76.5	5.0	2.2	78.6	4.6	1.5	48.4

Installation 284 N.F. VALLEY CREEK
Region: Montana Ownership: Flathead (BIA)
Legal Description: T17N R21W Section 22 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	117.3
Trees per Acre	160 trees/a	Relative Density Index	31.7
Basal Area	105.3 sq.ft/a	Average Crown Length	26.3 ft
Total Volume	2377 cu.ft/a	Average Crown Ratio	45.0 %
Mean Diameter	11.0 in	Site Height (40 tpa)	64.3 ft

Species Composition (% of Total BA)

Douglas-fir	98.0 percent
Ponderosa Pine	2.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 105.3 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	28.6		
	200 # N	24.9	-3.7	-12.9
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	28.5		
	200 # N	24.9	-3.6	-12.6
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.9			2.5		
	200	2.8	-0.1	-3.4	2.4	-0.1	-4.0
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.0			2.5		
	200	2.8	-0.2	-6.7	2.3	-0.2	-8.0
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.4			2.7			3.7		
	200	2.0	-0.4	-16.7	2.1	-0.6	-22.2	3.2	-0.5	-13.5
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	2.4			2.7			3.8		
	200	2.0	-0.4	-16.7	2.2	-0.5	-18.5	3.2	-0.6	-15.8
	400	.	.	.	.	.	.	.	.	.

Installation 285 S.F. VALLEY CREEK
Region: Montana Ownership: Flathead (BIA)
Legal Description: T16N R21W Section 2 Meridian: Principal

INITIAL STAND CHARACTERISTICS:

Age	72 years	CCF	134.1
Trees per Acre	170 trees/a	Relative Density Index	36.8
Basal Area	125.5 sq.ft/a	Average Crown Length	27.3 ft
Total Volume	3146 cu.ft/a	Average Crown Ratio	42.3 %
Mean Diameter	11.7 in	Site Height (40 tpa)	73.4 ft

Species Composition (% of Total BA)

Douglas-fir	96.8 percent
Ponderosa Pine	3.2 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 125.5 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	25.2		
	200 # N	27.1	1.9	7.5
	400 # N	28.3	3.1	12.3
10-year Gross Basal Area (sq.feet/acre)	Control	25.0		
	200 # N	27.1	2.1	8.4
	400 # N	28.5	3.5	14.0

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.0			2.4		
	200	2.9	0.9	45.0	3.3	0.9	37.5
	400	2.8	0.8	40.0	3.2	0.8	33.3
Gross Basal Area PAI (sq.ft/a)	Con	2.0			2.4		
	200	2.9	0.9	45.0	3.2	0.8	33.3
	400	2.8	0.8	40.0	3.2	0.8	33.3

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	2.3			2.7			3.2		
	200	2.2	-0.1	-4.3	2.3	-0.4	-14.8	2.8	-0.4	-12.5
	400	2.2	-0.1	-4.3	2.9	0.2	7.4	3.0	-0.2	-6.2
Gross Basal Area PAI (sq.ft/a)	Con	2.2			2.5			3.2		
	200	2.2	0.0	0.0	2.5	0.0	0.0	2.8	-0.4	-12.5
	400	2.3	0.1	4.5	2.9	0.4	16.0	3.0	-0.2	-6.2

Installation 286 BLACK ROCK CREEK
Region: Northern Idaho Ownership: BLM (Idaho)
Legal Description: T48N R1W Section 8 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	83 years	CCF	210.2
Trees per Acre	235 trees/a	Relative Density Index	57.2
Basal Area	203.0 sq.ft/a	Average Crown Length	27.3 ft
Total Volume	6740 cu.ft/a	Average Crown Ratio	31.5 %
Mean Diameter	12.6 in	Site Height (40 tpa)	98.0 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 203.0 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	35.3		
	200 # N	43.1	7.8	22.1
	400 # N	.	.	.
10-year Gross Basal Area (sq.feet/acre)	Control	39.7		
	200 # N	43.1	3.4	8.6
	400 # N	.	.	.

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			4.3		
	200	4.7	0.8	20.5	4.5	0.2	4.7
	400	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.9			4.3		
	200	4.7	0.8	20.5	4.4	0.1	2.3
	400	.	.	.	.	.	.

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.9			1.8			3.7		
	200	4.3	0.4	10.3	3.9	2.1	116.7	4.2	0.5	13.5
	400	.	.	.	.	.	.	.	.	.
Gross Basal Area PAI (sq.ft/a)	Con	3.9			4.0			3.7		
	200	4.3	0.4	10.3	4.2	0.2	5.0	4.1	0.4	10.8
	400	.	.	.	.	.	.	.	.	.

Installation 287 JIM FORD CREEK
Region: Northern Idaho Ownership: Potlatch
Legal Description: T35N R4E Section 8 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	57 years	CCF	200.9
Trees per Acre	453 trees/a	Relative Density Index	57.8
Basal Area	165.3 sq.ft/a	Average Crown Length	21.9 ft
Total Volume	4030 cu.ft/a	Average Crown Ratio	36.7 %
Mean Diameter	8.2 in	Site Height (40 tpa)	71.3 ft

Species Composition (% of Total BA)

Douglas-fir	88.0 percent
Grand Fir	1.8 percent
Western Larch	9.7 percent
Lodgepole Pine	0.5 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 165.3 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	40.1		
	200 # N	43.2	3.1	7.7
	400 # N	52.2	12.1	30.2
10-year Gross Basal Area (sq.feet/acre)	Control	41.5		
	200 # N	55.7	14.2	34.2
	400 # N	60.0	18.5	44.6

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			3.8		
	200	7.3	3.7	102.8	5.8	2.0	52.6
	400	7.8	4.2	116.7	5.9	2.1	55.3
Gross Basal Area PAI (sq.ft/a)	Con	3.7			3.8		
	200	7.3	3.6	97.3	5.7	1.9	50.0
	400	7.8	4.1	110.8	6.0	2.2	57.9

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.8			4.0			4.8		
	200	4.0	0.2	5.3	0.5	-3.5	-87.5	4.0	-0.8	-16.7
	400	5.6	1.8	47.4	2.5	-1.5	-37.5	4.3	-0.5	-10.4
Gross Basal Area PAI (sq.ft/a)	Con	4.6			3.9			4.8		
	200	5.4	0.8	17.4	4.2	0.3	7.7	5.1	0.3	6.3
	400	5.8	1.2	26.1	4.9	1.0	25.6	5.4	0.6	12.5

Installation 288 MICA MTN
Region: Northern Idaho Ownership: Inland Empire
Legal Description: T49N R5W Section 33 Meridian: Boise

INITIAL STAND CHARACTERISTICS:

Age	54 years	CCF	227.3
Trees per Acre	260 trees/a	Relative Density Index	65.4
Basal Area	234.5 sq.ft/a	Average Crown Length	30.4 ft
Total Volume	7269 cu.ft/a	Average Crown Ratio	40.0 %
Mean Diameter	12.9 in	Site Height (40 tpa)	89.5 ft

Species Composition (% of Total BA)

Douglas-fir	81.3 percent
Grand Fir	3.3 percent
Western Larch	5.1 percent
Ponderosa Pine	10.3 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 234.5 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	34.3		
	200 # N	65.5	31.2	91.0
	400 # N	51.5	17.2	50.1
10-year Gross Basal Area (sq.feet/acre)	Control	42.1		
	200 # N	68.3	26.2	62.2
	400 # N	58.6	16.5	39.2

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.0			3.6		
	200	9.2	4.2	84.0	6.5	2.9	80.6
	400	7.7	2.7	54.0	6.6	3.0	83.3
Gross Basal Area PAI (sq.ft/a)	Con	5.1			3.6		
	200	9.2	4.1	80.4	6.3	2.7	75.0
	400	7.7	2.6	51.0	6.9	3.3	91.7

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	1.6			5.2			1.7		
	200	4.4	2.8	175.0	6.8	1.6	30.8	5.9	4.2	247.1
	400	4.1	2.5	156.3	2.7	-2.5	-48.1	4.7	3.0	176.5
Gross Basal Area PAI (sq.ft/a)	Con	3.7			4.8			3.8		
	200	5.8	2.1	56.8	7.1	2.3	47.9	5.8	2.0	52.6
	400	4.6	0.9	24.3	5.4	0.6	12.5	4.7	0.9	23.7

Installation 289 GROUSE MTN
Region: Northeast Washington Ownership: Inland Empire
Legal Description: T40N R40E Section 8 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	51 years	CCF	207.8
Trees per Acre	410 trees/a	Relative Density Index	57.8
Basal Area	171.2 sq.ft/a	Average Crown Length	28.4 ft
Total Volume	4397 cu.ft/a	Average Crown Ratio	47.0 %
Mean Diameter	8.8 in	Site Height (40 tpa)	75.4 ft

