Pt into liquid nitrogen 1hr. 10 mi

Experiment N_2

Nevada (Holland) 1974 seed Carl Crisp Lab.

1975 Date	Time of Day		Germ. time (Days)			DNt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
Mar 21	10:20A		Into N_2									
" "	11:30A		Out N_2		Into 68°F cabinet							
Apr. 7	Into soak @ 9Am. Apr 8 out soak into 40°F strat. Lab 7											
		Sample	(1)	8 days strat.								
~~Apr 15~~	~~7:20A~~		0			(66)		( )				
Apr 15	7:20A		0	out 40°F Into 68°F								(8)
17	7:20A		2				13	to 9mm left in dish				
18	7:20A		3				3	All left.				
21			6				1					
				Brown roots: Root tip injury, regeneration. Appears								
						Total	17					
30							3		End			
						Total	20					
		Sample	(2)	(14) days		(73)		( )				(14)
Apr. 21	7:30A		0		No germination. Many green mould. Eight tips							
30			9					27 All with root tip injury 20 would grow				
				(27)					End			
				73								
		Sample	3			(78)		( )				(23)
April 30	10Am		0	out 40° Into 68°F								
May 1	7:30A						5	Are 2mm to 5mm				
3	7:30A						11	Are 8mm to 13mm				
5	7:30A						6	4 with root tip injury.				
9							2					
		(57)				Total	24					
									End			

Experiment Nr Pt 1 minute Mar 21/75

Into 40° Start Mar 26

Date	Time of Day		Germ. time (Days)			DNt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
												Start
		Sample	1	Only			95					
			0			( )		( )				72
June 6	7:30A		0	at 40°F start into 60°F				15 to 60mm			3	
				No root hairs								
June 9	7:00 PM		3				?	47				
" 10	10 AM		4					4				
" 11	15+3 47 7:00 AM		5					5				
" 12	34 7:00 AM		6					0	Root hairs showing			
	98								short abundant			
" 13	7:00 AM		7					0	51 out would grow			
16	7:00 AM		8						2 " " "			
June 23	1PM	Sample				( )		(1	1) " " "			
			0					57				
												25 → from processing ?
	Mar 5		10 excised									
	Apr 30											
	May 31											
	June 6					Total		57				
	7r	18	June 26					9				
66		81						63			29	
		99										
45 630		Sample				( )		(	92			
			0									
570												
600		57										
		25										
		82										

67% germinated

End result.

These would grow. Many show signs of injury. Probably cleaning

These (most) damaged and killed by cleaning

End

Pt into liquid N_2 for 1hr 10mi

Experiment N_2

Date		Time of Day		Germ. time (Days)			DNt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
			Sample	4 / 0			(56)		( )				
May	8	7:15	AM		{ out 40°F strat			Into 68°F germ 50% tip					
								2 to 1½ mm					
	9	7:15	AM	1				13 to 9 mm					
	12			4				20 (21)		5? 20mm	3 root tips		
	13	7:15	AM					3					
"	20	7:30			17			39					
					39 / 56					End / 2			
			Sample	0			( )		( )				
			Sample	5 / 0			( )		( )				

Discarded new. Many root tip injury regeneration roots. But untreated strat seed about the same. See seed into strat April 16/75

Pt seed immersed in liquid nitrogen.

Carl Crisp Lab.
Manny M

Experiment N_2
Nevada, (Holland) 1974 seed

1975 Date	Time of Day		Germ. time (Days)			DNt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
Mar 21	10:20A		Seed into liquid N_2									
" 21	11:30A		" out " "									
		Sample	1 / 0			( )		( )				
Seed stored @ 40°F until Mar 26, then soaked												
Mar 27	9AM		Excised									
Mar 28	9AM		Slight sign growth							2	these two nonumble	
" 31						10mm	98	Very vig				
Apr 7	9AM					to 90mm	five 60mm	" " healthy				
		Sample	/ 0			( )		( )				
Note!			Sample of J. P Stokes seed same results as above (with 5 secs exposure)									
			Sample of Holland seed also same as above but all dead of fungi after 7 days growth five 40mm. May be market stock (with 5 secs exposure									
		Sample	5mi / 0			Start 40°F since about Mar 26/75 (85)			( )			
May 8	7:30					out 40°F into 68°F		60% tips				
							1	to 2½ mm				
9	7:30						17	to 12 mm				
17	7:30						22	to 25 mm			short tip	
						Total	40	to 30 mm				
			45 / 46 / 85					Most healthy A few root tip injury, fungus				
								End				

Experiment N_2 1hr 10 mis

Date	Time of Day		Germ. time (Days)			DNt	Germination Norm	Abnor.	Gdd	Dd	DT	No. of Days
Mar 21/75		Treated										
				Only								
		Sample	(1)									
July 1	8 Am		0	out of 40°F		(	86)	(	)			
			0				27	to 55mm	Avg	25mm		
" 9	noon		8				24					
							51					
	35											
	51											
	86											
		Sample	0			(	)	(	)			
		Sample	0			(	)	(	)			