

CPF # 223 PHENO
1999 MALE

CPF # 223 PHENO
1999 FEMALE

223 -FINLAY
99/11/10 DATA OK.

-PHENOLIC

-FEMALE

1999

1.75 GENERATION INTERIOR LODGEPOLE PINE SEED ORCHARDS:
 BULKLEY # 228 AND WILLOW-BOWRON # 220
 LEGEND FOR 1997 AND 1998 FEMALE AND MALE PHENOLOGY SURVEYS
 AND 1999?

Legend

	FEMALE FLOWERS					
X	Receptive stage (4 in survey) summarized by clone					
	For each clone an "X" will be printed from the survey date in which 40% or more of the ramets are receptive (stage 4) to the date when 80% are past receptivity.					
4	Receptive stage					
	20% of a ramet's flowers are at receptive stage					
-	Ramet not receptive or					
	80% of a ramet's flowers are past receptivity					
blank space	Same as "-"					
0	No female flowers					
	MALE FLOWERS					
X	Pollen flying (4 in survey) summarized by clone					
	For each clone an "X" will be printed from the survey date in which 40% or more of the ramets reach stage 4 to the date when 80% are past pollen flight from north cluster.					
4	Pollen flies when cluster tapped with hand on South side of ramet					
-	Pollen not flying or					
	no pollen flying when tapping cluster on North side					
blank space	Same as "-"					
0	No male flowers					

CPF # 223 PHENO
2000 MALES & FEMALES

			1st Survey		6/13		6/15		6/17									
Clone No.	X	Y	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
1476 AA	23		-	4	-	4	-	4	-	4								
1490 BB		4	-	-	-	4	-	4	-	4								
1530 BB		11	-	-	-	4	-	4	-	4								
1471 CC		4	-	-	-	-	-	4	-	4								
1501 DD		9	-	4	4	4	4	4	4	4								
1530 DD		17	-	4	-	4	-	4	-	4								
1485 E		1	-	-	-	4	-	4	-	4								
1483 E		2	-	-	-	4	-	4	-	4								
1486 G		11	-	0	-	0	-	0	-	0								
1563 G		14	-	-	-	4	-	4	-	4								
1541 J		5	-	-	-	-	-	4	-	4								
1563 J		19	-	-	-	4	-	4	-	4								
1483 M		21	-	-	4	4	4	4	4	4								
1468 N		1	-	-	-	4	-	4	-	4								
1480 N		2	-	-	-	4	-	4	-	4								
1480 N		6	-	-	-	4	-	4	-	4								
1476 O		2	-	4	-	4	-	4	-	4								
1558 O		8	-	-	-	-	-	4	-	4								
1468 O		16	-	-	-	4	-	4	-	4								
1477 P		3	-	0	0	0	-	0	-	0								
1482 Q		2	-	-	4	4	4	4	4	4								
1469 Q		3	-	4	-	4	-	4	-	4								
1485 Q		8	-	4	-	4	-	4	-	4								
1477 Q		26	-	0	-	0	-	0	-	0								
1558 S		6	-	-	-	-	-	4	-	4								
1487 S		9	-	-	-	4	-	4	-	4								
1470 S		11	-	-	-	4	-	4	-	4								
1487 S		17	-	2	-	-	-	4	-	4								
1490 T		3	-	4	-	4	-	4	-	4								
1469 T		5	-	4	-	4	-	4	-	4								
1541 T		16	-	-	-	-	-	4	-	4								
1489 T		27	-	0	-	0	-	0	-	0								
1473 U		6	-	-	-	-	-	4	-	4								
1474 U		14	-	-	-	-	-	4	-	4								
1501 V		13	-	4	4	4	4	4	4	4								
1473 W		16	-	-	-	4	-	4	-	4								
1474 W		19	-	-	-	4	-	4	-	4								
1486 W		22	-	-	-	4	-	4	-	4								
1470 X		14	-	-	-	-	-	4	-	4								
1489 X		18	-	-	-	4	-	4	-	4								
1482 Y		3	-	-	4	4	4	4	4	4								
1471 Z		1	-	-	-	4	-	4	-	4								

2000

FEMALE PHENOLOGY

4 Receptive Stage:

20% of a ramet's flowers are at receptive stage (stages 5 or 6)

- Prior to 4 rating: tree not receptive

- After stage 5 & 6 receptivity:

80% of a ramet's flowers are past receptivity (stages 7 or 8)

0 No females

MALE PHENOLOGY

4 Pollen flies when cluster tapped with hand on **SOUTH** side of tree.

- Pollen NOT flying, i.e. not yet developed.

- Pollen flight finished when cluster-tapping on **NORTH** side does not produce pollen.

0 No males

2000pheno223.xls

89 & 90 Grafts by Clone

CPTI # 223 PHENO

2001 MALES & FEMALES

ENTRAL PLATEAU-FINLAY # 223 - 2001 PHENOLOGY SURVEY

Trees (20 CPF only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WH

HTD Survey Year: some ramets reselected due to lack of females and/or males.:.

