

hysterosomals setae. These are also found on the stem of this weed, and reproduce quickly completing the life cycle in a few days. They appear to be best adapted to subtropical or tropical climates and are most frequent on *Parthenium* during rainy season, producing desirable effects. After infection the leaves turn yellowish which consequently wither away and ultimately the whole plant is destroyed. During the experiments with the mites, a fresh plant during its juvenile stage (rosette stage) could not survive more than a week while the adult plants when infected before flowering stage, could not yield seeds and the growth was checked completely and after some time, the whole plant deteriorated. Although the plant when infected in the flowering stage yielded seeds, later on it dried. Hence, we can have the most desirable effect if this pernicious weed is infected by these insects having quick reproducing potential, provided they do not have any agricultural or economically important crops as alternate hosts.

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### OUDEMANSIELLA CANARIII—A NEW INDIAN EDIBLE MUSHROOM

DURING the survey of Agarics of Bhagalpur, Bihar, the authors came across a mushroom growing solitary or some times in groups on dead woods of mango. The young fruit bodies were ashy-white, whereas the mature ones were cream coloured. The upper surface was viscid when moist. It was identified as *Oudemansiella canarii* (Jung) V. Hohn. The available literatures revealed that the above mentioned species is a new record for India<sup>1-3</sup>.

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### A NEW ERA IN SUGARCANE BREEDING IN UTTAR PRADESH

DUE to limited supply of fluff from Sugarcane Breeding Institute, Coimbatore in the past, it was not possible to have efficient sugarcane breeding programme in Uttar Pradesh. The problem pertaining to pollen viability and seed setting is investigated in detail. A large number of varieties were screened for flowering and seed setting. Studies were also carried out in regard to climatic and environmental conditions to evolve a suitable technique for production of viable fluff.

Flowering behaviour of eighty sugarcane varieties was studied during the year 1974-75. The initiation of floral primordia in 29 selected varieties was studied during the year 1975-76. Pollen fertility in these varieties ranged from 4.9% to 60.8% in 1976-77. The highest pollen fertility (60.8%) was recorded in Co. S. 718. The varieties having more than 10% fertility were chosen for selfing and seed setting studies.

The time of opening of flowers in these varieties was also studied from November, 1976 to January, 1977 and it was found to occur between 4.30 A.M. to 5.00 A.M. Dehiscence of pollen was observed from 9.00 A.M. As temperature and humidity

remained lower than that required for pollen dehiscence during day time, artificial means had to be adopted to deal with these problems.

The lantern method of crossing was modified by covering the entire lantern with alkathene. It raised the temperature and retained humidity in open field conditions. The temperature inside the cage ranged from 10° C to 18° C. Selfing was done in the first week of January, 1977. Matured tassels were harvested in the first week of February, 1977.

The fluff (1 g.) was sown in wooden boxes having mixture of well sieved sand, soil and the farm yard manure in the ratio of 1 : 1 : 1 and kept in glass house for germination under controlled conditions. Ten seedlings germinated in two boxes after 8 days. Rao<sup>1</sup> *et al* also recorded results of similar nature at Alexandria where the temperature varied from 19° C to 10° C. Ten g. of the fluff was sown in seedbed and the optimum temperature and humidity was maintained by covering the beds with hessian cloth and alkathene sheets. One hundred and twenty seedlings were obtained out of which 88 survived after transplanting in the field.

Seed setting in sugarcane under sub-tropical conditions at Shahjahanpur (Uttar Pradesh) hitherto considered to be not feasible, has been made possible in some varieties of sugarcane under study during 1976-77. This achievement undoubtedly heralds the commencement of a new era in sugarcane breeding programme of Uttar Pradesh.

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### GENE GROUPS FOR TOTAL RESISTANCE TO WHEAT LEAF RUST IN INDIA

IN India the most prevalent wheat leaf rust (*Puccinia recondita* f. sp. *tritici*) races, that are capable of damaging the present-day high yielding cultivars, are 12, 77, 104, 162 and biotype 162 A (Swaminathan<sup>2</sup>). These races are found to be virulent on 15 to 19 *Lr* genes of the 22 genes tested on near isogenic background (Reddy and Rao<sup>1</sup>).

Seven days old seedlings of *Lr* isogenic lines were inoculated with all the Indian leaf rust races and reactions were recorded after a week. Reactions: 0, ; 1 and 2 were considered as resistant while 3 and 4 were susceptible. Reactions of nine *Lr* genes to prevalent races are presented in Table I. From the table it is seen that seven gene groups namely, (1) *Lr* 9, (2) *Lr* 19,

(3) *Lr* 10 + *Lr* 15, (4) *Lr* 1 + *Lr* 10 + *Lr* 16, (5) *Lr* 1 + *Lr* 10 + *Lr* 17, (6) *Lr* 3ka + *Lr* 10 + *Lr* 17 and (7) *Lr* 3ka + *Lr* 10 + *Lr* 20 can confer total resistance to these races. Fortunately, these nine genes can be identified by the same prevalent races.

TABLE I  
Reactions of nine *Lr* genes to prevalent races of India

Race	<i>Lr</i> gene											
	9	19	15	1	20	3ka	17	10	16			
12	0	;	;	1	0	;	1	4	1	4	4	
77	0	:	;	3	3	4	34	4	;	1	23	
104	0	;	;	1	3	;	1	4	;	1	23	2
162	;	;	;	1	0	;	1	;	4	4	4	
162A	0	1	1	0	4	;	4	3	4			

In India, the closed season is in operation for Central Plains region, where the major wheat crop of the country is grown. The fresh inoculum of leaf rust comes to this region every year from the two foci of infection, viz., one in the north Himalayan region and the other in the south Nilagiri and Palani hill region. As seven *Lr* gene groups are available, deployment and rotation of these gene groups in different regions is suggested for control of this rust in India.

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### A NEW MEGALODOCHIUM FROM INDIA

REHANA AND RIZWANA<sup>3</sup> reported *Megalodochium elaedis* (Beeli) Deighton, from India. Herein, a new *Megalodochium*, viz. *M. indica* is being described, collected during the survey of microfungi of Hyderabad.

*Megalodochium indica* sp. nov.

Sporodochia epiphyllous, grey to golden yellow, extend over the lower surface of the leaf, 300–600 µm diam., 120–150 µm tall. Hyphae immersed, ramose, septate, hyaline to light yellow, olive green, upto 3 µm