



Chlorophyll Response to Salinity, Sodidity and Heat Stresses in Cotton, Rama and Millet*

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Abstract:

The effect of treatment combinations of decreased soil osmotic water potential (Ips) and increased sodicity (SAR) on chlorophyll (ChI) characteristics (ChI a and b contents, Chi a/b ratio, and Chi stability to heat - CSI) of three crop plants (*Gossypium barbadense* L., *Hibiscus sabdarif*Ja L. and *Sorghum bicolor* L.) was studied. Chi characteristics in different plant species responded variably to both changes in IjJs and sodicity. Generally, Chi content was not sensitive to sodicity but both ChI a and b were significantly affected by osmotic stress. Accordingly, the Chi a/b apparent changes at different SAR levels were due to osmotic rather than sodic effects. CSI showed variable trends in response to both decreased IjJs and increased sodicity according to ChI type and plant species. Decreasing ChI content and increasing CSI, under reduced IjJs, might indicate the adaptations of plants toward enduring salinity stress, particularly in reference to the ecological origin of such crop plants.

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