My DOCUMENTS\PHENOLOGY223 Central Plateau-Finlay\2001\223 Third Pheno.xls

ne No.	X	Y	6/4 6/6 6/8 6/10 6/12 6/14 6/16											
			Female Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating
1485	E	1	Female	-	-	3	4	4	4	4				
			Male	-	4	4	4	4	4	4				
1483	E	2	Female	4	4	4	4	4	-	-				
			Male	4	4	4	4	4	-	-				
1563	C	14	Female	3										
			Male	4										
490	I	7	Female	-	-	3	4	4	4	4				
.			Male	4	4	4	4	4	-	-				
1541	J	5	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				
1563	J	19	Female	3										
			Male	4										
1486	K	23	Female	-	-	3	4	4	4	4				
			Male	4	4	4	4	4	-	-				
1483	M	21	Female	4	4	4	4	4	-	-				
			Male	4	4	4	4	4	-	-				
1468	N	1	Female	-	-	-	3	3	4	4				
			Male	4	4	4	4	4	-	-				
1480	N	2	Female	-	-	3	4	4	4	4				
			Male	-	4	4	4	4	4	4				
1480	N	6	Female	-	-	3	4	4	4	4				
			Male	4	4	4	4	4	-	-				
1530	N	37	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				
1476	O	2	Female	3	3	4	4	4	-	-				
			Male	4	4	4	4	4	-	-				
1558	O	8	Female	-	3	3	4	4	4	4				
			Male	-	4	4	4	4	4	4				
1468	O	16	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				
1477	P	3	Female	-	-	3	4	4	4	4				
			Male	4	4	4	4	4	-	-				
1482	Q	2	Female	3	3	4	4	4	-	-				
			Male	-	4	4	4	4	4	4				
1469	Q	3	Female	3	4	4	4	4	-	-				
			Male	4	4	4	4	4	-	-				
1485	Q	8	Female	-	3	3	4	4	4	4				
page 10		9	Male	4	4	4	4	4	-	-				
1477	Q	26	Female	3	3	4	4	4	4	4				
			Male	4	4	4	4	4	-	-				
1558	S	6	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				
1487	S	9	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				
1470	S	11	Female	3	3	4	4	4	4	4				
			Male	4	4	4	4	4	-	-				
1487	S	17	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				
1490	T	3	Female	-	-	3	3	4	4	4				
			Male	4	4	4	4	4	-	-				

R 73 103 1,1 KWS

11

CENTRAL PLATEAU-FINLAY # 223 - 2001 PHENOLOGY SURVEY

42 Trees (20 CPF only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WH

THIRD Survey Year: some ramets reselected due to lack of females and/or males.: (1)

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Clone No.	X	Y	6/4 6/6 6/8 6/10 6/12 6/14 6/16											
			Female	Rating										
1469	T	5	Female	3	4	4	4	—	—	—	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1541	T	16	Female	—	—	—	3	3	4	4	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1489	T	27	Female	3	3	4	4	4	—	—	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1473	U	6	Female	—	3	3	4	4	4	4	—	—	—	—
			Male	4	4	4	4	—	—	—	—	—	—	—
1474	U	14	Female	3	3	4	4	4	4	4	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1501	V	13	Female	3	3	4	4	4	4	4	—	—	—	—
			Male	4	4	4	4	—	—	—	—	—	—	—
1473	W	16	Female	—	3	3	4	4	4	4	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1474	W	19	Female	3	3	4	4	4	4	4	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1486	Q	9	Female	—	3	3	4	4	4	4	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1470	X	14	Female	3	3	4	4	4	4	4	4	—	—	—
			Male	4	4	4	4	4	4	4	—	—	—	—
1489	X	18	Female	3	3	4	4	4	4	—	—	—	—	—
			Male	4	4	4	4	4	4	—	—	—	—	—
1482	Y	3	Female	—	3	3	4	4	4	4	—	—	—	—
			Male	4	4	4	4	4	4	4	—	—	—	—
1471	Z	1	Female	—	—	3	3	4	4	4	4	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1476	AA	23	Female	3	3	4	4	4	4	—	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
1530	BB	11	Female	—	3	3	4	4	4	4	4	—	—	—
			Male	4	4	4	4	4	4	—	—	—	—	—
1471	CC	4	Female	—	3	3	4	4	4	4	4	—	—	—
			Male	4	4	4	4	4	4	4	—	—	—	—
1501	DD	9	Female	4	4	4	4	4	4	—	—	—	—	—
			Male	4	4	4	4	4	—	—	—	—	—	—
42 Trees			—	—	—	—	—	—	—	—	—	—	—	—

L E G E N D**FEMALE PHENOLOGY**

- 3 Pre-Receptive Stage: When 20% of a ramet's flowers are at Stage 3
- 4 Receptive Stage: When 20% of a ramet's flowers are at pollination stage (lasts 3-4 days)
- Prior to Stage 3 rating: tree not receptive
- Past Stage 4 receptivity: When 80% of a ramet's flowers are past receptivity

0 No females

MALE PHENOLOGY

- 4 Pollen flies when cluster tapped with hand on SOUTH side of tree.
- Pollen NOT flying, i.e. not yet developed.
- Pollen flight finished when cluster-tapping on NORTH side does not produce pollen.

0 No males

70
69
68
67

CPF # 223 PHENO

2002 MALES & FEMALES

14 ${}^{\circ}$
+ 51

CENTRAL PLATEAU-FINLAY # 223 - 2000 PHENOLOGY SURVEY
22 trees (20 CFP only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WH SURVEY Year: Some ramets reselected due to lack of females and/or males.

CPFI # 223

C223

P亨O

2003 MALES & FEMALES

16

CENTRAL PLATEAU-FINLAY # 223 - 2003 PHENOLOGY SURVEY

42 Trees (20 C?F only Clones x 2 Trees; one plus 1563 shared with BLK): FLAGGED RED & WH

THIRD Survey Year: some ramets reselected due to lack of females and/or males.:.