Species Composition (% of Total BA)
Douglas-fir 100.0 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 171.2 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	44.0		
	200 # N	.	.	.
	400 # N	53.8	9.8	22.3
10-year Gross Basal Area (sq.feet/acre)	Control	43.9		
	200 # N	.	.	.
	400 # N	54.4	10.5	23.9

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.7			4.4		
	200	.	.	.	.	.	.
	400	8.3	2.6	45.6	4.9	0.5	11.4
Gross Basal Area PAI (sq.ft/a)	Con	5.7			4.4		
	200	.	.	.	.	.	.
	400	8.3	2.6	45.6	5.0	0.6	13.6

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	3.6			3.8			4.4		
	200	.	.	.	.	.	.	.	.	.
	400	4.0	0.4	11.1	4.5	0.7	18.4	5.2	0.8	18.2
Gross Basal Area PAI (sq.ft/a)	Con	3.6			3.7			4.5		
	200	.	.	.	.	.	.	.	.	.
	400	4.1	0.5	13.9	4.5	0.8	21.6	5.2	0.7	15.6

Installation 290 GRASS MTN
Region: Northeast Washington Ownership: Inland Empire
Legal Description: T39N R40E Section 1 Meridian: Willamette

INITIAL STAND CHARACTERISTICS:

Age	75 years	CCF	257.3
Trees per Acre	493 trees/a	Relative Density Index	72.2
Basal Area	217.1 sq.ft/a	Average Crown Length	20.3 ft
Total Volume	5995 cu.ft/a	Average Crown Ratio	30.3 %
Mean Diameter	9.1 in	Site Height (40 tpa)	78.9 ft

Species Composition (% of Total BA)

Douglas-fir	95.4 percent
Grand Fir	0.8 percent
Western Larch	2.6 percent
Lodgepole Pine	0.5 percent
Ponderosa Pine	0.7 percent

GROWTH: Note: all increments have been adjusted to a common initial basal area of 217.1 sq.ft/a

	Treatment	Increment	RESPONSE Difference	RESPONSE % of Control
10-year Net Basal Area (sq.feet/acre)	Control	-10.3		
	200 # N	10.7	21.0	203.9
	400 # N	-34.0	-23.7	-230.1
10-year Gross Basal Area (sq.feet/acre)	Control	44.1		
	200 # N	45.7	1.6	3.6
	400 # N	43.1	-1.0	-2.3

		First Two Years			Second Two Years		
			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	5.3			-12.5		
	200	5.9	0.6	11.3	2.9	15.4	123.2
	400	5.8	0.5	9.4	-10.9	1.6	12.8
Gross Basal Area PAI (sq.ft/a)	Con	5.2			4.5		
	200	6.1	0.9	17.3	5.5	1.0	22.2
	400	6.1	0.9	17.3	4.6	0.1	2.2

		Third Two Years			Fourth Two Years			Fifth Two Years		
			Response			Response			Response	
	TRT	INC	DIFF	%	INC	DIFF	%	INC	DIFF	%
Net Basal Area PAI (sq.ft/a)	Con	-2.2			1.4			2.9		
	200	3.5	5.7	259.1	3.9	2.5	178.6	-10.9	-13.8	-475.9
	400	-8.9	-6.7	-304.5	2.6	1.2	85.7	-5.5	-8.4	-289.7
Gross Basal Area PAI (sq.ft/a)	Con	3.9			4.3			4.2		
	200	3.7	-0.2	-5.1	4.0	-0.3	-7.0	3.6	-0.6	-14.3
	400	3.6	-0.3	-7.7	3.8	-0.5	-11.6	3.5	-0.7	-16.7

SECTION IV

Experimental Design Statistical Models
for Ten Year Response
Versus Treatment and Parent Material

TABLE 1. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGBAI 10 Year Gross BA Growth (sq.ft/a)

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	103	57393.043785	557.214017	18.63	0.0001
Error	153	4576.125084	29.909314		
Corrected Total	256	61969.168869			

R-Square	C.V.	Root MSE	AGBAI Mean
0.926155	13.12449	5.4689409	41.669737

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Parent Material	4	14673.132901	3668.283225	122.65	0.0001
Installation(PMater)	89	38942.974726	437.561514	14.63	0.0001
Treatment	2	3156.535847	1578.267924	52.77	0.0001
PMater*Treatment	8	620.400311	77.550039	2.59	0.0110

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Parent Material	4	15321.733340	3830.433335	128.07	0.0001
Installation(PMater)	89	38556.522689	433.219356	14.48	0.0001
Treatment	2	2830.402587	1415.201294	47.32	0.0001
PMater*Treatment	8	620.400311	77.550039	2.59	0.0110

TABLE 2. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGBAI 10 Year Gross BA Growth (sq.ft/a)

Parent Mater	Treatment	AGBAI LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Basalt	Control	35.1092075	0.9693341	0.0001	1
Basalt	200N	40.0535300	1.1607850	0.0001	2
Basalt	400N	42.1646171	1.1607850	0.0001	3
Granite	Control	35.6456235	1.4200781	0.0001	4
Granite	200N	40.0322630	1.5813258	0.0001	5
Granite	400N	38.6052949	1.6747539	0.0001	6
Metamorphic	Control	53.3458598	1.4120745	0.0001	7
Metamorphic	200N	65.2362754	1.7642318	0.0001	8
Metamorphic	400N	63.3965091	1.7117652	0.0001	9
Mixed	Control	35.5143535	1.0591654	0.0001	10
Mixed	200N	39.3739313	1.2751326	0.0001	11
Mixed	400N	45.6745418	1.1949150	0.0001	12
Sedimentary	Control	26.9965005	1.7443910	0.0001	13
Sedimentary	200N	33.7372513	2.0630445	0.0001	14
Sedimentary	400N	38.8442795	2.0630445	0.0001	15

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0013	0.0001	0.7555	0.0088	0.0728	0.0001	0.0001	0.0001
2	0.0013	.	0.2076	0.0174	0.9914	0.4783	0.0001	0.0001	0.0001
3	0.0001	0.2076	.	0.0005	0.2787	0.0827	0.0001	0.0001	0.0001
4	0.7555	0.0174	0.0005	.	0.0393	0.1761	0.0001	0.0001	0.0001
5	0.0088	0.9914	0.2787	0.0393	.	0.5372	0.0001	0.0001	0.0001
6	0.0728	0.4783	0.0827	0.1761	0.5372	.	0.0001	0.0001	0.0001
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.4676
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.4676	.
10	0.7782	0.0044	0.0001	0.9410	0.0188	0.1209	0.0001	0.0001	0.0001
11	0.0086	0.6940	0.1076	0.0526	0.7463	0.7155	0.0001	0.0001	0.0001
12	0.0001	0.0009	0.0368	0.0001	0.0050	0.0008	0.0001	0.0001	0.0001
13	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
14	0.5481	0.0084	0.0005	0.4473	0.0166	0.0689	0.0001	0.0001	0.0001
15	0.1034	0.6102	0.1627	0.2035	0.6483	0.9285	0.0001	0.0001	0.0001

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	10	11	12	13	14	15
1	0.7782	0.0086	0.0001	0.0001	0.5481	0.1034
2	0.0044	0.6940	0.0009	0.0001	0.0084	0.6102
3	0.0001	0.1076	0.0368	0.0001	0.0005	0.1627
4	0.9410	0.0526	0.0001	0.0002	0.4473	0.2035
5	0.0188	0.7463	0.0050	0.0001	0.0166	0.6483
6	0.1209	0.7155	0.0008	0.0001	0.0689	0.9285
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10	.	0.0200	0.0001	0.0001	0.4447	0.1531
11	0.0200	.	0.0004	0.0001	0.0214	0.8274
12	0.0001	0.0004	.	0.0001	0.0001	0.0048
13	0.0001	0.0001	0.0001	.	0.0126	0.0001
14	0.4447	0.0214	0.0001	0.0126	.	0.0826
15	0.1531	0.8274	0.0048	0.0001	0.0826	.

