Journal log book

OLIPHANT SCIENCE AWARDS 2020

The effect of nuclear radiation on plant growth.

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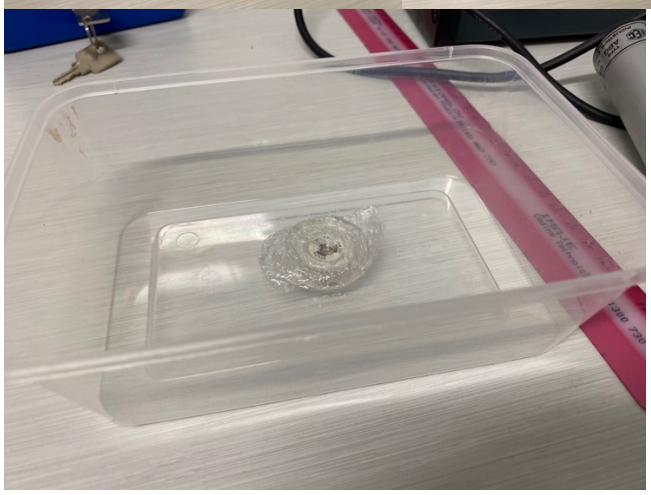
Date	Day of growth	Photo and comment
2/4/20	NA	Radish seeds were purchased.
8/5/20	0	Radiation levels from each disk were checked Plants were planted into containers. Radiation levels at the surface of the soil are checked   

		
11/5	1	No growth
12/5	2	No growth
13/5	3	No growth
14/5	4	No growth
15/5	5	First signs of grown The height of some plants was larger than I thought it would be for the first day 

		 	
16/5	6		
17/5	7		

18/5	8	
19/5	9	
20/5	10	

21/5	11		
22/5	12		
23/5	13	 New plant growth – position 3 alpha	

24/5	14	
25/5	15	Plants starting to wilt 
26/5	16	

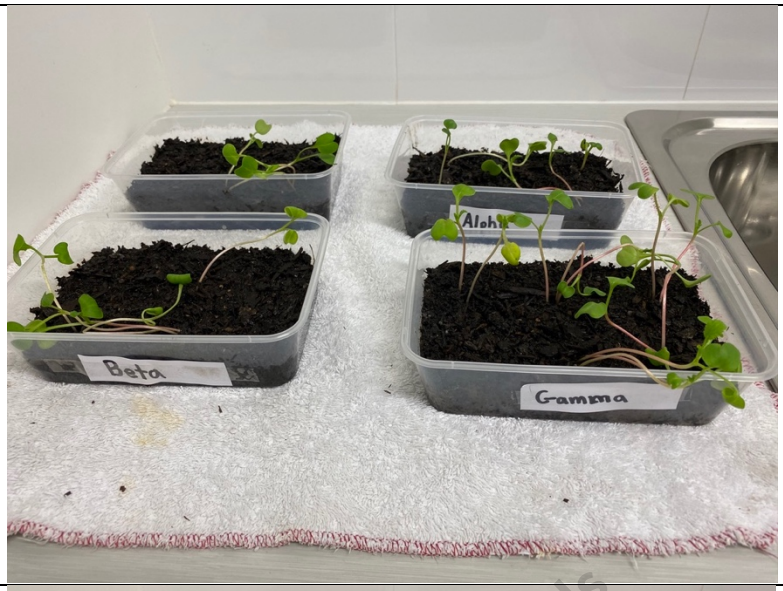
27/5	17		
28/5	18		
29/5	19		

30/5	20	 Lots of plants wilting – hard to measure height
31/5	21	
1/6/20	22	

2/6	23	
3/6	24	 New plant growth – position 3 alpha

4/6	25	
5/6	26	
6/6	27	

7/6	28	
8/6	29	
9/6	30	

10/6	31		
11/6	32		Yellow leaves starting to appear
12/6	33		

13/6	34	
14/6	35	
15/6	36	

16/6	37		
17/6	38		
18/6	39		

19/6	40	 The difference in growth is very small so I decided to take measurements every 3 days from 39 days as 39 days was one of the measurements that was graphed.
21/6	42	

24/6	45	
28/6	48	
30/6	51	

3/7	54	
6/7	57	 8 weeks growth – new growth not detected for - plants have reached maturity

