Although the application of antibiotics in relation to the classification of micro-organisms has been indicated,[3,7,8,10,11] it will be rather unsafe to use this criterion in the case of *Rhizobium*.

We are grateful to Dr. W. V. B. Sundara Rao for his interest and to Dr. R. B. Rewari for the *Rhizobium* cultures. One of us (C. L.) is grateful to the Director, Indian Agricultural Research Institute, for awarding a Fellowship during the tenure of this work.

Division of Microbiology, I.A.R.I., New Delhi-12, October 23, 1968.

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G. S. VENKATARAMAN.

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A NOTE ON DRECHSLERA ROT OF TOMATO

DURING September-December 1965, the authors observed a severe storage rot of tomato fruits in the local vegetable market. Consistent isolations from the diseased fruits invariably yielded *Drechslera australiense* (Bugn.) Subram. and Jain, which was confirmed from Commonwealth Mycological Institute, Kew, England. The culture has been deposited at C.M.I., Kew, as No. 13182 and in the Botany Department, University of Allahabad. It was found to be pathogenic as it fully satisfied Koch's[1] postulates. No species of this genus has so far been reported on fruits of *Lycopersicon esculentum* Mill from any part of the world, hence it appears to be a new host for the above organism.

Symptoms.—In the beginning small chaetura black[2] lesions are produced by the pathogen. They are circular and water soaked. Subsequently they enlarge from the point of infection, become darker and develop black-coloured spore masses of the fungus. The junction between the diseased and healthy tissue remains clearly defined (Fig. 1). The

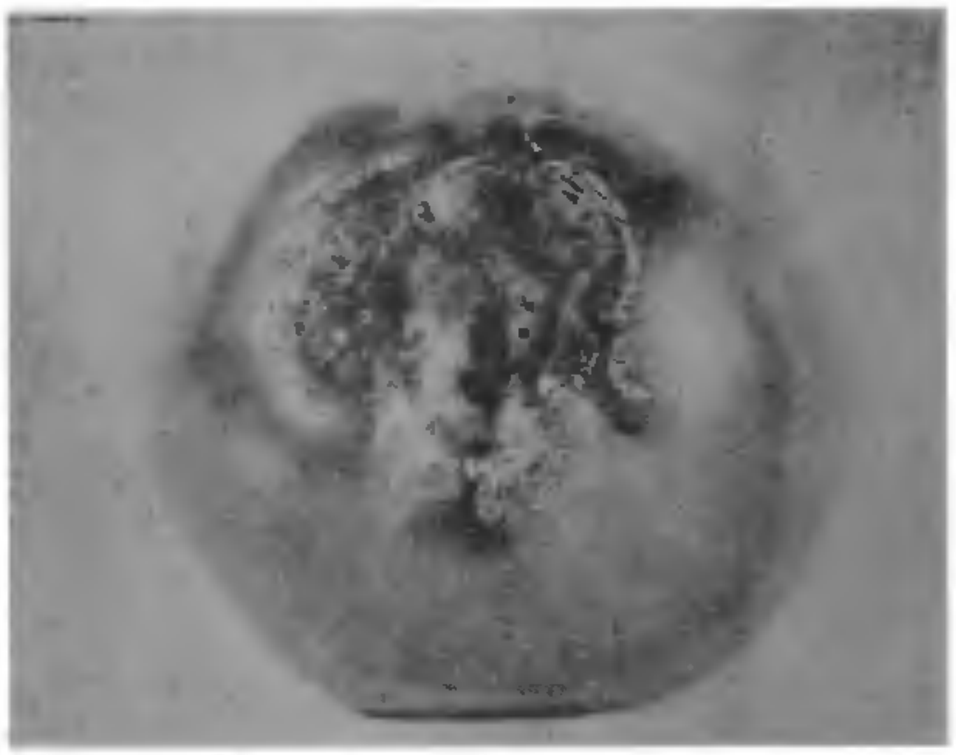

FIG. 1

size of the spots in older fruits increases and the decay penetrates deeply into the flesh. Only injured fruits can be infected by the organism as uninjured fruits failed to develop any symptoms.

