

◆ Research Paper

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Adaptability study of Cowpea (*Vigna unguiculata*) genotypes for their agronomic performance and nutritive value in Adola district of East Guji zone of Oromia

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Abstract: The study was conducted to identify adaptable, high biomass and seed yield of Cowpea genotypes. Three Cowpea genotypes Bole, 6786 and 2351 were tested in a randomized complete block design (RCBD) with three replications. The result revealed that days to 50% flowering, days to seed maturity, plant height and seed yield was significantly ($P < 0.05$) differ among treatments. Among the tested genotypes late matured was obtained from genotype 6786 (131) days while late genotype was obtained from 2351 (113 days). The highest value of plant height was measured from genotype 6786 (132.8 cm) whereas the short plant height was obtained from genotype 2351 (64.8 cm). The highest seed yield was produced from Bole genotype (24.18 qt/ha) whereas the lowest seed yield was obtained from genotype 6786 (6.8 qt/ha). Chemical composition indicated genotype 2351 was the highest in total ash (TASH) and neutral detergent fiber (NDF) whereas less in crude protein (CP) genotype 6786 was the highest in crude protein (CP) while Bole variety had the highest in dry matter (DM), acid detergent lignin (ADL), acid detergent fiber (ADF) and organic matter (OM). The result of this study implied that 6786 genotype was well adapted and being productive regarding the plant height (131.8 cm) and biomass yield (4.4 t/ha) which is hopeful to fill the gap of low quantity ruminant feed. In addition, the nutritional values were promising particularly the crude protein (CP) in 6786 genotype. Thus it could be possible to conclude that cowpea genotype especially 6786 used as a protein supplement. Based on its adaptability, high biomass, plant height, good CP content 6786 genotype is recommended for further promotion in the midland of East Guji zone and similar agro-ecologies.

Keywords: Adaptability; Adola; Cowpea; Genotypes; Guj; Nutritive value; Cowpea



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