TABLE 3. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI1 Gross BA PAI: years 1-2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	103	935.04706888	9.07812688	13.59	0.0001
Error	157	104.85672379	0.66787722		
Corrected Total	260	1039.90379267			

R-Square	C.V.	Root MSE	AGPAI1 Mean
0.899167	16.03498	0.8172376	5.0965920

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Parent Material	4	184.88758020	46.22189505	69.21	0.0001
Installation(PMater)	89	623.84240485	7.00946522	10.50	0.0001
Treatment	2	117.59842301	58.79921150	88.04	0.0001
PMater*Treatment	8	8.71866083	1.08983260	1.63	0.1198

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Parent Material	4	184.63730115	46.15932529	69.11	0.0001
Installation(PMater)	89	612.94691346	6.88704397	10.31	0.0001
Treatment	2	101.79646875	50.89823438	76.21	0.0001
PMater*Treatment	8	8.71866083	1.08983260	1.63	0.1198

TABLE 4. 10 Year Results for 1980 - 1982 Douglas-fir Installations Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI1 Gross BA PAI: years 1-2

Parent Mater	Treatment	AGPAI1 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Basalt	Control	3.97008162	0.14299803	0.0001	1
Basalt	200N	5.10443527	0.17047901	0.0001	2
Basalt	400N	5.29079489	0.16598802	0.0001	3
Granite	Control	4.16348201	0.21220583	0.0001	4
Granite	200N	5.17611577	0.23630148	0.0001	5
Granite	400N	5.11953948	0.25026268	0.0001	6
Metamorphic	Control	5.83133646	0.21100983	0.0001	7
Metamorphic	200N	7.77186297	0.26363359	0.0001	8
Metamorphic	400N	7.79630040	0.25579337	0.0001	9
Mixed	Control	4.28416242	0.15827374	0.0001	10
Mixed	200N	5.25831038	0.19054626	0.0001	11
Mixed	400N	6.08543606	0.17855914	0.0001	12
Sedimentary	Control	2.93644858	0.26066873	0.0001	13
Sedimentary	200N	4.23896661	0.30828592	0.0001	14
Sedimentary	400N	4.65810385	0.30828592	0.0001	15

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0001	0.0001	0.4509	0.0001	0.0001	0.0001	0.0001	0.0001
2	0.0001	.	0.4381	0.0007	0.8060	0.9603	0.0082	0.0001	0.0001
3	0.0001	0.4381	.	0.0001	0.6918	0.5693	0.0458	0.0001	0.0001
4	0.4509	0.0007	0.0001	.	0.0016	0.0038	0.0001	0.0001	0.0001
5	0.0001	0.8060	0.6918	0.0016	.	0.8699	0.0403	0.0001	0.0001
6	0.0001	0.9603	0.5693	0.0038	0.8699	.	0.0312	0.0001	0.0001
7	0.0001	0.0082	0.0458	0.0001	0.0403	0.0312	.	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.9485
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.9485	.
10	0.1429	0.0006	0.0001	0.6491	0.0020	0.0054	0.0001	0.0001	0.0001
11	0.0001	0.5482	0.8979	0.0002	0.7869	0.6597	0.0456	0.0001	0.0001
12	0.0001	0.0001	0.0014	0.0001	0.0025	0.0020	0.3594	0.0001	0.0001
13	0.0007	0.0001	0.0001	0.0004	0.0001	0.0001	0.0001	0.0001	0.0001
14	0.4300	0.0151	0.0031	0.8404	0.0170	0.0280	0.0001	0.0001	0.0001
15	0.0446	0.2070	0.0727	0.1882	0.1843	0.2470	0.0020	0.0001	0.0001

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	10	11	12	13	14	15
1	0.1429	0.0001	0.0001	0.0007	0.4300	0.0446
2	0.0006	0.5482	0.0001	0.0001	0.0151	0.2070
3	0.0001	0.8979	0.0014	0.0001	0.0031	0.0727
4	0.6491	0.0002	0.0001	0.0004	0.8404	0.1882
5	0.0020	0.7869	0.0025	0.0001	0.0170	0.1843
6	0.0054	0.6597	0.0020	0.0001	0.0280	0.2470
7	0.0001	0.0456	0.3594	0.0001	0.0001	0.0020
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10	.	0.0001	0.0001	0.0001	0.8964	0.2822
11	0.0001	.	0.0019	0.0001	0.0055	0.0997
12	0.0001	0.0019	.	0.0001	0.0001	0.0001
13	0.0001	0.0001	0.0001	.	0.0013	0.0001
14	0.8964	0.0055	0.0001	0.0013	.	0.3388
15	0.2822	0.0997	0.0001	0.0001	0.3388	.

TABLE 5. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI2 Gross BA PAI: years 3-4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	103	690.96886487	6.70843558	13.23	0.0001
Error	157	79.59269515	0.50695984		
Corrected Total	260	770.56156002			

R-Square	C.V.	Root MSE	AGPAI2 Mean
0.896708	15.61052	0.7120111	4.5610982

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Parent Material	4	111.89196925	27.97299231	55.18	0.0001
Installation(PMater)	89	512.92988181	5.76325710	11.37	0.0001
Treatment	2	56.73857319	28.36928659	55.96	0.0001
PMater*Treatment	8	9.40844062	1.17605508	2.32	0.0222

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Parent Material	4	125.78406930	31.44601732	62.03	0.0001
Installation(PMater)	89	506.85744706	5.69502750	11.23	0.0001
Treatment	2	55.50128288	27.75064144	54.74	0.0001
PMater*Treatment	8	9.40844062	1.17605508	2.32	0.0222

TABLE 6. 10 Year Results for 1980 - 1982 Douglas-fir Installations Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI2 Gross BA PAI: years 3-4

Parent Mater	Treatment	AGPAI2 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Basalt	Control	3.99369535	0.12458579	0.0001	1
Basalt	200N	4.64608808	0.14852835	0.0001	2
Basalt	400N	4.75271303	0.14461562	0.0001	3
Granite	Control	4.19484379	0.18488249	0.0001	4
Granite	200N	4.77829904	0.20587562	0.0001	5
Granite	400N	4.78647413	0.21803919	0.0001	6
Metamorphic	Control	5.21006715	0.18384048	0.0001	7
Metamorphic	200N	6.71027183	0.22968848	0.0001	8
Metamorphic	400N	6.75680070	0.22285775	0.0001	9
Mixed	Control	3.66956947	0.13789462	0.0001	10
Mixed	200N	4.25610724	0.16601178	0.0001	11
Mixed	400N	4.94962338	0.15556810	0.0001	12
Sedimentary	Control	2.58448292	0.22710537	0.0001	13
Sedimentary	200N	3.74358689	0.26859143	0.0001	14
Sedimentary	400N	4.26424581	0.26859143	0.0001	15

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0009	0.0001	0.3683	0.0014	0.0019	0.0001	0.0001	0.0001
2	0.0009	.	0.6104	0.0589	0.6032	0.5954	0.0182	0.0001	0.0001
3	0.0001	0.6104	.	0.0187	0.9191	0.8975	0.0523	0.0001	0.0001
4	0.3683	0.0589	0.0187	.	0.0353	0.0385	0.0001	0.0001	0.0001
5	0.0014	0.6032	0.9191	0.0353	.	0.9783	0.1198	0.0001	0.0001
6	0.0019	0.5954	0.8975	0.0385	0.9783	.	0.1395	0.0001	0.0001
7	0.0001	0.0182	0.0523	0.0001	0.1198	0.1395	.	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.8877
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.8877	.
10	0.0831	0.0001	0.0001	0.0241	0.0001	0.0001	0.0001	0.0001	0.0001
11	0.2080	0.0820	0.0255	0.8056	0.0501	0.0547	0.0002	0.0001	0.0001
12	0.0001	0.1602	0.3553	0.0021	0.5077	0.5433	0.2812	0.0001	0.0001
13	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
14	0.3995	0.0038	0.0012	0.1683	0.0026	0.0030	0.0001	0.0001	0.0001
15	0.3622	0.2153	0.1113	0.8317	0.1308	0.1332	0.0042	0.0001	0.0001

i/j	10	11	12	13	14	15
1	0.0831	0.2080	0.0001	0.0001	0.3995	0.3622
2	0.0001	0.0820	0.1602	0.0001	0.0038	0.2153
3	0.0001	0.0255	0.3553	0.0001	0.0012	0.1113
4	0.0241	0.8056	0.0021	0.0001	0.1683	0.8317
5	0.0001	0.0501	0.5077	0.0001	0.0026	0.1308
6	0.0001	0.0547	0.5433	0.0001	0.0030	0.1332
7	0.0001	0.0002	0.2812	0.0001	0.0001	0.0042
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10	.	0.0068	0.0001	0.0001	0.8067	0.0506
11	0.0068	.	0.0028	0.0001	0.1066	0.9795
12	0.0001	0.0028	.	0.0001	0.0002	0.0287
13	0.0001	0.0001	0.0001	.	0.0011	0.0001
14	0.8067	0.1066	0.0002	0.0011	.	0.1733
15	0.0506	0.9795	0.0287	0.0001	0.1733	.