2003: some ramets replaced due to poor flowering

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Clone No.	X	Y	5/29		6/2		6/16		6/19									
			Female	Rating	Male	Rating												
1485	E	1	Female	-	-	3	4	4										
			Male	-	4	4	4	4	-									
1483	E	2	Female	-	3	4	4	4	-									
			Male	4	4	4	4	-	-									
1563	G	14	Female	-	3	4	4	4	-									
			Male	4	4	4	4	4	-									
1541	J	5	Female	-	-	-	-	-	3									
			Male	4	4	4	4	4	-									
1563	J	19	Female	-	3	4	4	4	-									
			Male	4	4	4	4	4	-									
1469	L	2	Female	-	3	3	4	4	-									
			Male	4	4	4	4	4	-									
1485	L	9	Female	-	-	3	4	4	-									
			Male	4	4	4	4	4	-									
1490	L	8	Female	-	-	3	4	4	-									
			Male	4	4	4	4	4	-									
1468	N	1	Female	-	-	-	3	4	4	-								
			Male	-	4	4	4	4	-									
1480	N	2	Female	-	-	3	3	4	-									
			Male	-	4	4	4	4	4	-								
1480	N	6	Female	-	-	3	4	4	4	-								
			Male	-	4	4	4	4	4	-								
1530	N	37	Female	-	-	3	3	4	-									
			Male	-	4	4	4	4	-									
1476	O	2	Female	-	-	3	4	4	-									
			Male	4	4	4	4	4	-									
1468	O	16	Female	-	-	3	3	4	4	-								
			Male	4	4	4	4	4	-									
1477	P	3	Female	-	-	-	3	4	-									
			Male	4	4	4	4	4	-									
1482	Q	2	Female	-	4	4	4	4	-									
			Male	4	4	4	4	4	-									
1486	Q	9	Female	-	3	3	4	4	-									
			Male	-	4	4	4	4	-									
1558	S	6	Female	-	-	3	4	4	-									
			Male	-	4	4	4	4	-									
1470	S	9	Female	-	3	3	4	4	-									
			Male	4	4	4	4	4	-									
1487	S	11	Female	-	3	4	4	4	-									
			Male	-	4	4	4	4	-									
1469	T	17	Female	-	3	4	4	4	-									
			Male	-	4	4	4	4	-									
1541	T	16	Female	-	-	-	-	-	-									
			Male	-	4	4	4	4	-									
1486	T	17	Female	-	3	4	4	4	-									
			Male	-	4	4	4	4	-									
1473	U	6	Female	-	-	3	4	4	-									

less ^{TS} overall than 2002

2003 223 pheno preparation.xls

21 Clones by grid

87 ahead of 75

17

CENTRAL PLATEAU-FINLAY # 223 - 2003 PHENOLOGY SURVEY

42 Trees (20 CPF only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WH

THIRD Survey Year: some ramets reselected due to lack of females and/or males.: A

2003: some ramets replaced due to poor flowering

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Clone No.	X	Y	5/29 6/12 6/14 6/16 6/19											
			Female	Rating										
			Male	4	4	4	4	—						
1474	U	14	Female	—	3	4	4	—						
			Male	—	4	4	4	—						
1477	U	17	Female	—	—	3	4	4						
			Male	4	4	4	4	—						
1501	V	13	Female	—	4	4	4	—						
			Male	4	4	4	4	—						
1473	W	16	Female	—	—	3	4	4						
			Male	4	4	4	4	—						
1474	W	19	Female	—	—	3	3	4						
			Male	—	4	4	4	4						
1489	X	5	Female	—	—	3	3	4						
			Male	4	4	4	4	—						
1470	X	14	Female	—	3	4	4	—						
			Male	—	4	4	4	4						
1489	X	18	Female	—	3	4	4	—						
			Male	4	4	4	4	—						
1482	Y	3	Female	—	3	3	4	—						
			Male	—	4	4	4	4						
1471	Z	1	Female	—	—	3	3	4						
			Male	—	4	4	4	—						
1530	Z	6	Female	—	—	—	3	4						
			Male	4	4	4	4	—						
1476	AA	23	Female	—	—	3	4	4						
			Male	4	4	4	4	—						
1471	CC	4	Female	—	—	3	4	4						
			Male	—	4	4	4	4						
1558	CC	13	Female	—	—	3	4	4						
			Male	4	4	4	4	—						
1501	DD	9	Female	—	4	4	4	—						
			Male	4	4	4	—	—						
1490	DD	15	Female	—	—	3	4	4						
			Male	4	4	4	4	—						
42 Trees														

LEGEND**FEMALE PHENOLOGY**

- 3 Pre-Receptive Stage: When 20% of a rame's flowers are at Stage 3
 4 Receptive Stage: When 20% of a rame's flowers are at pollination stage (lasts 3-4 days)

- Prior to Stage 3 rating: tree not receptive
- Past Stage 4 receptivity: When 80% of a rame's flowers are past receptivity

0 No females

MALE PHENOLOGY

- 4 Pollen flies when cluster tapped with hand on SOUTH side of tree.
 - Pollen NOT flying, i.e. not yet developed.
 - Pollen flight finished when cluster-tapping on NORTH side does not produce pollen.

0 No males

Lake clover
1541 clones

CPF # 223 PHENO

200+ MALES & FEMALES

CENTRAL PLATEAU-FINLAY # 223 - 2004 PHENOLOGY SURVEY

FOURTH Survey Year 2004: no ramet replacement plus 193 shrub with black flagger red & white

