



## Early detection of salinity tolerance level of five groundnut genotypes during seed germination.

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### ABSTRACT

*Objectives:* The aim of this study was to evaluate the effect of salt stress on seed germination of five groundnut varieties, with the view to determine their level of tolerance to salinity during this early developmental phase of the plant.

*Methodology and results:* The study was carried out at Farakoba research station. Calibrated kernels of five groundnut varieties were submitted to six levels of salt treatments, using a split plot design with 3 replications. Sixteen (16) seeds per treatment were placed in Petri dishes containing blotting papers, soaked with different concentrations of sodium chloride (NaCl): 0 mM, 25 mM, 75 mM, 125 mM, 175 mM and 225 mM. Seeds treated in this way were incubated in an oven at 25°C for a week.

*Conclusion and application of results:* The study showed that salt not only delayed germination, but also considerably reduced the germination rate of groundnuts. However, this effect was dependant on both the stress intensity and the groundnut genotype. The variety SH470P was the most tolerant to salt stress with a germination rate of 40% under the most severe stress condition (225 mM), while variety *Séreba* 1 showed the highest sensitivity with a germination rate of 4% under the same conditions. Groundnut response to salinity is variety dependent. The possibility to detect groundnut response to salt stress at an early stage as the seed germination phase saves time for breeders during varietal trials.

**Key words:** Salt stress, *Arachis hypogaea* L., adaptation, NaCl