TABLE 7. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI3 Gross BA PAI: years 5-6

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	103	623.45060243	6.05291847	20.16	0.0001
Error	157	47.13501987	0.30022306		
Corrected Total	260	670.58562230			

R-Square	C.V.	Root MSE	AGPAI3 Mean
0.929711	14.31374	0.5479261	3.8279740

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Parent Material	4	159.27760585	39.81940146	132.63	0.0001
Installation(PMater)	89	441.92948916	4.96549988	16.54	0.0001
Treatment	2	14.90100738	7.45050369	24.82	0.0001
PMater*Treatment	8	7.34250003	0.91781250	3.06	0.0032

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Parent Material	4	172.37553624	43.09388406	143.54	0.0001
Installation(PMater)	89	440.50351022	4.94947764	16.49	0.0001
Treatment	2	14.05655404	7.02827702	23.41	0.0001
PMater*Treatment	8	7.34250003	0.91781250	3.06	0.0032

TABLE 8. 10 Year Results for 1980 - 1982 Douglas-fir Installations Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI3 Gross BA PAI: years 5-6

Parent Mater	Treatment	AGPAI3 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Basalt	Control	3.39204392	0.09587464	0.0001	1
Basalt	200N	3.61586557	0.11429957	0.0001	2
Basalt	400N	3.85638828	0.11128854	0.0001	3
Granite	Control	3.24562066	0.14227580	0.0001	4
Granite	200N	3.51599171	0.15843100	0.0001	5
Granite	400N	3.21524868	0.16779144	0.0001	6
Metamorphic	Control	5.34579100	0.14147392	0.0001	7
Metamorphic	200N	6.07971105	0.17675612	0.0001	8
Metamorphic	400N	5.91789287	0.17149955	0.0001	9
Mixed	Control	3.29827849	0.10611641	0.0001	10
Mixed	200N	3.48246091	0.12775389	0.0001	11
Mixed	400N	4.09836379	0.11971699	0.0001	12
Sedimentary	Control	2.19717401	0.17476829	0.0001	13
Sedimentary	200N	2.73876291	0.20669377	0.0001	14
Sedimentary	400N	3.46316233	0.20669377	0.0001	15

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.1327	0.0018	0.3947	0.5043	0.3617	0.0001	0.0001	0.0001
2	0.1327	.	0.1365	0.0442	0.6099	0.0502	0.0001	0.0001	0.0001
3	0.0018	0.1365	.	0.0009	0.0807	0.0018	0.0001	0.0001	0.0001
4	0.3947	0.0442	0.0009	.	0.2028	0.8895	0.0001	0.0001	0.0001
5	0.5043	0.6099	0.0807	0.2028	.	0.1952	0.0001	0.0001	0.0001
6	0.3617	0.0502	0.0018	0.8895	0.1952	.	0.0001	0.0001	0.0001
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.0015	0.0110
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0015	.	0.5236
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0110	0.5236	.
10	0.5130	0.0434	0.0004	0.7671	0.2553	0.6764	0.0001	0.0001	0.0001
11	0.5722	0.4376	0.0288	0.2173	0.8694	0.2070	0.0001	0.0001	0.0001
12	0.0001	0.0041	0.1408	0.0001	0.0039	0.0001	0.0001	0.0001	0.0001
13	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
14	0.0047	0.0003	0.0001	0.0451	0.0033	0.0754	0.0001	0.0001	0.0001
15	0.7554	0.5189	0.0959	0.3873	0.8395	0.3532	0.0001	0.0001	0.0001

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	10	11	12	13	14	15
1	0.5130	0.5722	0.0001	0.0001	0.0047	0.7554
2	0.0434	0.4376	0.0041	0.0001	0.0003	0.5189
3	0.0004	0.0288	0.1408	0.0001	0.0001	0.0959
4	0.7671	0.2173	0.0001	0.0001	0.0451	0.3873
5	0.2553	0.8694	0.0039	0.0001	0.0033	0.8395
6	0.6764	0.2070	0.0001	0.0001	0.0754	0.3532
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10	.	0.2646	0.0001	0.0001	0.0172	0.4790
11	0.2646	.	0.0006	0.0001	0.0026	0.9368
12	0.0001	0.0006	.	0.0001	0.0001	0.0086
13	0.0001	0.0001	0.0001	.	0.0445	0.0001
14	0.0172	0.0026	0.0001	0.0445	.	0.0144
15	0.4790	0.9368	0.0086	0.0001	0.0144	.

TABLE 9. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI4 Gross BA PAI: years 7-8

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	103	560.32608776	5.44005910	23.74	0.0001
Error	153	35.05650157	0.22912746		
Corrected Total	256	595.38258933			

R-Square	C.V.	Root MSE	AGPAI4 Mean
0.941119	12.92574	0.4786726	3.7032508

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Parent Material	4	159.12362325	39.78090581	173.62	0.0001
Installation(PMater)	89	385.75134153	4.33428474	18.92	0.0001
Treatment	2	10.49423760	5.24711880	22.90	0.0001
PMater*Treatment	8	4.95688538	0.61961067	2.70	0.0082

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Parent Material	4	155.71074705	38.92768676	169.90	0.0001
Installation(PMater)	89	383.37940728	4.30763379	18.80	0.0001
Treatment	2	9.46338156	4.73169078	20.65	0.0001
PMater*Treatment	8	4.95688538	0.61961067	2.70	0.0082

TABLE 10. 10 Year Results for 1980 - 1982 Douglas-fir Installations Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI4 Gross BA PAI: years 7-8

Parent Mater	Treatment	AGPAI4 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Basalt	Control	3.21478210	0.08484160	0.0001	1
Basalt	200N	3.46949648	0.10159846	0.0001	2
Basalt	400N	3.59193108	0.10159846	0.0001	3
Granite	Control	3.18364953	0.12429326	0.0001	4
Granite	200N	3.40650530	0.13840657	0.0001	5
Granite	400N	3.26818549	0.14658393	0.0001	6
Metamorphic	Control	5.15399840	0.12359273	0.0001	7
Metamorphic	200N	6.02153679	0.15441554	0.0001	8
Metamorphic	400N	5.73594960	0.14982336	0.0001	9
Mixed	Control	3.05447417	0.09270414	0.0001	10
Mixed	200N	3.18880530	0.11160681	0.0001	11
Mixed	400N	3.70472677	0.10458571	0.0001	12
Sedimentary	Control	2.98370742	0.15267896	0.0001	13
Sedimentary	200N	3.18552479	0.18056931	0.0001	14
Sedimentary	400N	3.79243818	0.18056931	0.0001	15

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0553	0.0048	0.8364	0.2394	0.7530	0.0001	0.0001	0.0001
2	0.0553	.	0.4030	0.0770	0.7142	0.2608	0.0001	0.0001	0.0001
3	0.0048	0.4030	.	0.0120	0.2818	0.0714	0.0001	0.0001	0.0001
4	0.8364	0.0770	0.0120	.	0.2294	0.6580	0.0001	0.0001	0.0001
5	0.2394	0.7142	0.2818	0.2294	.	0.4944	0.0001	0.0001	0.0001
6	0.7530	0.2608	0.0714	0.6580	0.4944	.	0.0001	0.0001	0.0001
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.0001	0.0032
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.1985
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0032	0.1985	.
10	0.2040	0.0030	0.0001	0.4061	0.0362	0.2198	0.0001	0.0001	0.0001
11	0.8532	0.0648	0.0084	0.9754	0.2227	0.6672	0.0001	0.0001	0.0001
12	0.0004	0.1087	0.4404	0.0016	0.0876	0.0165	0.0001	0.0001	0.0001
13	0.1878	0.0089	0.0011	0.3114	0.0419	0.1809	0.0001	0.0001	0.0001
14	0.8836	0.1725	0.0516	0.9932	0.3329	0.7228	0.0001	0.0001	0.0001
15	0.0043	0.1211	0.3347	0.0062	0.0919	0.0256	0.0001	0.0001	0.0001

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	10	11	12	13	14	15
1	0.2040	0.8532	0.0004	0.1878	0.8836	0.0043
2	0.0030	0.0648	0.1087	0.0089	0.1725	0.1211
3	0.0001	0.0084	0.4404	0.0011	0.0516	0.3347
4	0.4061	0.9754	0.0016	0.3114	0.9932	0.0062
5	0.0362	0.2227	0.0876	0.0419	0.3329	0.0919
6	0.2198	0.6672	0.0165	0.1809	0.7228	0.0256
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10	.	0.3514	0.0001	0.6925	0.5195	0.0004
11	0.3514	.	0.0010	0.2799	0.9877	0.0051
12	0.0001	0.0010	.	0.0001	0.0139	0.6748
13	0.6925	0.2799	0.0001	.	0.3889	0.0007
14	0.5195	0.9877	0.0139	0.3889	.	0.0189
15	0.0004	0.0051	0.6748	0.0007	0.0189	.

