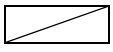
APPENDIX TO THE "**EFFECT OF K_2SO_4 ON THE GERMINATION AND POST-GERMINATION GROWTH OF COMMON DOMESTICATED SUNFLOWER (*Helianthus annuus*)"** BIOLOGY HIGHER LEVEL INTERNAL ASSESSMENT

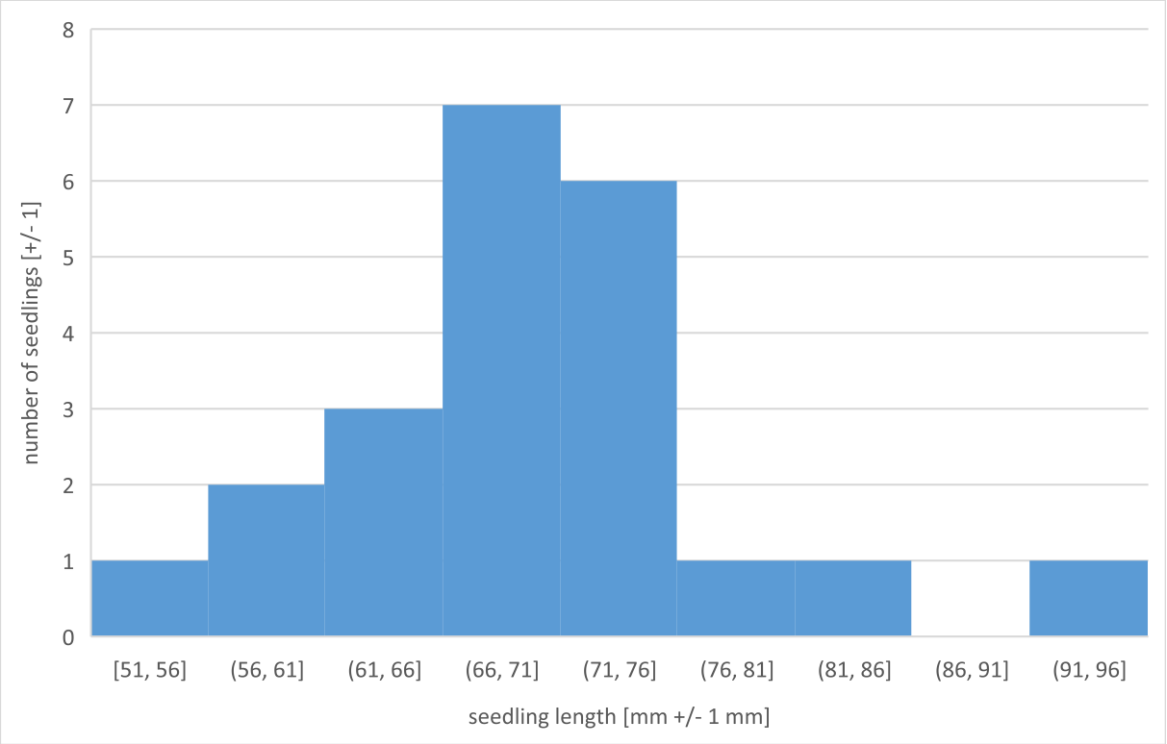
Table 1. Seedling lengths [mm $\pm$ 1 mm] of all Evening sun seedlings for different concentrations of K_2SO_4 used.

concentration of K_2SO_4 [mM +/- 0.02 mM]	**0**	**5.00**	**10.00**	**15.00**	**20.00**	**25.00**	**30.00**
Seedling length [mm $\pm$ 1 mm]	51	55	74	89	79	68	41
	57	64	83	97	85	77	46
	61	68	86	99	89	78	46
	65	70	89	103	94	78	47
	66	70	90	110	96	83	50
	66	72	91	114	96	84	53
	67	73	91	115	98	85	53
	68	73	92	116	100	86	53
	68	73	92	116	100	86	54
	70	74	93	116	101	87	56
	70	74	93	117	101	88	57
	70	74	93	117	102	91	58
	70	74	94	118	103	91	58
	72	75	94	119	103	92	61
	74	75	95	119	106	93	63
	74	76	95	120	106	94	63
	74	76	95	121	109	95	63
	76	77	95	123	110	95	64
	76	77	96	123	112	96	65
	80	78	97	124	113	100	68
	82	78	97	125	116		71
	93	80	101	125			
		82	103	127			
		95	113	129			
		99	115				

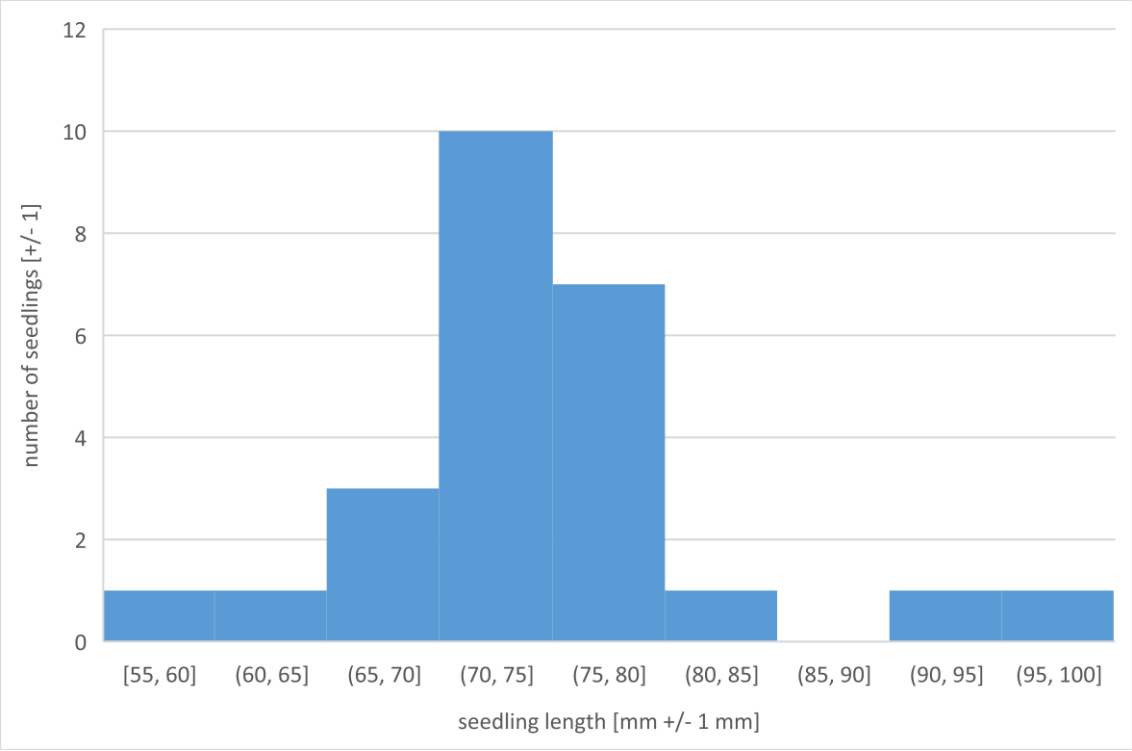
The cell crossed out:  indicates that there was a seed in a plastic bag with these conditions, but that it did not germinate.

All the histograms for natural distribution were created using Microsoft Excel.

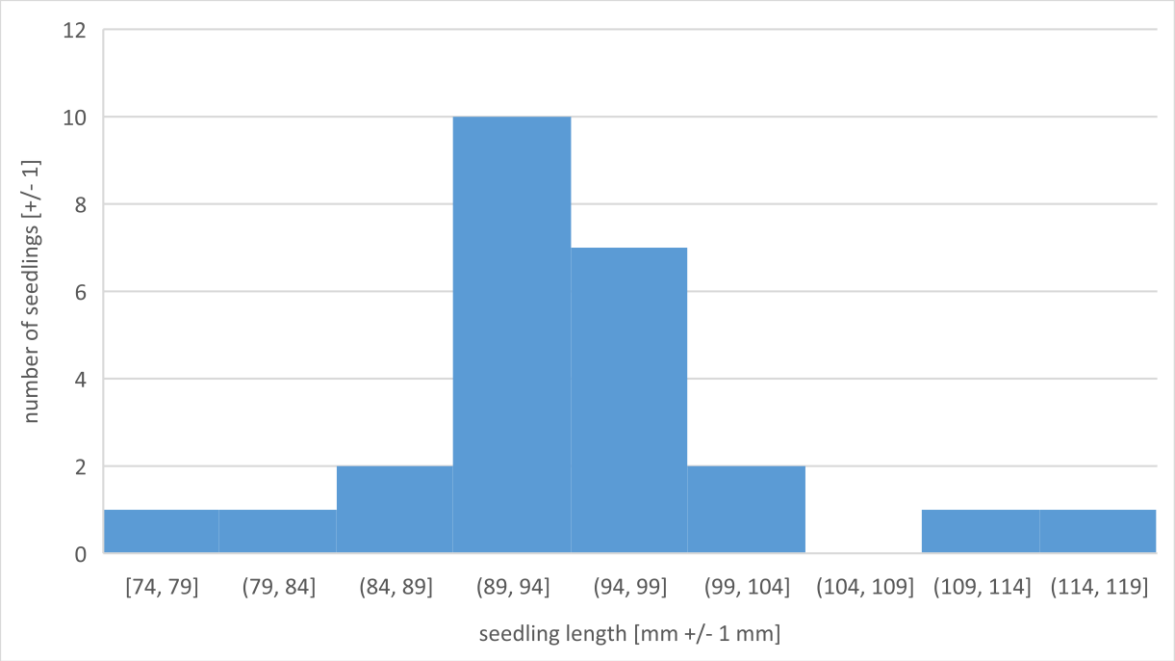
Graph 1. Number of Evening sun seedlings, growing in distilled water, with a certain seedling length.



