

Aeration - O_2

Exp. N. Febr. 17 1945

Continuous supply of O_2 necessary for growth of stratified seed whose radicle has not punctured the nucellar layer. Such seed immersed in water will not germinate. Seed whose radicle has broken the nucellar layer will germinate for a period when covered with water. O_2 sufficient for growth apparently not stored in cells during stratification.

Feb 12 1945
A. Hormay.

EXP (N) Effect aeration on ger. strat seed
Strat 46°F

Treatments

- A 1. Check (germinate moist)
- B 2. Germinate immersed 1/4" in water
Seeds with roots 1/8" long
- C " " " not growing
- D 3. Germinate immersed 1/4" in aerated water

Germinate at 45°F, 61°F and 80°F uniform temp.

Date	Temp	Check				Notes
		A	B	C	D	
		1/4" not aerated		1/4" aerated		
		A	B	C	D	
		not growing	root 1/8" long	root 1/8" long		
		41				Second Check
		(45)				(41) 37V
Feb 12	0	started	started	started	started	Started.
Feb 13	3PM 1					37 100%
Feb 14	9AM 2					
Feb 17	10AM 5	42 1/2"	No growth	3/16"	1/4"	
Feb 26	14	93%	" "	" "	" "	end (Water poured off kept @ 76°F in lab.)
Mar 9	25	100% ger	5% ger	30% ger	30% ger	
			2 after			
		(50)				
Feb 12	0	"	"	"	"	
Feb 17	5	50 3/4"	No growth	3/16"	1/4"	
Feb 21	9	100%	" "	" "	" "	
March 9	25		10% ger	90% ger	90% ger	
		(61)				
Feb 12	0	"	"	"	"	
Feb 17	5	44 3/4"	No growth	1/8" long dead	3/16" long dead	
		67%				

Fully strat seed will not germinate if immersed in water or necessary or gas exchange necessary to complete ger. That is get roots to break thru nucellus. Or apparently not stored in seed during strat.

(end)