

EFFECT OF DIFFERENT TREATMENTS TO HASTEN TREE SEED GERMINATION

by

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Since seeds of different tree species do not germinate easily, mostly due to a hard seed coat, seeds of *Melia azedarach*, *Zizyphus mauritiana* and *Cassia fistula* were put to miscellaneous treatments as under.

Melia azedarach. The seed was collected from Pakistan Forest Institute Campus and put to the following treatments:

T ₁	No treatment
T ₂	Soaking in H ₂ SO ₄ for 10 minutes
T ₃	Soaking in H ₂ SO ₄ for 20 minutes
T ₄	Soaking in H ₂ SO ₄ for 30 minutes
T ₅	Soaking in cowdung for 10 days.

After soaking the seed was thoroughly washed in running water before sowing in polythene tubes, 20×8 cm siz, filled with 50: 50 soil and sand mixture. Sowing was done on 12-5-80, 100 seeds to each treatment. Tubes were watered daily. Germination started on 22-5-1980 in treatment 4 and 5 on 27-5-1980 in treatment 3 and on 3-6-80 in treatment 2. Following number of seedlings was available till completion of the germination (10-6-1980).

No treatment was as good as treatment with cowdung so far hastening of germination is concerned. When the seed was treated with H₂SO₄ for 20 minutes, there was some response. However ultimate number of seedlings available was maximum in cowdung (82/100) followed by control (76/100) and 20 minutes soaking in H₂SO₄ (47/100).

Zizyphus mauritiana. The seed was sown as for *Melia azedarach* and the following number of the seedlings was available on the dates indicated below: 100 seeds were used for each treatment and sown on 12-5-80. Germination started in control and cowdung on 20-5-80. Seed was purchased from the local market.

Treatment with cowdung hastened germination significantly as compared to the rest of the treatments. Acid treatment killed the embryos.

Cassia fistula. The seed was collected from Pakistan Forest Institute and was sown on 25-6-1980, 200 seeds to each treatment as under:

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Treatment/ Replication	T ₁			T ₂			T ₃			T ₄			T ₅		
	Seedlings available on														
	27/5	3/6	10/6	27/5	3/6	10/6	27/5	3/6	10/6	27/5	3/6	10/6	27/5	3/6	10/6
R ₁	0	1	18	0	0	0	3	10	11	1	1	1	10	20	22
R ₂	0	1	19	0	0	1	5	9	11	1	1	1	12	18	21
R ₃	0	2	19	0	0	2	4	9	11	2	2	2	11	16	21
R ₄	0	1	18	0	1	1	3	12	14	1	1	1	13	14	18
	0	5	76	0	1	4	15	40	47	5	5	5	46	68	82

Treatment/ Replication	T ₁			T ₂			T ₃			T ₄			T ₅		
	27/5	3/6	10/6	27/5	3/6	10/6	27/5	3/6	10/6	27/5	3/6	10/6	27/5	3/6	10/6
Seedling available on															
R ₁	3	3	11	—	—	—	—	—	—	—	—	—	14	16	20
R ₂	5	8	10	—	—	—	—	—	—	0	0	0	14	18	19
R ₃	3	9	12	—	—	—	—	—	—	1	1	1	15	19	18
R ₄	2	6	12	—	—	—	—	—	—	0	0	0	14	17	19
	13	26	45	—	—	—	—	—	—	1	1	1	57	70	76

- T₁ Control
 T₂ Soaking in H₂SO₄ for 10 minutes.
 T₃ Soaking in H₂SO₄ for 20 minutes.
 T₄ Soaking in H₂SO₄ for 30 minutes.
 T₅ Soaking in cowdung for 10 days.
 T₆ Soaking in boiling water.

	1	15	34	23	34	119	30	30	174	101	104	172	2	10
K ¹	3	3	3	15	20	35	19	50	30	34	34	34	0	3
K ²	1	3	3	14	18	30	19	23	31	30	30	32	3	3
K ³	1	3	2	13	12	30	13	18	31	23	32	31	0	3
K ⁴	—	4	11	14	12	34	31	30	30	30	30	32	2	3
non Refract wood Lignin	311	133	3011	313	171	3011	311	1511	3011	311	1711	3011	311	1511
	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹	J ¹

Treat- ment/ Replica- tion	Seedlings available on																	
	T ₁			T ₂			T ₃			T ₄			T ₅			T ₆		
	2/7	12/7	26/7	2/7	12/7	26/7	2/7	12/7	26/7	2/7	12/7	26/7	2/7	12/7	26/7	2/7	12/7	26/7
R ₁	—	4	11	14	18	24	27	30	36	26	29	35	3	3	3	2	7	11
R ₂	1	3	5	12	18	30	12	18	32	22	25	31	0	3	7	0	1	5
R ₃	1	2	3	14	18	30	19	22	27	29	30	35	2	2	8	3	5	9
R ₄	2	3	5	12	20	32	18	26	39	24	24	34	0	2	6	0	2	6
	4	12	24	52	74	116	76	96	134	101	108	135	5	10	24	5	15	31

Germination started on 27-6-1980 and was completed on 26-7-1980. There is progressive increase in hastening of the seed from control to H₂SO₄ for 30 minutes; coddung and boiling water treatment had practically no effect.