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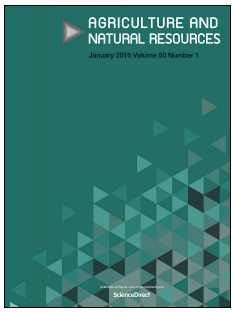

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Nudthapong Tongkham, Boonyawee Juntasalay, Patareeya Lasunon, Nipaporn Sengkhamparn

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Dragon Fruit Peel Pectin: Microwave-Assisted Extraction and Fuzzy Assessment

Nudthapong Tongkham, Boonyawee Juntasalay, Patareeya Lasunon, Nipaporn Sengkhamparn*
Faculty of Applied Science and Engineering, Khon Kaen University, Nong Khai campus, Nong Khai province, 43000 Thailand

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*Corresponding author.
E-mail address: nipaporn@kku.ac.th

Abstract

Dragon fruit peels were used as a material for pectin extraction. Microwave-assisted extraction (MAE) using powers of 300, 450 or 600 W and heating times of 5 or 10 min were investigated. Compared to the conventional method, the MAE method produced a higher yield of pectin, with the highest pectin yield (23.11%) being obtained using a microwave power of 600 W and a heating time of 10 min. However, during the MAE extraction, the degradation of pectin may have occurred which resulted in a drop in viscosity. The fuzzy assessment method (FAM) was applied to determine suitable conditions for MAE. The highest overall performance index obtained from FAM indicated that a microwave power of 450 W and an extraction time of 5 min were suitable conditions to produce a high pectin