TABLE 11. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI5 Gross BA PAI: years 9-10

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	103	588.18643020	5.71054787	17.94	0.0001
Error	153	48.69469223	0.31826596		
Corrected Total	256	636.88112243			

R-Square	C.V.	Root MSE	AGPAI5 Mean
0.923542	15.53509	0.5641507	3.6314594

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Parent Material	4	157.34319202	39.33579800	123.59	0.0001
Installation(PMater)	89	418.92349421	4.70700555	14.79	0.0001
Treatment	2	5.43409595	2.71704797	8.54	0.0003
PMater*Treatment	8	6.48564802	0.81070600	2.55	0.0124

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Parent Material	4	162.51585712	40.62896428	127.66	0.0001
Installation(PMater)	89	417.93470592	4.69589557	14.75	0.0001
Treatment	2	4.84198349	2.42099175	7.61	0.0007
PMater*Treatment	8	6.48564802	0.81070600	2.55	0.0124

TABLE 12. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Parent Material

General Linear Models Procedure

Dependent Variable: AGPAI5 Gross BA PAI: years 9-10

Parent Mater	Treatment	AGPAI5 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Basalt	Control	3.04146850	0.09999203	0.0001	1
Basalt	200N	3.23710643	0.11974121	0.0001	2
Basalt	400N	3.33440394	0.11974121	0.0001	3
Granite	Control	3.01183441	0.14648869	0.0001	4
Granite	200N	3.12494352	0.16312226	0.0001	5
Granite	400N	2.87262552	0.17275987	0.0001	6
Metamorphic	Control	5.13755831	0.14566307	0.0001	7
Metamorphic	200N	6.03367441	0.18199000	0.0001	8
Metamorphic	400N	5.48366464	0.17657779	0.0001	9
Mixed	Control	3.46932431	0.10925860	0.0001	10
Mixed	200N	3.49286347	0.13153678	0.0001	11
Mixed	400N	4.00811714	0.12326190	0.0001	12
Sedimentary	Control	2.85507414	0.17994331	0.0001	13
Sedimentary	200N	3.08207870	0.21281413	0.0001	14
Sedimentary	400N	3.47064414	0.21281413	0.0001	15

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.2100	0.0613	0.8675	0.6632	0.3990	0.0001	0.0001	0.0001
2	0.2100	.	0.5726	0.2356	0.5802	0.0849	0.0001	0.0001	0.0001
3	0.0613	0.5726	.	0.0902	0.3022	0.0295	0.0001	0.0001	0.0001
4	0.8675	0.2356	0.0902	.	0.6041	0.5364	0.0001	0.0001	0.0001
5	0.6632	0.5802	0.3022	0.6041	.	0.2908	0.0001	0.0001	0.0001
6	0.3990	0.0849	0.0295	0.5364	0.2908	.	0.0001	0.0001	0.0001
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.0002	0.1326
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	.	0.0365
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.1326	0.0365	.
10	0.0044	0.1540	0.4065	0.0133	0.0814	0.0040	0.0001	0.0001	0.0001
11	0.0070	0.1525	0.3744	0.0157	0.0811	0.0049	0.0001	0.0001	0.0001
12	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
13	0.3667	0.0791	0.0281	0.5003	0.2682	0.9440	0.0001	0.0001	0.0001
14	0.8631	0.5265	0.3031	0.7861	0.8732	0.4460	0.0001	0.0001	0.0001
15	0.0699	0.3404	0.5777	0.0777	0.1993	0.0307	0.0001	0.0001	0.0001

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	10	11	12	13	14	15
1	0.0044	0.0070	0.0001	0.3667	0.8631	0.0699
2	0.1540	0.1525	0.0001	0.0791	0.5265	0.3404
3	0.4065	0.3744	0.0001	0.0281	0.3031	0.5777
4	0.0133	0.0157	0.0001	0.5003	0.7861	0.0777
5	0.0814	0.0811	0.0001	0.2682	0.8732	0.1993
6	0.0040	0.0049	0.0001	0.9440	0.4460	0.0307
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
10	.	0.8897	0.0012	0.0041	0.1076	0.9956
11	0.8897	.	0.0050	0.0048	0.1027	0.9293
12	0.0012	0.0050	.	0.0001	0.0002	0.0304
13	0.0041	0.0048	0.0001	.	0.4109	0.0268
14	0.1076	0.1027	0.0002	0.4109	.	0.1995
15	0.9956	0.9293	0.0304	0.0268	0.1995	.

SECTION V

Experimental Design Statistical Models
for Ten Year Response
Versus Treatment and Vegetation Series

TABLE 1. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Vegetation Series

General Linear Models Procedure

Dependent Variable: AGBAI 10 Year Gross BA Growth (sq.ft/a)

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	99	57052.319602	576.286057	18.40	0.0001
Error	157	4916.849267	31.317511		
Corrected Total	256	61969.168869			

R-Square	C.V.	Root MSE	AGBAI Mean
0.920657	13.42990	5.5962051	41.669737

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Series	2	22451.068817	11225.534409	358.44	0.0001
Installation(Series)	91	31165.038810	342.472954	10.94	0.0001
Treatment	2	3156.535847	1578.267924	50.40	0.0001
Series*Treatment	4	279.676128	69.919032	2.23	0.0679

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Series	2	23107.675827	11553.837914	368.93	0.0001
Installation(Series)	91	30412.813880	334.206746	10.67	0.0001
Treatment	2	3182.682954	1591.341477	50.81	0.0001
Series*Treatment	4	279.676128	69.919032	2.23	0.0679

Series	Treatment	AGBAI LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Cedar/Hemlock	Control	56.5138190	1.3641248	0.0001	1
Cedar/Hemlock	200N	65.0374587	1.6620473	0.0001	2
Cedar/Hemlock	400N	68.7957881	1.6620473	0.0001	3
Douglas-fir	Control	31.7241979	0.7862302	0.0001	4
Douglas-fir	200N	35.2796130	0.9729375	0.0001	5
Douglas-fir	400N	38.6955867	0.8998956	0.0001	6
Grand Fir	Control	36.6311005	1.0106308	0.0001	7
Grand Fir	200N	44.1861183	1.1212659	0.0001	8
Grand Fir	400N	44.9874991	1.2195095	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
2	0.0001	.	0.1173	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3	0.0001	0.1173	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
4	0.0001	0.0001	0.0001	.	0.0049	0.0001	0.0002	0.0001	0.0001
5	0.0001	0.0001	0.0001	0.0049	.	0.0119	0.3368	0.0001	0.0001
6	0.0001	0.0001	0.0001	0.0001	0.0119	.	0.1291	0.0002	0.0001
7	0.0001	0.0001	0.0001	0.0002	0.3368	0.1291	.	0.0001	0.0001
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	.	0.6302
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.6302	.

TABLE 2. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Vegetation Series

General Linear Models Procedure

Dependent Variable: AGPAI1 Gross BA PAI: years 1-2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	99	933.25554450	9.42682368	14.23	0.0001
Error	161	106.64824817	0.66241148		
Corrected Total	260	1039.90379267			

R-Square	C.V.	Root MSE	AGPAI1 Mean
0.897444	15.96923	0.8138867	5.0965920

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Series	2	213.96450248	106.98225124	161.50	0.0001
Installation(Series)	91	594.76548257	6.53588442	9.87	0.0001
Treatment	2	117.59842301	58.79921150	88.77	0.0001
Series*Treatment	4	6.92713645	1.73178411	2.61	0.0373

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Series	2	231.50763965	115.75381982	174.75	0.0001
Installation(Series)	91	581.22725516	6.38711269	9.64	0.0001
Treatment	2	113.73669895	56.86834948	85.85	0.0001
Series*Treatment	4	6.92713645	1.73178411	2.61	0.0373

Series	Treatment	AGPAI1 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Cedar/Hemlock	Control	6.09779620	0.19839212	0.0001	1
Cedar/Hemlock	200N	7.70969506	0.24172061	0.0001	2
Cedar/Hemlock	400N	8.32100878	0.24172061	0.0001	3
Douglas-fir	Control	3.80413837	0.11434574	0.0001	4
Douglas-fir	200N	4.69531409	0.14149962	0.0001	5
Douglas-fir	400N	5.18847372	0.13087673	0.0001	6
Grand Fir	Control	4.10073645	0.14502766	0.0001	7
Grand Fir	200N	5.54257321	0.16055698	0.0001	8
Grand Fir	400N	5.54025549	0.16947202	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0311	0.0341
2	0.0001	.	0.0801	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3	0.0001	0.0801	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
4	0.0001	0.0001	0.0001	.	0.0001	0.0001	0.1102	0.0001	0.0001
5	0.0001	0.0001	0.0001	0.0001	.	0.0125	0.0038	0.0001	0.0002
6	0.0002	0.0001	0.0001	0.0001	0.0125	.	0.0001	0.0893	0.1024
7	0.0001	0.0001	0.0001	0.1102	0.0038	0.0001	.	0.0001	0.0001
8	0.0311	0.0001	0.0001	0.0001	0.0001	0.0893	0.0001	.	0.9921
9	0.0341	0.0001	0.0001	0.0001	0.0002	0.1024	0.0001	0.9921	.

