

Experiment Sus. Sum 1975
Collected July

Viability 100%

Date	Time of Day	Germ. time (Days)	Dnt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
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1975

Nov. 21 10:20A Seeds excised after soaking 27hrs. Embryos slipped easily from the seed coats. Into 68°F germ

Sample ① only

Nov. 24 8:00A (86) ()
86 ? To 18mm straight roots; all very healthy

25 7:30A 4 { Very healthy, straight, root hairs just starting Cotyledons Pink, tinge yellow green on ventral surface. Glandular red hairs prominent on hypocotyl just below cotyledons and on margins of cotyledons

from the 86 above

Sample	No	(11) ()	
0	1		22 mm 50
	2		17
	3		15
	4		14
	5		13
	6		13
	7		11
	8		10
	9		10
	10		10
			22

Sample 0 () () 10 ↑

Nov 28 last examination

→ This lot 100% viable. Exceptionally good, healthy rapid growth.

(End)

Seed

E

Experiment Summary

Exp. *Sus. Sum. '75* Treatment *Strat + 40°F*

Seed - source, name *Sus. Sum. '75*

Treatment details

Date

Jan. 2/76 8 AM Seed into soak 70°F Lab 7
4:00 PM into 40° Strat (C)

Germination record

Date

Sample

Treatment

No. of seeds

Germination ^{1/}

Germination

1976

No

(
No. of days

Total Viable

Tips : Complete
Percents Percents

in treatment
Percent

Jan 5 1 2

9 2 7

12 3 10

19 4 17

27 5 25

Feb 2 6 31

9 7 38

17 8 46

20 9 49

Mar 1 10 59

9 11 67

^{1/} In 7 days @ 68°F. Germination complete when root tip through seed coats.

E

Pt Seed

Experiment

Sus. Sum. '75

Start 40°F

Stand Cold Room

Seed used →

Petri dishes

Germ @ 68°F

Date	Time of Day	Germ. time (Days)	DNT	Germination Norm	Abnor. (cm.)	Gdd	Dd	DT	No. of Days
July 19, 1975	Collected seed on Sus. Sum slope 1/4 mile above S.D.F. Start Headquarters Into 30°F storage								
Jan 2/76	8:00 AM	Seed into scale 70°F Lab 7		4 PM	Into 40°F strat (1)				
Jan 5	12 noon	0 out strat	(124)	(0)	()				(2 days 20 hrs)
6	"	1		0					
8	8 AM	2		3	Left	those root tip injury			
9	12 noon	3		0	3				
12	" "	7		0	3				
		(121)		3	3				Regen roots Did grow

End

Jan 9	12 noon	0 out	(112)	(0)	(0)				(7)
12		3		9	9	Left R tip injury.			
13		4		0	9	"			
14		5		0	9	"			
15		6		0	9	Regen. roots			
16		7		0	9	" "			
		(103)							

Jan 12	12 noon	0 out	(106)	(0)	(0)				(10)
13	"	1		0					
14	"	2		9	9				
15	"	3		1	10				
16	"	4		1	11				
19	"	7		1	12				
		(95)							

Pf Seed

Date	Time of Day	Germ. time (Days)	DNT	Norm	Germination Absc. <u>10mm</u>	Gdd	Dd	DT	No. of Days
1976									
		Sample (4)	(120)	()	()	(17)			
19	12 noon	0 out	(0)	(0)					
20	" "	1	46	46	left				
21	" "	2 (4x)	32	78	"				
22	" "	3	7	85	"				
23	" "	4	1	86	"				
26	" "	7 (31)	3	89	to 45mm				
					Ave 35				
					(End)				
		Sample (5)	(127)	()	()	(25)			
27	12 noon	0	0	0	many white tips				
28	2 PM	1 (47)	86	80	to 8mm				
					Seed coats definitely slowing growth.				
29	7:30 A	2	17	97	to 12mm are 6mm				
					Wavy, curling roots. Growth restricted				
30	12:00 noon	3	17	104	to 16mm Ave 10mm				
1/1	2	6			To 3mm Ave 20mm				
					(End) Hypers to 15mm				
					Ave 10mm				
		Sample (6)	(109)	(107V)	()	(31)			
2	12 noon	0 out	4	0	To 2mm				
3	" "	1	65	69	To 12mm Ave 5				
4	" "	2 (18)	22	91	To 16mm Ave 12				
5	" "	3	3	94	" " " "				
6	" "	4	1	95	" 18mm " 14				
9	" "	7							
					(14) 5 These excised				
					12 viable				
					(End)				