SHP May 27/04 early P. T. Prince George Tree Improvement Station

5/17/2004 11:03 AM

100

Clone No.	X	Y	Female	Rating										
1485 E	1	Female	-	-	-	3	4	4	4	4	4	4	4	4
1483 E	2	Female	-	-	-	4	4	4	4	4				
1563 G	14	Female	-	-	-	4	4	4	4	4				
1541 J	5	Female	-	-	-	4	4	4	4	4				
1563 J	19	Female	-	3	4	4	4	4	4	4				
1469 L	2	Female	-	-	3	3	4	4	4	4				
1485 L	9	Female	-	-	4	4	4	4	4	4				
1490 L	8	Male	-	-	4	4	4	4	4	4				
1468 N	1	Female	-	-	4	4	4	4	4	4				
1480 N	2	Female	-	-	3	4	4	4	4	4				
1480 N	6	Female	-	-	4	4	4	4	4	4				
1530 N	37	Female	-	-	4	4	4	4	4	4				
1477 P	3	Female	-	-	4	4	4	4	4	4				
1482 Q	2	Male	-	-	3	4	4	4	4	4				
1486 Q	9	Female	-	-	4	4	4	4	4	4				
1558 S	6	Female	-	-	3	4	4	4	4	4				
1487 S	9	Male	-	-	4	4	4	4	4	4				
1487 S	11	Female	-	-	3	4	4	4	4	4				
1473 U	6	Female	-	-	4	4	4	4	4	4				
1486 T	17	Female	-	-	3	4	4	4	4	4				
1541 T	16	Male	-	-	4	4	4	4	4	4				
1469 T	5	Female	-	-	3	4	4	4	4	4				
1487 S	17	Male	-	-	4	4	4	4	4	4				
1473 U	1	Female	-	-	3	4	4	4	4	4				

Wrote at Ward's Hollow in 2003

MALE PHENOLOGY

			No males
0	-	-	Pollen right finished when cluster-tapping on NORTH side does no
4	-	-	Pollen NOT flying, i.e. not yet developed.
			Pollen flies when hand on SOUTH side of tree.

<p>4</p> <p>Receptive Stage: When 20% of a ramet's flowers are at Stage 3</p> <p>Prior to Stage 3 rating: tree not receptive</p> <p>Past Stage 4 receptivity: When 80% of a ramet's flowers are past receptivity</p>
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FEMALE PHENOLO

CENTRAL PLATEAU-FINLAY # 223 - 2004 PHENOLOGY SURVEY
42 Trees (20 CFP only Clones x 2 Trees/Clone plus 156 shared with BLK); FLAGGED RED & WH
FOURTH Survey Year 2004: no ramet replacement necessary

CPF # 223 PHE NO

2005 MALES & FEMALES

CENTRAL PLATEAU-FINALY # 223 - 2005 PHENOLOGY SURVEY									
Fifth Survey Year									
42 Trees (20 CFP only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WH									
Clone No.	X	Y	Female	Rating	Rating	Rating	Rating	Rating	Rating
Clone No.	U	V	Female	3	4	4	4	4	4
1473	U	14	Male	4	4	4	4	4	4
1474	U	15	Female	3	4	4	4	4	4
1477	U	16	Male	4	4	4	4	4	4
1473	W	16	Female	—	3	4	4	4	4
1474	W	17	Male	4	4	4	4	4	4
1477	W	18	Female	3	4	4	4	4	4
1473	Y	17	Male	4	4	4	4	4	4
1473	U	18	Female	—	3	4	4	4	4
1474	U	19	Male	4	4	4	4	4	4
1474	W	19	Female	3	4	4	4	4	4
1471	Z	20	Male	4	4	4	4	4	4
1476	AA	21	Female	3	4	4	4	4	4
1530	Z	22	Male	4	4	4	4	4	4
1471	Z	23	Female	—	3	4	4	4	4
1558	CC	24	Male	4	4	4	4	4	4
1471	CC	25	Female	—	3	4	4	4	4
1483	CC	26	Male	4	4	4	4	4	4
1501	DD	27	Female	4	4	4	4	4	4
1490	DD	28	Male	4	4	4	4	4	4
1501	DD	29	Female	—	3	4	4	4	4
4	Pre-Receptive Stage:	When 20% of a ramet's flowers are at Stage 3	Receptive Stage:	When 20% of a ramet's flowers are at Stage 3	Past Stage 3 rating:	Prior to Stage 3 rating: tree not receptive	Past Stage 4 receptivity:	No females	MALE PHENOLOGY
4	Past Stage 4 receptivity:	When 80% of a ramet's flowers are at Stage 4	Receptive Stage:	When 20% of a ramet's flowers are at Stage 4	Past Stage 4 rating:	Past Stage 4 rating: tree not receptive	Past Stage 4 receptivity:	No males	MALE PHENOLOGY
0	No males								
0	No females								
0	No males								
-	Pollen flight finished when cluster-tapping on NORTH side does not produce pollen.								
-	Pollen NOT flying, i.e. not yet developed.								
4	Pollen flies when cluster-tapped with hand on SOUTH side of tree.								

CPF # 223 PHENO

2006 MALES & FEMALES

CENTRAL INSTITUTE FOR SURVEY
2006 PHEONIX SURVEY

45

Year

2006-05-11 2:25 PM

Prince George Tree Improvement Station

1 of 2

W142 22 230 131H1 ROOT WkspkprSeefr3 FwslWw DcOuNtStHeD10LgY223 CenPlaEe-fmAV200500233 DhePhn x15

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Rating

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Table 1. Summary of the main characteristics of the four groups of patients.

