

C A M C O R E

ANONVA AND FAMILY MEANS

EIGHT YEAR MEASUREMENTS

TEST IDENTIFICATION: 03-02-01A
SPECIES: Pinus tecunumanii - Low elevation
COMPANY: Carton de Colombia
SITE NAME: Finca La Arcadia, Cauca
LATITUDE: 2° 30' N
LONGITUDE: 76° 35' W
ELEVATION: 1750 m
ANNUAL PRECIPITATION: 2112 mm

DATE PLANTED: May 1982
DATE MEASURED: November 1989

ANALYSIS OF VARIANCE

DEPENDENT VARIABLE: Eight Year Volume (cubic meters)

<u>SOURCE</u>	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>F VALUE</u>
REP	8	0.19649277	2.45 *
FAM	46	2.27933597	4.95 **
REP*FAM	365	3.65255236	0.98 ns
ERROR	1781	18.11078372	
CORRECTED TOTAL	2200	24.27865531	

ns: Not significant

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

TEST MEAN
0.24224 m³

C.V. (%)
41.63

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

<u>Fam</u>	<u># Trees</u>	<u>% Surv</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>	<u>Mean D.B.H. (cm)</u>	<u>Tree Volume (cubic m)</u>
* 203	47	87.04	16.6	13.62	25.2	0.33186
98	31	57.41	16.7	10.36	24.3	0.30124
20	31	57.41	16.2	11.76	24.3	0.29973
70	53	98.15	17.2	9.68	23.5	0.29358
54	51	94.44	16.4	9.78	23.5	0.28247
53	48	88.89	15.8	14.30	24.0	0.28244
74	50	92.59	15.8	20.08	23.3	0.27984
19	46	85.19	15.7	18.88	23.5	0.27964
31	49	90.74	15.3	21.73	23.8	0.27460
35	37	68.52	15.7	19.90	23.0	0.27136
67	51	94.44	16.2	15.22	23.2	0.26938
41	53	98.15	15.3	16.57	23.8	0.26688
36	31	57.41	16.2	16.43	22.8	0.26389
23	50	92.59	15.5	15.98	23.2	0.26288
102	47	87.04	16.0	15.25	22.6	0.25740
22	52	96.30	16.3	16.72	22.2	0.25617
56	40	74.07	15.6	14.41	22.6	0.25521
121	38	70.37	16.3	11.54	22.0	0.24848
28	52	96.30	15.4	19.76	22.6	0.24835
63	48	88.89	15.7	14.15	22.5	0.24793
33	53	98.15	15.6	16.80	22.4	0.24489
65	52	96.30	15.4	12.41	22.6	0.24470
87	52	96.30	15.7	17.03	22.2	0.24371
24	51	94.44	15.4	20.64	21.7	0.23860
71	43	79.63	15.0	22.99	21.9	0.23706
100	49	90.74	15.4	16.83	21.6	0.23236
93	45	83.33	15.4	23.03	20.9	0.23035
113	36	66.67	15.3	21.37	21.5	0.22995
105	52	96.30	15.8	14.30	21.5	0.22974
92	51	94.44	15.6	12.31	21.6	0.22893
25	50	92.59	15.9	9.94	21.5	0.22802
27	51	94.44	14.8	17.98	21.8	0.22749
115	46	85.19	15.0	19.69	21.5	0.22657
* 202	53	98.15	15.4	15.08	21.4	0.22545
111	49	90.74	15.1	20.02	20.9	0.22006
62	51	94.44	15.4	21.05	21.0	0.21822
103	51	94.44	15.1	16.92	21.5	0.21797
34	47	87.04	15.1	18.68	21.4	0.21762
26	51	94.44	15.7	19.01	20.7	0.21749
109	51	94.44	15.8	15.80	21.0	0.21560
60	52	96.30	14.9	17.44	21.4	0.21273

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

<u>Fam</u>	<u># Trees</u>	<u>% Surv</u>	<u>Mean Height (m)</u>	<u>C.V. (%)</u>	<u>Mean D.B.H. (cm)</u>	<u>Tree Volume (cubic m)</u>
32	33	61.11	14.9	13.49	21.2	0.21234
90	45	83.33	15.2	15.94	20.5	0.20432
16	41	75.93	14.2	22.88	20.2	0.19456
107	53	98.15	14.3	14.40	20.5	0.19233
42	52	96.30	14.0	20.64	20.4	0.18908
* 201	36	66.67	14.5	22.77	17.7	0.15587

OVERALL	2201	86.72	15.5	17.24	22.1	0.24224
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Note: Tree volume with bark was calculated using a formula for juvenile trees: Volume (cubic meters) = $0.0003 \cdot D^2 \cdot H$, where D=DBH in centimeters and H = total height in meters.

The overall values do not include control lots.

All families are from the provenance of Mt. Pine Ridge, Belize

* Comm. Control lots: 201 = Pinus oocarpa, Chiquimula, Guatemala
 202 = Pinus tecunumanii, Mt. Pine Ridge, Belize
 203 = Pinus oocarpa, Mal Paso, Guatemala