

C A M C O R E

ANOVA AND MULTIPLE COMPARISONS FOR PROVENANCE AND FAMILY HEIGHT

ONE YEAR MEASUREMENTS

TEST IDENTIFICATION: 20-26-05I1
SPECIES: Pinus patula
COMPANY: Klabin Do Parana Agro Florestal
SITE NAME: Imbauzinho 104
LATITUDE: 24° 16' 10" S
LONGITUDE: 50° 38' 25" W
ELEVATION: 780 m
ANNUAL PRECIPITATION: 1473 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	0.73551404	1.11 ns
PROV	7	7.55742824	13.08 **
REP*PROV	56	4.62272620	1.94 **
FAM(PROV)	58	8.94394999	3.63 **
REP*FAM(PROV)	464	19.70319485	1.45 **
ERROR	2940	86.37066667	
CORRECTED TOTAL	3533	128.70116653	

ns: Not significant

** Significant at $p < .01$

TEST MEAN
0.99 m

C.V. (%)
17.29

***** 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	1.06	270	(1)
	A			
	A	1.04	804	(11)
	A			
	A	1.03	587	(12)
	B			
	B	0.96	322	(10)
	B			
	B	0.96	534	(13)
	B			
	B	0.95	913	(8)
	B			
C	B	0.91	53	(999)
C				
C		0.87	51	(998)

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

<u>Family</u>	<u>Provenance</u>	<u># Trees</u>	<u>% Survival</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>
222	11	53	98.15	1.19	18.51
252	12	53	98.15	1.12	15.70
5	1	54	100.00	1.11	18.76
262	12	54	100.00	1.10	16.57
258	12	54	100.00	1.08	18.49
208	11	53	98.15	1.08	16.48
218	11	54	100.00	1.07	16.02
256	12	53	98.15	1.07	16.85
11	1	54	100.00	1.07	17.24
296	10	54	100.00	1.07	18.21
209	11	54	100.00	1.07	22.33
223	8	54	100.00	1.06	15.85
199	11	53	98.15	1.06	15.73
221	11	54	100.00	1.06	18.35
28	1	54	100.00	1.05	19.11
227	8	54	100.00	1.05	16.21
220	11	53	98.15	1.04	17.28
254	12	54	100.00	1.04	17.21
8	1	54	100.00	1.03	19.65
214	11	53	98.15	1.03	20.47
212	11	54	100.00	1.03	17.18
211	11	54	100.00	1.03	18.15
10	1	54	100.00	1.02	17.19
255	12	54	100.00	1.02	17.71
261	12	54	100.00	1.02	16.80
202	11	54	100.00	1.01	21.69
257	12	54	100.00	1.01	18.89
241	8	52	96.30	1.00	17.29
217	11	53	98.15	1.00	21.90
266	13	54	100.00	0.99	19.06
267	13	53	98.15	0.99	19.89
260	12	51	94.44	0.99	20.69
293	10	53	98.15	0.99	14.70
231	8	54	100.00	0.99	15.00
272	13	54	100.00	0.98	21.55
259	12	53	98.15	0.98	21.03
210	11	54	100.00	0.97	21.10
286	13	53	98.15	0.97	16.23
264	13	54	100.00	0.97	20.54
225	8	53	98.15	0.97	18.39
219	11	54	100.00	0.96	19.38
233	8	54	100.00	0.96	15.21

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

<u>Family</u>	<u>Provenance</u>	<u># Trees</u>	<u>% Survival</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>
228	8	54	100.00	0.96	21.70
285	13	53	98.15	0.96	23.86
290	10	54	100.00	0.96	15.93
295	10	54	100.00	0.95	19.32
232	8	54	100.00	0.95	13.39
251	12	53	98.15	0.95	16.55
284	13	53	98.15	0.95	22.34
265	13	54	100.00	0.94	19.64
243	8	54	100.00	0.94	14.49
230	8	54	100.00	0.94	13.08
205	11	54	100.00	0.93	19.33
289	10	53	98.15	0.92	23.90
237	8	53	98.15	0.92	13.16
240	8	54	100.00	0.92	10.53
999	*	53	98.15	0.91	16.72
238	8	54	100.00	0.91	15.51
245	8	54	100.00	0.90	18.45
280	13	53	98.15	0.90	22.50
234	8	54	100.00	0.90	12.72
270	13	53	98.15	0.88	19.12
239	8	53	98.15	0.88	13.89
309	10	54	100.00	0.88	16.71
998	*	51	94.44	0.87	16.64
242	8	54	100.00	0.85	16.16

 OVERALL 3430 99.25 0.99 19.23

The overall values do not include control lots.

Provenance code: 1 = Potrero de Monroy, Mexico
 8 = Conrado Castillo, Mexico
 10 = Tlacotla, Mexico
 11 = Pinal de Amoles, Mexico
 12 = Zacualtipan, Mexico
 13 = Llano de las Carmonas, Mexico

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