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Table 1. Summary of results

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2007

MALES & FEMALES

28

CENTRAL PLATEAU-FINLAY # 223 - 2007 PHENOLOGY SURVEY

42 Trees (20 CPF only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WHITE
 Sixth Survey Year

H:\Workgrp\Seed\Rita's Files\My DOCUMENTS\PHENOLOGY\223 Central Plateau-Finlay 2005\2005 223 pheno.xls

Clone No.	X	Y	5-Jun-07												
			Female	Rating											
			Male	4											
1474	U	14	Female	4											
			Male	4											
1541	V	8	Female	4											
			Male	4											
1501	V	19	Female	—/5											
			Male	4											
1473	W	16	Female	4											
			Male	4											
1474	W	19	Female	4											
			Male	4											
1468	W	20	Female	—/5											
			Male	4											
1489	X	5	Female	—/5											
			Male	4											
1470	X	14	Female	4											
			Male	4											
1482	Y	3	Female	—/5											
			Male	4											
1471	Z	1	Female	4											
			Male	4											
1530	Z	6	Female	—/5											
			Male	4											
1558	AA	2	Female	—/5											
			Male	4											
1476	AA	23	Female												
			Male	4											
1471	CC	4	Female	—/5											
			Male	4											
1501	DD	9	Female	—/5											
			Male	4											
1490	DD	15	Female	—/5											
			Male	4											
42 Trees															

L E G E N D**FEMALE PHENOLOGY**

- 3 **Pre-Receptive Stage:** When 20% of a ramet's flowers are at Stage 3
- 4 **Receptive Stage:** When 20% of a ramet's flowers are at pollination stage (lasts 3-4 days)
- **Prior to Stage 3 rating:** tree not receptive
- **Past Stage 4 receptivity:** When 80% of a ramet's flowers are past receptivity

0 No females

MALE PHENOLOGY

- 4 Pollen flies when cluster tapped with hand on **SOUTH** side of tree.
- Pollen NOT flying, i.e. not yet developed.
- Pollen flight finished when cluster-tapping on **NORTH** side does not produce pollen.

0 No males

CENTRAL PLATEAU-FINLAY # 223 - 2007 PHENOLOGY SURVEY
42 Trees (20 CPF only Clones x 2 Trees/Clone plus 1563 shared with BLK): FLAGGED RED & WHITE
Sixth Survey Year

H:\Workgrp\Seed\Rita's Files\My DOCUMENTS\PHENOLOGY\223 Central Plateau-Finlay\2005\2005 223 pheno.xls

Clone No.	X	Y	5-Jun-07		Rating P	Rating I	Rating F	Rating J	Rating T	Rating L
			Female	Rating						
1483 C	18	Female	4							
		Male	4							
1483 E	2	Female	4							
		Male	4							
1489 E	6	Female	4							
		Male	4							
1563 G	14	Female	4							
		Male	4							
1485 H	8	Female	4							
		Male	4							
1541 J	5	Female	4							
		Male	4							
1563 J	19	Female	-/5							
		Male	4							
1469 L	2	Female	-/5							
		Male	4							
1485 L	9	Female	4							
		Male	4							
1490 L	8	Female	4							
		Male	4							
1477 L	11	Female	4							
		Male	4							
1480 N	2	Female	4							
		Male	4							
1480 N	6	Female	4							
		Male	4							
1530 N	37	Female	4							
		Male	4							
1476 O	2	Female	4							
		Male	4							
1468 O	16	Female	-/5							
		Male	4							
1477 P	3	Female	4							
		Male	4							
1482 Q	2	Female	-/5							
		Male	4							
1486 Q	20	Female	-/5							
		Male	4							
1558 S	6	Female	4							
		Male	4							
1487 S	9	Female	4							
		Male	4							
1486 S	25	Female	4							
		Male	4							
1470 S	11	Female	-/5							
		Male	4							
1487 S	17	Female	-/5							
		Male	4							
1469 T	5	Female	-/5							
		Male	4							
1473 U	6	Female	-/5							

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GPF #

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2008

MALES & FEMALES

CENTRAL PLATEAU-FINLAY # 223 - 2008 PHENOLOGY SURVEY**2008 Survey = 42 Trees (21 clones x 2 trees)**

Clone	X	Y	Tuesday, June 3, 2008		Monday, June 9, 2008		Rating	Rating	Rating	Rating
			Female	Rating	Rating	Rating				
1483 E	2	Female	4		4					
		Male	4		-5					
1489 E	6	Female	3		4					
		Male	4		-5					
1563 G	14	Female	3		4					
		Male	4		-5					
1477 I	9	Female	3		4					
		Male	4		4/5					
1486 I	17	Female	4		4					
		Male	4		-5					
1541 J	5	Female	-		3					
		Male	4		4					
1563 J	19	Female	3		4					
		Male	4		-5					
1469 L	2	Female	3		4/5					
		Male	4		-5					
1490 L	8	Female	4		4/5					
		Male	4		-5					
1480 N	2	Female	3		4					
		Male	4		-5					
1480 N	6	Female	-		3/4					
		Male	4		-5					
1476 O	2	Female	3		4/5					
		Male	4		-5					
1468 O	16	Female	3		4					
		Male	4		-5					
1482 Q	2	Female	3		4					
		Male	4		-5					
1486 Q	20	Female	-		4					
		Male	4		-5					
1558 S	6	Female	3		4/5					
		Male	4		-5					
1487 S	9	Female	-		4					
		Male	4		-5					
1470 S	11	Female	-		5					
		Male	4		-5					
1487 S	17	Female	-		3					
		Male	4		-5					
1469 T	5	Female	3		4/5					
		Male	4		-5					
1474 U	14	Female	-		4					
		Male	4		-5					
1482 V	5	Female	3		4/5					
		Male	4		4/5					
1541 V	8	Female	-		3					
		Male	3		-5					
1501 V	19	Female	4		4					
		Male	4		-5					
1473 W	16	Female	-		4					
		Male	4		4/5					
1474 W	19	Female	3		-5					
		Male	4		4/5					

CENTRAL PLATEAU-FINLAY # 223 - 2008 PHENOLOGY SURVEY**2008 Survey = 42 Trees (21 clones x 2 trees)**