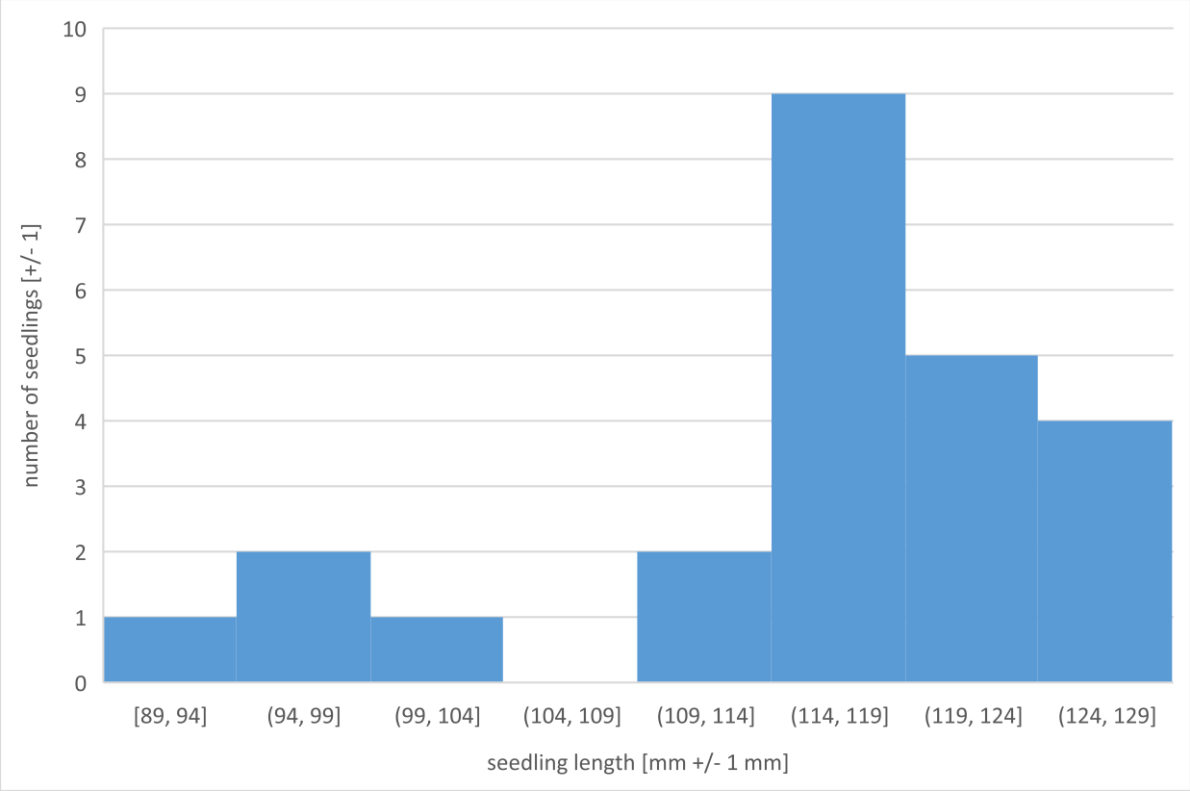
Graph 2. Number of Evening sun seedlings, growing at 5.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



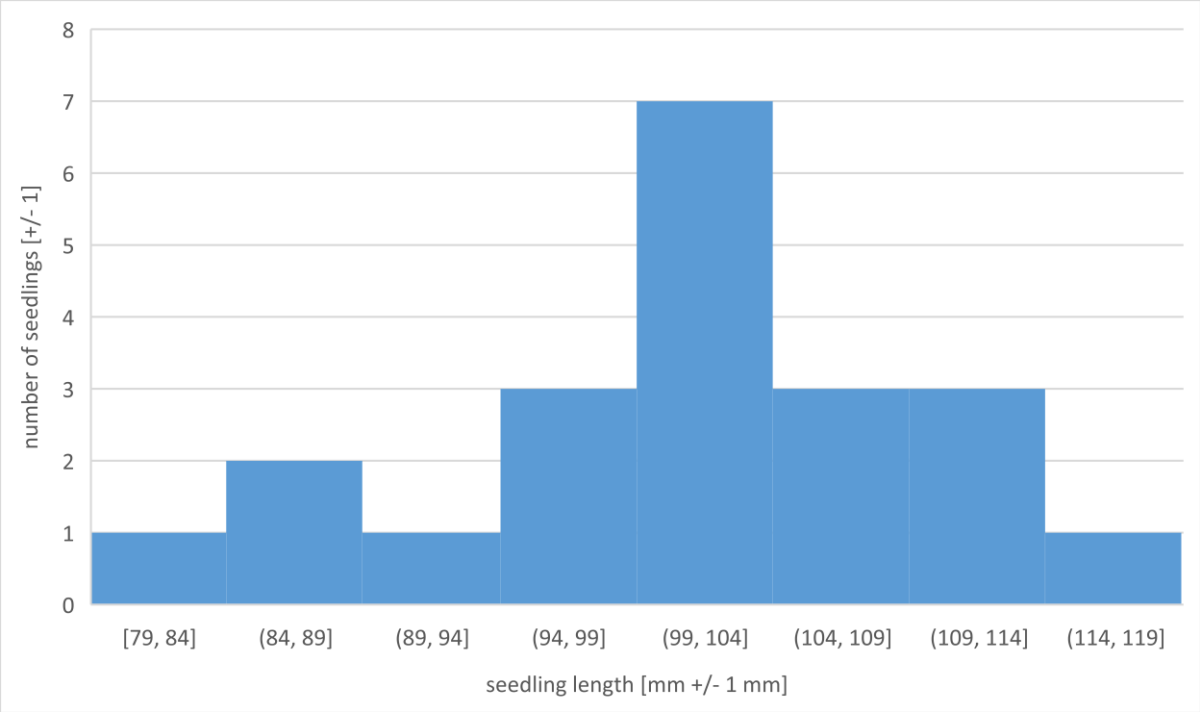
Graph 3. Number of Evening sun seedlings, growing at 10.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



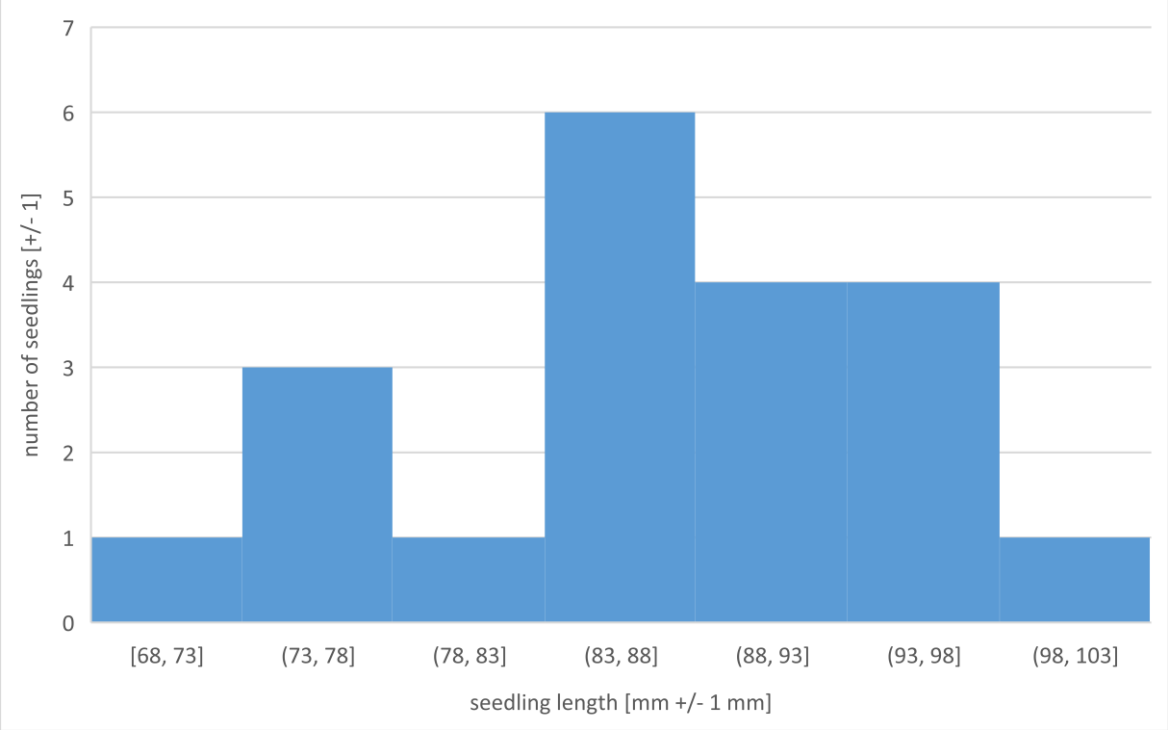
Graph 4. Number of Evening sun seedlings, growing at 15.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



Graph 5. Number of Evening sun seedlings, growing at 20.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



Graph 6. Number of Evening sun seedlings, growing at 25.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



Graph 7. Number of Evening sun seedlings, growing at 30.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.

