

Contribution of morpho-physiological traits on yield of lentil (*Lens culinaris* Medik).

ABSTRACT

Experiments were performed under sub-tropical condition (24°8' N 90°0' E) with five promising lentil mutants, LM-149, LM-417, LM-504, LM-507, LM-1018 and a check, L-5 to evaluate some morpho-physiological features and its impact on seed yield. The growth rate was very slow during the vegetative phase in all the genotypes due to a relatively smaller portion of dry matter production before flower initiation and bulk of it after anthesis. The maximum growth rate was observed at late flowering stage (60-70 days after sowing) in most of the genotypes. Results indicated that genotype improvement efforts have achieved higher seed yield by higher growth rate at early growth stages and better assimilate partitioning to economic yield. The bushy plants are unlikely to improve harvest index in lentil. Two mutants, LM-507 and LM-1018 had medium plant stature with moderate biomass production capacity and improved harvest index and increased yield. This information may be used in future plant breeding programme.

Keyword: Growth; Lentil; Mutants; Nitrate reductase; Yield.