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Comparison between different sesame oil production techniques for lignans

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Lipid oxidation has been recognized as the major problem affecting the quality of edible oils. Sesame oil is known to be significantly resistant to oxidative rancidity. Different extracted methods are involved in sesame oil produced, such as microwave technology, infrared heating technology, look forward to getting better quality. Lignans was regarded as the major active compound in sesame by determination of HPLC. In this study, lignans from sesame oil by traditional processing and ethanol extraction methods were compared. Four groups of the ethanolic (30%, 50%, 70% and 95%) and traditional sesame oil (120%, 150%, 180% and 210%) which were processed from roasting, extractive and squeezing treatment was used as the control group. Among all tested extraction methods, the sesame oil had the highest content of sesamin, sesamolin and sesamol by roasting temperature with 120%, 30% ethanolic extraction and roasting temperature with 210%, respectively, compared to the control group. The storage test results also showed that the sesame oil by roasting temperature with 210% and 30% ethanol extraction methods, which were possessed the higher antioxidant activity than other processing methods after eight weeks. Our work showed the development of an optimal extraction process by 30% ethanolic extraction, which presented excellent antioxidant activity, indicating that sesame seeds may further be utilized as a potential source of natural biological active compounds.

Biography

Ming Chang Wu has completed his PhD with major in food processing, food chemistry and food industry management. His major researches are on food processing, food chemistry and functional food. Currently, he is the Distinguished Professor of Department of Food Science, National Pingtung University of Science and Technology.

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