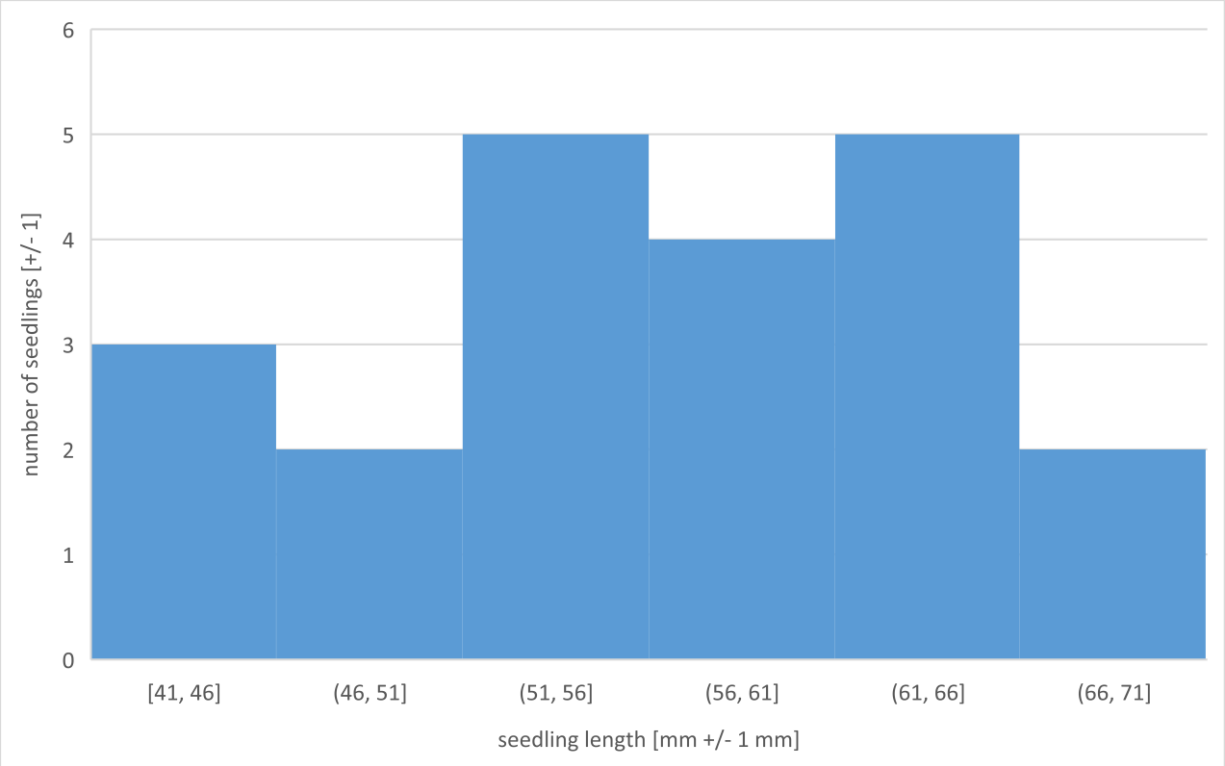
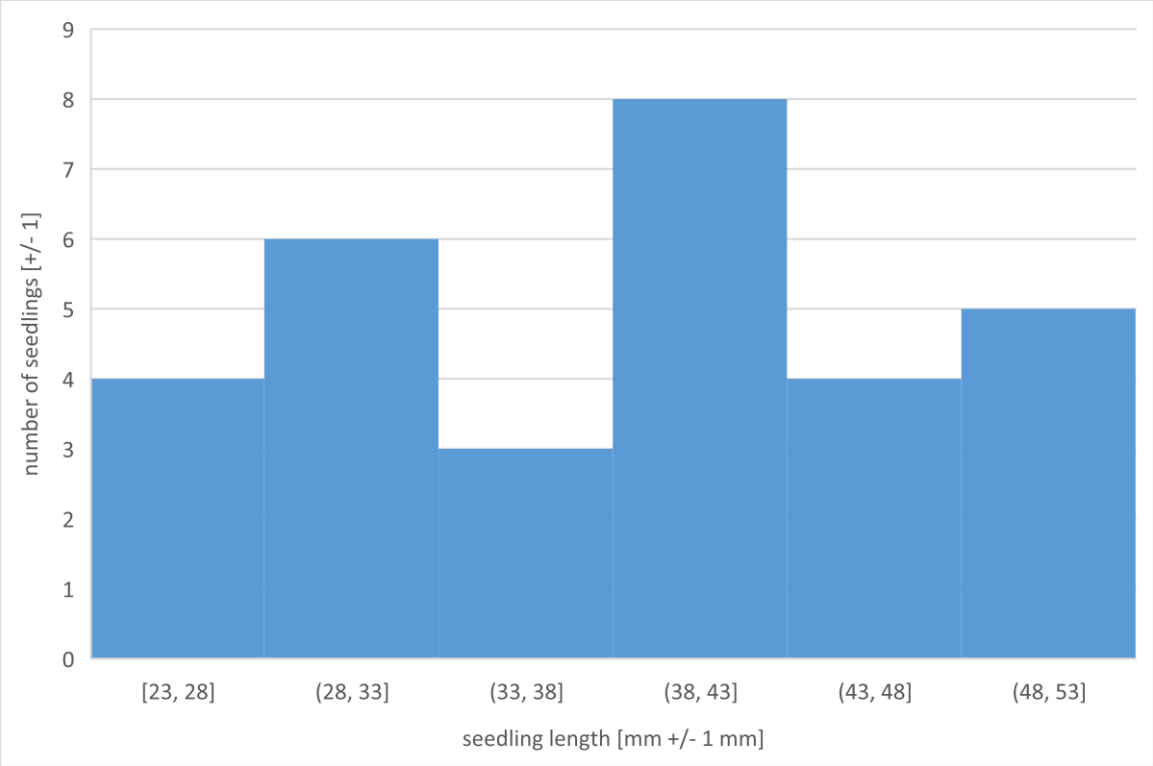


Table 2. Seedling lengths [mm ± 1 mm] of all Sunspot seedlings for different concentrations of K_2SO_4 used.

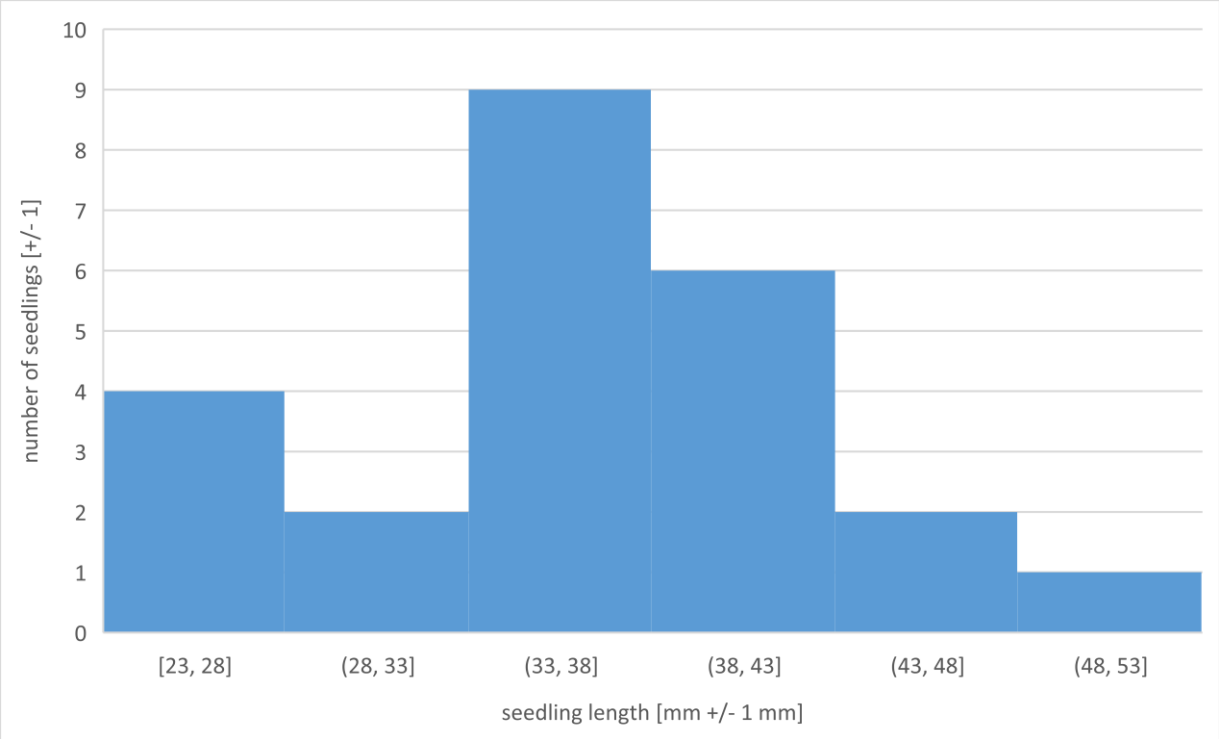
concentration of K_2SO_4 [mM +/- 0.02 mM]	**0**	**5.00**	**10.00**	**15.00**	**20.00**	**25.00**	**30.00**
Seedling length [mm ± 1 mm]	23	23	29	41	26	8	4
	23	23	35	43	34	24	13
	24	26	37	43	40	27	19
	25	26	37	44	40	28	20
	29	32	39	46	40	31	20
	30	32	39	48	42	32	21
	30	34	40	49	44	33	22
	30	34	40	49	44	33	22
	32	35	41	52	45	34	25
	33	36	42	53	46	35	25
	35	36	42	53	47	35	26
	38	36	43	55	47	36	27
	38	36	43	55	48	36	28
	39	37	44	56	48	38	28
	39	38	45	56	49	39	28
	40	41	45	57	53	39	29
	40	42	46	59	53	40	29
	41	42	46	62	54	42	31
	42	43	46	62	55	42	32
	43	43	47	63	56	43	33
	43	43	49	64	58	45	35
	44	45	49	66	59	47	36
	45	46	51	66	64	48	
	45	50	50	68	64	50	
	47		53	68		53	
	49		53	70			
	51		54	70			
	51		65	71			
	52						
	53						

The cell crossed out indicates that there was a seed in a plastic bag with these conditions, but that it did not germinate.

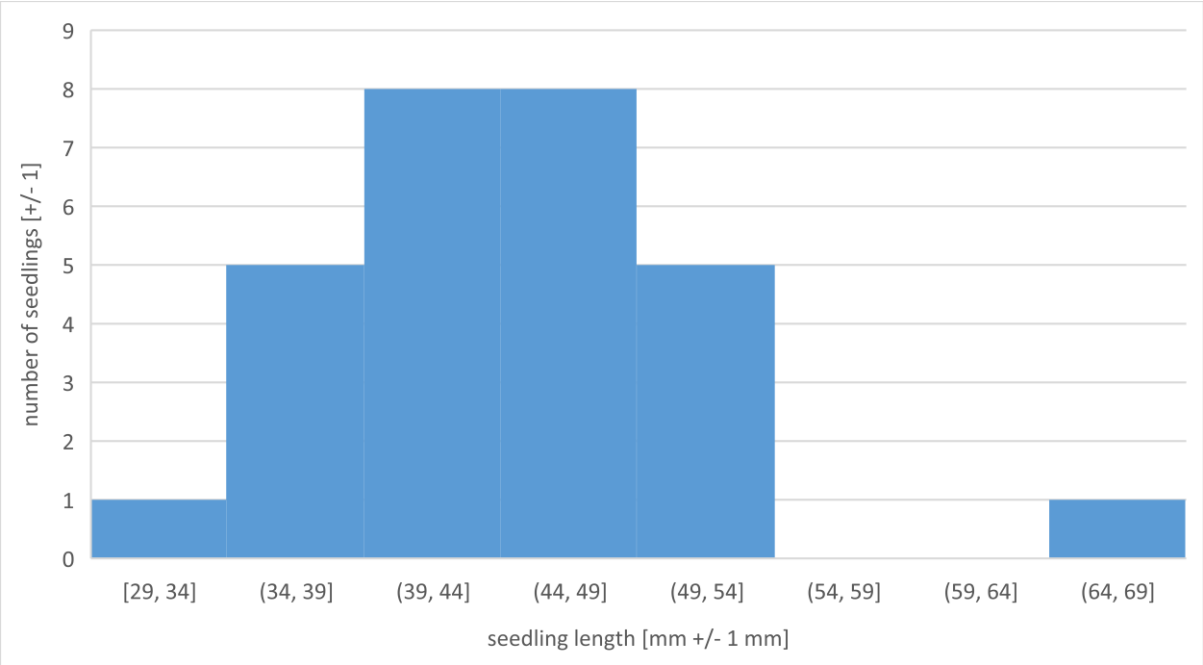
Graph 8. Number of Sunspot seedlings, growing in distilled water, with a certain seedling length.



