

Research Notes

Viability of-ragi seeds (*Eleusine coracana*): In Vissakhapatnam district, in wetlands it is customary to grow a crop of ragi (early) in May—August season preceding the main paddy crop and another crop (late) in December—April, succeeding the paddy crop. At the Sugarcane Research Station, Anakapalli in 1945—1946 certain fields were cropped with early ragi. These fields were planted to paddy and after its harvest the land was prepared to take in the late ragi. Soon after these operations the fields were found to be covered with ragi seedlings. These could not have been due to seeds carried in the manure since other fields manured from the same heap were entirely free from ragi seedlings. The only source then was from the early ragi preceding the paddy. It was however, doubtful whether the ragi seeds shed in field could live through the puddled submerged condition prevailing during the period of the paddy crop.

To verify these observations pot experiments were conducted simulating the conditions in field. Six small pots with soil from wetlands were sown each with 200 seeds collected from the late ragi and soil thoroughly raked up. The pots were watered and the level of water maintained at 2" over the soil, for a period of four and half months to correspond to the duration of the paddy crop. The soils from the small pots were transferred to bigger pots with similar soil, thoroughly raked and allowed to dry up completely in the sun. After four days of drying the pots were watered to give optimum conditions for germination and the germination counts taken. This experiment was repeated between 2—9—1946 to 20—12—1946. The results are summarised below. In all cases 200 seeds were sown:

Pots Nos.	Periods of investigation			
	10—4—1946 to 31—8—1946	2—9—1946 to 20—12—1946		
	No. seeds germinated	Per centage of germination	No. seeds germinated	Per centage of germination
1	43	22	76	38
2	72	36	108	54
3	38	19	68	34
4	48	24	121	61
5	31	16	103	52
6	36	18	49	25
Average	44.6	22.5	87.5	44.3

A third experiment avoiding all possibilities of seed contamination from field and manure was conducted by placing the freshly harvested seed immersed in water in a glass bottle. Daily changes of water were given. The experiment was started on 2—9—1946. The seeds were removed from the bottle on 26—12—1946 and sun-dried till they became hard. The per centage of germination were found to be: set I = 79; set II = 84. It was thus proved that ragi seeds retain their viability under paddy land conditions at least for four months. It is therefore not safe to grow, especially, ragi crop meant for seed purposes in a field previously cropped with early ragi.

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