E

SeedExperiment *Es Sm 75*

Date	Time of Day	Germ. time (Days)	Dnt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
1976									
Sample <u>7</u> (110) (110V) <u>38</u>									
Febr 9	1 PM	0 out		6	6		To 9mm Ave 2mm		
10	1 noon	1	(17)	87	93		To 12mm Ave 8mm		
11	"	2		9	102		To 13mm Ave 15mm		
12	"	3		0	102		To 19mm Ave 15"4		
17	"	8		0	102				
Sample <u>8</u> (113) () <u>46</u>									
Febr 17	1 PM	0		25	25		To 5mm Ave 2.5mm		
18	1 "	1	(9)	79	104		To 22mm Ave 12mm		
19	"	2		3	107		To 11 Ave 6mm		
20	4	3		0	107		To 7.5mm Ave 15		
Mar 1	1 PM			6 excised 1 non viable	0	107			
Sample <u>9</u> (117) (117V) <u>49</u>									
Febr 20	12:30 P	0 out		28	28		To 11mm Ave 9mm		
21	9:00 P	14	(13)	76	104				
23	7:30 A	3	(11)	2	106				
Mar 1	1 PM			(11) These excised The excised all germinated.					

Poor growth record after 2/20

E Sus Sum Seed

Experiment

Strat 40°F Cold Rm

Date	Time of Day	Germ. time (Days)	Germination Norm	No. of Days
1976				
		Sample (10)	(112) (111V)	
Mar 1	1 PM	0 out	63 63 To 17mm Ave 11mm	
			5 left for growth	
2	"	1 (22)	27 90 To 20mm	(59)
3	"	2	3 93 To 22mm	
5	"	4 (19) excised	0 93 To 35mm	
8		7 18 viable	0 93	
		In strat.	(End)	
		Sample (11)	(113) (109V)	
Mar 9	12:30 P	0 out for exam.	85 85 To 22mm Ave 16mm	
10	11:45 A	1 In strat	10 95 To 3mm	
15	1 PM	6 " " "	5 100 To 6mm	
26		17	0 100 Remaining excised	
			(End)	(67)
		Sample	() ()	
		0		

F

Experiment

Date	Time of Day	Germ. time (Days)	Dnt	Germination		Gdd	Dd	DT	No. of Days
				Norm	Abnor.				
These start 25 days @ 40°F (115) out									
		Sample 5							25
Jan 27	1 PM								
28	2 PM								
excised and into 68°F Lab. refig. All but 2 (aborted embryos) growing 8 to 13 mm long. Average about 10 mm. Fifty % cotyledons pink. Red glands on margin cots. And in a few on the short hypocotyl. Very vigorous healthy.									
29	7:30 AM								
Seedlings to 16 mm roots Ave 12. Straight as grown. Healthy vigorous. All cots. pink-red. Root hairs forming 1/10 mm to 30 mm Ave 20 mm									
30		Sample 0							
(40) 12 3 & split roots									
		Sample 0							
Febr 2	12 noon	6							
To 78 mm Ave 48 mm Hypoc 20 mm Ave 12 mm									
(End)									

F

Pl. Fruit

Experiment

Sus Sum '75

Start 40°F

Stead Cold Room

Seed →

Petri dishes

Germ @ 68°F

Date	Time of Day	Germ. time (Days)	Dnt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
July 19 1975		Collected fruit on Sus Sum slope 1/4 mile above state Dept Forestry headquarters Into 32°F storage							
Jan 2 1976	8 AM	Seed (fruit) into sack 70°F Lab 7:4 PM Into 40°F start (1) strat							
		Sample (1)	(105)	()	()				
Jan 5	12 noon	0 out strat	(0)	()	()				(2 days 20 hrs)
6	"		0						
8	8 AM		0						
9	12 noon		0						
12	" "		0	0	0				
		(105)						End	
		Sample (2)	(116)	()	()				(7)
9	12:00 noon	0 out	0						
12	"	3	0						
13	"	4	0						
14	"	5	0						
15	"	6	0						
16	"	7 (116)	0						
		Sample (3)	()	()	()				(10)
12	12 noon	0 out	0						
13	"	1	0						
14	"	2	0						
15	"	3	0						
16	"	4	0						
19	"	7	0						

