

TABLE I
Measurements of somatic chromosomes of *H. punctatus* Dalz.

Chromosome pair	Length in μ			Relative length	Arm Ratio		Centromere
	Long arm	+ Short arm	= Total		R1	R2	
1, 2	2.46	+ 1.36	= 3.82	100.00	0.55	1.80	nsm
3, 4	2.38	+ 1.36	= 3.74	97.90	0.57	1.75	nsm
5, 6	2.29	+ 1.36	= 3.65	95.54	0.59	1.68	nsm
7, 8	2.12	+ 1.53	= 3.65	95.54	0.72	1.38	nm
9, 10	2.38	+ 1.02	= 3.40	89.00	0.40	2.33	nsm
11, 12*	0.68	+ 1.36	= 3.31	86.64	0.62	1.60	nm
		+ 1.27					
13, 14	2.21	+ 1.10	= 3.31	86.64	0.50	2.00	nsm
15, 16	2.12	+ 1.10	= 3.22	84.29	0.51	1.92	nsm
17, 18	1.53	+ 1.36	= 2.89	75.65	0.88	1.13	nm
19, 20	1.70	+ 0.93	= 2.63	68.84	0.54	1.93	nsm
21, 22	1.53	+ 1.10	= 2.63	68.84	0.72	1.39	nm
23, 24	1.36	+ 1.19	= 2.55	66.75	0.87	1.14	nm
25, 26	1.23	+ 1.02	= 2.25	58.90	0.82	1.20	nm
27, 28	1.36	+ 0.85	= 2.21	57.85	0.62	1.60	nm
29, 30	1.02	+ 0.76	= 1.78	46.59	0.74	1.34	nm
31, 32	0.85	+ 0.59	= 1.44	37.69	0.69	1.60	nm

nsm = Nearly submedian; nm = Nearly median; * Par with secondary constrictions.

meres. One pair with nearly median chromosomes are with secondary constriction on short arms (Table I). The length of the chromosomes in the complement range from 1.44 μ to 3.82 μ with a mean length of 2.90 μ . The absolute length is 46.48 μ .

During meiosis 16 bivalents were observed at diakinesis and metaphase I (Figs. 2, 3). The subsequent divisions were found to be normal indicating the regularity of meiosis.

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REDUCTION IN TOTAL NITROGEN CONTENT OF 'ARHAR' SEEDS DUE TO STORAGE FUNGI

DURING the course of an investigation, several fungi were isolated from the 'Arhar' seeds. Amongst them *Aspergillus flavus*, *A. niger*, *Fusarium moniliforme*, *Curvularia lunata* and *Helminthosporium tetramera* were isolated¹ frequently. The storage fungi cause considerable loss in seed contents²⁻⁵. Nitrogen is an indispensable element for the synthesis of nucleic acid, protein, enzymes, etc.; hence it is desirable to estimate the changes in the total nitrogen contents of 'Arhar' seeds in the presence of these fungi. Healthy 'Arhar' seeds were surface sterilized with 2% NaClO and were treated with spore suspension of the fungi listed above. Healthy and infested seeds were stored separately in different sterilized desiccators at 75% relative humidity⁶ and had a moisture content of about 16%. After three months of storage the seeds were thoroughly washed and dried. Duma's method was used to estimate the nitrogen content. Ten to twenty mg of the seeds were used for this purpose.

It is obvious from Table I that in the healthy 'Arhar' seeds the total nitrogen remained unchanged even after three months of incubation. Infested seeds on the other hand showed marked fall in the total nitrogen content. The deterioration in nitrogen contents by *A. niger* was the highest. The nitrogen is