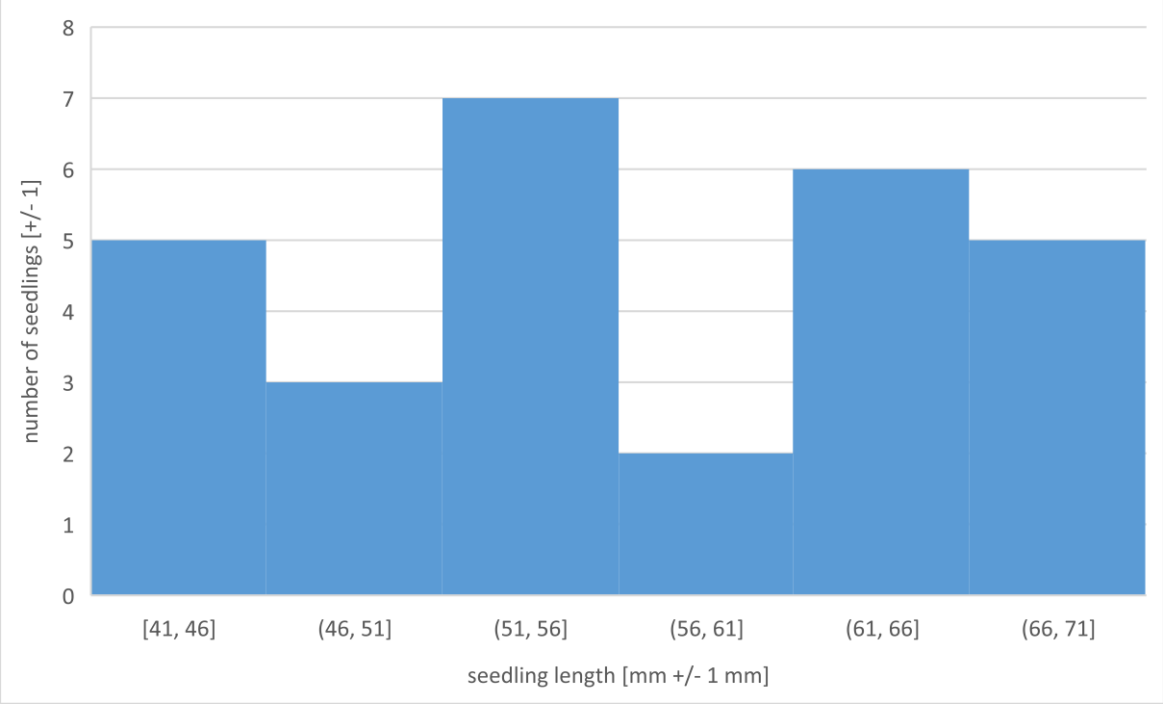
Graph 9. Number of Sunspot seedlings, growing at 5.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



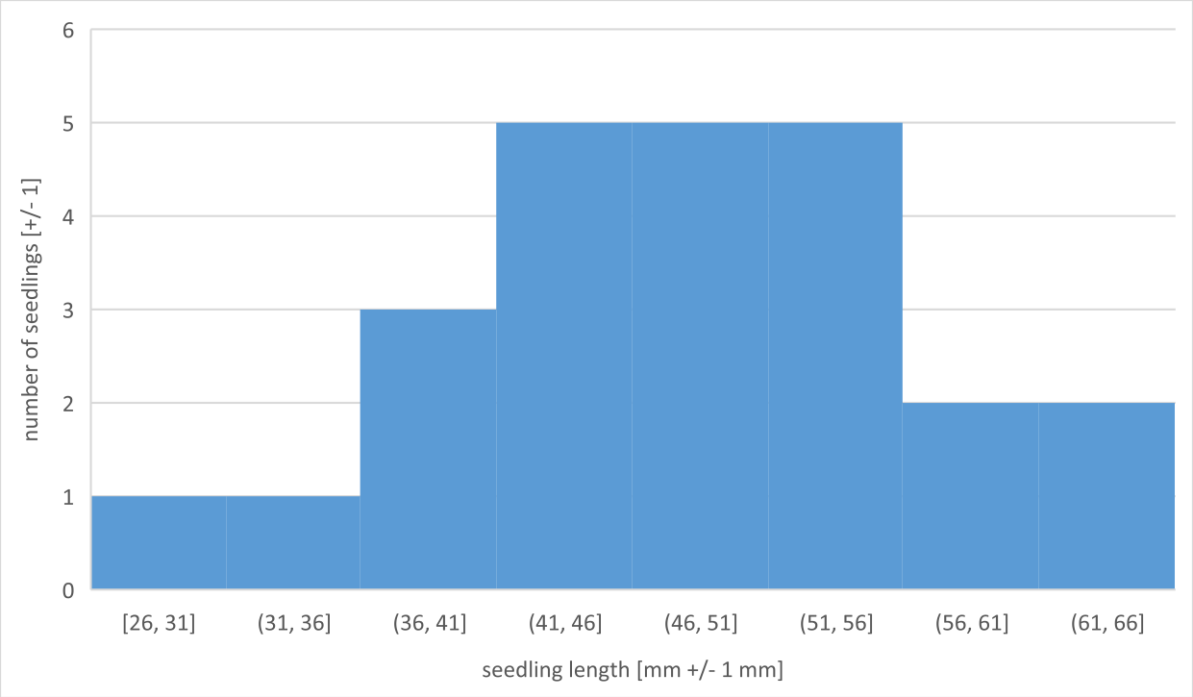
Graph 10. Number of Sunspot seedlings, growing at 10.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



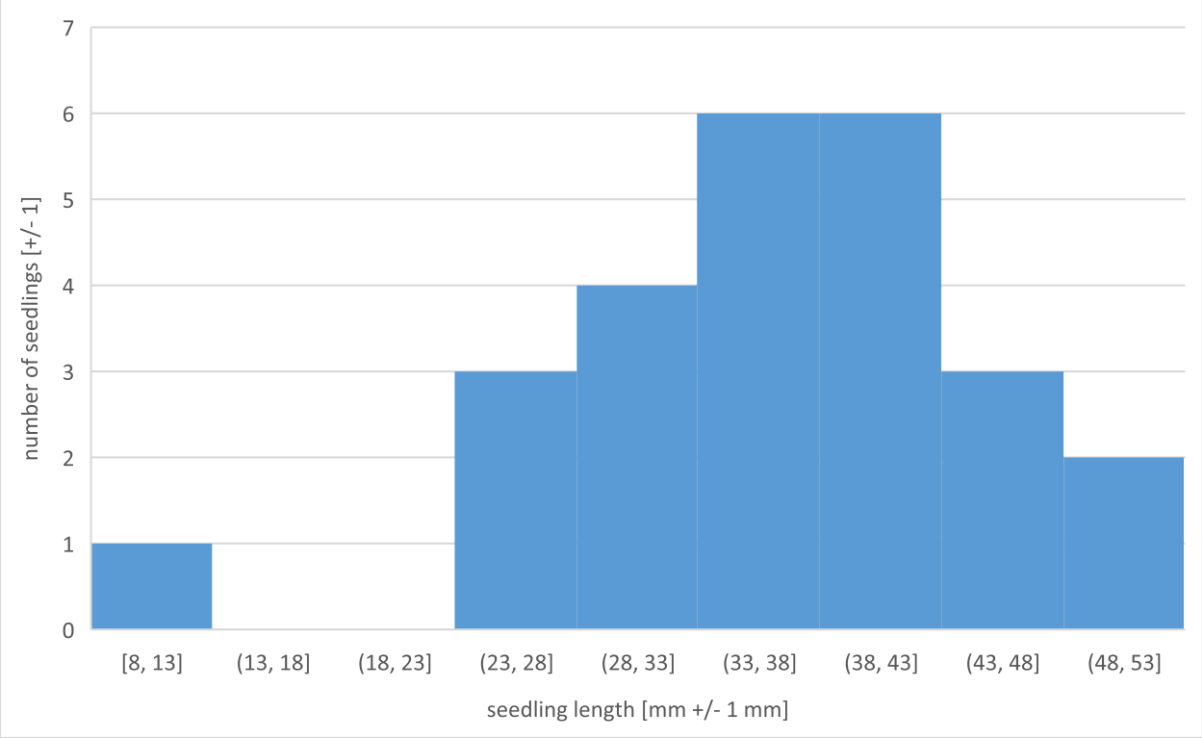
Graph 11. Number of Sunspot seedlings, growing at 15.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



Graph 12. Number of Sunspot seedlings, growing at 20.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



Graph 13. Number of Sunspot seedlings, growing at 25.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.



Graph 14. Number of Sunspot seedlings, growing at 30.00 mM (+/- 0.02 mM) K_2SO_4, with a certain seedling length.

