Growth Tips

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Experiment Germination strat seed (tips) at temps 1971

Date	Time of day	Germ. time (days)	Tips No.	Tips Cum.	Tips %	Germination No.	Germination Cum.	Germination %	No. of days
Jan 7	8AM	50 seeds in Petri dishes into the temps. shown below (°F 68, 77, 86, 95, 104, 113)							
		Sample 68°F 20°C		(53)		( )			
Jan 8	1PM	0	These out		Normal	52			to 10mm Ave 5mm
			Lost		No growth	1			
Jan 9	8AM				Normal	53		100%	
					(End)			29hrs	
		Sample 77°F 25°C		(51)		(51)			
Jan 8	1PM	0	Out		Normal	44			to 11mm Ave 7mm
			Lost		Extruded	7			
9	8AM				Normal	44		86%	
					Stunted	6			
					No growth	1		29hrs	
10, 11	9AM		As for Jan 9						
					(End)				
		Root tips affected (meristem)							
		Sample 86°F 30°C		(50)		( )			
Jan 8	1PM	0	Out		Normal	17			to 8mm 4mm
			Lost		Extruded	31			to 2mm 16%
			Lost		No growth	2			
					Normal	17	17	17	34%
Jan 9	8AM				Stunted	14	17	16	
					Dead or dying	19	16	17	29hrs
Jan 10	9AM								
11	9AM								
		Probably these would grow normally at 68°F if now exposed.							
					(End)				

Did so 1/10/9AM

SEE → (over)

Tips

Experiment Germination (Tips) 1971

Date	Time of day	Germ. time (days)		No.	Tips Cum.	%		Germination No.	Cum.	%	No. of days
					35°C						
		Sample 95°F			(48)			( )			
Jan 8	1PM	0			Normal			0			
			Left		Extruded			1		1mm	
					No growth			47			
Jan 9	8AM				No growth			48			
			Several excised, Now all into 68°F germ								
10	9AM		Many excised curving								
						Excised (27)	Intact (21)				
						1/11					
	All left →			Normal		10		3			27%
				Stunted		17		18			See next page
				40°C No growth		0		0			
		Sample 104°F			(65)			( )			
① Jan 8	1PM	0		No growth in 27hrs, but dried out wetted, Some excised Into 68°F							
10	10AM		Excised Colored, stunted 1-5mm (Lethal)								
11	8AM		All dead (End) 0%								
② Jan 8	1:35PM		Into 1hr @ 40°C out 2:35P Into 68°F germ								
(52) 1/11 → 8 normal (out) 40 stunted but root regenerated 2 did not grow (End) 15%											
③ Jan 8	1:35PM		Into 2hrs @ 40°C out 3:35P Into 68° germ								
(52) Total 1/11 → 6 normal (out) 19 stunted but regen 8 no growth 19 stunted will die End 12%											
					45°C						
		Sample 113°F			(54)			( )			
Jan 8	1PM	0			No growth						0%
					Excised - All dead						
											Lethal
					(End)						

Continuation Tips

Experiment Germination 1971

Date	Time of day	Germ. time (days)	Tips No.	Tips Cum.	Tips %	Germination No.	Germination Cum.	Germination %	No. of days
			These excised after no growth			0% at 95°F			
Jan 8	11PM	Sample 95°F / 0	( )			( )			
" 13	9AM		Normal			11		33%	
			Stunted (will not grow)			17		52	
			No growth			5		15	
						33		99/1rs	
		(Final)				(End)			
		Sample / 0	( )			( )			
		Sample / 0	( )			( )			