TABLE 3. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Vegetation Series

General Linear Models Procedure

Dependent Variable: AGPAI2 Gross BA PAI: years 3-4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	99	685.54684765	6.92471563	13.11	0.0001
Error	161	85.01471237	0.52804169		
Corrected Total	260	770.56156002			

R-Square	C.V.	Root MSE	AGPAI2 Mean
0.889672	15.93179	0.7266648	4.5610982

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Series	2	195.72371139	97.86185570	185.33	0.0001
Installation(Series)	91	429.09813967	4.71536417	8.93	0.0001
Treatment	2	56.73857319	28.36928659	53.73	0.0001
Series*Treatment	4	3.98642341	0.99660585	1.89	0.1151

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Series	2	187.27803474	93.63901737	177.33	0.0001
Installation(Series)	91	420.41968210	4.61999651	8.75	0.0001
Treatment	2	57.17786401	28.58893201	54.14	0.0001
Series*Treatment	4	3.98642341	0.99660585	1.89	0.1151

Series	Treatment	AGPAI2 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Cedar/Hemlock	Control	5.64180131	0.17713101	0.0001	1
Cedar/Hemlock	200N	6.76620722	0.21581611	0.0001	2
Cedar/Hemlock	400N	7.28998000	0.21581611	0.0001	3
Douglas-fir	Control	3.53540369	0.10209164	0.0001	4
Douglas-fir	200N	4.10559326	0.12633551	0.0001	5
Douglas-fir	400N	4.44236665	0.11685105	0.0001	6
Grand Fir	Control	3.88346763	0.12948547	0.0001	7
Grand Fir	200N	4.84169354	0.14335055	0.0001	8
Grand Fir	400N	4.98080128	0.15131020	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0006	0.0051
2	0.0001	.	0.0929	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3	0.0001	0.0929	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
4	0.0001	0.0001	0.0001	.	0.0005	0.0001	0.0363	0.0001	0.0001
5	0.0001	0.0001	0.0001	0.0005	.	0.0550	0.2213	0.0002	0.0001
6	0.0001	0.0001	0.0001	0.0001	0.0550	.	0.0016	0.0323	0.0055
7	0.0001	0.0001	0.0001	0.0363	0.2213	0.0016	.	0.0001	0.0001
8	0.0006	0.0001	0.0001	0.0001	0.0002	0.0323	0.0001	.	0.5040
9	0.0051	0.0001	0.0001	0.0001	0.0001	0.0055	0.0001	0.5040	.

TABLE 4. 10 Year Results for 1980 - 1982 Douglas-fir Installations Adjusted Growth versus Treatment and Vegetation Series

General Linear Models Procedure

Dependent Variable: AGPAI3 Gross BA PAI: years 5-6

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	99	619.98885179	6.26251365	19.93	0.0001
Error	161	50.59677051	0.31426566		
Corrected Total	260	670.58562230			

R-Square	C.V.	Root MSE	AGPAI3 Mean
0.924548	14.64467	0.5605940	3.8279740

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Series	2	260.51667700	130.25833850	414.48	0.0001
Installation(Series)	91	340.69041802	3.74385075	11.91	0.0001
Treatment	2	14.90100738	7.45050369	23.71	0.0001
Series*Treatment	4	3.88074939	0.97018735	3.09	0.0176

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Series	2	280.72099818	140.36049909	446.63	0.0001
Installation(Series)	91	334.46516887	3.67544142	11.70	0.0001
Treatment	2	16.35313003	8.17656501	26.02	0.0001
Series*Treatment	4	3.88074939	0.97018735	3.09	0.0176

Series	Treatment	AGPAI3 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Cedar/Hemlock	Control	5.62913268	0.13664978	0.0001	1
Cedar/Hemlock	200N	6.14461291	0.16649386	0.0001	2
Cedar/Hemlock	400N	6.63660145	0.16649386	0.0001	3
Douglas-fir	Control	2.85747449	0.07875979	0.0001	4
Douglas-fir	200N	2.92695894	0.09746300	0.0001	5
Douglas-fir	400N	3.31679934	0.09014611	0.0001	6
Grand Fir	Control	3.55695844	0.09989307	0.0001	7
Grand Fir	200N	4.14730067	0.11058946	0.0001	8
Grand Fir	400N	4.12763204	0.11673002	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0170	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
2	0.0170	.	0.0412	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3	0.0001	0.0412	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
4	0.0001	0.0001	0.0001	.	0.5780	0.0002	0.0001	0.0001	0.0001
5	0.0001	0.0001	0.0001	0.5780	.	0.0042	0.0001	0.0001	0.0001
6	0.0001	0.0001	0.0001	0.0002	0.0042	.	0.0762	0.0001	0.0001
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0762	.	0.0001	0.0002
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	.	0.9025
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.9025	.

TABLE 5. 10 Year Results for 1980 - 1982 Douglas-fir Installations Adjusted Growth versus Treatment and Vegetation Series

General Linear Models Procedure

Dependent Variable: AGPAI4 Gross BA PAI: years 7-8

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	99	556.45263176	5.62073365	22.67	0.0001
Error	157	38.92995756	0.24796151		
Corrected Total	256	595.38258933			

R-Square	C.V.	Root MSE	AGPAI4 Mean
0.934614	13.44649	0.4979573	3.7032508

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Series	2	220.65387725	110.32693862	444.94	0.0001
Installation(Series)	91	324.22108753	3.56286909	14.37	0.0001
Treatment	2	10.49423760	5.24711880	21.16	0.0001
Series*Treatment	4	1.08342939	0.27085735	1.09	0.3623

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Series	2	217.93644861	108.96822431	439.46	0.0001
Installation(Series)	91	318.28728030	3.49766242	14.11	0.0001
Treatment	2	10.34636842	5.17318421	20.86	0.0001
Series*Treatment	4	1.08342939	0.27085735	1.09	0.3623

Series	Treatment	AGPAI4 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Cedar/Hemlock	Control	5.34349852	0.12138154	0.0001	1
Cedar/Hemlock	200N	5.83519459	0.14789105	0.0001	2
Cedar/Hemlock	400N	6.10772057	0.14789105	0.0001	3
Douglas-fir	Control	2.80321797	0.06995974	0.0001	4
Douglas-fir	200N	3.00122322	0.08657320	0.0001	5
Douglas-fir	400N	3.26626434	0.08007384	0.0001	6
Grand Fir	Control	3.51971334	0.08992719	0.0001	7
Grand Fir	200N	3.86625253	0.09977165	0.0001	8
Grand Fir	400N	3.89986114	0.10851348	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0105	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
2	0.0105	.	0.2012	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3	0.0001	0.2012	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
4	0.0001	0.0001	0.0001	.	0.0757	0.0001	0.0001	0.0001	0.0001
5	0.0001	0.0001	0.0001	0.0757	.	0.0279	0.0001	0.0001	0.0001
6	0.0001	0.0001	0.0001	0.0001	0.0279	.	0.0369	0.0001	0.0001
7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0369	.	0.0103	0.0073
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0103	.	0.8205
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0073	0.8205	.

TABLE 6. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Vegetation Series

General Linear Models Procedure

Dependent Variable: AGPAI5 Gross BA PAI: years 9-10

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	99	583.14954591	5.89039945	17.21	0.0001
Error	157	53.73157652	0.34223934		
Corrected Total	256	636.88112243			

R-Square	C.V.	Root MSE	AGPAI5 Mean
0.915633	16.10956	0.5850123	3.6314594

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Series	2	244.28960331	122.14480165	356.90	0.0001
Installation(Series)	91	331.97708292	3.64809981	10.66	0.0001
Treatment	2	5.43409595	2.71704797	7.94	0.0005
Series*Treatment	4	1.44876374	0.36219093	1.06	0.3792

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Series	2	248.64714307	124.32357153	363.26	0.0001
Installation(Series)	91	328.82189902	3.61342746	10.56	0.0001
Treatment	2	5.85558642	2.92779321	8.55	0.0003
Series*Treatment	4	1.44876374	0.36219093	1.06	0.3792

Series	Treatment	AGPAI5 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Cedar/Hemlock	Control	5.57416842	0.14260195	0.0001	1
Cedar/Hemlock	200N	6.05267787	0.17374596	0.0001	2
Cedar/Hemlock	400N	6.05217331	0.17374596	0.0001	3
Douglas-fir	Control	2.86036246	0.08219039	0.0001	4
Douglas-fir	200N	2.91315106	0.10170828	0.0001	5
Douglas-fir	400N	3.12984294	0.09407267	0.0001	6
Grand Fir	Control	3.33953824	0.10564863	0.0001	7
Grand Fir	200N	3.73286696	0.11721413	0.0001	8
Grand Fir	400N	3.73210387	0.12748425	0.0001	9

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0335	0.0337	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
2	0.0335	.	0.9984	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3	0.0337	0.9984	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
4	0.0001	0.0001	0.0001	.	0.6855	0.0318	0.0005	0.0001	0.0001
5	0.0001	0.0001	0.0001	0.6855	.	0.1244	0.0042	0.0001	0.0001
6	0.0001	0.0001	0.0001	0.0318	0.1244	.	0.1403	0.0001	0.0002
7	0.0001	0.0001	0.0001	0.0005	0.0042	0.1403	.	0.0131	0.0180
8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0131	.	0.9965
9	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0180	0.9965	.