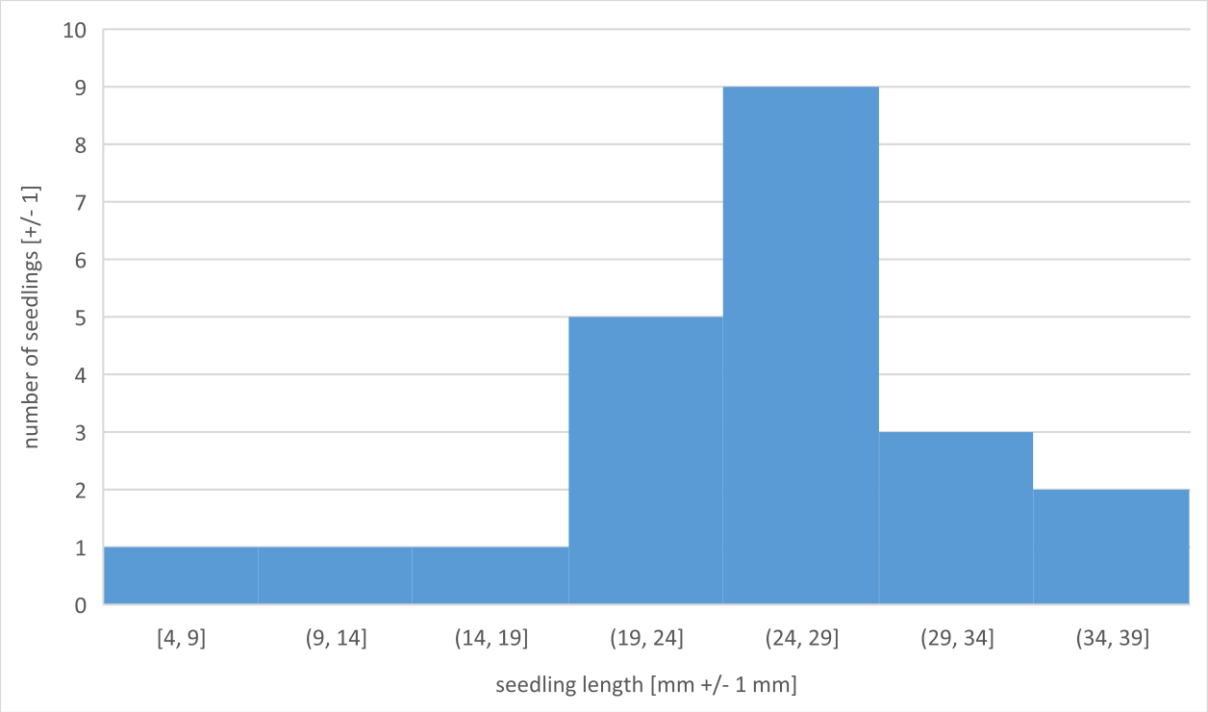
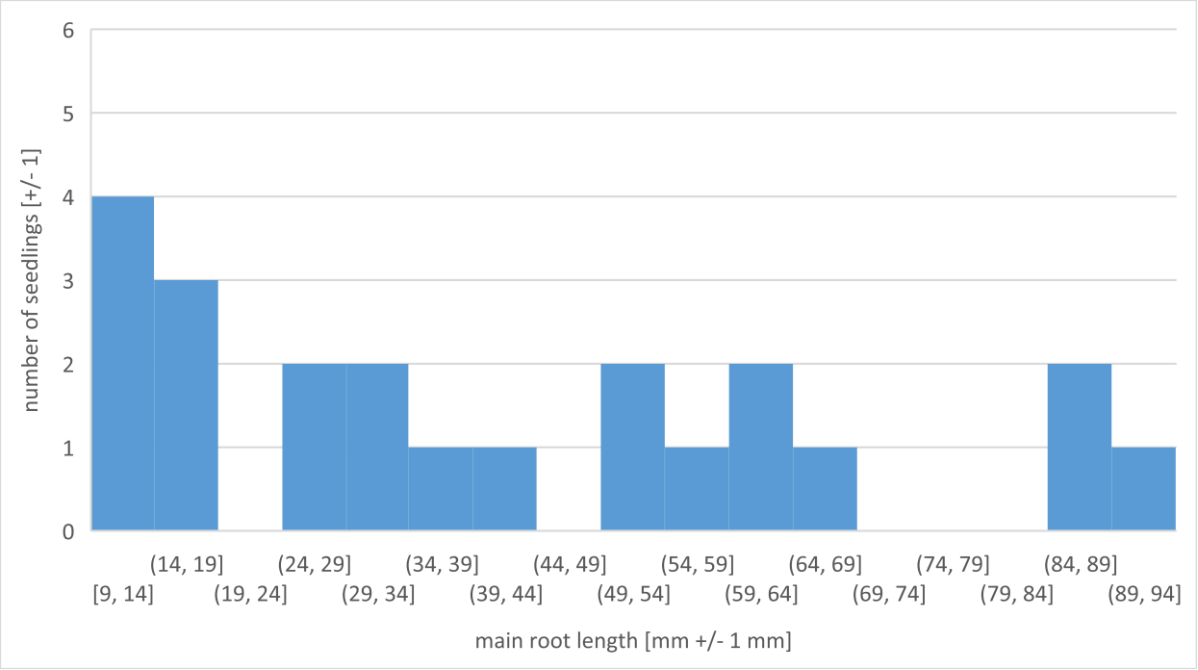


Table 3. Main root lengths [mm ± 1 mm] of all Evening sun seedlings for different concentrations of K_2SO_4 used.

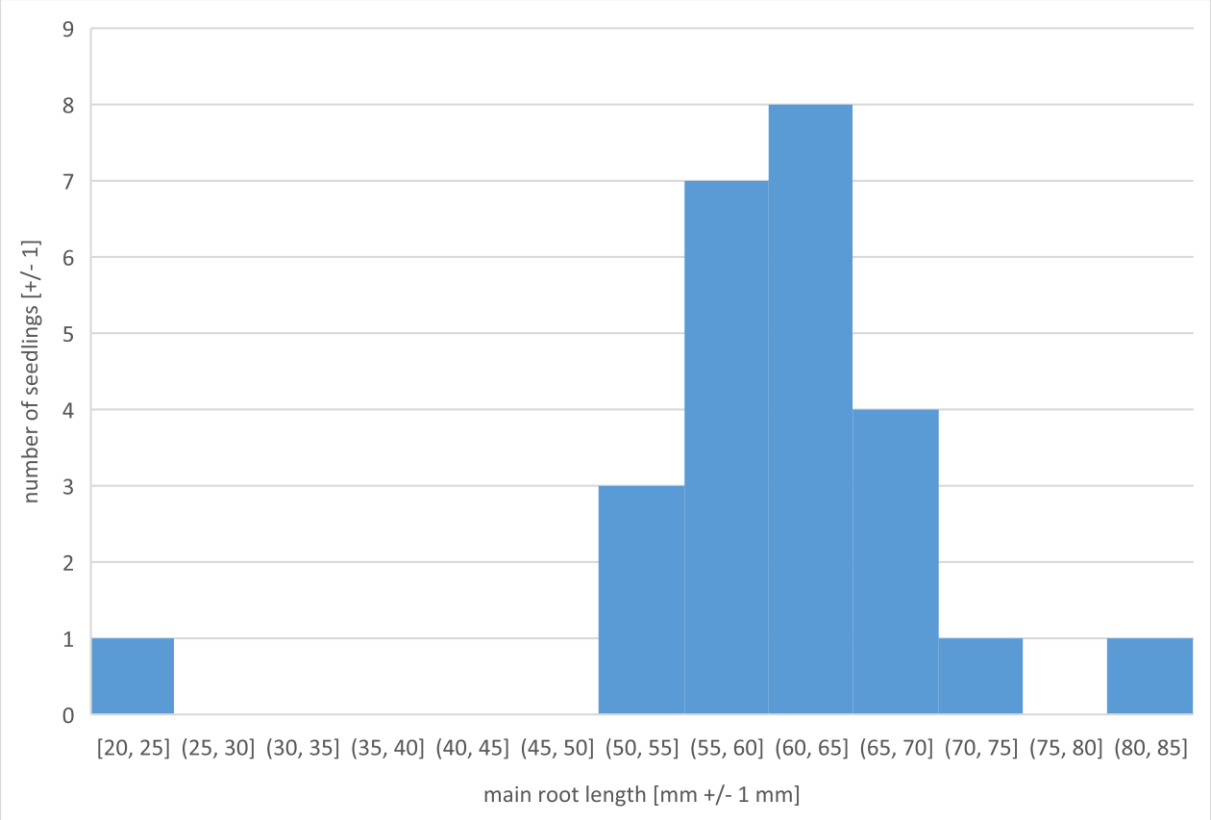
concentration of K_2SO_4 [mM +/- 0.02 mM]	**0**	**5.00**	**10.00**	**15.00**	**20.00**	**25.00**	**30.00**
Main root length [mm ± 1 mm]	9	20	35	19	12	17	8
	9	51	35	25	26	17	14
	10	53	35	28	26	22	15
	11	55	36	34	28	25	16
	16	58	38	34	29	30	16
	16	58	41	36	30	30	16
	18	58	42	37	30	31	17
	25	59	42	37	30	31	18
	27	59	43	39	31	32	18
	32	60	44	39	32	32	19
	33	60	44	40	34	33	20
	39	61	44	42	35	33	20
	42	64	45	42	35	34	21
	50	64	45	42	37	36	21
	53	64	46	42	37	39	22
	56	64	47	43	37	41	22
	63	65	47	45	38	41	24
	63	66	49	49	41	42	24
	69	66	49	49	44	46	27
	87	67	50	50	50	49	28
	89	68	50	50	102		29
	90	75	52	52			
		84	53	61			
		61	55	67			
		62	59				

The cell that is crossed indicates that there was a seed in a plastic bag with these conditions, but that it did not germinate.

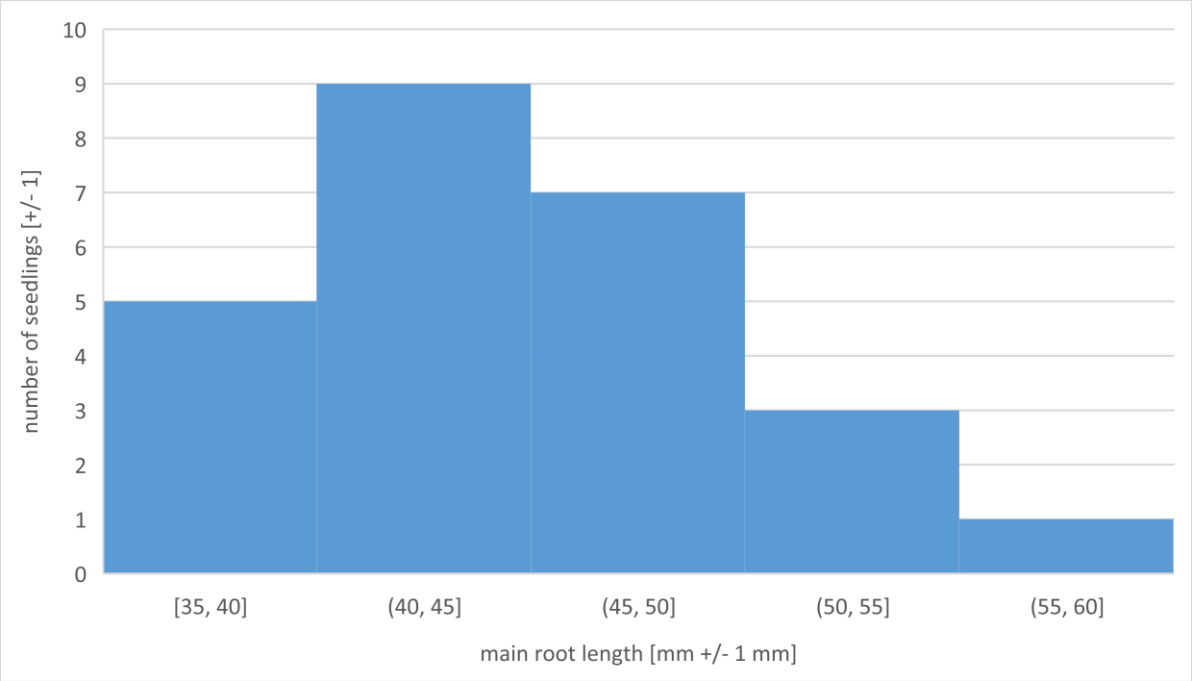
Graph 15. Number of Evening sun seedlings, growing in distilled water, with a certain main root length.