The fungus grows well on Asthana and Hawker's Medium 'A' at 25° ± 1° C. In culture the mycelial colony is white but becomes grey at maturity. Hyphæ are septate, 2–6 μ, conidiophores are straight or curved, septate; conidia are mostly 4-celled (3-septate), light grey in colour and measure 8·75–21 × 5·3–7·0 μ.

Extensive cross-inoculations were carried out and it was observed that the organism could infect the fruits of guava (*Psidium guajava* L.), brinjal (*Solanum melongena* L.), mango (*Mangifera indica* L.), apple (*Pyrus malus* L.), banana (*Musa paradisiaca* L.), chilli (*Capsicum annum* L.), bean (*Dolichos lablab* L.), pea (*Pisum sativum* L.) and radish (*Raphanus sativus* L.). It, however, failed to infect orange (*Citrus aurantium* L.), emblic myrobalan (*Phyllanthus emblica* L.), carambola (*Averrohoa carambola* L.) and tubers of potato (*Solanum tuberosum* L.). Suitable control were maintained in all the cases.

We are grateful to Dr. M. B. Ellis of C.M.I., Kew, England, for the help in final identification of the fungus and to the Ministry of Education for the award of a Scholarship to one of us (I. J. K.).

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September 28, 1968.

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R. N. TANDON.

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OCCURRENCE OF PETALOID STAMENS IN *GOSSYPIUM BARBADENSE* LINN.

THE occurrence of petaloid bracts, sepals, stamens and stigma is observed in plant kingdom. In cotton, Sankaran (1931) reported petaloid stamens in Asiatic cotton (*G. arboreum*), wherein the entire staminal column of the flowers was transferred into a petaloid structure. The petaloidy here was observed to be the transformation of primordia of the stamens into petals and this phenomenon added support to the recognition of the foliar nature of the stamens. Rhyne (1965) has recorded the occurrence of reduced androecium in cotton which was controlled by cytoplasmic inheritance.

At the Regional Research Station, Kovilpatti, one plant in *G. barbadense* (Russian variety 504-B) was observed to produce a few flowers with petaloid stamens. It was interesting to note that the same plant produced flowers with normal stamens as well as petaloid stamens. On close examination of the petaloid flowers it was found that only a few of the stamens ranging from two to four in number were involved (Fig. 1).

