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“Bridging the gap between increasing knowledge and decreasing resources”

Pandan Leaves (*Pandanus amaryllifolius* Roxb.) ”Vanilla of the East” and its Application as Food Ingredient

ANDRIATI NINGRUM, MATTHIAS SCHREINER

University of Natural Resources and Life Sciences (BOKU), Institute of Food Science, Austria

Abstract

Pandan leaves (*Pandanus amaryllifolius* Roxb) or called as ”Vanilla of the East” have been traditionally used in Indonesia for food colourant, food flavour and also traditional herbs. The genus name *Pandanus* is derived from the Indonesian name of the tree, pandan. This leaves are easy to be cultivated and potential to be applied as food ingredient. Pandan leaves are also used in cooking ordinary non-aromatic rice to imitate the more expensive aromatic Basmati and Jasmine rice. The objectives of the research was to investigate the profile of natural colourant in pandan leaves e.g. carotenoids, the profile of aromatic compounds in pandan leaves, the potential application of green chemistry assessment for the formation of natural aroma from natural colourants, and also further aspect of antioxidant activities of pandan leaves in vegetable oil model. Natural colourant e.g. carotenoids were identified by C18 RP-HPLC. Several aromatic compounds from carotenoids degradation e.g. norisoprenoids, lipid oxidation e.g. aldehydes were identified by HS-SPME GC-MS. The formation of aroma compounds e.g. norisoprenoids from natural colourants e.g. carotenoids was investigated also. The crude enzymes from pandan leaves had activities to produce natural aroma from natural colourants. Natural β -ionone was found as the major product of crude enzymes activities from β -carotene and also β -apo-8-carotenal as carotenoid substrates. The application of crude extract from pandan leaves (PLE) to prevent oxidation was investigated in Red Palm Oil Model (RPO) and Soybean Oil Model (SO). The crude extract can help to protect the oxidation of the oil during the accelerated shelf life storage.

Keywords: Antioxidant, natural colourant, natural flavor, pandan leaves