

Rice Bran Material Enrichment of Granulated Cane Brown Sugar to Increase Policosanol Contents

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Abstract : Rice bran and sugarcane are significant sources of wax containing policosanol (PC), the cholesterol-lowering nutraceutical available in the market. The processing of rice bran oil causes the loss of PC content into various waste products. Therefore, we hypothesise that defatted rice bran (DRB) as agricultural waste product and rice bran oil (RBO) retain a varying but significant amount of PC wax. Non-centrifugal cane sugar (NCS) or cane brown sugar has been consumed worldwide and possesses various health benefits. Since PC wax is mainly in the outer layer rinds of cane, PC contents of the granulated sugar are reduced due to the peeling step. The study aimed to increase PC contents of the granular brown sugar by adding wax extracted from DRB and RBO and to investigate the toxicity of the developed products. The results showed that the total PC contents including long chain aldehyde of products were increased to the maximum level of 147.97 mg/100 g and 40.14 mg/100 g for extracted wax and rice bran oil addition, respectively. PC content of RBO was found to be 96.93 mg/100 g. DRB is promising source of policosanol (6,044.7 mg/100 g). The 28-day toxicity evaluations of the developed sugar revealed no adverse effects on the liver, spleen or kidney.

Keywords : enrichment, sugarcane, policosanol, defatted rice bran, wax

Conference Title : ICFBFC 2017 : International Conference on Food Function and Bioactive Compounds

Conference Location : Paris, France

Conference Dates : January 23-24, 2017