



EFFECT OF ETHEPHON AND GIBBERELLIN A₃ ON *AMARANTHUS CAUDATUS* SEED GERMINATION AND α- AND β-AMYLASE ACTIVITY UNDER SALINITY STRESS

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This study assessed the effects of different doses of ethephon and gibberellin A₃ on germination and α- and β-amylase activity in *Amaranthus caudatus* seeds exposed to different levels of salt stress. NaCl at 25 and 50 mM only delayed germination; at 75, 100 and 125 mM it caused 50%, 90% and 99.5% inhibition of *Amaranthus caudatus* seed germination. Both ethephon and GA₃ (0.01, 0.1, 0.3 mM) effectively counteracted inhibition of seed germination under salinity. The stimulatory effect of ethephon appeared earlier, and the seeds were more sensitive to ethephon than to GA₃. Ethephon enabled seed germination in the presence of all NaCl concentrations (75, 100, 125 mM) even after 24 h. GA₃ alleviated inhibition caused by 75 and 100 mM NaCl until 48 h and did not affect reduction of germination caused by NaCl at 125 mM. NaCl (100 mM) reduced α- and β-amylase activity and seed germination after 14 h, and enhanced α-amylase activity after 20 h, although germination was reduced. Ethephon and GA₃ increased α- but not β-amylase activity under salt stress during the first 14 h of incubation.

Key words: *Amaranthus caudatus* seeds, α-, β-amylase activity, ethephon, germination, gibberellin A₃, NaCl.

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