of both selfing and crossing were infructuous and the mutant is sterile. However, it was possible to obtain a few fruits by employing this as male parent. Inheritance studies of the mutant are under progress. In the light of these observations—high pollen fertility and absolute want of fruit set—it should be inferred that the mutant is female sterile. The gene/genes accountable for bringing forth this variant condition is/are exerting influence on female fertility of the plant or *vice versa*. The infertility of the gynoecium could be due to its multicarpellary nature. Very recently Murty and Lakshmi[3] described a new type of female sterile mutant in *Capsicum* manifesting variation both in the shape and size of leaves and floral characters, besides exhibiting marked reduction in the size of the floral parts. In contrast, the mutant plant under study, displayed unusual increase in the number as well as size of the floral parts. Consequently it is inferred that the floral organogeny in *Capsicum* is perhaps an intricated process governed by polygenes and the mutations of these genes cause either an increase or decrease of the number and size of the floral parts together with the infertility of the ovary.

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GREEN COTYLEDON MUTANT IN MUNG BEAN [*VIGNA RADIATA* (L.) WILCZEK]

In mung bean the cotyledons are normally yellow in colour and the seedcoat is green. A mutant with dark green seeds was isolated in the M_2 generation following exposure of dry seeds (11% moisture) to 3 krads of fast neutrons obtained from SNIF (Standard Neutron Irradiation Facility) which is installed in the APSARA Reactor of this Research Centre. On splitting the seeds of this mutant, cotyledons were found to be green in colour as compared to the yellow of the parental cultivar S-8. The mutant bred true in subsequent generations. Morphological characteristics, yield components, protein content, chlorophyll content in the seedcoat and cotyledons as well as the inheritance of the green cotyledon character are described in this communication.

Data on morphological characters and yield components recorded on the plants in the M_4 generation (Table I) show no significant variation between the mutant and parent, except in 100 seed weight which were lower for the mutant. Chlorophylls from the seedcoat and cotyledons were extracted separately in 80% acetone and their quantity estimated according to Arnon's method[1]. Chlorophyll content in the seedcoat of the mutant was marginally lower than that of the parent while the cotyledons of the mutant contained 20 times more chlorophyll (Table I). The chlorophyll *a*/*b* ratio in the cotyledons of the mutant was low indicating that more of chlorophyll *b* was present.

TABLE I

Comparative data on the agronomic characters and chlorophyll content of "green cotyledon" mutant and its parent variety

Character particulars	Variety	
	Parent	Mutant
Plant height (cm)	50·5±1·3	49·5±1·2
Days to flower	43	40
Number of nodes	7·6±1·6	8·0±1·5
Number of racemes	5·7±0·3	5·8±0·3
Number of pods	18·0±1·2	17·9±1·2
Number of seeds/pod	11·2±0·3	11·1±0·3
100 seed weight (gm)	3·9±0·2	3·5±0·1
Seed yield/plant (gm)	6·0±0·4	5·1±0·4
% seed protein	25·9	24·9
Chlorophyll content (Total chlorophyll per g.f. wt.)		
Seedcoat	184·6	176·4
Cotyledon	2·8	40·7
Chlorophyll *a*/*b*		
Seedcoat	1·4	1·5
Cotyledons	4·0	2·1

Morphological data mean of 20 plants.

The mutant was crossed reciprocally to the parent and to two other cultivars, ML-5 and PS-10. Seeds from all the four crosses were light green in colour with yellow cotyledones. The character being specific to the cotyledons, its segregation could be studied in the pods of the F_1 plants. The pooled data for each cross gave an excellent fit to a 3 : 1 phenotypic ratio (Table II), suggesting that the green cotyledon

TABLE II
Segregation of "green cotyledon" character

Cross particulars	F_1		F_2		X^2 (3 : 1)	P value
	No. of plants	Phenotype	Yellow cotyledons	Green cotyledons		
Parent (S-8) × mutant	17	Yellow cotyledon	1573	543	0·818	0·50–0·30
Mutant × Parent (S-8)	14	,,	1094	350	0·447	0·70–0·50
ML-5 × Mutant	3	,,	248	74	0·699	0·50–0·30
PS-10 × Mutant	8	,,	716	230	0·240	0·70–0·50

character is monogenic recessive. This was further confirmed from genetic segregation in the F_3 (108 homozygous, 207 heterozygous progenies, ratio 1 : 2 $x^2 = 0·13$, $P = 0·80–0·70$) in the case of mutant to parent cross.

In mung bean, red colour of cotyleons, hypocotyl and top of leaflet stalk has been reported to be controlled by the pleiotropic action of a single dominant gene[2]. This would mean that cotyledon colour will be the same as the other two parts. The parent cultivar and the mutant of the present study have red hypocotyl, petiole and top of leaflet stalk; but have yellow and green cotyledons respectively. Moreover, a mutation has been induced for cotyledon colour without affecting the colour of the other plant parts. Thus, the gene for cotyledon colour is indepedent and we propose the symbol *gc gc* for green cotyledons.

Normally, in mung bean cotyledons are green to start with and become yellow at maturity—possibly due to the destruction of chlorophyll. Experiments (in progress) indicate that loss of chlorophyll is prevented in this mutant.

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PHAEOISARIOPSIS TEPHROSICOLA— A NEW SPECIES

DURING February, 1974 the leaves of *Tephrosia purpurea* were found to be severely infected by a fungus. Following is the description of the causal organism. The morphological characters of the fungus reveal that it is a species of *Phaeoisariopsis* Ferraris, which differs from all the species of this genus, and hence is being reported as new.

Phaeoisariopsis tephrosicola Raghuveer sp. nov.

Colonies rusty brown, epiphyllous, irregular, 1–5 mm in diameter; myclium internal, subhyaline to hyaline, branched, septate, 2–5 μ in diameter, closely aggregated to form a stroma; stromata superficial and subtending stomata, 50–112 × 23–48 μ consisting of thick walled loosely compact blackish brown, oval to angular cells, 6–18 × 5–13 μ; conidiophores macronematous, mononematous, unbranched, deep brown, 0–3 septate, straight or curved, 15–85 μ long, 6–13 μ broad; conidiogenous cells integrated, terminal, polyblastic, sympodial, strongly cicatrized; conidia solitary dry, broadly obclavate, 1–3 septate, acropleurogenous deep to golden brown, 20–42 μ long, 4·8–8·0 μ broad at base and 3–5 μ broad at apex, proximal cells of conidia slightly swollen while distal cells gradually narrowing.

Infecting leaves of *Tephrosia pupurea* L., collected on 18–2–1974 on the University campus by P. Raghuveer Rao, deposited in O.U.B.L. No. 278.

Earlier, Agnihothrudu[1] described *Passalora tephrosiae* infecting the leaves of *Tephrosia candida* L., and Govindu and Thirumalachar[2] *Cercospora hardwarensis* Narasimhan, parasitizing *T. purpurea* L.

Obviously, the fungus described above differs from *C. hardwarensis* Narasimhan apud Govindu and Thirumalachar in producing supra stomatal stroma with aggregated cells, septation, dimensions of cicatrized conidiophores, conidial spetation, colour and in being more broad. The gross morphological characters of conidiophores, conidia and their initiation found in this fungus are highly suggestive of *Phaeoisariopsis* Ferraris, which is treated to be congeneric. Of the ten species of *Phaeoisariopsis* known so far excluding the lectotype, only two of them, *viz.*, *P. indica* (Subram) Deighton and *P. bondu-*