Pt Fruit

Date	Time of Day	Germ. time (Days)	DNT	Norm	Germination Abnor.	Gdd	Dd	DT	No. of Days
1976									
		Sample (4)	(122)						(17)
Jan 19	12:00 noon	0 out	(0)	(0)					
20	"	1	3	3	left				
21	"	2	2	5	"				
22	"	3	2	7	"	to 22 mm			
23		4	0	7					
26		7	0	7					
Ave Root growth fruit longer and more healthy than in seeds									
" " " to 45 mm									
(End)									
		Sample (5)	(135)						(25)
Jan 27	12:00 "	0 out	0	0	Several white tips				
" 28	2:20 PM		5	5	to 4 mm				
Presence husks slowing germination and growth									
29	7:30 A		5	10	to 15 mm straight				
30	12:00 noon		1	11	to 20 mm Ave 16 mm				
Febr 2	12 " "	6	0	11	to 30 mm Ave 25 mm				
(End)									
		Sample (6)	(151)						(31)
Febr 2	12 noon	0 out	0	0					
3	" "	1	8	8	To 5 mm 2.5 Ave				
4	" "	2	11	19	" 16 " 11 mm Ave				
5	" "	3	1	20	19 15 " "				
6	" "	4	0	20	28 " 22 " "				
9	" "	7	2	22	30 root + 15 hypo = 45 mm				
149									
22									
151									
Healthier than seeds better growth less many quite straight!									

F Pt Fruit
Sep. - Sum 1975

Date	Time of Day	Germ. time (Days)		Dnt	Germination Norm Abnor.	Gdd	Dd	DT	No. of Days
1976									
		Sample (7)		(142)					(38)
Febr 9	1 PM	0 oct			0 0		10 ⁺ tips.		
10	12 noon	1			12 12		To 8 Ave 4 mm		
11	"	2 6 for obsrv.			3 15		To 15 Ave 15 "		
12	"	3			2 17		To 30 Ave 25 "		
13	"	4			2 19		To 35 Ave 27 "		
17	"	8 (116)			7 26		To 85 Ave 45 "		
		Sample (8)		(140)					(46)
Febr 17	1 PM	0 oct			1 1		to 2 mm		
18	"				8 9		to 17 mm Ave 6 mm		
19	"				2 11		" 25 " 18 "		
20	"				1 12		" 35 " 23 "		
23	7:30 A	(127)			1 13		65 " 40 "		
					(End)				
		Sample		() ()					
		0							

F Sus Sum Fruit

Street 40°F Cold Room

Experiment

Date	Time of Day	Germ. time (Days)	Germination Norm	No. of Days
Sample <u>9</u> (120) () (59)				
Mar 1	1 PM	0 out	26 26 To 12mm Ave 6mm	
			To 25mm Ave 20"	
2	"	1	21 47	
3	"	2	7 54	11mm = 24hr new germ
5	"	4	3 57	
8	"	7	0 57	
Sample <u>10</u> (120) (109V)				
Mar 9	1 PM	0 out Into 68°F	40 40	to 72mm Ave 6mm
" 10	12 noon	1	11 51	to 17mm all since 9/9
11	1 PM	2	2 53	
12	1 "	3	3 56	
15	1 "	6	0 56	
16	12 noon	7	1 57	Remaining excised 11 NV out
(End)				
Sample <u>11</u> (130) ()				
Mar 15	1 PM	0 out start <u>11mm</u>	44 44 To 25mm Ave 12mm	
16	1 PM	1	1 45	
26	1 "	11	0 45	
(111) (110) (End) (73)				
Sample <u>12</u> In start. Very healthy ^{straight}				
Mar 26	1 PM		51 51 To 30mm Ave 25mm	
Apr 12	1 PM		0 51	
May 17	12 noon		7 58	
By excise				
<u>53</u> <u>58</u> 111				