

Performance of Cowpea (*Vigna unguiculata* (L) Walp) Genotypes for Fodder Traits

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Cowpea provides highly palatable succulent, nutritious fodder and improves soil fertility even when grown on light textured soils. Large number of genotypes available needs their evaluation for fodder traits, hence an experiment (RBD with four replications) was laid out with 36 cowpea genotypes at SKN College of Agriculture, Jobner. The crop was sown on July 11, 1988 and genotypes were evaluated for different characters (Table 1). Tochers method (Rao 1952) was used for calculation of Mahalanobis D^2 statistic and grouping of genotypes into different clusters.

Analysis of variance revealed the significant differences among genotypes for all the characters studied. The high dry forage yielding genotypes JC-5 (22.0 g), TVU-50 (22.0 g), TVU-99-1-2 (21.6 g) UPC 4200 (19.83 g) and TVU-2007 (19.4 g) differed significantly from check variety Russian Giant (14.7 g). The dry matter content (%) was significantly high in genotypes TVU-99-1-2 (42.0), TVU-50 (41.9), C-152 (41.2), RC-77 (40.7), and JC

5 (40.2), when compared with check variety (23.4). Green fodder yield per plant was highest in TVU-2007 (65 g) followed by TVU 3183 (65.1g) and Russian Giant (62.8g). The crude protein content (%) was highest in EC-101958-1-2 (24.12) followed by TVU-3183 (23.7), TVU-2007 (22.9), and TVU-50 (21.7).

High amount of genetic variability observed in cowpea was also reported by Tyagi et al. (1978), and Jatasara et al. (1982).

The estimates of heritability was high for days to 50 per cent flowering, as also reported by Mishra et al (1987), leaf area, plant height, green fodder yield per plant and dry matter and crude protein content (Table 1). The expected genetic advance was high (more than 25%) for all the characters studied.

Based on the mean performance and genetic divergence of genotypes it is suggested that crosses involving genotypes UPC 4200, TVU- 2007, TVU-

Table 1 Range, over all mean, heritability and genetic advance for fodder yield and other characters

Character	Range	Overall mean	Heritability	Genetic advance as % of mean
1. Days to 50% flowering	40.0-77.7	65.8	95.8	25.9
2. Plant height (cm)	50.3-120.4	83.7	90.6	43.7
3. Leaf area (cm ²)	76.1-206.4	160.9	96.1	36.5
4. Number of leaves/plant	9.6-20.6	14.8	57.1	28.0
5. Green fodder yield (g plant ⁻¹)	36.6-65.7	49.6	84.4	32.5
6. Dry fodder yield of (g plant ⁻¹)	10.0-22.0	14.8	62.0	32.0
7. Dry matter content (%)	19.4-42.0	30.3	82.0	39.9
8. Leaf-stem ratio	0.60-1.46	1.0	95.5	29.8
9. Crude protein content (%)	11.8-24.2	16.2	85.7	38.1

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50, JC-5, EC-101958-1-2, TVU-3183, TVU-999-1-2-5-1 and Russian Giant should be attempted for high forage yielding early genotypes. To obtain late genotypes having high forage yield and quality, the crosses involving genotypes EC-101968, UPC-8706, Russian Giant, EC-101958-1-2 and PCO 1999-2 be attempted.

References

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