



# *Salinity stress response of *Cuscuta campestris* is affected by the host*

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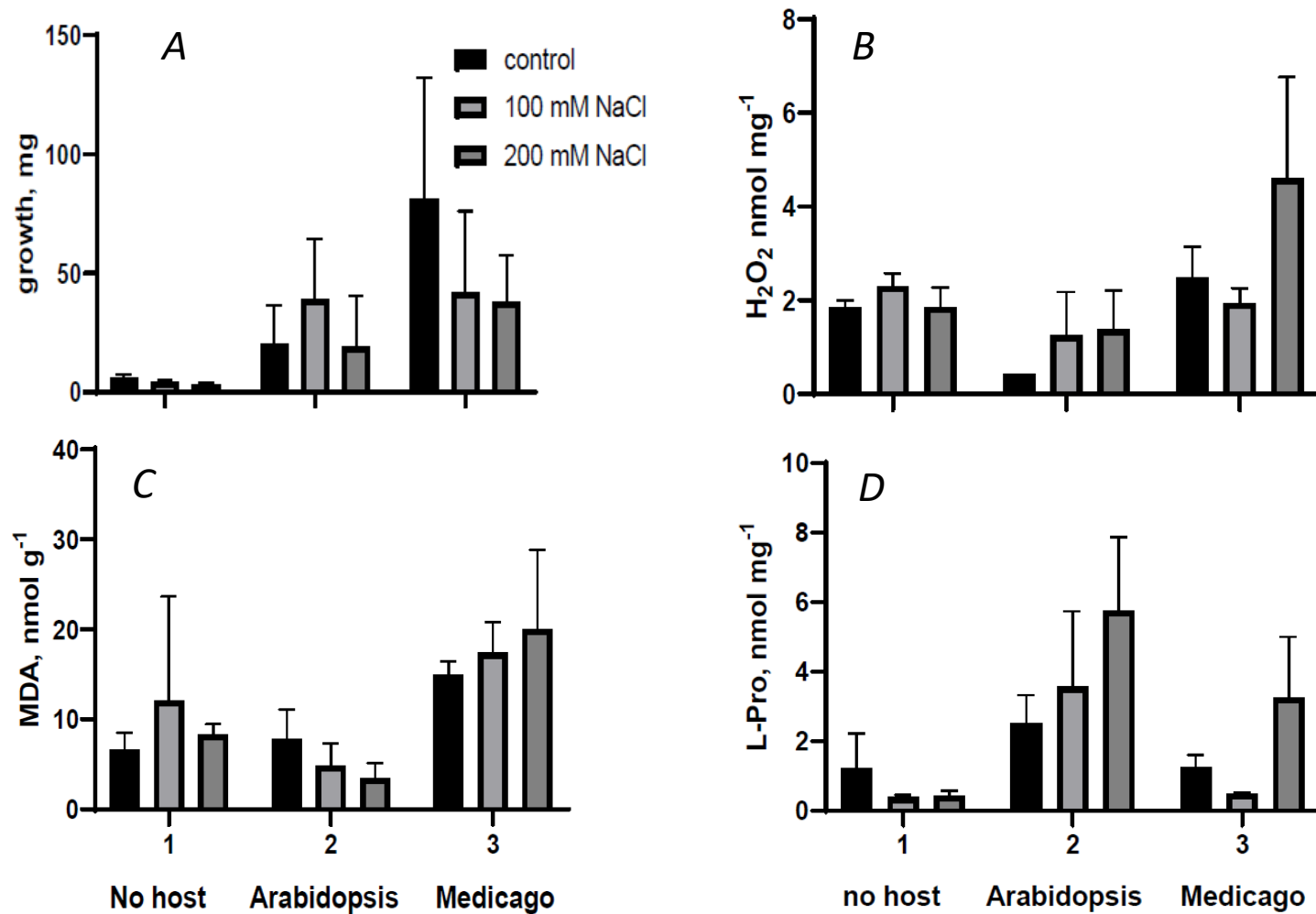
**Background:** Parasitic plants represent numerous species of angiosperms with unique partial or full heterotrophic lifestyle. The negative impact on the host plants is devastating due to significant inhibition of host plant’s growth and development. Little is known about the impact of abiotic factors, in particular salinity stress, on parasitic plants with limited or absent soil contact. As salinization of soil is one of the most important problem in agriculture, this topic represents an essential part of fundamental knowledge and understanding of parasitic plants strategy for sensing and choice of host plants.

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**AIM:** the effect of different soil salinity regimens on *Cuscuta campestris* (\*), an obligate stem parasite, in the presence of two different hosts was tested. The model plant *Arabidopsis thaliana* (A) and the perennial flowering plant in the legume family Fabaceae, and common host for *Cuscuta* spp., *Medicago sativa* (C) were tested as host plants. In addition, the effect of salinity on the parasite in host absence (B), e.g. in the initial developmental stage, was also analyzed.



**RESULTS:** It was estimated that the parasitic plant grows and develop with availability of both host plants, in contrast to the host absence (A). The growth is inhibited with increasing concentration of soil salinity (0, 100 and 200 mM NaCl), with the exception of *M. sativa* in which the parasite has the most intensive growth on 100 mM NaCl. This observation is in correlation with the hydrogen peroxide concentration (B). With host *A. thaliana* the concentration of MDA decrease (C) with higher concentration of soil salinity contrary to the concentration of L-Pro (D) whereas with host *M. sativa* this results are not in correlation with the observed growth characteristics.