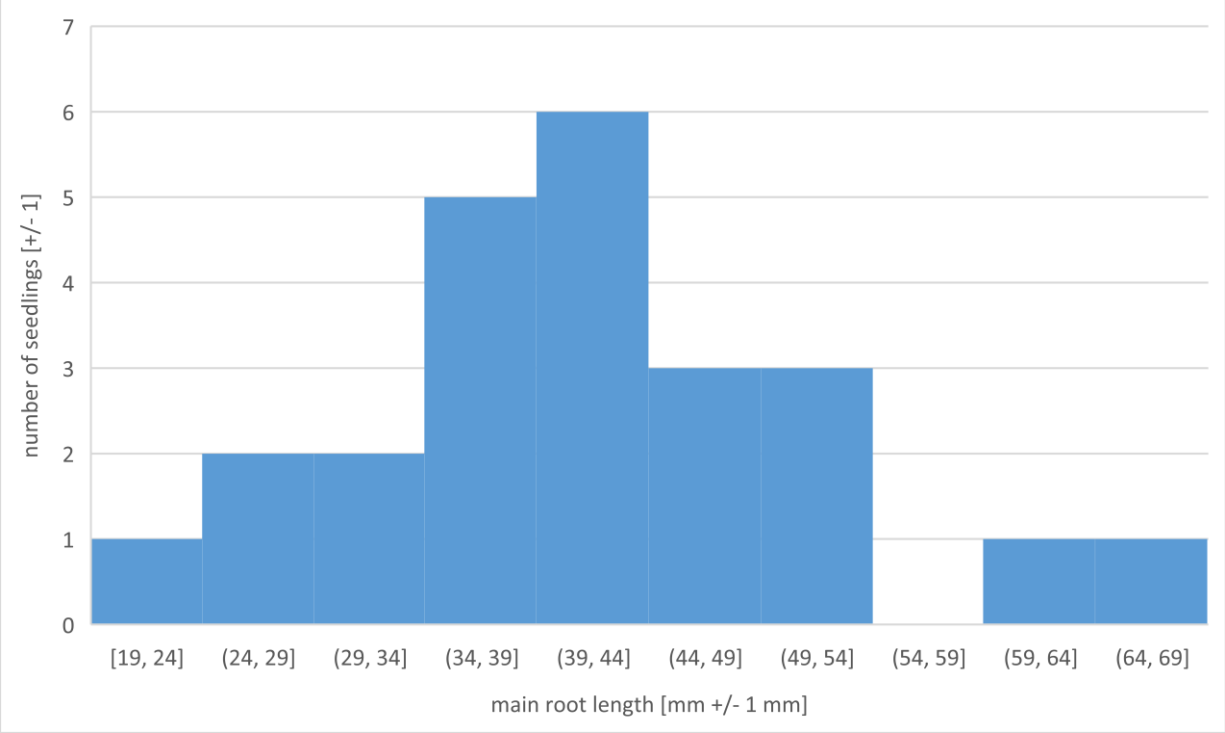
Graph 16. Number of Evening sun seedlings, growing at 5.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



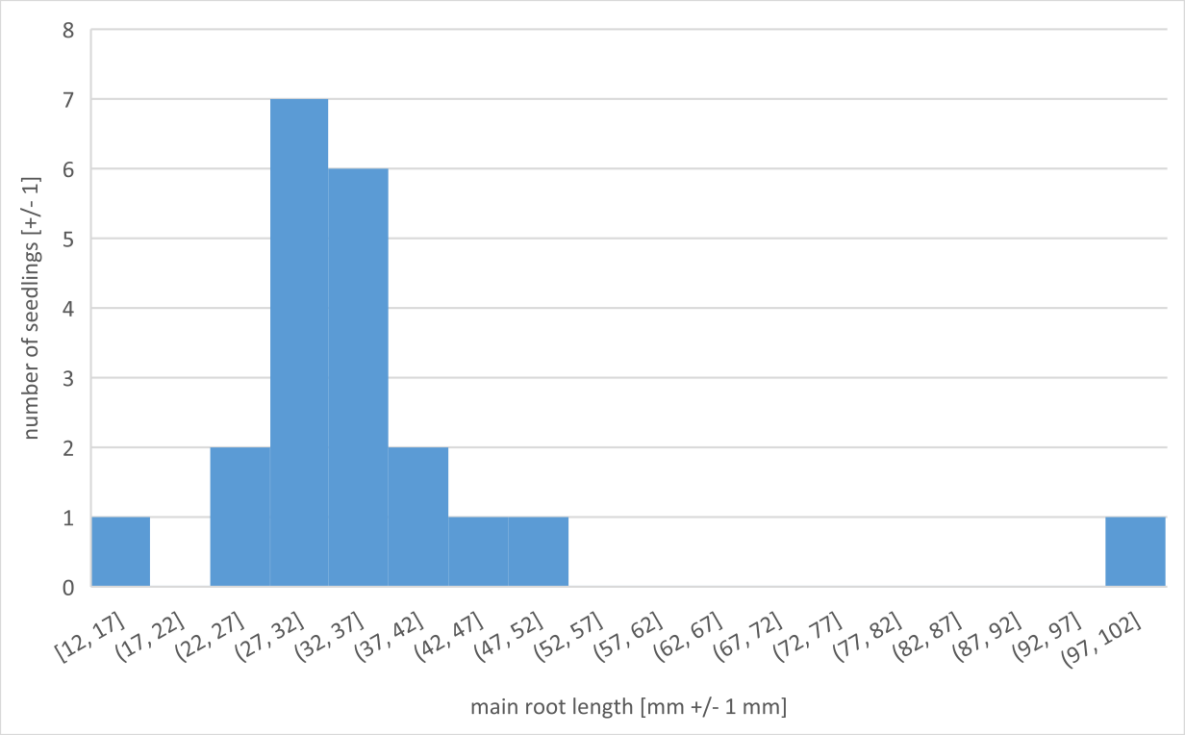
Graph 17. Number of Evening sun seedlings, growing at 10.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



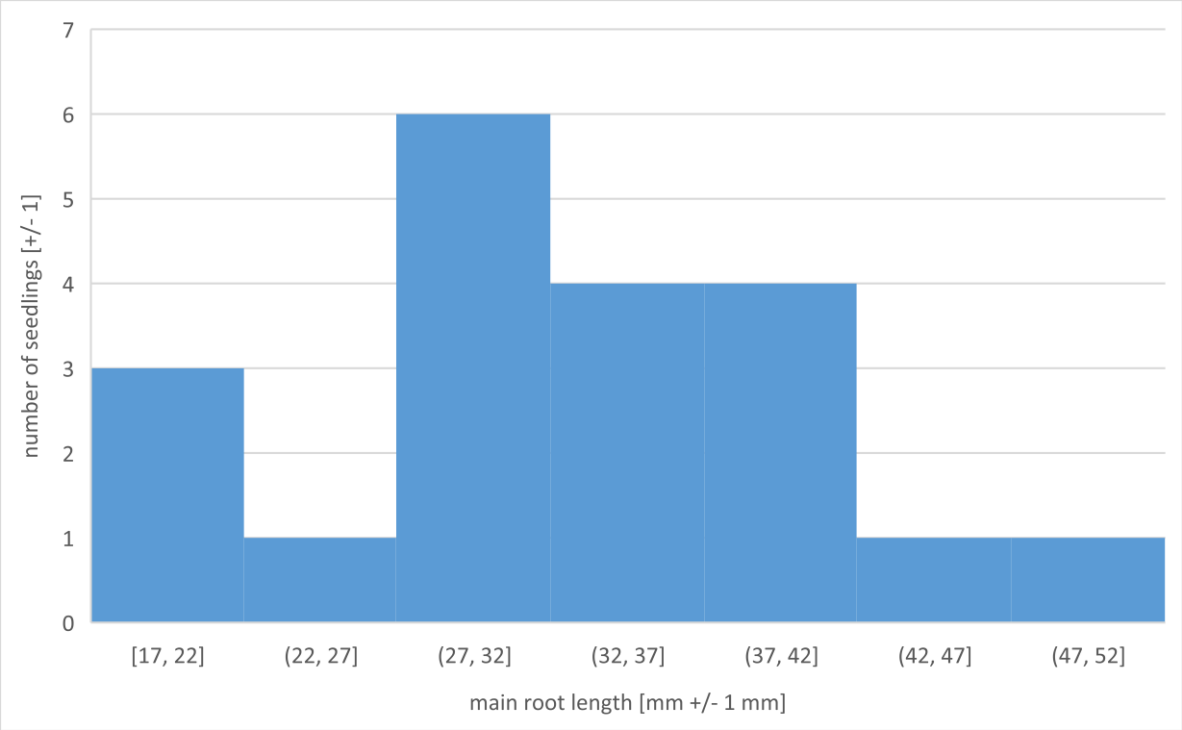
Graph 18. Number of Evening sun seedlings, growing at 15.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



Graph 19. Number of Evening sun seedlings, growing at 20.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



Graph 20. Number of Evening sun seedlings, growing at 25.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



Graph 21. Number of Evening sun seedlings, growing at 30.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.