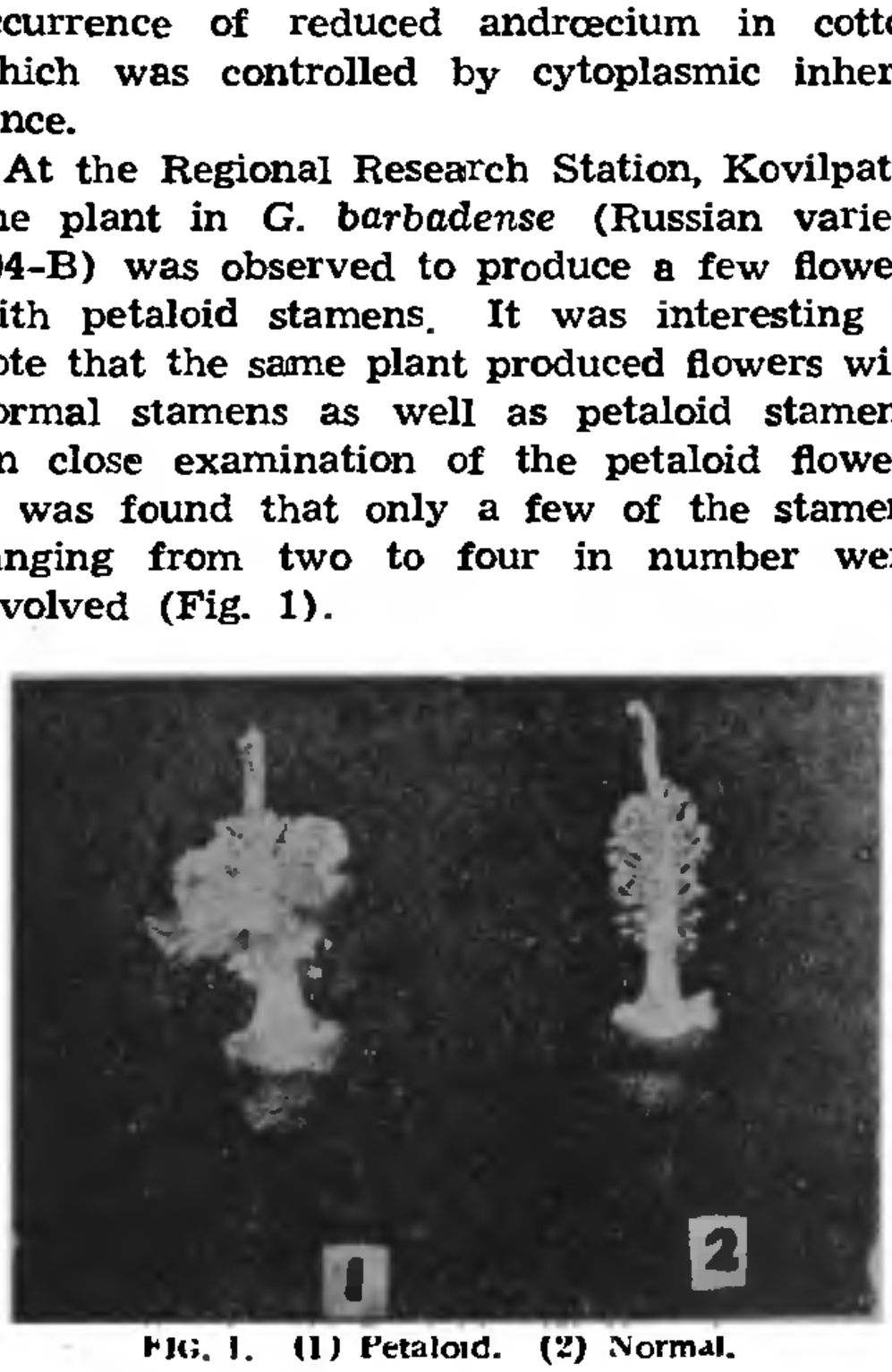

FIG. 1. (1) Petaloid. (2) Normal.

Pollen grains from normal and petaloid flowers were collected separately and tested for viability through artificial medium (Table I).

TABLE I

Sl. No.	Nature of flower	No of pollen grains			Viability %
		Total examined	Fertile	Sterile	
1	Flower with petaloid stamen	247	11	236	4·5
2	Normal flower ..	259	247	12	95·4

It would be seen from Table I that the pollen grains from the petaloid flowers are almost sterile as compared to fertile pollen of the normal. When the pollen dust from normal flowers was applied on the stigma of the flowers with petaloid stamens, fertilization was effected. The seeds produced from such "crosses" were sown and the progenies studied for two generations. None of them produced flowers with petaloid stamens. It was clear from this observation that petaloidy in this case was not heritable in contrast to Rhyne's (1965) observations on cotton.

It was also observed that the formation of petaloid stamens in this case was not due to pathogenic causes. Thus, the first occurrence of partial petaloid stamens in *G. barbadense*, observed in this station, might have been caused by physiological cause.

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Regional Res. Station, O. RAMANATHA PILLAI.
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June 26, 1968.

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SURVIVAL OF MAIZE SEEDLINGS UNDER STRESS OF PLANT COMPETITION

DIFFERENCES in plant competition between different genotypes have been noticed under mixed planting. In most investigations differences in the ability of various genotypes to suppress or compensate the yield of another genotype have been reported.[1,2] In the present study using the same maize variety (open-pollinated) in which early seeding was followed by late interplanting, the competitive ability of various genotypes under mixed planting was measured in terms of post-emergence survival or plant stand at maturity (Table I).

The experiment was laid out with four treatments in three replications in R.B. design.