Tuesday, June 3, 2008

Monday, June 9, 2008

Clone	X	Y	Female	Rating							
1468	W	20	Female	3		-5					
			Male	4		-5					
1489	X	5	Female	3		4					
			Male	4		4					
1558	X	13	Female	3		4					
			Male	4		-5					
1470	X	14	Female	-		4					
			Male	4		4					
1471	Z	1	Female	3		4					
			Male	4		-5					
1485	Z	33	Female	3	4/5						
			Male	4	4/5						
1485	AA	4	Female	-		4					
			Male	4		4/5					
1476	AA	23	Female	3	4/5						
			Male	4	4/5						
1473	DD	3	Female	3		4					
			Male	4		4/5					
1501	DD	9	Female	4		-5					
			Male	4		-5					
1490	DD	15	Female	3		4					
			Male	4		4/5					
1530	DD	17	Female	4		4/5					
			Male	4		4/5					
1483	DD	28	Female	3		-5					
			Male	4		-5					
1477	DD	35	Female	4		4/5					
			Male	4		-5					
1471	CC	4	Female	3		4					
			Male	4		4/5					
1530	CC	35	Female	3		4					
			Male	4		4/5					
42 Trees											

L E G E N D**FEMALE PHENOLOGY**

- 3** Pre-Receptive Stage: When 20% of a ramet's flowers are at Stage 3
4 Receptive Stage: When 20% of a ramet's flowers are at pollination stage (lasts 3-4 days)

- Prior to Stage 3 rating: tree not receptive
- Past Stage 4 receptivity: When 80% of a ramet's flowers are past receptivity

0 No females

MALE PHENOLOGY

- 4** Pollen flies when cluster tapped with hand on **SOUTH** side of tree.
 - Pollen NOT flying, i.e. not yet developed.
 - Pollen flight finished when cluster-tapping on **NORTH** side does not produce pollen.

0 No males

4/5 small amount of pollen left when shaken

CPT # 223 PIZENO

2009 MALES & FEMALES

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CENTRAL PLATEAU-FINLAY # 223 - 2009 PHENOLOGY SURVEY**2009 Survey = 42 Trees (21 clones x 2 trees)**

Clone No	X	Y	Female	2-Jun-09	4-Jun-09	8-Jun-09	10-Jun-09				
				Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating
1483	E	2	Female	3	4	4/5	5				
			Male	4	4	4	4				
1489	E	6	Female	-	3	5	5				
			Male	4	4	4	4				
1563	G	14	Female	4	4	4	4/5				
			Male	4	4	4	4				
1477	I	9	Female	4	4	4/5	5				
			Male	4	4	4	4				
1486	I	17	Female	-	4	4/5	5				
			Male	-	4	4	4				
1541	J	5	Female	-	-	4	4/5				
			Male	-	4	4	4				
1563	J	19	Female	3	4	5	5				
			Male	4	4	4	4				
1469	L	2	Female	-	3	5	5				
			Male	-	4	4	4				
1490	L	8	Female	3	3	4	5				
			Male	4	4	4	4				
1480	N	2	Female	-	-	4	4				
			Male	-	4	4	4				
1480	N	6	Female	-	-	4	4/5				
			Male	4	4	4	4				
1476	O	2	Female	3	3	4	4				
			Male	4	4	4	4				
1468	O	16	Female	-	4	5	5				
			Male	4	4	4	4				
1482	Q	2	Female	-	3	4	4				
			Male	-	4	4	4				
1486	Q	20	Female	4	4	4/5	4/5				
			Male	4	4	4	4				
1558	S	6	Female	-	3	4	4/5				
			Male	-	4	4	4				
1487	S	9	Female	-	4	4/5	5				
			Male	-	4	4	4				
1470	S	11	Female	3	4	4/5	5				
			Male	4	4	4	4				
1487	S	17	Female	4	4	4/5	5				
			Male	-	4	4	4				
1469	T	5	Female	3	4	4/5	5				
			Male	4	4	4	4				
1474	U	14	Female	3	4	4	4/5				
			Male	-	4	4	4				
1482	V	5	Female	3	4	4	5				

CENTRAL PLATEAU-FINLAY # 223 - 2009 PHENOLOGY SURVEY
2009 Survey = 42 Trees (21 clones x 2 trees)

Clone No X	Y		2-Jun-09	4-Jun-09	8-Jun-09	10-Jun-09				
			Female	Rating	Rating	Rating	Rating	Rating	Rating	Rating
		Male		4	4	4	4			
1541 V	8	Female	-	3	4	5				
		Male	-	4	4	4				
1501 V	19	Female	3	4	4	5				
		Male	4	4	4	4				
1473 W	16	Female	-	3	4/5	4/5				
		Male	-	4	4	4				
1474 W	19	Female	3	4	4	4/5				
		Male	-	4	4	4				
1468 W	20	Female	-	3	5	5				
		Male	4	4	4	4				
1489 X	5	Female	3	4	5	5				
		Male	4	4	4	4				
1558 X	13	Female	3	4	4	5				
		Male	4	4	4	4				
1470 X	14	Female	3	4	4	5				
		Male	-	-	4	4				
1471 Z	1	Female	-	3	4	4				
		Male	-	4	4	4				
1485 Z	33	Female	3	4	4/5	4/5				
		Male	4	4	4	4				
1485 AA	4	Female	-	-	4	4				
		Male	-	4	4	4				
1476 AA	23	Female	3	4	5	5				
		Male	4	4	4	4				
1471 CC	4	Female	-	3	4/5	5				
		Male	-	4	4	4				
1530 CC	35	Female	3	3/4	4	4/5				
		Male	4	4	4	4				
1473 DD	3	Female	3	3	4	4				
		Male	4	4	4	4				
1501 DD	9	Female	3	4/-	5	5				
		Male	4	4	4	4				
1490 DD	15	Female	-	-	4	4/5				
		Male	-	4	4	-				
1530 DD	17	Female	3	4	5	5				
		Male	4	4	4	4				
1483 DD	28	Female	3	4	4	5				
		Male	4	4	4	4				
1477 DD	35	Female	3	4	4	5				
		Male	4	4	4	4				
42 Trees										