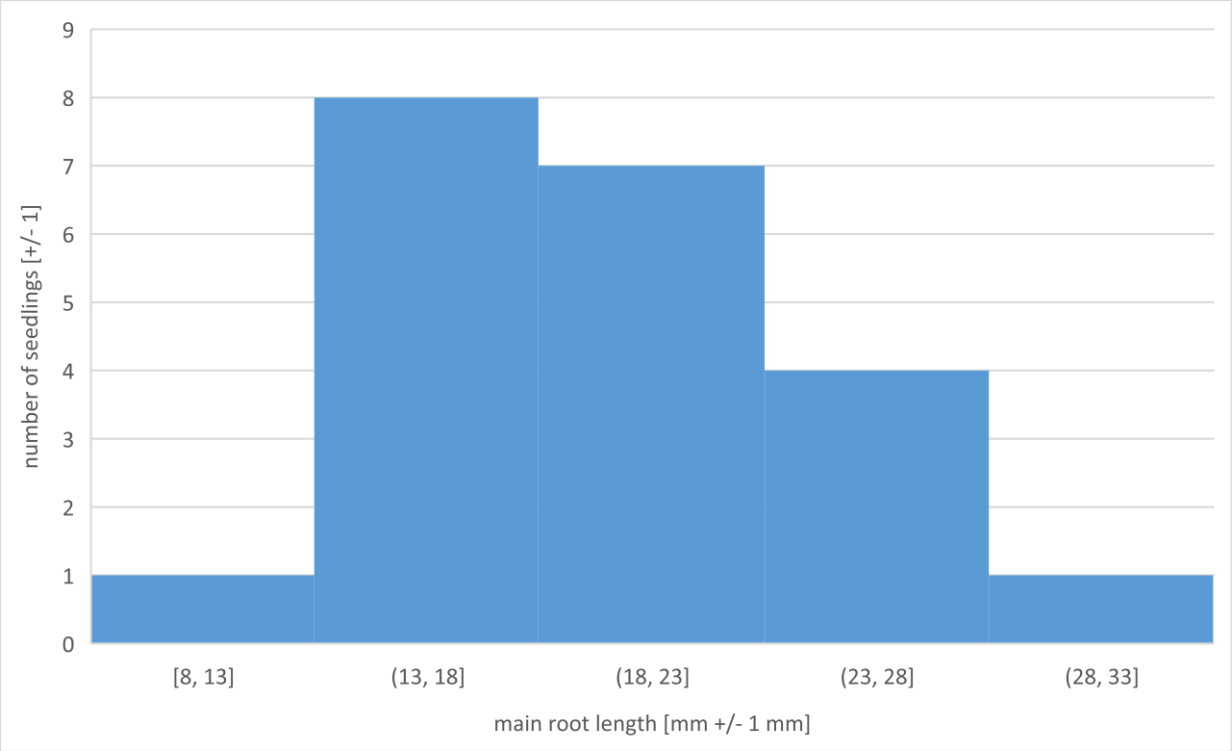
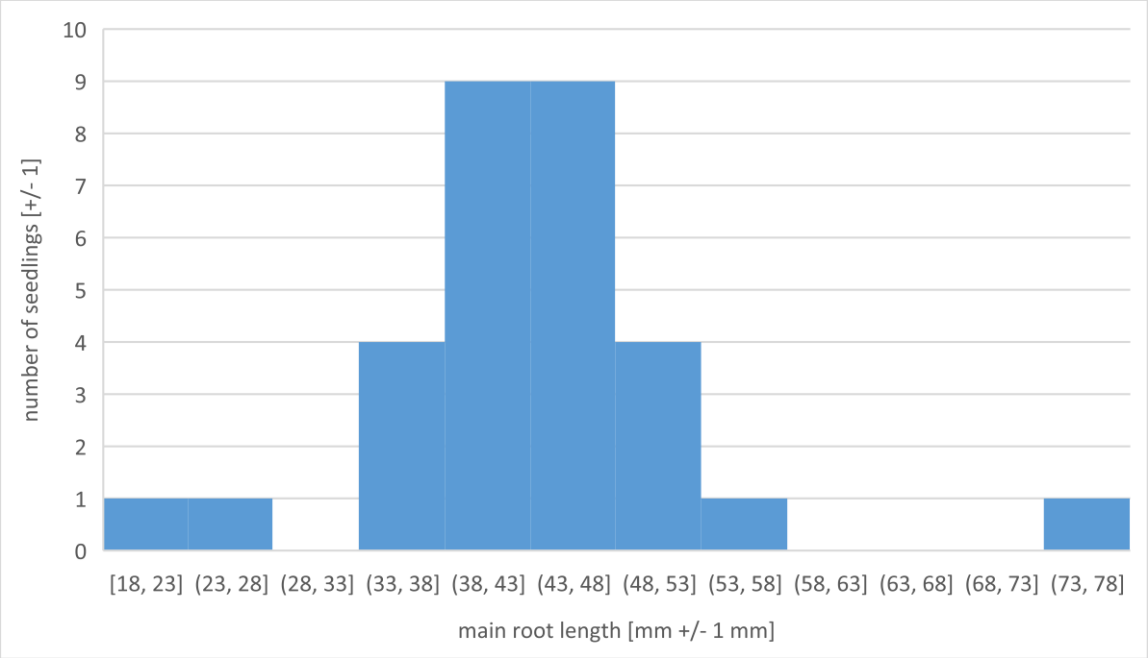


Table 4. Main root lengths [mm $\pm$ 1 mm] of all Sunspot seedlings for different concentrations of K_2SO_4 used.

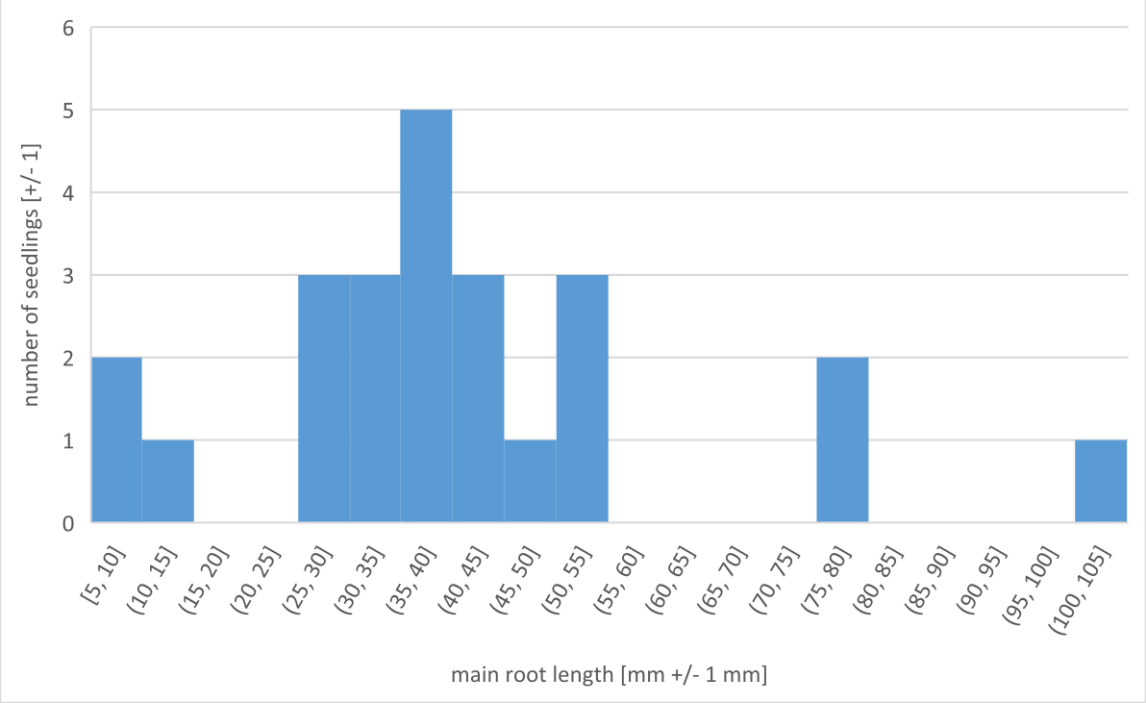
concentration of K_2SO_4 [mM +/- 0.02 mM]	**0**	**5.00**	**10.00**	**15.00**	**20.00**	**25.00**	**30.00**
Main root length [mm $\pm$ 1 mm]	9	20	35	19	12	17	8
	9	51	35	25	26	17	14
	10	53	35	28	26	22	15
	11	55	36	34	28	25	16
	16	58	38	34	29	30	16
	16	58	41	36	30	30	16
	18	58	42	37	30	31	17
	25	59	42	37	30	31	18
	27	59	43	39	31	32	18
	32	60	44	39	32	32	19
	33	60	44	40	34	33	20
	39	61	44	42	35	33	20
	42	64	45	42	35	34	21
	50	64	45	42	37	36	21
	53	64	46	42	37	39	22
	56	64	47	43	37	41	22
	63	65	47	45	38	41	24
	63	66	49	49	41	42	24
	69	66	49	49	44	46	27
	87	67	50	50	50	49	28
	89	68	50	50	102		29
	90	75	52	52			
		84	53	61			
		61	55	67			
		62	59				

The cell that is crossed indicates that there was a seed in a plastic bag with these conditions, but that it did not germinate.

