

CANADIAN MUSTARD: VARIETIES, COMPOSITION, PHENOLICS, PROCESSING, AND APPLICATIONS: A REVIEW

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Abstract

Mustard seeds have been used since ancient times contributing great economic value to global agriculture. Canada, one of the world's top producers, grows three main mustard varieties, white /yellow, (*Brassica hirta*/ *Sinapis alba*), black (*Brassica nigra*) and Oriental (*Brassica juncea*). Besides their high protein and lipid content, mustard varieties are a rich source of phenolic compounds. This review will cover mustard seed components including lipids, glucosinolates, and sinapates. The latter are the main phenolic compounds in mustard and include sinapine, sinapic acid and its conversion to canolol. The important bioactivities associated with mustard phenolics, has led to efforts to improve the methods for their extraction. The use of green technology is crucial for producing these phenolics while minimizing any detrimental effects to the environment. The important antioxidant and anticancer activities of these phenolics will also be reviewed.

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