SECTION VI

Experimental Design Statistical Models for Ten Year Response Versus Treatment and Initial Potassium Condition

Table 1. Ten Year Gross Basal Area Growth by Treatment and Initial Potassium Condition

Table 2. Ten Year Gross Basal Area PAI by Treatment and Initial Potassium Condition - Period One

Table 3. Ten Year Gross Basal Area PAI by Treatment and Initial Potassium Condition - Period Two

Table 4. Ten Year Gross Basal Area PAI by Treatment and Initial Potassium Condition - Period Three

Table 5. Ten Year Gross Basal Area PAI by Treatment and Initial Potassium Condition - Period Four

Table 6. Ten Year Gross Basal Area PAI by Treatment and Initial Potassium Condition - Period Five

TABLE 1. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Initial Potassium Condition

General Linear Models Procedure

Dependent Variable: AGBAI 10 Year Gross BA Growth (sq.ft/a)

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	90	53273.170643	591.924118	18.08	0.0001
Error	129	4223.623366	32.741266		
Corrected Total	219	57496.794009			

R-Square	C.V.	Root MSE	AGBAI Mean
0.926542	13.69178	5.7219985	41.791485

Source	DF	Type I SS	Mean Square	F Value	Pr > F
K Status	2	1232.977408	616.488704	18.83	0.0001
Installation(K Status)	82	48810.699892	595.252438	18.18	0.0001
Treatment	2	3018.838088	1509.419044	46.10	0.0001
K Status*Treatment	4	210.655254	52.663814	1.61	0.1760

Source	DF	Type III SS	Mean Square	F Value	Pr > F
K Status	2	1269.367633	634.683817	19.38	0.0001
Installation(K Status)	82	48483.320691	591.260008	18.06	0.0001
Treatment	2	1143.589898	571.794949	17.46	0.0001
K Status*Treatment	4	210.655254	52.663814	1.61	0.1760

K Status	Treatment	AGBAI LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Good	Control	33.8997694	1.2199342	0.0001	1
Good	200N	40.0193700	1.4671496	0.0001	2
Good	400N	44.2802176	1.3582553	0.0001	3
Other	Control	38.9831403	0.7657822	0.0001	4
Other	200N	45.4084728	0.9583901	0.0001	5
Other	400N	47.7091857	0.9060067	0.0001	6
Poor	Control	35.1767272	2.0230320	0.0001	7
Poor	200N	40.9615110	2.2335758	0.0001	8
Poor	400N	36.2686899	2.8029822	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0017	0.0001	0.0006	0.0001	0.0001	0.5898	0.0063	0.4398
2	0.0017	.	0.0373	0.5323	0.0026	0.0001	0.0548	0.7250	0.2380
3	0.0001	0.0373	.	0.0009	0.4985	0.0377	0.0003	0.2065	0.0112
4	0.0006	0.5323	0.0009	.	0.0001	0.0001	0.0808	0.4037	0.3520
5	0.0001	0.0026	0.4985	0.0001	.	0.0901	0.0001	0.0696	0.0025
6	0.0001	0.0001	0.0377	0.0001	0.0901	.	0.0001	0.0059	0.0002
7	0.5898	0.0548	0.0003	0.0808	0.0001	0.0001	.	0.0571	0.7526
8	0.0063	0.7250	0.2065	0.4037	0.0696	0.0059	0.0571	.	0.2019
9	0.4398	0.2380	0.0112	0.3520	0.0025	0.0002	0.7526	0.2019	.

TABLE 2. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Initial Potassium Condition

General Linear Models Procedure

Dependent Variable: AGPAI1 Gross BA PAI: years 1-2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	90	874.31690729	9.71463230	13.33	0.0001
Error	133	96.91530337	0.72868649		
Corrected Total	223	971.23221066			

R-Square	C.V.	Root MSE	AGPAI1 Mean
0.900214	16.52016	0.8536314	5.1672110

Source	DF	Type I SS	Mean Square	F Value	Pr > F
K Status	2	22.60685924	11.30342962	15.51	0.0001
Installation(K Status)	82	733.00124282	8.93903955	12.27	0.0001
Treatment	2	115.45512464	57.72756232	79.22	0.0001
K Status*Treatment	4	3.25368059	0.81342015	1.12	0.3516

Source	DF	Type III SS	Mean Square	F Value	Pr > F
K Status	2	21.03031259	10.51515629	14.43	0.0001
Installation(K Status)	82	723.16700362	8.81910980	12.10	0.0001
Treatment	2	46.80088378	23.40044189	32.11	0.0001
K Status*Treatment	4	3.25368059	0.81342015	1.12	0.3516

K Status	Treatment	AGPAI1 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Good	Control	3.96401899	0.18199482	0.0001	1
Good	200N	5.38685857	0.21887543	0.0001	2
Good	400N	5.76503483	0.20263013	0.0001	3
Other	Control	4.45864404	0.11340229	0.0001	4
Other	200N	5.78644401	0.14142088	0.0001	5
Other	400N	6.12253240	0.13178479	0.0001	6
Poor	Control	3.87714552	0.30180426	0.0001	7
Poor	200N	4.85022450	0.33321406	0.0001	8
Poor	400N	4.47291345	0.41816045	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0001	0.0001	0.0226	0.0001	0.0001	0.8057	0.0211	0.2665
2	0.0001	.	0.2129	0.0002	0.1276	0.0046	0.0001	0.1806	0.0549
3	0.0001	0.2129	.	0.0001	0.9311	0.1415	0.0001	0.0205	0.0062
4	0.0226	0.0002	0.0001	.	0.0001	0.0001	0.0736	0.2679	0.9738
5	0.0001	0.1276	0.9311	0.0001	.	0.0893	0.0001	0.0108	0.0035
6	0.0001	0.0046	0.1415	0.0001	0.0893	.	0.0001	0.0005	0.0003
7	0.8057	0.0001	0.0001	0.0736	0.0001	0.0001	.	0.0322	0.2501
8	0.0211	0.1806	0.0205	0.2679	0.0108	0.0005	0.0322	.	0.4906
9	0.2665	0.0549	0.0062	0.9738	0.0035	0.0003	0.2501	0.4906	.

TABLE 3. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Initial Potassium Condition

General Linear Models Procedure

Dependent Variable: AGPAI2 Gross BA PAI: years 3-4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	90	590.54277628	6.56158640	11.80	0.0001
Error	133	73.95473405	0.55605063		
Corrected Total	223	664.49751033			

R-Square	C.V.	Root MSE	AGPAI2 Mean
0.888706	16.59233	0.7456880	4.4941737

Source	DF	Type I SS	Mean Square	F Value	Pr > F
K Status	2	4.42841674	2.21420837	3.98	0.0209
Installation(K Status)	82	533.39052538	6.50476250	11.70	0.0001
Treatment	2	50.17955919	25.08977959	45.12	0.0001
K Status*Treatment	4	2.54427497	0.63606874	1.14	0.3387

Source	DF	Type III SS	Mean Square	F Value	Pr > F
K Status	2	5.96626159	2.98313080	5.36	0.0057
Installation(K Status)	82	534.14770760	6.51399643	11.71	0.0001
Treatment	2	20.12737664	10.06368832	18.10	0.0001
K Status*Treatment	4	2.54427497	0.63606874	1.14	0.3387

K Status	Treatment	AGPAI2 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Good	Control	3.69956982	0.15898122	0.0001	1
Good	200N	4.50967973	0.19119821	0.0001	2
Good	400N	5.04822821	0.17700716	0.0001	3
Other	Control	4.07419105	0.09906235	0.0001	4
Other	200N	4.94384560	0.12353793	0.0001	5
Other	400N	5.13615993	0.11512035	0.0001	6
Poor	Control	3.90149665	0.26364053	0.0001	7
Poor	200N	4.58452019	0.29107850	0.0001	8
Poor	400N	4.23263342	0.36528326	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0014	0.0001	0.0475	0.0001	0.0001	0.5130	0.0086	0.1832
2	0.0014	.	0.0433	0.0451	0.0586	0.0058	0.0640	0.8302	0.5028
3	0.0001	0.0433	.	0.0001	0.6295	0.6778	0.0004	0.1758	0.0465
4	0.0475	0.0451	0.0001	.	0.0001	0.0001	0.5408	0.0993	0.6762
5	0.0001	0.0586	0.6295	0.0001	.	0.2642	0.0005	0.2579	0.0674
6	0.0001	0.0058	0.6778	0.0001	0.2642	.	0.0001	0.0803	0.0198
7	0.5130	0.0640	0.0004	0.5408	0.0005	0.0001	.	0.0843	0.4636
8	0.0086	0.8302	0.1758	0.0993	0.2579	0.0803	0.0843	.	0.4618
9	0.1832	0.5028	0.0465	0.6762	0.0674	0.0198	0.4636	0.4618	.

