

C A M C O R E

ANOVA AND MULTIPLE COMPARISONS FOR FAMILY HEIGHT

FIVE YEAR MEASUREMENTS

TEST IDENTIFICATION: 03-04-07A
SPECIES: Pinus tecunumanii low elevation
COMPANY: CONARE
SITE NAME: Reserva Forestal de Ticoporo, Edo Barinas
ELEVATION: 450 - 700m
LONGITUDE: 70° 56'W
LATITUDE: 7° 43'N
ANNUAL PRECIPITATION: 1800mm

DATE PLANTED: July 1982
DATE MEASURED: August 1987

ANALYSIS OF VARIANCE

DEPENDENT VARIABLE: FIVE YEAR HEIGHT (meters)

<u>SOURCE</u>	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>F VALUE</u>
REP	8	369.86351765	
FAM	35	647.39602855	3.80 **
REP*FAM	263	1281.06557255	
ERROR	1332	4210.51565953	
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CORRECTED TOTAL	1638	6835.95171446	

** Significant at $p < .01$

TEST MEAN	C.V. (%)
9.3394	19.0370

WALLER-DUNCAN MULTIPLE COMPARISONS FOR FIVE YEAR FAMILY HEIGHTMEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

<u>WALLER</u>		<u>GROUPING</u>	<u>MEAN</u>	<u>N</u>	<u>FAMILY</u>	<u>PROVENANCE</u>
		A	11.2458	48	72	1
		A				
	B	A	10.3535	43	97	1
	B					
	B	C	10.1725	51	68	1
	B	C				
	B	C D	10.1000	43	86	1
	B	C D				
	B	E C D	10.0106	47	78	1
	B	E C D				
	B	E C D	9.9939	49	85	1
	B	E C D				
F	B	E C D	9.9049	41	75	1
F	B	E C D				
F	B	E C D G	9.8104	48	30	1
F	B	E C D G				
F	B	E C D G	9.8000	44	39	1
F	B	E C D G				
F	B	E C D G	9.7837	49	84	1
F	B	E C D G				
F	B	E C D G	9.7522	46	69	1
F	B	E C D G				
F	B	E C H D G	9.5800	50	76	1
F	B	E C H D G				
F	B	E C H D G	9.5583	36	24	1
F	B	E C H D G				
F	B	E C H D G	9.5522	46	202	*
F	B	E C H D G				
F	B	E C H D G	9.5250	48	77	1
F	B	E C H D G				
F	B	E C H D G	9.5179	39	52	1
F	B	E C H D G				
F	B	E C H D G	9.4362	47	64	1
F	B	E C H D G				
F	B	E C H D G	9.4000	35	89	1
F	B	E C H D G				
F	B	E C H D G	9.4000	42	57	1
F		E C H D G				
F		E C H D G	9.3889	36	50	1
F		E C H D G				
F		E C H D G	9.3824	34	53	1

03-04-07A

<u>WALLER</u>	<u>GROUPING</u>	<u>MEAN</u>	<u>N</u>	<u>FAMILY</u>	<u>PROVENANCE</u>
F	E C H D G	9.3375	40	56	1
F	E C H D G				
F	E C H D G	9.3000	44	83	1
F	E C H D G				
F	E C H D G	9.2842	38	65	1
F	E C H D G				
F	E C H D G	9.2574	47	19	1
F	E H D G				
F	E H D G	9.1867	45	90	1
F	E H D G				
F	E H D G	9.1816	38	101	1
F	E H D G				
F	E H D G	9.1659	44	59	1
F	E H G				
F	E H G	9.0923	39	62	1
F	E H G				
F	E H G	9.0773	44	96	1
F	H G				
F	H G	9 .0108	37	37	1
	H G				
	H G	8.8620	50	55	1
	H				
	H	8.7200	45	80	1
	H				
	H	8.6357	42	38	1
	I				
	I	7.5570	114	201	*
	I				
		7.4840	50	79	1

03-04-07A

ANOVA AND MULTIPLE COMPARISONS
FOR FAMILY VOLUME

ANALYSIS OF VARIANCE

DEPENDENT VARIABLE: FIVE YEAR VOLUME (cubic meters)

<u>SOURCE</u>	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>F VALUE</u>
REP	8	0.13165452	
FAM	35	0.19055643	1.77 **
REP*FAM	263	0.80916248	
ERROR	1332	4.55911792	
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CORRECTED TOTAL	1638	5.78049455	

** Significant at $p < .01$

TEST MEAN	C.V. (%)
0.04705	124.3517

Note: Tree volume with bark was calculated using a formula for juvenile trees: $\text{Volume} = .00003 D^2 H$, where $D = \text{D.B.H.}$ in centimeters and $H = \text{total height in meters.}$

WALLER-DUNCAN MULTIPLE COMPARISONS FOR FIVE YEAR VOLUMEMEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

<u>WALLER</u>	<u>GROUPING</u>	<u>MEAN</u>	<u>N</u>	<u>FAMILY</u>	<u>PROVENANCE</u>
	A	0.09299	42	57	1
	A				
B	A	0.07580	48	72	1
B					
B	C	0.05681	50	76	1
B	C				
B	C	0.05651	41	75	1
B	C				
B	C	0.05618	49	85	1
B	C				
B	C	0.05507	51	68	1
B	C				
B	C	0.05503	47	78	1
B	C				
B	C	0.05488	43	97	1
B	C				
B	C D	0.05376	44	39	1
B	C D				
B	C D	0.05314	46	202	*
B	C D				
B	C D	0.05280	43	86	1
B	C D				
B	C D	0.05129	34	53	1
B	C D				
B	C D	0.05007	36	24	1
B	C D				
B	C D	0.04970	48	77	1
B	C D				
B	C D	0.04938	46	69	1
B	C D				
B	C D	0.04759	49	84	1
B	C D				
B	C D	0.04759	50	55	1
B	C D				
B	C D	0.04680	39	52	1
B	C D				
B	C D	0.04629	36	50	1
B	C D				
B	C D	0.04609	35	89	1
B	C D				
B	C D	0.04498	48	30	1
B	C D				

03-04-07A

<u>WALLER</u>	<u>GROUPING</u>	<u>MEAN</u>	<u>N</u>	<u>FAMILY</u>	<u>PROVENANCE</u>
B	C D	0.04487	44	59	1
B	C D				
B	C D	0.04427	45	90	1
B	C D				
B	C D	0.04416	40	56	1
B	C D				
B	C D	0.04397	38	65	1
	C D				
	C D	0.04325	47	19	1
	C D				
	C D	0.04145	44	83	1
	C D				
	C D	0.04030	47	64	1
	C D				
	C D	0.04004	42	38	1
	C D				
	C D	0.03995	37	37	1
	C D				
	C D	0.03927	45	80	1
	C D				
	C D	0.03889	44	96	1
	C D				
	C D	0.03865	39	62	1
	C D				
	C D	0.03793	38	101	1
	C D				
	C D	0.02735	50	79	1
	D				
	D	0.02224	114	201*	1

Provenance code: 1 = Mt. Pine Ridge, Belize

* Control lots: 201 = P. oocarpa, Chiquimula, Guatemala
 202 = P. tecunumanii, Mt. Pine Ridge, Belize