Agri. Res. J. Kerala, 1980, 18 (1) 104—106

INFLUENCE OF MOISTURE CONTENT ON VIABILITY OF PADDY SEEDS

Moisture content of seeds is a factor which markedly affect their viability. Padmanabhan (1957) studied the relation between loss in viability of rico seeds in storage and their moisture content and the influence of mould activity on viability. In order to find out the relationship between moisture content of seeds and loss of viability, an experiment was conducted at the Rice Research Station, Pattambi. Fifty kilogram seeds each of six varieties, IR8, *Annapurna,* PTB 8, PTB 30, PTB 23, and *Padma* with initial moisture content of 17.9%, 16,7%, 15.10%, 14.7%. 13 5% and 12.5% were stored in gunny bags lined internally with polythene. The germination of seeds was tested at intervals of 15 days, using sand substrate at 30°C in a Minnesota type seed germinator. Samples for germination were drawn out with a bag-trier and germination estimated as per the procedure stipulated by the ISTA (1966). The moisture content of seeds were determined at intervals of 15 days using a Universal Moisture Tester. Relative humidity of the room was recorded using a psychrometer.

The varieties 1R8 and *Annapurna* gave maximum germination in about 60 days after storage, whereas PTB 30 and *Padma* gave maximum germination after 135 days (Table 1). There appeared to be an inverse relationship between earliness for attaining maximum germination and ioss of viability. The varieties IR8 and *Annapurna* which gave early maximum germinatian lost viability faster than the rest. As far as retention of viability was concerned, PTB 23 and PTB 8 were superior to the rest of the varieties.

Table—1

Viability of paddy seeds under storage conditions at fortnightly intervals

Sl. no.	Days in sto–rage	Ambient RH(%)	*Annapurna*	IR8	PTB8	PTB 23	PTB 30	*Padma*
1	2	3	4	5	6	7	8	9
1	15	87	24.75 (16.9)	23 (17.9)	38.5 (14.7)	94 (13.5)	64.25 (15.1)	89 (12.5)
2	30	93	38 (18.2)	50 (21.1)	74 (14.8)	95 (14.3)	83 (15.4)	95 (13.5)
3	45	87	56 (17.1)	64 (22.1)	90 (14.6)	94 (14.2)	83 (14.9)	97 (12.9}
4	60	91	85	72	96	95	86	95

1	2	3	4	5	6	7	8	9
			(17.4)	(23.1)	(14,9)	(14.2)	(15.2)	(12.8)
5	75	58	81	66	96	96	86	98
			(18.2)	(21.9)	(14.3)	(13.9)	(14.6)	(12.5)
6	90	55	79	19	97	97	86	97
			(17 4)	(20.4)	(13.7)	(130)	(14.1)	(11.6)
7	105	65	79	12	97	95	85	95
			(17.8)	(21.3)	(13,4)	(13.1)	(13.8)	(11.7)
8	120	50	71	2	99	96	83	96
			(15.2)	(19.0)	(11.0)	(11,1)	(11.9)	(9.9)
9	135	56	59	—	95	95	89	99
			(17.9)	—	(13.5)	(13.4)	(13.8)	(11.3)
10	150	68	66	—	95	95	88	96
			(17.9)	—	(13.3)	(13.8)	(12 9)	(12.0)
11	165	67	—	—	97	94	85	93
			—	—	(14.1)	(13,3)	(14.0)	(12.5)
12	180	68	—	—	91	86	71	96
			—	—	(14.3)	(137)	(14.2)	(12.7)
13	195	88	—	—	93	86	69	96
			—	—	(11.6)	(12.5)	(11.8)	(12.7)
14	210	76	—	—	81	81	51	79
			—	—	(15.1)	(14.2)	(14.8)	(13,4)
15	225	84	—	—	52	81	51	81
			—	—	(15 8)	(14.1)	(14.8)	(13.3)
16	240	84	—	—	18	75	35	73
			—	—	(15.3)	(14.3)	(14.9)	(13.8)
17	255	80	—	—	—	63	33	65
			—	—	—	(14,1)	(14.9)	(13.8)
18	270	77	—	—	—	41	16	48
			—	—	—	(14.2)	(15.1)	(14.1)

Figures in parenthesis indicate the moisture contents of seeds.

It may be seen that the moisture status of the seeds at maximum germination varied among varieties. IR 8 gave maximum germination at a moisture status of 23.1% whereas PTB 8 recorded maximum germination at 11 %.

സംഗ്രഹം

പട്ടാമ്പി നെല്ലുഗവേഷണ കേന്ദ്രത്തിൽ നെൽവിത്തുകളിലെ അങ്കുരണശേഷിയും ജലാംശവും ro>iBinejgg ബന്ധം സംബന്ധിച്ച പഠനങ്ങളിൽ |R8, അന്നപൂർണ്ണ എന്നീ ഇനങ്ങൾക്ക് ഏറ്റവും കൂടുതൽ അങ്കുരണം ലഭിച്ചത് വിളവെടുപ്പിന്ശേഷം 60-ാം ദിവസം 23.1%, 17.4% എന്ന ക്രമത്തിൽ ജലാംശം ഉണ്ടായിരുന്നപ്പോഴും PTB30, പദ്മ എന്നിവയിൽ വിളവെടുപ്പിനുശേഷം 135-ാം ദിവസം 13.8%, 11 3% എന്നക്രമത്തിൽ ജലാംശം ഉണ്ടായിരുന്നപ്പോഴും ആയിരുന്നുവെന്ന് കാണുftioqjsrEoc1. അങ്കുരണശേഷി ഏറ്റവും കൂടുതൽ കാലത്തേക്ക് പ്രകടമാക്കിയത് PTB23, PTB8 എന്നീയിനങ്ങളായിരുന്നു.

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(MS Received. 24-5-1979)