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Wine-making of NZ grown cranberries

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A merican Cranberry (*Vaccinium macrocarpon* Ait.) is one of the natural food rich in polyphenols, attracting growing public attention for health maintaining based on polyphenols. Consumption of cranberry is linked to various health benefits and cranberry is identified as super food, being used widely as an ingredient of functional. Cranberries are purchased mainly as processed products, because the low sugar and the tart flavor of fresh cranberry is unacceptable. However, during processing, bioactive compounds are modified or inactivated due to physical separation, thermal degradation, oxidation and addition of sugar, leading to the dysfunction of cranberry products. Fruit wines have been produced from various fruits, but have rarely been reported from cranberries. This research was intended to study the methods of production of fermented beverage from cranberries. The certain conditions of fermentation were investigated and the physicochemical changes during the processing were evaluated including contents of total phenolic, antioxidant activities, retention of anthocyanins and proanthocyanins.

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Stability of fabricated rice bran oil and its anti-inflammatory activity

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Thailand is one of the world's largest rice producing and exporting countries. Rice bran oil (RBO) is known as a good source of phytosterols. Many studies reported that consumption of phytosterols have shown blood cholesterol lowering properties, cardiovascular health benefits, anti-cancer, anti-diabetics and anti-inflammatory properties. Fabrication technique was applied to prepare water soluble RBO vesicles which are later called RBO liposome. RBO from solvent extracted rice berry rice variety was used in this study. The RBO liposome was prepared in the size of approximately 200 nm. Its stability at different pH values and processing temperatures was investigated. The results showed that particle size, measured by Zetasizer, had a little shift when the system was acidic. RBO liposome particle size remained at 200 nm after pasteurization and can be stored up to 1 month, whereas sterilization could completely disrupt the liposome system. *In vitro* digestion starting from mouth, stomach and small intestine showed to have an impact on liposome stability. Anti-oxidative activity of RBO was found to be dose dependent. Expression of pro-inflammatory genes; IL-1 β , IL-8 and TNF- α were mitigated in LPS-stimulated THP-1 monocytes after incubation 3 hours and 6 hours with RBO liposome at 50 and 250 ng/ml. It can be concluded that RBO from rice berry rice variety shows anti-oxidative and anti-inflammatory activity. Fabricated RBO liposome is relatively stable at acidic pH and at pasteurization temperature, thus provides its possibility in application in water-based food system.

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