

Table 1 Germination of freshly harvested megasporocarps as influenced by Benlate pre-treatment and direct application over the dry spores in the medium

Pre-treatment of megasporocarps with Benlate (Conc. ppm)	Megasporocarp germination* (%)	
	IRRI ⁽⁻⁾ solid medium with Benlate (5 ppm)	IRRI ⁽⁻⁾ solid medium without Benlate
5	59.00	26.00
10	54.33	37.30
20	59.66	24.66
Untreated	37.66	20.66
Direct application of Benlate**	—	84.50
Untreated**	—	36.75

* Mean of three replicates; ** Tested with three months old spores

Director, C. F. Kettering Laboratory are gratefully acknowledged.

21 August 1986; Revised 21 February 1987

1. Kannaiyan, S., *Int. Workshop to assess the potential of Azolla use in Tropical Asia*, Niftal Project, Thailand, 1984, p. 32.
2. Moore, A., *Bot. Rev.*, 1969, 35, 17.
3. Kannaiyan, S. and Prasad, N. N., *Madras Agric. J.*, 1982, 69, 585.
4. Kannaiyan, S., In: *Biological nitrogen fixation programme*, FAO/UNDP report, Tamil Nadu Agri. University, Coimbatore, 1985, p. 101.
5. Singh, P. K., Satpathy, K. B., Misra, S. P., Nayak, S. K. and Patra, N., In: *Biological nitrogen fixation*, BARC, Bombay, 1982, p. 433.
6. Watanabe, I., Espinas, C. R., Berja, N. S. and Alimango, B. V., *Int. Rice Res. Inst. Manila*, 1977, 11, p. 15.

DIFFERENTIAL MUTAGENIC SENSITIVITY IN *CORIANDRUM SATIVUM* LINN.

V. S. KOTHEKAR

Botany Department, Marathwada University, Aurangabad 431 004, India.

AMONG cereals the response to mutagens is known to be influenced by the genetic architecture of the

test system^{1,2}. Similar work in the case of medicinal and aromatic plants is, however, far from adequate. Keeping this background in mind seeds of *Coriandrum sativum* Linn. (variety Sheetal and variety Pusa Selec. 360) were treated with different concentrations of two chemical mutagens namely ethyl methanesulphonate (EMS) and diethyl sulphate (DES) and their effect was studied with reference to parameters like germination, survival, plant height and vitamin C content in the leaves.

The results are indicated in table 1. In the case of *C. sativum* varieties there was a general exponential fall in the values of germination, survival and plant height with gradual increase in the concentration of the two mutagens. The values of vitamin C content in variety Sheetal were enhanced at certain doses of EMS treatment. In variety Pusa Selec. 360, however, no such trend was detectable.

The radio-sensitivity differences between species and genera of plants have been studied from different angles by many workers. The studies on differential radiosensitivity between genotypes and strains have been fewer and equally fewer have been the studies on intervarietal differences³⁻⁶.

The reports on intervarietal differences in physiological sensitivity to alkylating agents are far from adequate^{7,8}. Significant differences between peanut varieties in their physiological sensitivity to mutagens like EMS, DES, ethidium bromide and sodium azide as judged by their germination rate and seedling injury have been recorded^{8,9}.

The present results clearly reveal that the two varieties of *C. sativum* have responded differentially to the effects of chemical mutagens, EMS and DES.

The differential varietal mutagenic response which is so very well manifested in the present study could be related to the differences in the genotypic constitution of seed. The radiosensitivity variations on account of single gene differences have already been indicated¹⁰. It is quite possible that a parallel type of situation might also be prevailing in the present case.

The author thanks Marathwada University authorities for financial assistance and the Director, National Bureau of Plant Genetic Resources, New Delhi for the supply of seeds.