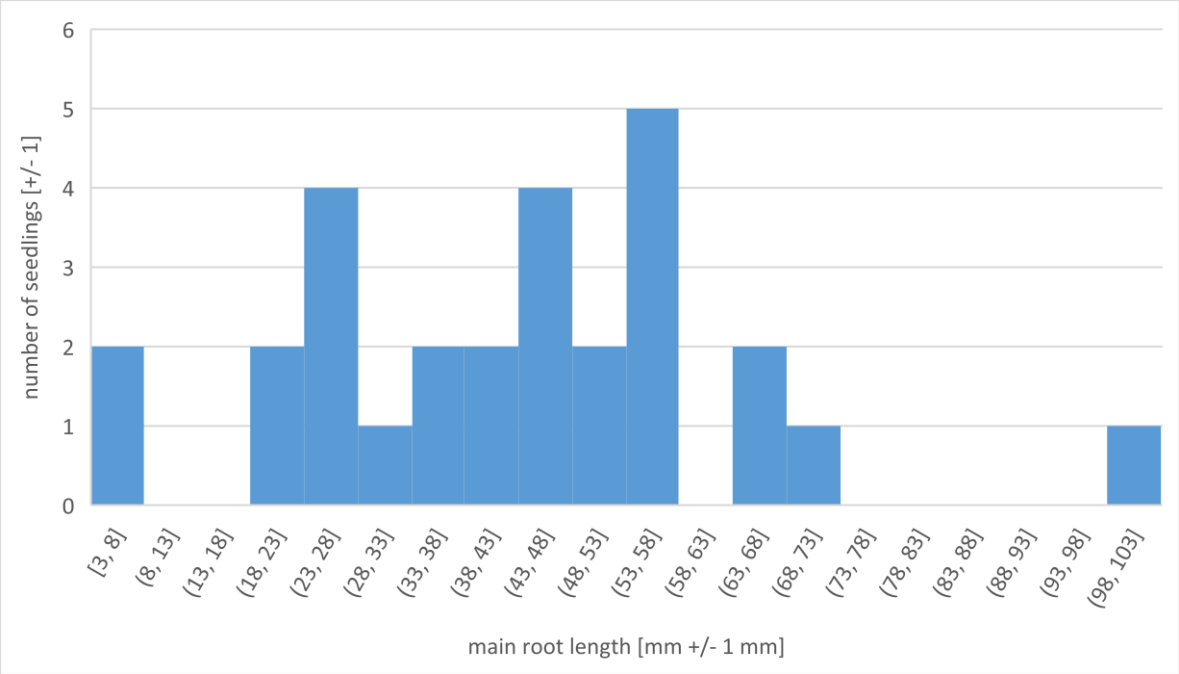
Graph 22. Number of Sunspot seedlings, growing in distilled water, with a certain main root length.



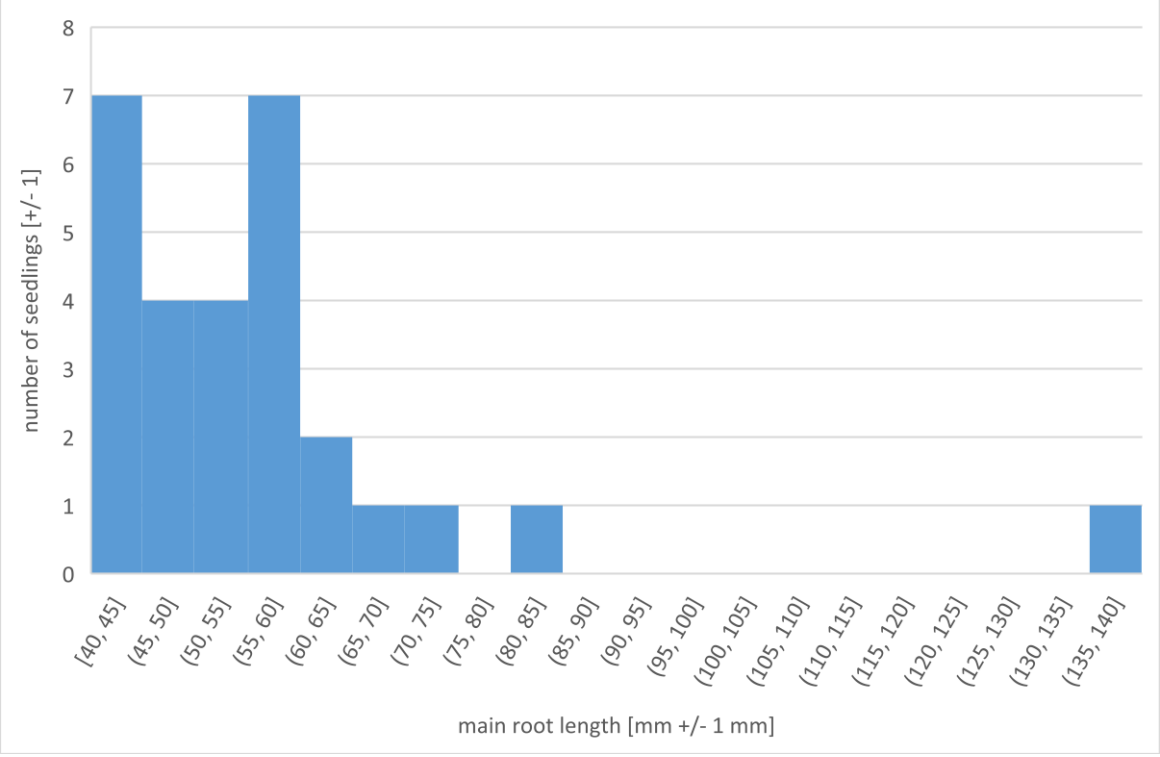
Graph 23. Number of Sunspot seedlings, growing at 5.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



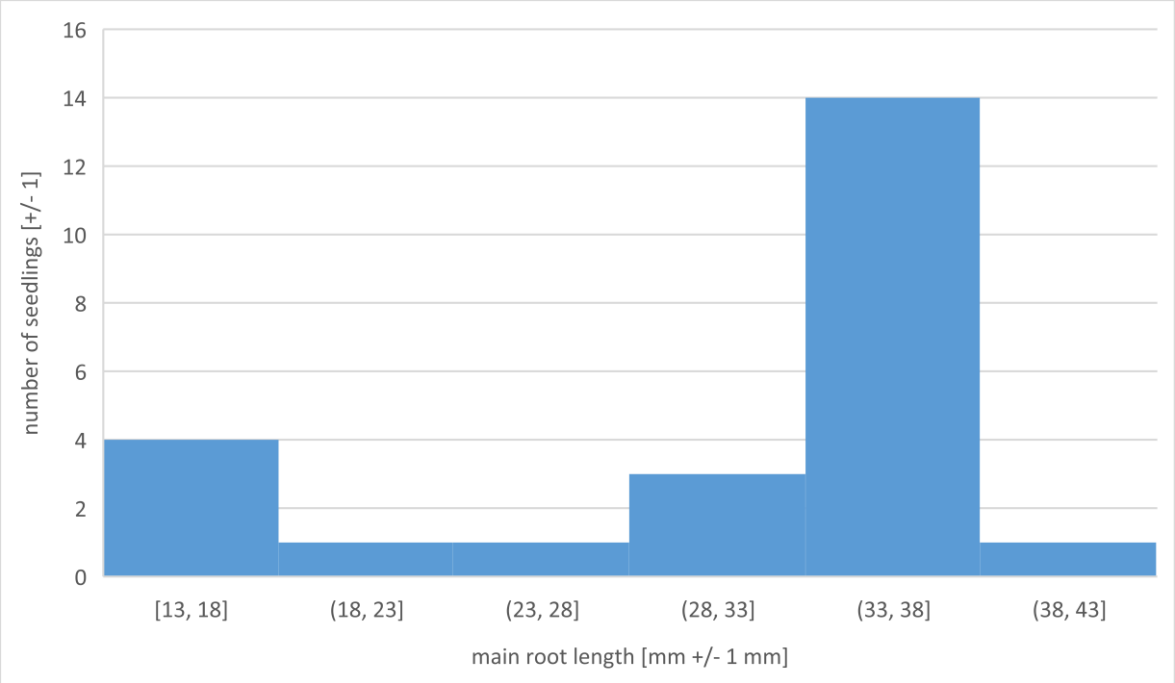
Graph 24. Number of Sunspot seedlings, growing at 10.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



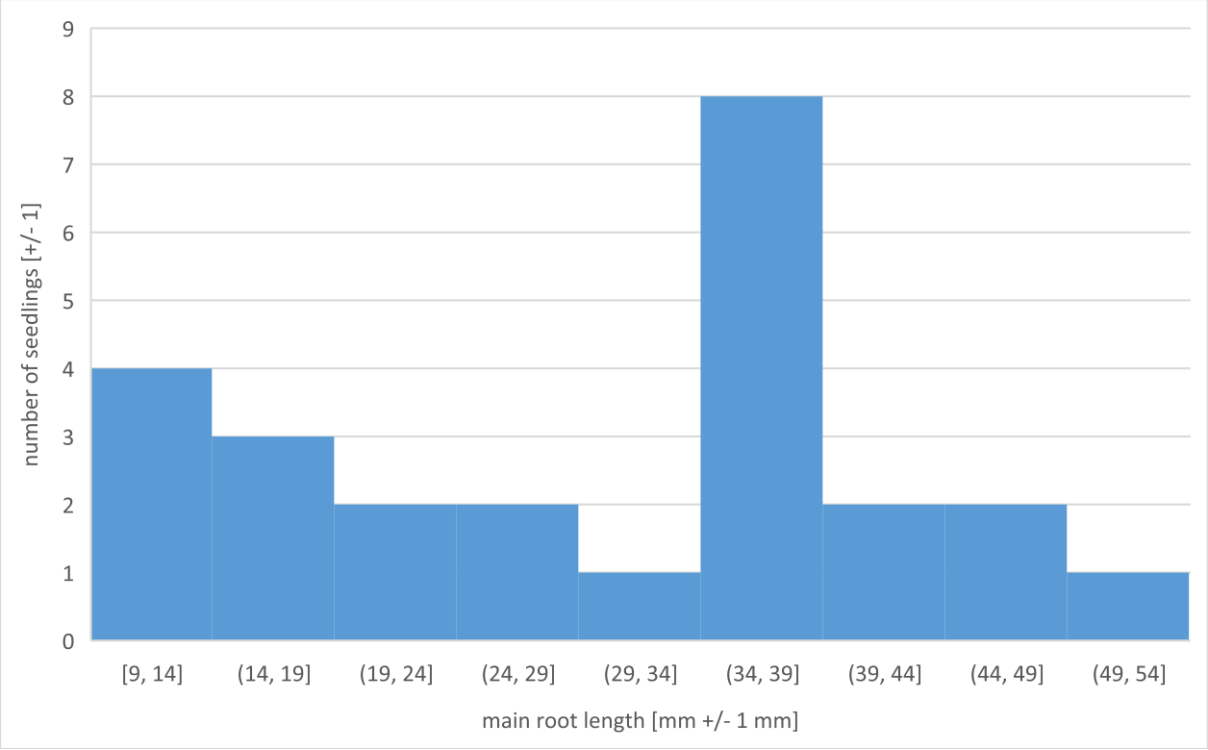
Graph 25. Number of Sunspot seedlings, growing at 15.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



Graph 26. Number of Sunspot seedlings, growing at 20.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



Graph 27. Number of Sunspot seedlings, growing at 25.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.



Graph 28. Number of Sunspot seedlings, growing at 30.00 mM (+/- 0.02 mM) K_2SO_4, with a certain main root length.