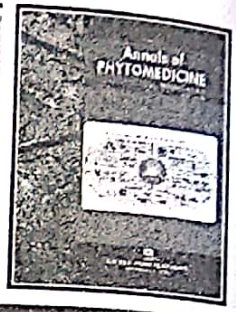
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Harnessing the potential of wild relatives of Brassicaceae family for the crop improvement

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Abstract

The Brassicaceae family is essential for food security and human health because it comprises vital vegetables (cabbage, broccoli, and cauliflower) and oilseeds (mustard) that are high in vitamins, minerals, fibre, and health-promoting phytochemicals. These plants are essential oilseed crops that contribute greatly to the production of vegetable oil worldwide. The genetic diversity within cultivars has also decreased as a consequence of long-term selection of plants favouring yield attributes over many generations; as a result, these cultivars are more vulnerable to the effects of climate change as well as severity of biotic stress due to pests and diseases. By focusing on important characteristics like biotic and abiotic resistance or tolerance, enhanced nutritional quality, and utilizing the genetic variability found in its wild relatives within the Brassicaceae family. It is possible to solve the issue of food and nutritional security. This review discusses the commercially significant traits that have been found in the wild relatives of major and minor *Brassica* crops, the techniques used for introgression of traits into cultivars, and the challenges and potential benefits of using these wild relatives of *Brassica* crops for future crop improvement.

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