8 December 1986

1. Tsunewaki, K. and Heyne, E. G., *Genetics*, 1959, 44, 933.

Table 1 Relative sensitivity of *C. sativum* varieties to EMS and DES

Mutagen/ concentration	Germination Percent of control		Survival Percent of control		Plant height (cm)		Vitamin C content mg/100 g		
	Variety		Variety		Variety		Variety		
	Variety Sheetal	Pusa Selec. 360	Variety Sheetal	Pusa Selec. 360	Variety Sheetal	Pusa Selec. 360	Variety Sheetal	Pusa Selec. 360	
EMS									
Control	—	—	—	—	32.00 ± 0.10	31.1 ± 0.12	161 ± 0.16	160 ± 0.55	
0.05%	90.72	87.10	92.15	91.00	30.00 ± 0.21	29.50 ± 0.15	166 ± 0.15	158 ± 0.61	
0.10%	86.15	81.57	87.30	86.78	28.61 ± 0.15	27.15 ± 0.11	164 ± 0.11	156 ± 0.78	
0.15%	79.03	80.16	80.71	77.10	26.15 ± 0.11	25.00 ± 0.25	158.5 ± 0.22	154 ± 0.10	
DES									
Control	—	—	—	—	32.00 ± 0.10	31.1 ± 0.12	161 ± 0.16	160 ± 0.55	
0.05%	87.65	80.12	87.12	83.17	28.1 ± 0.28	27.70 ± 0.16	159 ± 0.26	156 ± 0.11	
0.10%	80.12	78.00	82.00	78.12	26.57 ± 0.11	24.75 ± 0.12	155 ± 0.76	153 ± 0.26	
0.15%	73.16	74.00	77.78	74.82	24.00 ± 0.78	22.10 ± 0.16	153 ± 0.80	150 ± 0.12	

- Frey, K. J., In: *Technical meeting on the use of induced mutations in plant breeding*, Rome, 1964, p. 465.
- Gelin, O. E. V., Ehrenberg, L. and Blaxt, S., *Agr. Hort. Genet.*, 1958, 16, 78.
- D'Amato, F., Scarascia, G. T., Monti, L. M. and Bozzini, A., *Rad. Bot.*, 1962, 2, 217.
- Takagi, Y., *Gamma Field Symp.*, 1969, 8, 83.
- Ukai, Y. and Yamashita, A., *Gamma Field Symp.*, 1969, 8, 69.
- Heslot, H., *Genet. Agrar.*, 1960, 13, 79.
- Ashri, A. and Herzog, Z., *Rad. Bot.*, 1972, 12, 173.
- Levy, A. and Ashri, A., *Rad. Bot.*, 13, 369.
- Sparrow, A. H., Sparrow, R. C., Thompson, K. H. and Schairer, L. A., In: *Technical meeting on the use of induced mutations in plant breeding Rep. FAO/IAEA, Rome, 1965*, p. 101.

A NEW RECORD OF SPIRURID NEMATODE *PARABRONEMA SKRJABINI* RASSOWSKA, 1924 FROM INDIAN GOATS

S. C. YADAV*, O. P. S. SENGAR and
P. P. S. CHAUHAN†

Department of Animal Husbandry and Dairying, R. B. S. College, Bichpuri 283 105, India.

* Present address: Division of Parasitology, Indian Veterinary Research Institute, Izatnagar 243 122, India.

† Department of Parasitology, College of Veterinary and Animal Husbandry, CSA University of Agricultural and Technology Campus, Mathura 281 001, India.

THE genus *Parabronema* was created¹ to accommodate certain spirurid nematodes collected from the stomach of elephants and preserved in British Natural History Museum as *Sclerostoma clathratum* (female) Baird 1868, which was later renamed as *Parabronema africanum*. Yorke and Maplestone² described another species from African elephants as *P. rhodesiense* and yet another was reported as *P. rhinocerotis* from Rhinoceros³

Further, Sarwar⁴ studied the occurrence of this species in Indo-Pakistan border and transferred it to the genus *Squamanema* due to some distinct characteristics and named it as *Squamanema skrjabini*. However, Yamaguti⁵ took it up again and distinctly identified it as *Parabronema skrjabini* from *Squamanema skrjabini*.

P. skrjabini has not been reported from Indian goats so far and is now being recorded for the first time.

This parasite, as revealed during the postmortem is long, slender and dark red in colour found firmly embedded in the mucous lining of abomasum in a zig-zag manner (figure 1a). Their mouth is provided with a pair of lateral pseudolabia each with three papillae (figure 1d). The oesophagus has a short narrow anterior and a long wide posterior part (figure 1c). The males measured from 12.50 to 20 mm with a mean of 15.90 ± 0.69 mm long. They had spirally coiled posterior and longitudinal ridges on their ventral surface (figure 1f), having paired but dissimilar spicules. The females (figure 1b), on