

# C A M C O R E

## ANOVA AND MULTIPLE COMPARISONS FOR PROVENANCE AND FAMILY HEIGHT

### THREE YEAR MEASUREMENTS

TEST IDENTIFICATION: 14-03-19A  
SPECIES: Pinus tecunumanii  
COMPANY: Carton de Venezuela  
SITE NAME: El Hierro  
LATITUDE: 9° 10' N  
LONGITUDE: 69° 20' W  
ELEVATION: 150 m  
ANNUAL PRECIPITATION: 1123 - 1916 mm

DATE PLANTED: July 1986  
DATE MEASURED: August 1989

### ANALYSIS OF VARIANCE

DEPENDENT VARIABLE: Three Year Height (meters)

<u>SOURCE</u>	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>F</u>	<u>VALUE</u>
REP	8	41.19434701	2.10	ns
PROV	6	25.47693432	1.73	ns
REP*PROV	44	108.04573981	1.98	**
FAM(PROV)	30	37.53334933	1.01	ns
REP*FAM(PROV)	178	220.42679128	1.43	**
ERROR	604	523.23483333		
CORRECTED TOTAL		870	1061.72789897	

ns: Not significant

\* Significant at  $p < .05$   
\*\* Significant at  $p < .01$

TEST MEAN  
3.78 m

C.V. (%)  
24.64

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

WALLER-DUNCAN MULTIPLE COMPARISONS FOR THREE 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	4.13	246	Yucul
	A			
B	A	3.85	235	Rafael
B	A			
B	A	3.83	18	Dipilto
B	A			
B	A	3.75	164	Siguatepeque
B	A			
B	A	3.55	37	Pimientilla
B	A			
B	A	3.40	27	La Lagunilla
B				
B		3.20	144	Cusuco

Provenance code: 1 = La Lagunilla, Guatemala  
4 = Cusuco, Honduras  
5 = Pimientilla, Honduras  
6 = Siguatepeque, Honduras  
7 = Dipilto, Nicaragua  
8 = Rafael, Nicaragua  
9 = Yucul, Nicaragua

\* No control lots were used in this project.

14-03-19A

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

<u>Family</u>	<u>Prov</u>	<u># Trees</u>	<u>% Survival</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>	<u>Mean D.B.H. (cm)</u>
78210	9	30	55.56	4.3	27.51	6.0
88212	6	28	46.67	4.3	26.10	6.3
7829	9	28	51.85	4.3	23.52	5.3
68214	8	27	50.00	4.2	28.25	5.7
78211	9	32	59.26	4.2	23.40	5.8
7828	9	29	53.70	4.1	28.93	6.0
7823	9	26	48.15	4.1	23.59	5.7
78216	9	22	40.74	4.1	22.27	5.6
88220	6	25	46.30	4.0	27.31	5.6
6824	8	29	53.70	4.0	28.10	5.4
78220	9	25	46.30	4.0	30.90	5.4
78217	9	30	55.56	4.0	35.59	5.4
7826	9	24	44.44	3.9	29.55	5.7
6829	8	29	53.70	3.9	22.13	5.2
6827	8	24	44.44	3.9	23.64	5.8
871	7	18	33.33	3.8	28.40	5.4
8828	6	24	50.00	3.8	25.61	5.3
6823	8	30	55.56	3.8	28.13	5.2
6826	8	28	51.85	3.7	34.32	4.9
68212	8	20	37.04	3.7	26.40	5.6
68210	8	20	37.04	3.7	32.88	4.8
68220	8	28	51.85	3.6	29.37	5.1
1073	5	37	68.52	3.6	24.39	5.4
88221	6	25	46.30	3.5	27.83	4.9
25812	4	21	38.89	3.5	34.64	4.4
258120	4	10	18.52	3.5	29.22	4.4
8825	6	23	42.59	3.5	26.55	5.0
8829	6	16	29.63	3.5	38.62	4.1
88213	6	23	42.59	3.4	34.28	5.2
574	1	27	50.00	3.4	30.70	4.6
258119	4	22	40.74	3.3	26.02	4.0
258114	4	8	14.81	3.3	20.14	4.4
258123	4	22	40.74	3.2	27.79	4.2
258125	4	14	25.93	3.2	23.40	4.2
258116	4	12	22.22	3.1	18.43	3.9
258122	4	16	29.63	3.0	29.93	3.8
258112	4	19	35.19	2.7	23.11	3.1
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OVERALL		871	43.59	3.8	29.24	5.2
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