

C A M C O R E

ANOVA AND MULTIPLE COMPARISONS FOR PROVENANCE AND FAMILY HEIGHT

ONE YEAR MEASUREMENTS

TEST IDENTIFICATION: 13-26-41A1
SPECIES: Pinus tecunumanii - High elevation
COMPANY: Klabin Do Parana Florestal
SITE NAME: Imbauzinho 117C
LATITUDE: 24° 16' 10" S
LONGITUDE: 50° 38' 25" E
ELEVATION: 780 m
ANNUAL PRECIPITATION: 1,473 mm
DATE PLANTED: October 1988
DATE MEASURED: October 1989

ANALYSIS OF VARIANCE

DEPENDENT VARIABLE: One Year Height (meters)

<u>SOURCE</u>	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>F</u> <u>VALUE</u>
REP	8	0.90168761	1.77 ns
PROV	6	11.21542597	29.38 **
REP*PROV	48	3.05433860	1.06 ns
FAM(PROV)	34	7.25469200	3.54 **
REP*FAM(PROV)	272	16.38461303	1.65 **
ERROR	1746	63.55550000	
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CORRECTED TOTAL	2114	102.59484634	

ns: Not significant

** Significant at $p < .01$

TEST MEAN C.V. (%)
0.886 m 21.54

***** MEANS BY PROVENANCE *****

WALLER-DUNCAN MULTIPLE COMPARISONS FOR ONE YEAR PROVENANCE HEIGHT
 MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

<u>Waller</u>	<u>Grouping</u>	<u>Mean</u>	<u>N</u>	<u>Provenance</u>	
	A	0.974	453	San Jeronimo	(5)
	A				
B	A	0.943	470	Chanal	(10)
B					
B	C	0.891	211	San Miguel	(22)
	C				
D	C	0.839	464	Rancho Nuevo	(18)
D					
D		0.810	50	Control	(999)
D					
D		0.806	417	Cabrican	(21)
	E	0.687	50	Control	(998)

* Control lots: 998 = Pinus elliottii, Commercial control
 999 = Pinus taeda, Commercial control

***** MEANS BY FAMILY *****

<u>Family</u>	<u>Provenance</u>	<u># Trees</u>	<u>% Survival</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>
10	5	51	94.44	1.07	24.13
29	5	54	100.00	1.03	15.33
30	5	49	90.74	1.00	19.42
661	10	53	98.15	0.99	19.72
658	10	54	100.00	0.99	17.91
31	5	51	94.44	0.98	23.87
660	10	52	96.30	0.98	20.13
38	5	51	94.44	0.97	19.56
662	10	53	98.15	0.97	20.87
35	5	43	79.63	0.96	23.36
37	5	52	96.30	0.95	23.57
828	22	54	100.00	0.95	24.62
683	18	52	96.30	0.94	19.07
677	10	52	96.30	0.94	22.79
21	5	52	96.30	0.94	20.39
672	10	53	98.15	0.93	20.27
680	18	52	96.30	0.92	21.50
653	10	51	94.44	0.91	24.57
673	10	50	92.59	0.91	27.30
807	21	52	96.30	0.91	22.46
823	22	52	96.30	0.90	21.67
774	21	53	98.15	0.89	18.88
702	18	51	94.44	0.88	18.72
689	18	52	96.30	0.87	21.46
827	22	53	98.15	0.87	21.52
32	5	50	92.59	0.87	27.88
666	10	52	96.30	0.86	24.34
824	22	52	96.30	0.85	25.86
779	21	52	96.30	0.84	23.23
686	18	52	96.30	0.84	21.08
684	18	52	96.30	0.81	31.27
999	*	50	92.59	0.81	24.21
792	21	52	96.30	0.81	28.07
682	18	53	98.15	0.80	21.05
804	21	54	100.00	0.80	20.28
694	18	48	88.89	0.80	20.76
785	21	52	96.30	0.78	26.90
776	21	53	98.15	0.77	28.19
998	*	50	92.59	0.69	20.58
692	18	52	96.30	0.68	26.62
794	21	49	90.74	0.64	29.81

	<u># Trees</u>	<u>% Survival</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>
OVERALL	2015	95.68	0.89	24.64

The overall mean does not include control lots.

Provenance code: 5 = San Jeronimo, Guatemala
 10 = Chanal, Mexico
 18 = Rancho Nuevo, Mexico
 21 = Cabrican, Guatemala
 22 = San Miguel, Guatemala