

FIELD PERFORMANCE OF FODDERBEET AND SEABEET GERMINATION, GROWTH AND ION RELATIONS UNDER SALINE SOIL CONDITIONS

Banaras Hussain Niazi¹, Jelte Rozema², M. Salim¹ and M. Yasin¹

ABSTRACT

Germination, growth and ion relations of fodderbeet (*B. vulgaris* cv Majoral) and seabet (*B. maritima*) were studied at 200 and 400 mM NaCl under field conditions. Direct sowing without addition of salt in garden soil did not affect germination percentage of both subspecies. However a slight lower germination percentage was recorded when seeds were sown in sand for nursery purpose. Leaf area increased significantly under saline conditions in both subspecies, while leaf number increased significantly in seabet only. Fresh and dry weight of fodderbeet increased significantly at 200 mM NaCl. The increase was probably due to larger leaf area in fodderbeet. Relative growth rate and net assimilation rate increased significantly upto 200 mM NaCl in fodderbeet and upto 400 mM NaCl in seabet. There was no change recorded in specific leaf area in fodderbeet. Specific leaf weight of seabet increased with a decrease in specific leaf area. An antagonistic effect on the uptake of Na^{+} and K^{+} in root and shoot of both subspecies was recorded under saline conditions. The chloride content increased significantly in the presence of increasing salinity. There was no effect of salinity on the uptake of Ca^{2+} , but Mg^{2+} concentration decreased in root and shoot at 400 mM NaCl.

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