

## In vitro response of Sorghum bicolor to salinity

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In the present work, three Sorghum accessions known to show different levels of salinity tolerance (viz., tolerant, moderately tolerant and sensitive) at plant level have been used to study their in vitro response to cultures under in vitro salinity stress.

The immature inflorescences of moderately tolerant (IS. 23217 Zm. 138,) ,tolerant (IS. 23190 Zm. 90) and sensitive (IS 23253 Zm.321 ) accessions(characterized from previous studies ) collected from field grown plants were inoculated on MS medium (containing different concentrations of NaCl and MgSO<sub>4</sub>) supplemented with 1.5 mg/l 2,4-D for callus induction and 0.25mg/l BA for regeneration. Data were collected on Frequency of callus induction, frequency of embryogenic calli, total callus quantity, embryogenic callus quantity and regeneration frequency under different salinity concentrations. With an increase in salinity concentration, there was decrease in all the in vitro characters. In control moderately tolerant(IS 3566) showed better response, but in salinity treatments IS 23217 Zm.138 identified as tolerant at plant level retained its tolerant nature under in vitro conditions also. Therefore it is suggested that, the in vitro screening using callus cultures can be applied for large scale screening of germplasm to identify the salinity tolerant and sensitive genotypes.

**Keywords:** in vitro response, Salt tolerance, Sorghum bicolor

### Biography

Kusuma Kumari Panda has completed her PhD from Andhra University and postdoctoral studies at Indian Agricultural Research Institute, New Delhi. She has 10 years of teaching experience and presently working as Assistant Professor at Amity University, Noida, U.P.

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