

Bitterbrush Germination

In ice

Experiment FRZ Treatment 31°F Location _____

Seed: Name _____ Source _____ Collection date _____

Viability: By excise % From this test %

Date	Time of Day	Germ. time (days)	Tips		Germination			No of Days Treat.
			(No)	(%)	(No)	(Cum)	(%)	
<i>Apply Ave viability</i>								
			Sample <u>(7)</u> (200) (67V) 133 NV					
April 21	4:30P	0	out 30°F Into 68°F		0	0	0	
24	4PM	3			0	0	0	
25	4PM	4			0	0	0	
26	2PM	5			0	0	0	
27	10AM	6	Into 35° street		0	0	0	<u>End</u>
June 22	9AM	0	out 35 In 68° 6/21 Back 35°		—	—	—	
Aug 3	9AM	0	out 35 In 68 normal		67	67	1	67
			glassy		53	53		67
			Correct for viability Did not germ		80			<u>End</u>
					200			<u>End</u>
			Sample <u>(8)</u> (193) (76V) 117 NV					
May 10	1PM	0	out 31°F In 60°		0	0	0	<u>90</u>
11	8AM	1			0	0	0	
12	4PM	2			0	0	0	
16	9AM	6	Into 35° street		0	0	0	<u>End</u>
Aug 3	3PM	0	out 35 Normal		68	68		
"	"	"	" " " glassy		70	70	=76	76 <u>End</u>
			viable Not germ		8			47 dead
			did		Total 143			10/117 glassy
			76 viable would germ					
			Sample <u>(9a)</u> (50) () <u>180</u>					
August 7	12noon	0	out 31°F Thawed In 60°F 50 excised left		0	0	0	
" 8	8AM	1	Excised		0	0	0	
" 9	8AM	2	" "		0	0	0	All appear dead
" 10		3	Cotyledons gray. Radicles creamy white Aug 16, growing normally		0	0		All dead?
" 11	8AM	4	1 cot's red pigment		0	0	0	5 roots curving
" 14	8AM	7	All dead except 1 (this into new dish) the other 6 were dead. Reciprocal					
This sample divided into 2 portions - 9a excised embryos and 9b intact seeds. Seeds 9a and 9b are in the same dish.								

Bitterbrush Germination

Experiment FRZ-32F-78 Treatment Seed imbedded in ice @ 30°F Location 31° 30°F Cold Room, Stand.
 Seed: Name Wheeler (Hal) Source in ice @ 30°F Collection date July 1974
 Viability: By excise Hand cleaned on rubber mat - ribbed block by ALH % From this test 1/29/78 %

Date 1978	Time of Day	Germ. time (days)	Tips		Germination			No of Days Treat.	
			(No)	(%)	(No)	(Cum)	(%)		
Febr. 8	12:30 P		Seed into H ₂ O scale Lab 7 Stand						
" 9	8:00 A		Seed into plastic cups (9 samples) in plastic vials Cups filled with H ₂ O and into rack and 30°F						
			Sample (1) (205) (185V) 20NV						
Febr 17	2PM	0	out of 30°F Frozen			0	0	0	(8)
	21 4PM	4				0	0	0	
	23 4PM	6	Into 40° restreat			0	0	0	(End)
May 1	3PM	0	out 40° In 68°						
	3 4PM	2	Into 35°F			35	35		
June 22	8AM		out 35 Into 68° 6/21 superb			150	185		
						185	20	205	(End)
			Sample (2) (164) (140V) 24NV						
Febr 24	11:00 A	0	out. Into 68°F			0	0	0	Frozen Temp 31°F (15)
	27 1PM	3				0	0	0	
Mar 1	1PM	5				0	0	0	
	3 1PM	7	Into 40° restreat			0	0	0	(End)
May 1	3PM	0	out 40° In 68°						
	3 4PM	2	Into 35°			32	32		
June 22	8AM		out 35 Into 68° 6/21			108	140		
						140	24	164	(End)
			Sample (3) (175) (150V) 25NV						
Mar 3	1PM	0	out. Into 68°F			0	0	0	(22)
	6 11AM	3				0	0	0	
	8 3:45	5				1	1		
	10 4PM	7	Back 40° restreat			0	1		(End)
May 1	3PM	0	out 40° Into 68°						
	3 4PM	2	Into 35°			59	60		
June 22	8AM		out 35 Into 68° 6/21			90	150		
						150	25	175	(End)

Experiment Freeze 30°F-78

Seed used Wheeler (Holland) hand cleaned
January 29 1978 by ALH

February 8 1978

12:30 PM Seed into H₂O for soaking
Lab 7 stand

February 9/78

8:00 AM Nine samples of seed into
30°F Cold Room Stand

A sample:

Approximately 100 seeds

Enclosed in $\frac{3}{4}$ " dia plastic cylinder
Cylinder held in plastic cup approx
150 cc capacity

Cups filled with distilled water

Procedure

Take a sample every 7 days and
germinate at 68°F for 7 days

Restratify ungerminated seeds at
40°F (cold room) for 6 weeks

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Seed in ice

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Seed: Name _____ Source _____ Collection date _____

Viability: By excise % From this test %

Date 1978	Time of Day	Germ. time (days)	Tips		Germination			No of Days Treat.	
			(No)	(%)	(No)	(Cum)	(%)		
			Sample (4) (154) (132V) 72NV						
Mar 14	9AM	0	Out	In	68°F	0	0	0	(33)
20	1:30P	6	In	40°	strat	4	4	(End)	
May 1	3PM	0	Out	40	In 68°	-	-		
3	4PM	2	In	35°		55	58		
June 27	8AM		Out	35°	In 68° 4/21	73	132		
							0		
						132	132	(End)	
						132			
						154			
			Sample (5) (187) (156V) 31NV						
Mar 20	2PM	0	Out	31	In 68°F	0	0	0	(39)
22	2:30P	2				0	0	0	
27	8AM	7	In	40°F	strat	2	2	(End)	
May 1	3PM	0	Out	40	In 68°	-	-		
3	4PM	2	In	35°		51	53		
						100	153		39
							3		17
						153		(End)	
						34			
						187			
			Sample (6) (188) (115V) 73NV						
Apr. 6	4PM	0	Out	31°	In 68°	0	0	0	(56)
" 7	1PM	1				0	0	0	
" 10		4				1	1		
" 13	10AM	7	In	40°F	strat	3	4	(End)	
May 1	3PM	0	Out	40	In 68°	-	-		
3	4PM	2	In	35°		48	52		
June 27	9AM		Out	35	In 68° 4/21	37	84		
Aug 3	9AM	0	"	"	" Normal	31	31		
					g/assy	31	115		
					Did not grow	42			
						104		(End)	
						84			
						104			
						188			

Would not grow Dead (End)