TABLE 4. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Initial Potassium Condition

General Linear Models Procedure

Dependent Variable: AGPAI3 Gross BA PAI: years 5-6

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	90	573.31223943	6.37013599	19.28	0.0001
Error	133	43.93869283	0.33036611		
Corrected Total	223	617.25093226			

R-Square	C.V.	Root MSE	AGPAI3 Mean
0.928816	15.05460	0.5747748	3.8179361

Source	DF	Type I SS	Mean Square	F Value	Pr > F
K Status	2	13.56304489	6.78152245	20.53	0.0001
Installation(K Status)	82	545.31990193	6.65024271	20.13	0.0001
Treatment	2	12.30213885	6.15106943	18.62	0.0001
K Status*Treatment	4	2.12715376	0.53178844	1.61	0.1755

Source	DF	Type III SS	Mean Square	F Value	Pr > F
K Status	2	13.92560223	6.96280112	21.08	0.0001
Installation(K Status)	82	543.30528364	6.62567419	20.06	0.0001
Treatment	2	3.67238081	1.83619040	5.56	0.0048
K Status*Treatment	4	2.12715376	0.53178844	1.61	0.1755

K Status	Treatment	AGPAI3 LSMEAN	Std Err LSMEAN	Pr > |T| H0:LSMEAN=0	LSMEAN Number
Good	Control	3.17862107	0.12254241	0.0001	1
Good	200N	3.51157500	0.14737520	0.0001	2
Good	400N	3.94367350	0.13643677	0.0001	3
Other	Control	3.71921909	0.07635706	0.0001	4
Other	200N	4.08123397	0.09522279	0.0001	5
Other	400N	4.27532318	0.08873453	0.0001	6
Poor	Control	3.27848488	0.20321359	0.0001	7
Poor	200N	3.60213482	0.22436272	0.0001	8
Poor	400N	3.11962171	0.28155960	0.0001	9

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.0847	0.0001	0.0003	0.0001	0.0001	0.6746	0.1000	0.8479
2	0.0847	.	0.0355	0.2131	0.0015	0.0001	0.3548	0.7364	0.2196
3	0.0001	0.0355	.	0.1535	0.4098	0.0436	0.0075	0.1956	0.0094
4	0.0003	0.2131	0.1535	.	0.0034	0.0001	0.0443	0.6221	0.0418
5	0.0001	0.0015	0.4098	0.0034	.	0.1445	0.0005	0.0514	0.0015
6	0.0001	0.0001	0.0436	0.0001	0.1445	.	0.0001	0.0060	0.0001
7	0.6746	0.3548	0.0075	0.0443	0.0005	0.0001	.	0.2869	0.6481
8	0.1000	0.7364	0.1956	0.6221	0.0514	0.0060	0.2869	.	0.1914
9	0.8479	0.2196	0.0094	0.0418	0.0015	0.0001	0.6481	0.1914	.

TABLE 5. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Initial Potassium Condition

General Linear Models Procedure

Dependent Variable: AGPAI4 Gross BA PAI: years 7-8

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	90	517.85664244	5.75396269	23.22	0.0001
Error	129	31.96043489	0.24775531		
Corrected Total	219	549.81707733			

R-Square	C.V.	Root MSE	AGPAI4 Mean
0.941871	13.38303	0.4977502	3.7192630

Source	DF	Type I SS	Mean Square	F Value	Pr > F
K Status	2	8.87711096	4.43855548	17.92	0.0001
Installation(K Status)	82	496.64164241	6.05660540	24.45	0.0001
Treatment	2	10.73125854	5.36562927	21.66	0.0001
K Status*Treatment	4	1.60663054	0.40165763	1.62	0.1728

Source	DF	Type III SS	Mean Square	F Value	Pr > F
K Status	2	9.18934053	4.59467026	18.55	0.0001
Installation(K Status)	82	494.03826171	6.02485685	24.32	0.0001
Treatment	2	4.18717005	2.09358502	8.45	0.0004
K Status*Treatment	4	1.60663054	0.40165763	1.62	0.1728

K Status	Treatment	AGPAI4 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Good	Control	3.13067534	0.10612071	0.0001	1
Good	200N	3.33271625	0.12762570	0.0001	2
Good	400N	3.77740410	0.11815311	0.0001	3
Other	Control	3.59598484	0.06661454	0.0001	4
Other	200N	3.95422722	0.08336928	0.0001	5
Other	400N	4.12139130	0.07881251	0.0001	6
Poor	Control	3.38944725	0.17598129	0.0001	7
Poor	200N	3.92294623	0.19429626	0.0001	8
Poor	400N	3.45505288	0.24382828	0.0001	9

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.2257	0.0001	0.0003	0.0001	0.0001	0.2102	0.0005	0.2248
2	0.2257	.	0.0128	0.0698	0.0001	0.0001	0.7945	0.0123	0.6574
3	0.0001	0.0128	.	0.1834	0.2236	0.0168	0.0695	0.5233	0.2363
4	0.0003	0.0698	0.1834	.	0.0010	0.0001	0.2744	0.1139	0.5781
5	0.0001	0.0001	0.2236	0.0010	.	0.1562	0.0044	0.8826	0.0549
6	0.0001	0.0001	0.0168	0.0001	0.1562	.	0.0002	0.3457	0.0104
7	0.2102	0.7945	0.0695	0.2744	0.0044	0.0002	.	0.0439	0.8276
8	0.0005	0.0123	0.5233	0.1139	0.8826	0.3457	0.0439	.	0.1439
9	0.2248	0.6574	0.2363	0.5781	0.0549	0.0104	0.8276	0.1439	.

TABLE 6. 10 Year Results for 1980 - 1982 Douglas-fir Installations
Adjusted Growth versus Treatment and Initial Potassium Condition

General Linear Models Procedure

Dependent Variable: AGPAI5 Gross BA PAI: years 9-10

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	90	549.80210749	6.10891231	17.77	0.0001
Error	129	44.34370067	0.34374962		
Corrected Total	219	594.14580816			

R-Square	C.V.	Root MSE	AGPAI5 Mean
0.925366	16.04215	0.5863016	3.6547567

Source	DF	Type I SS	Mean Square	F Value	Pr > F
K Status	2	17.14940378	8.57470189	24.94	0.0001
Installation(K Status)	82	524.43486162	6.39554709	18.61	0.0001
Treatment	2	6.06024086	3.03012043	8.81	0.0003
K Status*Treatment	4	2.15760123	0.53940031	1.57	0.1864

Source	DF	Type III SS	Mean Square	F Value	Pr > F
K Status	2	19.37073984	9.68536992	28.18	0.0001
Installation(K Status)	82	523.48310517	6.38394031	18.57	0.0001
Treatment	2	2.35744021	1.17872010	3.43	0.0354
K Status*Treatment	4	2.15760123	0.53940031	1.57	0.1864

K Status	Treatment	AGPAI5 LSMEAN	Std Err LSMEAN	Pr >]T] H0:LSMEAN=0	LSMEAN Number
Good	Control	2.98008993	0.12499993	0.0001	1
Good	200N	3.27774710	0.15033073	0.0001	2
Good	400N	3.59188757	0.13917293	0.0001	3
Other	Control	3.68683475	0.07846549	0.0001	4
Other	200N	3.97054287	0.09820095	0.0001	5
Other	400N	4.03650301	0.09283351	0.0001	6
Poor	Control	3.13462526	0.20728893	0.0001	7
Poor	200N	3.51936321	0.22886220	0.0001	8
Poor	400N	2.86923009	0.28720613	0.0001	9

Pr >]T] H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4	5	6	7	8	9
1	.	0.1303	0.0014	0.0001	0.0001	0.0001	0.5243	0.0406	0.7240
2	0.1303	.	0.1325	0.0173	0.0002	0.0001	0.5772	0.3792	0.2099
3	0.0014	0.1325	.	0.5534	0.0280	0.0089	0.0693	0.7870	0.0252
4	0.0001	0.0173	0.5534	.	0.0254	0.0046	0.0140	0.4901	0.0069
5	0.0001	0.0002	0.0280	0.0254	.	0.6336	0.0004	0.0724	0.0004
6	0.0001	0.0001	0.0089	0.0046	0.6336	.	0.0001	0.0382	0.0002
7	0.5243	0.5772	0.0693	0.0140	0.0004	0.0001	.	0.2150	0.4550
8	0.0406	0.3792	0.7870	0.4901	0.0724	0.0382	0.2150	.	0.0852
9	0.7240	0.2099	0.0252	0.0069	0.0004	0.0002	0.4550	0.0852	.