

C A M C O R E

ANOVA AND MULTIPLE COMPARISONS FOR PROVENANCE AND FAMILY HEIGHT

THREE YEAR MEASUREMENTS

TEST IDENTIFICATION: 06-04-16A
 SPECIES: Pinus oocarpa
 COMPANY: CONARE
 SITE NAME: Chaguaramas
 LATITUDE: 8° 42' N
 LONGITUDE: 62° 45' W
 ELEVATION: 40m
 ANNUAL PRECIPITATION: 900 - 1100mm

DATE PLANTED: December 1983
 DATE MEASURED: January 1987

ANALYSIS OF VARIANCE

DEPENDENT VARIABLE: THREE YEAR HEIGHT (meters)

<u>SOURCE</u>	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>F VALUE</u>
REP	8	136.22268880	
PROV	11	386.36835155	9.90 **
REP*PROV	87	308.61398842	
FAM(PROV)	36	153.53925087	3.38 **
REP*FAM(PROV)	288	363.34113480	
ERROR	2127	2317.67504872	
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CORRECTED TOTAL	2557.	3800.62743159	

** Significant at $p < .01$

TEST MEAN C.V. (%)
 5.1517 20.2624

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

<u>WALLER</u>	<u>GROUPING</u>	<u>MEAN</u>	<u>N</u>	<u>PROVENANCE</u>
	A	5.7250	52	M. P. R. (202)
	A			
	A	5.6980	407	M. P. R.
	A			
B	A	5.3878	403	El Castaño
B	A			
B	A	5.3676	250	Las Crucitas
B	A			
B	A C	5.2737	308	San Marcos
B				
B	D C	5.0697	340	San Luís
B				
B	D C	5.0545	33	Comm. Control (Pch)
E	D C	4.8266	278	Tablazon
E				
E	D	4.6292	209	Las Crucitas (H/5/77)
E				
E	F	4.5074	54	Comm. Control (Pcc)
E				
E	F	4.4461	154	Nirgua (FUD)
E				
	F	4.2271	70	La Lagunilla

WALLER-DUNCAN MULTIPLE COMPARISONS FOR THREE 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	6.2566	53	463	10
	A				
B	A	5.9077	52	478	10
B	A				
B	A C	5.8529	51	276	6
B	A C				
B	A C	5.8245	53	157	2
B	A C				
B	A C	5.8241	54	444	10
B	A C				
B D	A C	5.7932	44	482	10
B D	A C				
B D	A C	5.7932	44	482	10
B D	A C				
B D	A C	5.7769	52	143	2
B D	A C				
B D	A C	5.7736	53	479	10
B D	A C				
B D	E C	5.7250	52	202	*
B D	E C				
F B D	E C	5.6296	54	230	8
F B D	E C				
F B D	E C G	5.6019	52	487	10
F B D	E C G				
F B D	E H C G	5.5377	53	97	4
F B D	E H C G				
F B D I	E H C G	5.4887	53	141	2
F B D I	E H C G				
F B D I	E H C G	5.4849	53	241	8
F B D I	E H C G				
F B J D I	E H C G	5.4264	53	283	6
F B J D I	E H C G				
F K B J D I	E H C G	5.4000	37	146	2
F K J D I	E H C G				
F K L J D I	E H C G	5.3588	51	148	2
F K L J D I	E H C G				
F K L J D I	E H C G	5.3404	52	109	4
F K L J D I	E H G				
F K L J D I	E H M G	5.2942	52	439	10
F K L J D I	E H M G				
N F K L J D I	E H M G	5.2685	54	233	8

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<u>WALLER</u>	<u>GROUPING</u>	<u>MEAN</u>	<u>N</u>	<u>FAMILY</u>	<u>PROVENANCE</u>
N F K L J	I E H M G				
N F K L J	I E H M G	5.2187	48	274	6
N F K L J	I E H M G				
N F K L J O	I E H M G	5.2000	35	194	9
N F K L J O I	E H M G				
N F K L J O I	H M G	5.1907	54	246	8
N F K L J O I	H M G				
N F K L J O I	H M G	5.1833	54	139	2
N F K L J O I	H M G				
N F K L J O I	H M G	5.1792	48	292	6
N F K L J O I	H M G				
N F K L J O I P	H M G	5.1340	50	290	6
N K L J O I P	H M G				
N K L J O I P	H M G	5.0837	49	103	4
N K L J O I P	H M				
N K L J O I P	H M	5.0702	47	515	10
N K L J O I P	H M				
N K L J O I P	H M	5.0550	40	228	8
N K L J O I P	H M				
N K L J O I P	H M	5.0545	33	Pch	*
N K L J O I P	H M				
N Q K L J O I P	H M	5.0327	52	150	2
N Q K L J O I P	H M				
N Q K L J O I P	H M	5.0314	51	155	2
N Q K L J O I P	M				
N Q K L J O I P	M R	4.9657	35	165	9
N Q K L J O	P M R				
N Q K L J O	P M R	4.9547	53	236	8
N Q K L J O	P M R				
N Q K L J O	P M R	4.9400	35	167	9
N Q K L O	P M R				
N Q K L O	P S M R	4.8941	51	182	9
N Q K L O	P S M R				
N Q K L O	P S M R	4.8918	49	117	4
N Q K L O	P S M R				
N Q K L O	P S M R	4.8868	53	99	4
N Q L O	P S M R				
N Q L O	P S M R	4.8364	33	111	4
N Q O	P S M R				
N Q O	P S M R	4.8059	51	105	4
N Q O	P S R				
N Q O	P S R	4.7489	47	187	9
Q O	P S R				
Q O	P S R	4.6897	29	184	9
Q O	P S R				
Q T	P S R	4.6292	209	H/5/77.	*

<u>WALLER</u>		<u>GROUPING</u>		<u>MEAN</u>	<u>N</u>	<u>FAMILY</u>	<u>PROVENANCE</u>
Q	T	S	R				
Q	T	S	R	4.5074	54	Pcc	*
	T	S	R				
	T	S	R	4.4461	154	FUD	*
	T	S	R				
	T	S	R	4.4413	46	180	9
	T	S					
	T	S		4.3778	27	5	3
	T						
	T			4.1326	43	162	3

Provenance code:

- 2 = El Castaño, Guatemala
- 3 = La Lagunilla, Guatemala
- 4 = San Luis, Guatemala
- 6 = Las Crucitas, Honduras
- 8 = San Marcos, Honduras
- 9 = Tablazon, Honduras
- 10 = Mt. Pine Ridge, Belize

* Control lots:

- Pcc = P. caribaea var caribaea, Commercial control
- Pch = P. caribaea var hondurensis, Commercial control
- 202 = P. tecunumanii, Mt. Pine Ridge, Belize
- H/5/77 = P. oocarpa, Las Cruciras, Honduras
- FUDECO = P. oocarpa, Nirgua, Venezuela