

## Mottled Leaf - A Mutant In *Arachis hypogaea*, L.

During casual observation of the varietal trial-plots at the Groundnut Research Station, Mainpuri in the year 1963-64 a plant with unhealthy appearance marked conspicuously by the absence of green healthy leaves and shorter stature among the taller healthy and bushy plants of the newly introduced variety C. 501 was spotted. It was found to bear only two thin pods with four healthy seeds. They were sown next year in a row by the side of C. 501. All the four seeds germinated and there was no appreciable difference, among the seedlings upto two weeks. Thereafter, mosaic mottling in upper leaves of three seedlings appeared gradually, while the fourth plant was quite normal and similar to the plants of C. 501. As the age advanced, the mottled plants became more distinct by their small, yellowish green and mottled appearance of leaves as also dwarf nature. The flowers, pegs, pods, and the seeds did not differ much in these three plants. The mottled plants were, however, found to bear chaffy pods having shrunken seeds not found in the normal plant. On maturity which was similar in all the four plants as also in C. 501, one of the three abnormal plants did not yield healthy seeds. The rest two plants were also found to give less yield than the normal plant. The normal plant was, however, quite similar to C. 501 in all respect.

The seeds of the two mottled plants were sown separately in rows by the side of the third row of the normal plant in the next year.

The progeny of both the mottled plants was found to segregate into 15 mottled : 3 normal (1st plant) and 21 mottled : 12 normal (2nd plant) total being 36 mottled : 15 normal which approximates to 3 : 1 ratio denoting monogenic difference and also the dominance of mottled leaf to normal one. However, the population was too low to postulate any genetic inheritance with certainty. Seshadri and Seshu (1956) described a mutant form of groundnut characterized by abnormally large yellowish green mottled leaflets. Here the studies are being pursued for picking out pure lines of the character which is likely to be utilized as a dominant leaf-marker stock like the one reported by Hammons (1964). In view of the poor yielding capacity of the mutant its utility for economic purposes is doubted.

The plant with mottled leaves originally found in 1963-64 is inferred to be a hybrid between a mottled leaved plant and the normal one of C. 501. Its correct generation, however, is only a matter of speculation. Since all the plants with mottled leaves were uniformly alike and the normal ones found in segregation did not differ from C. 501 in any way, the mutant might be

## REFERENCES

- Hammons, R. O. 1964. Krinkle, a Dominant Leaf Marker in the Peanut, *Arachis hypogaea*, L. *Crop Sci.*, 4: 22-24.
- Seshadri, C. R. and Seshu, K. A. 1956. A mutant form of Groundnut. *Madras agr. J.*, 43: 199-200.

## Correlation of Some Important Characters in Wheat

It is often observed that one or more characters, qualitative and quantitative, may be correlated and the correlation can show the relative influence of various yield components on yield and indicate those on which more emphasis should be placed by plant breeder for selection.

Chinoy (1947) noted negative correlation between yield and length of vegetative period of wheat. Pal and Butany (1947) recorded a high positive relationship of yield with number of kernels per spike and average weight of grains per ear. Sikka and Maini (1962) noted positive correlation between yield and seed weight. Gandhi *et al* (1964) recorded positive correlation of yield with number of ears per plant and 1000 seed weight.

A large number of promising wheat cultures evolved at the various wheat breeding stations were used. These belonged to diverse origin and had been built up to satisfy the specific needs of a number of agro-climatic conditions. During the year 1964-65, a set of 12 strains including standards, was tried at the R. M. College Farm, Narsan (Saharampur) in randomised block design. The strains chosen were NP 824, NP 830, NP 846, NP 871, NP 880, NP 890, C 281, C 306, K 68, Sanora-63, Sanora-64 and Larmarozo, sown in two row plots.

The data recorded are presented in Table 1.

TABLE 1.

Characters	r 12.3		r 13.2		r 23.1	
	Partial 'r'	Corresponding value of single 'r'	Partial 'r'	Corresponding value of single 'r'	Partial 'r'	Corresponding value of single 'r'
A	+0.29	+0.41	+0.68*	+0.56	+0.78**	+0.68*
B	+0.49	+0.76*	+0.49	+0.76	+0.14	+0.63
C	-0.019	-0.059	+0.036	-0.01	+0.45	+0.45
D	+0.041	+0.056	+0.002	-0.032	-0.017	+0.034
E	+0.41	+0.291	+0.06	+0.072	-0.03	-0.009
F	-0.621*	+0.341	-0.092	+0.291	+0.05	-0.046
G	+0.84**	+0.79	-0.19	-0.109	-0.12	+0.01
	+0.62*	+0.62*	-0.15			