has been identified to be a potential parent to produce superior hybrids, besides its high *per se* performance. Among the other parents, P_5 (CSV 3) was found to combine well with P_3, P_4 and P_6 besides recording good *per se* performance for grain yield. This supports the view of Gilbert (1958), that if the parents themselves possess the desirable characters at a high level of expression, the breeding programme will be effective.

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GENETIC VARIABILITY IN KODO MILLET (PASPALUM SCROBICULATUM L.)

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ABSTRACT

Fifty genotypes of Kodo millet were used to study the genetic variability among them for six economic attributes. The genotypic coefficient of variation was high for straw yield. Plant height, 1000-grains weight and straw yield exhibited higher heritability estimates. Straw yield also recorded the highest genetic advance indicating that it is controlled by additive gene action and that phenotypic selection for its improvement will be effective.

KEY WORDS : Kodomillet, variability

The aim of the present investigation was to have information regarding the variability, heritability and genetic advance of six characters in kodo millet.

MATERIALS AND METHODS

Fifty genotypes of kodo millet were chosen from the germplasm back maintained at National Pulses Research Centre, Vamban, Pudukkottai. The experiment was conducted during Kharif 1983 inrandomized block design with two replications. A spacing of 45 x 15 cm was adopted. At maturity five plants were chosen at random and observations were recorded on plant height, number of basal and nodal tillers, 1000 - grain weight (without husk), straw and grain yield.

The phenotypic and genotypic variances and genetic advance were calculated according to Johnson *et al.* (1955). The methods suggested by Burton (1952) was used to compute phenotypic and genotypic coefficients of variability (PCV and GCV). Heritability in broad sense was estimated based on the formula of Lush (1940).

RESULTS AND DISCUSSION

The variances due to genotypes for all the six traits were significant. The range, phenotypic and genotypic variances, PCV and GCV, heritability and genetic advance

Table 1. Variability, heritability and genetic advance

Character	Range	Genotypic variance	Phenotypic variance	GCV	PCV	Heritability	Genetic advance	G.A. as per cent of mean
Plant height (cm)	39.6 -75.0	81.20	98.79	17.92	19.16	82.19	16.83	33.46
Basal tiller	8.1 -19.5	5.01	9.02	17.09	22.94	55.51	3.43	26.23
Nodal tiller	12.3 -25.5	4.31	14.51	11.42	20.96	30.67	2.41	13.24
1000 grain wt. (g)	2.6 - 5.6	0.47	0.51	18.67	19.45	92.25	1.36	36.95
Straw yield (g)	8.7 -36.5	33.61	46.95	33.00	39.01	71.59	10.10	57.53
Grain yield (g)	4.5 -18.0	6.39	12.83	20.50	29.04	49.83	3.68	29.81

are furnished in the Table 1. The highest GCV was observed for straw yield (33.00). This is in agreement with the findings of Dhagat *et al.* (1971) in Kodo millet, Manoharan and Sivasubramanian (1982) in prozo millet (*Panicum miliaceum* L.) and Abinash Yadav and Srivastava (1976) in little millet (*Panicum miliare* Lam.). Very low GCV estimate was observed in the present material for number of nodal tillers.

Thousand grain weight exhibited the highest heritability estimate of 92.25 followed by plant height (82.15) and straw yield (71.59). This points to the greater role of genetic factors causing variation in these characters. Number of nodal tillers was the least heritable trait. Heritability estimates along with genetic gain are more important for selection than heritability alone (Lerner, 1958). The genetic advance as percentage of mean was high for straw yield (57.53). This indicates that straw yield is controlled by additive gene action and phenotypic selection for the improvement of this character will be effective. Choudhary and Acharya (1969) in finger millet (*Eleucine coracana*), Abinash Yadav and Srivastava (1976) in little millet and Manoharan and Sivasubramanian (1982) in proso millet also reported that straw yield could be improved through phenotypic selection. Grain yield had moderate heritability and genetic advance. The two other highly heritable characters *viz.*, plant height and 1000 - grain weight had lower genetic gains indicating that they are controlled by non-additive gene action.

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