Data collected

Table 1

Radiation type	Plant number 1	Day and date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
			11/05/2	12/05/2	13/05/2	14/05/2	15/05/2	16/05/2	17/05/2	18/05/2	19/05/2	20/05/2	21/05/2	22/05/2	23/05/2	24/05/2	25/05/2	26/05/2	27/05/2	28/05/2	29/05/2	30/05/2	31/05/2	01/06/2	02/06/2	03/06/2	04/06/2
	1						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
None	3						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	5						1.1	1.8	2.6	4.5	4.8	5.0	5.0	5.8	6.0	6.3	6.4	6.7	6.9	7.0	7.2	7.4	7.4	7.5	7.7	8.0	8.2
	6						1.4	1.8	3.0	5.0	5.5	5.7	6.0	6.5	7.0	7.2	7.2	7.2	7.2	7.3	7.3	7.4	7.5	7.8	8.2	8.2	8.3
	AVERAGE				0			1.8			5.2			6.2			6.8			7.2			7.5			8.1	
	1						0.1	0.2	1.8	4.0	6.0	6.4	6.6	6.8	7.0	7.1	7.2	7.2	7.3	7.3	7.3	7.4	7.5	7.6	7.8	8.1	8.3
	2						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Alpha	3						X	X	X	X	X	X	X	X	0.4 new plant	0.7	1.0	1.0	1.5	1.8	2.0	2.0	2.0	2.1	2.3	2.4	2.5
	4						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.2 new plant	0.4
	5						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	6						1.4	1.9	3.0	3.8	4.0	4.8	5.1	5.3	5.4	5.8	6.0	6.1	6.2	6.3	6.3	6.4	6.5	6.6	6.8	7.2	7.4
	AVERAGE				0			0.6			5.0			6.1			4.7			5.1			5.3			4.5	
	1						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	2						1.2	1.8	4.2	5.0	6.0	6.1	6.3	6.8	7.0	7.1	7.2	7.3	7.3	7.3	7.3	7.4	7.5	7.6	8.0	8.5	8.6
Beta	3						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4						0.8	1.8	3.3	4.2	4.8	5.0	5.2	5.4	5.6	6.0	6.1	6.4	6.6	6.8	7.0	7.2	7.3	7.4	7.8	8.2	8.3
	5						0.9	2.1	3.1	4.0	5.2	5.5	6.4	6.5	6.7	7.2	7.4	7.5	7.6	7.7	7.9	8.1	8.2	8.4	8.6	9.0	9.1
	6						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	AVERAGE				0			1.9			5.3			6.2			6.9			7.3			7.7			8.6	
	1						1.0	1.7	2.0	4.0	5.5	5.9	5.9	6.1	6.1	6.1	6.1	6.1	6.2	6.4	6.6	6.6	6.8	7.0	7.0	7.1	7.1
	2						1.1	2.8	4.0	4.5	5.0	6.0	6.3	6.3	6.4	6.7	6.9	7.0	7.1	7.1	7.2	7.2	7.2	7.3	7.4	7.5	7.7
Gamma	3						1.1	2.8	3.0	4.0	4.6	4.9	5.0	5.2	5.3	5.3	5.5	5.6	5.7	6.0	6.2	6.4	6.5	6.6	6.8	7.0	7.2
	4						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	5						1.2	3.0	4.0	5.0	5.0	5.6	6,0	6.1	6.1	6.1	6.2	6.3	6.4	6.4	6.5	6.7	6.9	7.0	7.1	7.2	7.3
	6						0.9	1.5	3.0	4.5	5.0	5.2	5.8	6.5	6.6	6.6	6.9	6.9	7.0	7.1	7.1	7.2	7.3	7.4	7.5	7.6	7.7
	AVERAGE				0			2.4			5.0			6.0			6.3			6.6			7.1			7.3	

Radiation type	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	42	45	48	51	54	57
	05/06/2	06/06/2	07/06/2	08/06/2	09/06/2	10/06/2	11/06/2	12/06/2	13/06/2	14/06/2	15/06/2	16/06/2	17/06/2	18/06/2	19/06/2	21/6	24/6	27/6	30/6	3/7	6/7
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
None	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	8.3	8.4	8.4	8.5	8.5	8.6	8.6	8.7	8.7	8.8	8.8	8.9	9.0	9.1	9.2	9.2	9.2	9.3	9.3	9.4	9.4
	8.3	8.3	8.4	8.5	8.5	8.5	8.6	8.6	8.7	8.7	8.8	8.8	8.8	8.9	8.9	9.0	9.0	9.0	9.1	9.2	9.2
		8.4			8.5			8.7			8.8			9.0		9.1	9.1	9.2	9.2	9.3	9.3
	8.4	8.6	8.9	9.2	9.3	9.4	9.5	9.5	9.6	9.6	9.7	9.8	9.8	9.8	10	10	10	10.1	10.1	10.2	10.2
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Alpha	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.4	3.4
	1.4	3.0	4.0	4.5	5.0	5.5	5.8	6.0	6.2	6.3	6.6	6.8	7.0	7.2	7.4	7.4	7.4	7.4	7.4	7.5	7.5
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7.5	7.6	7.7	7.7	7.8	7.8	7.9	7.9	8.0	8.0	8.1	8.1	8.2	8.3	8.3	8.3	8.3	8.4	8.4	8.4	8.4
		5.5			6.2			6.6			6.9			7.1		7.2	7.2	7.3	7.3	7.4	7.4
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	8.7	8.9	9.0	9.0	9.1	9.2	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.8	9.9	9.9	9.9	9.9	10	10.2	10.2
Beta	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	8.4	8.5	8.6	8.7	8.8	8.8	8.9	9.0	9.0	9.1	9.1	9.1	9.2	9.2	9.2	9.3	9.4	9.4	9.6	9.6	9.6
	9.2	9.5	9.8	9.9	9.9	10.0	10.0	10.1	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.4	10.5	10.5	10.6	10.7	10.7
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		9.0			9.3			9.5			9.6			9.8		9.9	10	10	10.1	10.2	10.2
	7.1	7.2	7.3	7.4	7.4	7.4	7.4	7.5	7.5	7.5	7.6	7.6	7.7	7.7	7.7	7.8	7.9	8.0	8.1	8.2	8.2
	7.7	7.8	7.9	8.0	8.1	8.2	8.2	8.3	8.4	8.5	8.6	8.6	8.7	8.8	8.8	8.9	9.0	9.1	9.2	9.3	9.3
Gamma	7.3	7.4	7.5	7.6	7.6	7.6	7.7	7.7	7.7	7.7	7.7	7.8	7.8	7.8	7.8	8.1	8.2	8.3	8.4	8.5	8.5
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7.4	7.4	7.5	7.6	7.7	7.8	7.8	7.9	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	9.0	9.1	9.2	9.3	9.3
	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.6	8.7	8.8	8.9	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.5
		7.5			7.8			8.0			8.2			8.4		8.6	8.7	8.8	8.9	9	9

FINISHED