



Plant Perspectives to Global Climate Changes

Developing Climate-Resilient Plants

2022, Pages 471-518

Chapter 22 - Wild relatives of plants as sources for the development of abiotic stress tolerance in plants

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Available online 1 October 2021, Version of Record 1 October 2021.

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<https://doi.org/10.1016/B978-0-323-85665-2.00011-X>

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Abstract

The abiotic stresses such as unfavorable temperature, drought, flood, salinity, and heavy metal stress are considered as major factors causing a huge impression on crop growth and productivity. The abiotic stresses can reduce as much as 50% of benefits for some important crops in the world through altering the physiological, morphological, biochemical, and molecular process of plants. Therefore, escape, avoidance, and tolerance mechanisms are very important for plants to survive against abiotic stresses. Crop wild relatives (CWRs) are considered as wild plant species of the same genus (mostly with the same gene pool) of a crop, which play a vital role in the development of crop species for various hostile environments. The gene pool CWRs wild relatives is considered in the choice of crops for today, which is simply a selection from vast. The CWRs helped a lot in the