

عنوان مقاله:

Selecting Drought Resistant Sweet Corn Cultivars Based on Germination Percentage and Seedling Proline Content under Osmotic Potentials Stress

محل انتشار:

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خلاصه مقاله:

Water stress can affect germination by decreasing the percentage of germination. A study was undertaken to evaluate the influence of different osmotic potentials (MPa) on proline content and percentage seed germination of corn. The experiment was conducted in factorial with a randomized complete block design (RCBD) with three replications. Seeds of two open pollinated varieties (Masmadu and Thai super sweet) and three Hybrids (968,969 and 926) sweet corn were germinated at 0, -0.2, -0.5, -0.7, -1.2 and -1.4 MPa osmotic potentials. Results showed the percentage of germination and coefficient of velocity decreased with decrease in osmotic potential while proline content and mean germination time increased. Polyethylene glycol increased root length and length per volume at low osmotic potential (-0.2 MPa) but decreased at more than -0.7 MPa. Seedling proline content appears not to be related to percentage germination but appears to be related to the decline in osmotic potential in germination media. Seed germination test at -0.7 to -1.2 MPa has the potential to be used as a vigor test in sweet corn

کلمات کلیدی:

Osmotic potential, Germination, Polyethylene glycol, Corn, Proline content

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