TREE SEEDS RESPOND TO ACID SCARIFICATION

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Acid scarification which helps modify the impermeable or hard seed coats is well known method to hasten the tree seed germination. *Ceratonia siliqua*, *Pistacia khinjuk* and *Sapindus mukorossi* were treated with concentrated suplhuric acid for different periods of times.

Ceratonia siliqua. Seed was collected from Peshawar on 8-7-1978. On 10-7-1978 it was soaked in concentrated H_2SO_4 for 0, 10, 15 and 30 minutes, washed in running water for 2 hours, and sown in polythene tubes filled with 50:50 soil, sand mixture, 400 seeds to each treatment. The tubes were watered daily with a fine rose. Germination started on 15-7-1978 and was completed by 20-7-1978, (Germination was taken as completed when no seed germinated for 60 days, after the last seedling appeared), giving the following number of seedlings for each treatment:

Treatment / Replication	Control		10 minutes		20 minutes		30 minutes	
I	5*	36†	24*	51†	50*	64†	63*	70†
II	9	46	33	58	41	70	68	71
III	12	43	31	57	40	60	67	76
IV	25	47	60	69	48	66	65	79
Total:	51	172	148	235	149	260	263	296

*Seedlings available on 15-7-1978
†Seedlings available on 20-7-1978.

All the treatments gave highly significant results as compared to control.

Sapindus mukorossi. Seed was received from Azad Kashmir on 15-7-1978. On 27th it was treated with concentration H^2SO^4 for the same durations as foregoing, washed in running water for 2 hours, and sown in polythene, 100 seeds to each treatment. Tubes were kept moist by hand watering. Germination started 2 weeks after sowing and was completed by the end of August, with the following number of seedlings germinating for each treatment:

Treatment / Replication	Control		10 minutes		20 minutes		30 minutes	
I	0	5	2	12	2	15	0	10
II	1	5	1	13	1	14	2	9
III	1	6	1	8	1	14	0	10
IV	0	5	0	6	2	16	0	8
Total:	2	21	4	39	6	59	2	37

All treatments are significantly better than the control.

Pistacia khinjuk. Seed was collected from Quetta in mid October and given the following treatments:

T_1 = Control
T_2 = Immersion in boiling water which was then allowed to cool
T_3 = Soaking in concent. H_2SO_4 for 15 minutes
T_4 = Soaking in concent. H_2SO_4 for 30 minutes

500 seeds were given each of the above mentioned treatments and sown on 23-10-1978. Result of gemination on 30-11-1978 was as follows:

Treatment / Replication	Control		Boil water		15 minutes		30 minutes	
I	18	51	30	85	32	90	18	59
II	18	38	35	68	30	75	18	36
III	4	22	35	63	24	85	4	25
IV	13	36	20	61	34	103	13	43
Total:	53	143	120	277	120	353	53	163

There is no difference between the control and 30 minutes treatment. However, boiling water and 15 minutes treatments are highly significant from control.