CENTRAL PLATEAU-FINLAY # 223 - 2009 PHENOLOGY SURVEY

2009 Survey = 42 Trees (21 clones x 2 trees)

Clone No	X	Y	Female	2-Jun-09	4-Jun-09	8-Jun-09	10-Jun-09				
				Rating	Rating	Rating	Rating	Rating	Rating	Rating	Rating
L E G E N D											
FEMALE PHENOLOGY											
3 <u>Pre-Receptive Stage:</u>											
4 <u>Receptive Stage:</u>											
- <u>Prior to Stage 3 rating: tree not receptive</u>											
- <u>Past Stage 4 receptivity:</u>											
0 No females											
MALE PHENOLOGY											
4 Pollen flies when cluster tapped with hand on SOUTH side of tree.											
- Pollen NOT flying, i.e. not yet developed.											
- Pollen flight finished when cluster-tapping on NORTH side does not produce pollen.											
0 No males											
4/5 small amount of pollen left when shaken											

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2010 Survey = 42 Trees (21 clones x 2 trees)									
Clove No	X	Y	Rating	Rating	Rating	Rating	Rating	Rating	Rating
			25-May-10	27-May-10	31-May-10	2-Jun-10	07-Jun-10		
1483 E	2	Female	3	4	4	5	-		
1489 E	6	Female	4	4	4	4	-		
1563 G	14	Female	3	4	4	4	5		
1477 I	9	Female	3	3	4	4	4		
1486 I	17	Female	4	4	4	4	4		
1541 J	5	Female	-	3	4	4	4		
1563 J	19	Female	4	4	5	5	-		
1469 L	2	Female	4	4	4	4	4		
1490 L	8	Female	3	4	4	4	5		
1480 N	2	Female	-	-	4	4	4		
1480 N	6	Female	-	-	4	4	4		
1476 O	2	Female	3	4	4	4	5		
1468 O	16	Female	-	-	4	4	-		
1482 Q	2	Female	4	4	4	4	4		
1486 Q	20	Female	-	3	4	4	4		
1558 S	6	Female	-	4	4	4	4		
1487 S	9	Male	-	3	4	4	4		
1470 S	11	Female	-	3	4	4	4		
1487 S	17	Male	-	4	4	4	4		
1474 U	14	Female	-	4	4	4	4		
1474 U	5	Male	-	3	4	4	4		
1469 T	5	Female	3	4	4	4	5		
1487 S	5	Male	4	4	4	4	4		
1482 V	5	Female	-	-	3	4	4	4/5	
1482 V	5	Male	4	4	4	4	4		

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CENTRAL PLATEAU-FINALY # 223 - 2010 PHENOLOGY SURVEY

25-May-10 27-May-10 31-May-10 2-Jun-10 07-Jun-10

Prince George Tree Improvement Station

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2 of 3

4

CENTRAL PLATEAU-FINALY # 223 - 2010 PHENOLOGY SURVEY									
2010 Survey = 42 Trees (21 clones x 2 trees)									
Clone No	X	Y	Rating	Rating	Rating	Rating	Rating	Rating	Rating
			25-May-10	27-May-10	31-May-10	2-Jun-10	07-Jun-10		
L E G E N D									
FEMALE PHENOLOGY									
0	No females								
-	Pollen NOT flying, i.e. not yet developed.								
4	Pollen flies when cluster tapped with hand on SOUTH side of tree.								
MALE PHENOLOGY									
0	No males								
-	Pollen flight finished when cluster-tapping on NORTH side does not produce pollen.								
4/5	small amount of pollen left when shaken								

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CENTRAL PLATEAU-FINLAY # 223 - 2011 PHENOLOGY SURVEY**2010 Survey = 42 Trees (21 clones x 2 trees) = Only partly done**

Clone No	X	Y	Rating	6-Jun-11	13-Jun-11	Sur 3	Suv 4	Rating	Rating	Rating
				Rating	Rating	Rating	Rating			
1486	A	8	Female	3	5					
			Male	4	4					
1477	A	17	Female	-	4					
			Male	4	4					
1487	B	2	Female	-	4					
			Male	4	4					
1480	B	11	Female	-	4					
			Male	4	4					
1490	D	20	Female	-	5					
			Male	4	4					
1489	E	6	Female	3	4/5					
			Male	4	4					
1482	H	1	Female	-	4					
			Male	4	4					
1476	I	20	Female	3	4/5					
			Male	4	4					
1563	J	19	Female	4	5					
			Male	4	-					
1486	K	23	Female	3	5					
			Male	4	4					
1483	K	24	Female	3	5					
			Male	4	-					
1563	K	33	Female	3	4/5					
			Male	4	4					
1469	L	2	Female	4	5					
			Male	4	-					
1480	L	27	Female	3						
			Male	4						
1541	P	2	Female	-	4					
			Male	4	-					
1558	P	39	Female	3						
			Male	4						
1470	S	11	Female	4						
			Male	4						
1469	T	5	Female	3						
			Male	4						
1474	U	14	Female	3						
			Male	4						
1558	V	1	Female	-	4					
			Male	4	4					
1541	V	8	Female	-	4					
			Male	4	4					
1501	V	19	Female	3						

