Effect of abiotic stresses on Brassica species and role of transgenic

Breeding for adaptation.

Abstract

Abiotic stresses extremely affect crop productivity and agro-morphological and biochemical properties of all Brassica species. Due to these stresses, yield of many important Brassica species decreases by disturbing their normal growth rate.In this review, we have highlighted the latest reports about the impact of different abiotic stresses on different growth stages and other morpho-physiological processes of important Brassica species such as canola/rapeseed (Brassica napus), Indian mustard (Brassica juncea), Brassica oleracea and Brassica rapa. Many researchers reported that abiotic stresses influence the important morpho-biochemical characteristics such as root and shoot length, shoot fresh and dry weight, proline and relative water contents, chlorophyll amount, antioxidant enzymes activity of important Brassica species. Cel injury also occurred by disturbance in normal oxidative processes due to these stresses. Against these stresses genetic modification have been described for the development of transgenic plant. The present study will be useful to identify the best abiotic stress tolerant Brassica genotypes for further genetic engineering program and crop improvement programs.