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Plant and Human Health, Volume 2

Phytochemistry and Molecular Aspects

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Bioengineered Plants Can Be an Alternative Source of Omega-3 Fatty Acids for Human Health

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Abstract

Omega-3 (also called n-3) long-chain polyunsaturated fatty acids have very essential and critical roles in human health due to their multiple health benefits. These important long-chain fatty acids influence a range of health benefits through their cellular, molecular and physiological actions, particularly with respect to the eicosapentaenoic (EPA; 20:5 n-3) and docosahexaenoic (DHA; 22:6 n-3) acids. Essential fatty acids (EFAs) cannot be produced by the human body, as it can be fulfilled through diet only. Marine fish are the major dietary sources of n-3 long-chain polyunsaturated fatty acids, but the increasing demands of fish oil apply huge pressure on declining marine stocks. Recent development in the field of transgenic plants has, however, generated a good deal of excitement among plant biotechnologists, and plants are being looked upon as a potential source for the production of health beneficiary

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