

DRAGON FRUIT (*HYLOCEREUS POLYRHIZUS*) PEELS: A POTENTIAL FUNCTIONAL FOOD INGREDIENT

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ABSTRACT

The Dragon fruit (*Hylocereus species*) is a good source of vitamins, minerals, and dietary fiber, especially the red pitaya (*Hylocereus polyrhizus*) variety. It may be a potential functional ingredient in the development of healthful food products. A recent study showed that the dragon fruit peel has higher pectin content (a soluble dietary fiber and phytonutrient), than the flesh. This study looked into the potentials of the dragon fruit peel as a safe and healthful ingredient in the development of a food product. Using standard methods, the researchers examined the freeze-dried dragon fruit peel for proximate composition, dietary fiber and fermentability *in vitro*, phyto nutrients, and antioxidant activity. Results showed that the dragon fruit peel is an excellent source of dietary fiber (70.3g/100g) and contains significant amounts of insoluble (40.1g/100g) and soluble (30.2g/100g) fiber. The peels also produced high amounts of short chain fatty acids; acetate (68.8 ± 1.4 mg/g), propionate (53.8 ± 2.5 mg/g) and butyrate (32.3 ± 1.7 mg/g). The peels also proved to be a rich source of phytonutrients, such as polyphenols (459 ± 86 mg/100g), flavonoids (238 ± 10 mg/100g), and anthocyanidin (356 ± 5 mg/100g). Developing a jam using dragon fruit peel, the researchers noted highly acceptable ratings for its sensory evaluation and overall product assessment; the physico-chemical characteristics (TSS and pH) of the jam were also within acceptable levels. In conclusion, the dragon fruit peels, instead of being discarded as waste, may be considered a safe functional ingredient in the development of healthful food products.

Keywords: functional ingredients, dragon fruit peels, dietary fiber, healthful food products.

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