Effects of adaptive metabolites on water relations of alfalfa cultivars at different salinity levels

Mehrdad Yarini¹, Hossein Hedayati Shirin, Abad², Fakhre Rehimi Zadeh, Mohammad Rostamnia

1Department of Agronomy and Rural Development, University of Isfahan, Isfahan, Iran
2Department of Soil Science, University of Isfahan, Isfahan, Iran

Abstract: The effects of six adaptive metabolites (S-adenosylmethionine, methionine, choline, betaine, carnitine, and pantethine) on the water relations of alfalfa (Medicago sativa L.) cultivars were investigated at two salinity levels (0.25 and 1 M NaCl). The results showed that the water uptake, water content, and relative water content of alfalfa cultivars were increased by the addition of adaptive metabolites. The results also indicated that the adaptive metabolites had different effects on the water relations of alfalfa cultivars at different salinity levels. The results of this study can be used to improve the water relations of alfalfa cultivars at different salinity levels.

Keywords: adaptive metabolites, water relations, alfalfa, salinity levels.