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Optimum Temperature for Germination Test of Isabgol (*Plantago ovata* Forsk)

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Isabgol is an irrigated *rabi* crop grown in Mehsana and Banaskantha districts of Gujarat State in an area of about 36,000 ha (Anon., 1995-96). It is an important commercial crop, which earns sizeable foreign exchange. It is grown in the month of November and harvested in the month of March. In case of seed production programmes it is necessary to test its germination in the month of April-May so as to finish the formalities of certification. It being cold loving crop desired germination is difficult to attain even at 25 x C in the germination chamber. Therefore, present experiment was planned to find out optimum temperature for germination test.

Seeds were supplied by the Gujarat State Seed Corporation, Gandhinagar for germination test. Seeds were kept in a freezer (5 q 1 x C), seed germinator at 15 and 25 x C and at an ambient temperature in the laboratory (30 q 2 x C). Observations on germination count, root and shoot length and fresh wt. of 10 days oil seedlings were recorded. The data are presented in Table 1.

TABLE 1

Germination of Isabgol seeds and root and shoot length of seedlings as influenced by temperature.

Temperature (XC)	*Germination (%)*	*Length (cm)*		*Fresh wt. of seedling (mg)*
		Root	*Shoot*	
5 q1	91.3	0.98	1.60	7.4
15	91.8	1.23	1.90	8.0
25	59.5	1.15	1.80	7.8
30 9²	11.3	0.90	1.78	7.8
S. Em.	1.8	0.07	0.06	1.9
C. D. 0.05	5.7	0.23	0.17	NS
C. V. %	5.8	14.0	6.3	4.9

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The data on germination indicate that the higher (91.8%) germination chamber, which being at par with the seeds kept in a freezer (91.3%) and differed significantly from the rest. The least (11.3%) germination was noted when seeds were kept at an ambient temperature in a laboratory. The root and shoot length and fresh wt. of seedlings were also the highest at 15 x C. Therefore, it is suggested that the germination test of isabgol should be carried out at 15 x C in a germination chamber or in a lower shelf of a freezer having 5-6 x C temperature and even sowing should be carried out when minimum temperature is below 15 x C so as to get desired plant stand.

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