

# C A M C O R E

## ANOVA AND MULTIPLE COMPARISONS FOR PROVENANCE AND FAMILY HEIGHT

### ONE YEAR MEASUREMENTS

TEST IDENTIFICATION: 21-26-02A1  
SPECIES: Pinus pringlei  
COMPANY: Klabin Do Parana Agro Florestal  
SITE NAME: Imbauzinho 95B  
LATITUDE: 24° 16' 10" S  
LONGITUDE: 50° 38' 25" W  
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	1.52817466	3.70 **
PROV	7	18.01001104	49.80 **
REP*PROV	56	2.89302279	1.63 **
FAM(PROV)	30	8.07460092	8.51 **
REP*FAM(PROV)	240	7.58965357	1.30 **
ERROR	1664	40.39604167	
CORRECTED TOTAL	2005	78.53389332	

\*\* Significant at  $p < .01$

TEST MEAN                      C.V. (%)  
0.514 m                      30.34

## \*\*\*\*\* 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	0.885	53	Control	(999)
	B	0.829	52	Control	(998)
	C	0.538	314	Sola De Vega	(4)
	C				
D	C	0.534	161	Santa Maria Lachixio	(1)
D	C				
D	C	0.532	479	El Guajolote	(6)
D	C				
D	C	0.503	316	Tlahuitoltepec	(3)
D					
D		0.487	160	El Tlacuache	(5)
	E	0.412	471	Santo Domingo Yosoñama	(2)

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

Provenance code: 1 = Santa Maria Lachixio, Mexico  
 2 = Santo Domingo Yosoñama, Mexico  
 3 = Tlahuitoltepec, Mexico  
 4 = Sola De Vega, Mexico  
 5 = El Tlacuache, Mexico  
 6 = El Guajolote, Mexico

## \*\*\*\*\* MEANS BY FAMILY \*\*\*\*\*

<u>Family</u>	<u>Provenance</u>	<u># Trees</u>	<u>% Survival</u>	<u>Mean Ht (m)</u>	<u>C.V. (%)</u>
999	*	53	98.15	0.88	18.89
998	*	52	96.30	0.83	17.37
55	6	54	100.00	0.75	34.43
20	1	54	100.00	0.68	33.06
138	4	53	98.15	0.60	25.58
112	5	54	100.00	0.57	40.46
126	4	53	98.15	0.55	31.24
82	3	54	100.00	0.55	25.85
99	3	53	98.15	0.55	49.55
53	6	54	100.00	0.54	30.03
135	4	53	98.15	0.54	29.81
65	6	53	98.15	0.53	29.94
67	6	54	100.00	0.53	24.30
16	1	54	100.00	0.52	31.20
129	4	51	94.44	0.52	33.45
121	4	52	96.30	0.51	32.96
131	4	52	96.30	0.51	32.35
57	6	54	100.00	0.51	34.13
77	6	52	96.30	0.50	34.20
105	5	53	98.15	0.50	36.87
71	6	52	96.30	0.50	27.66
79	6	52	96.30	0.50	34.27
88	3	52	96.30	0.50	29.34
80	3	51	94.44	0.49	27.89
96	3	54	100.00	0.48	29.02
47	2	53	98.15	0.47	34.94
34	2	53	98.15	0.46	26.71
95	3	52	96.30	0.45	34.83
25	2	52	96.30	0.45	28.67
26	2	54	100.00	0.44	27.87
74	6	54	100.00	0.43	39.00
29	2	54	100.00	0.40	31.59
5	1	53	98.15	0.40	31.60
48	2	53	98.15	0.39	39.38
109	5	53	98.15	0.38	31.57
33	2	50	92.59	0.38	28.80
28	2	51	94.44	0.37	36.09
36	2	51	94.44	0.34	34.14

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OVERALL		1901	97.79	0.49	36.78
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The overall mean does not include control lots.