CENTRAL PLATEAU-FINLAY # 223 - 2011 PHENOLOGY SURVEY										
2010 Survey = 42 Trees (21 clones x 2 trees) = Only partly done										
Clone No	X	Y	Rating	6-Jun-11	13-Jun-11	Sur 3	Suv 4			
				Rating	Rating	Rating	Rating	Rating	Rating	Rating
			Male	4						
1487	W	1	Female	-	4					
			Male	4	4					
1474	W	19	Female	4						
			Male	4						
1468	W	20	Female	3						
			Male	4						
1489	X	5	Female	-	4/5					
			Male	4	4					
1471	Z	1	Female	-	4/5					
			Male	4	4					
1485	Z	33	Female	3						
			Male	4						
1485	AA	4	Female	-	4/5					
			Male	4	4					
1468	AA	5	Female	-	5					
			Male	4	4					
1476	AA	23	Female	3						
			Male	4						
1473	BB	31	Female	3						
			Male	4						
1470	CC	3	Female	-	4/5					
			Male	4	4					
1471	CC	4	Female	3						
			Male	4						
1530	CC	35	Female	3						
			Male	4						
1482	CC	40	Female	3						
			Male	4						
1473	DD	3	Female	-	4/5					
			Male	4	-					
1501	DD	9	Female	4						
			Male	4						
1490	DD	15	Female	3						
			Male	4						
1530	DD	17	Female	3						
			Male	4						
1483	DD	28	Female	3						
			Male	4						
1477	DD	35	Female	3						
			Male	4						
42 Trees										

CENTRAL PLATEAU-FINLAY # 223 - 2011 PHENOLOGY SURVEY										
2010 Survey = 42 Trees (21 clones x 2 trees) = Only partly done										
Clone No	X	Y	Rating	6-Jun-11	13-Jun-11	Sur 3	Suv 4			
			Rating		Rating	Rating	Rating	Rating	Rating	Rating
L E G E N D										
FEMALE PHENOLOGY										
3	Pre-Receptive Stage:									
4	Receptive Stage:									
-	Prior to Stage 3 rating: tree not receptive									
-	Past Stage 4 receptivity:									
0	No females									
MALE PHENOLOGY										
4	Pollen flies when cluster tapped with hand on SOUTH side of tree.									
-	Pollen NOT flying, i.e. not yet developed.									
-	Pollen flight finished when cluster-tapping on NORTH side does not produce pollen.									
0	No males									
4/5	small amount of pollen left when shaken									

CPT #

223

PHENOX

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CENTRAL PLATEAU-FINLAY # 223 - 2012 PHENOLOGY SURVEY

Survey 2012 Survey = 78 trees (39 choices x 2 trees)

1 of 3

Prince George Tree Improvement Station

2012-01-31 11:46 AM

Clone No	X	May 28/29	30-May	31-May	Female Male	04-Jun	07-Jun	11-Jun					
1586 V	25	-	-	4	4	4	4	4	4	4	4	4	4
980 V	30	-	-	-	4	4	4	4	4	4	4	4	4
1582 V	34	-	-	-	4	4	4	4	4	4	4	4	4
1487 W	1	-	-	-	-	3	4	4	4	4	4	4	4
1540 W	6	-	-	-	-	-	3	4	4	4	4	4	4
1474 W	19	3	-	-	4	4	4	4	4	4	4	4	4
1468 W	20	3	-	-	3	4	4	4	4	4	4	4	4
981 Y	31	-	-	4	4	4	4	4	4	4	4	4	4
1467 Y	35	-	-	3	4	4	4	4	4	4	4	4	4
988 Y	36	-	-	3	4	4	4	4	4	4	4	4	4
1540 Y	40	-	-	4	4	4	4	4	4	4	4	4	4
1471 Z	1	-	4	-	4	4	4	4	4	4	4	4	4
1485 Z	33	3	4	-	3	4	4	4	4	4	4	4	4
1484 Z	34	-	-	-	4	4	4	4	4	4	4	4	4
1485 AA	4	-	-	-	3	4	4	4	4	4	4	4	4
1476 AA	23	3	4	-	3	4	4	4	4	4	4	4	4
1542 AA	38	-	-	-	-	4	4	4	4	4	4	4	4
1473 BB	31	-	4	-	-	3	4	4	4	4	4	4	4
1465 BB	36	-	-	-	-	3	4	4	4	4	4	4	4
1471 CC	4	-	-	-	-	3	4	4	4	4	4	4	4
1466 CC	15	-	-	-	-	4	4	4	4	4	4	4	4
985 CC	29	-	-	-	-	4	4	4	4	4	4	4	4
1530 CC	35	3	4	-	-	4	4	4	4	4	4	4	4
1473 DD	3	4	-	-	-	3	4	4	4	4	4	4	4
1490 DD	15	-	4	-	-	4	4	4	4	4	4	4	4
1530 DD	17	-	-	-	-	3	4	4	4	4	4	4	4
1483 DD	28	-	4	-	-	-	4	4	4	4	4	4	4
1477 DD	35	-	-	-	-	-	4	4	4	4	4	4	4
78 CLONES													

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CENTRAL PLATEAU-FINLAY # 223 - 2012 PHENOLOGY SURVEY

2012 Survey = 78 Trees (39 Clones x 2 trees)									
SURVEY DATE--									
Clone No	X	May 28/29	30-May	31-May	04-Jun	07-Jun	11-Jun	Female	Male
LEEND									
3	Pre-Receptive Stage: 20%								
4	Prior to Stage 3 rating: tree not receptive								
0	Past Stage 4 receptivity:								
0	Past Stage 5 receptivity 80%								
MALE PHENOLOGY									
4	Pollen files when cluster tapped with hand on SOUTH side of tree.								
-	Pollen NOT flying, i.e. not yet developed.								
-	Pollen finished when cluster-tapping on NORTH side does not produce pollen.								
0	No males								
4/5	small amount of pollen left when shaken								