

**B-71 : EFFECT OF SALINITY ON SEED GERMINATION OF COWPEA
(*Vigna unguiculata* (L) WALP.) AS AFFECTED BY THE GENOTYPE**

R P Kasturiarachchi, R Senaratne

Dept. of Agronomy, Faculty of Agriculture, University of Ruhuna.

In Sri Lanka at present over 3% of the land area (i.e. over 300,000 ha) has been affected due to salinity and alkalinity, and this area is progressively increasing with the expansion of irrigated agriculture, particularly in the dry zone. Under the Mahaweli Project alone, over 250,000 ha of new land are under cultivation where salinity has already developed in some areas i.e. system H. Therefore it has now become appropriate to identify genotype of crop species suitable for salinity-prone areas. Cowpea is considered as an important crop among the grain legumes grown in Sri Lanka. Preliminary studies were done to ascertain the effect of salinity on germination of some promising genotypes of cowpea. The study involved 10 genotypes of cowpea (5 recommended cultivars i.e MI-35, Arlington, Bombay, Iita and Lanka Kadala and 5 exotic genotypes i.e. CP 889, IT-84S-853,

IT- 87S-1459, IT-84E-275/9 and IT-86E-2089/5) which were screened for germination under six salinity levels i.e. 0, 3, 6, 9, 12 and 15 dS/m under laboratory conditions. The germination of all genotypes used was not significantly affected upto a salinity level of 12 dS/m. However, when it exceeded 12 dS/m, considerable genotypic differences in germination were evident. For instance, Iita and IT-86E-2089/5 showed high tolerance to salinity maintaining a % germination of 92 and 96 respectively while MI-35 and IT-84E-275/9 high sensitivity resulting in a

% germination of only 34 and 32 respectively. Increasing level of salinity caused suppression of radicle elongation which appeared to depend upon the genotype. Bombay showed the lowest % decrease in radicle length while IT-84E-275/9 the highest in response to salinity.