



## Nutrient Analysis and Shelf Life Study of Watermelon Rind Sports Drink

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### Abstract

Sports drinks are the most common and by far the most efficient in replenishing electrolytes lost during exercise or heavy physical activity. Although there are a number of commercial sports drinks available, the electrolytes in these products are intentionally added. Watermelon contains natural vitamins and minerals both in its flesh and rind. Watermelon rind also contains citrulline, a compound that helps fight free radicals, may boost libido, and aid in weight loss. Although watermelons are abundant in the Philippines, the rinds are often discarded. This study developed a sports drink from watermelon rind (WRSD) and compared its nutrient content with two commercial brands. Nutrients studied were vitamins C and B6 and the minerals potassium and sodium. Shelf life study was done to determine the minimum number of days of refrigeration storage prior to fermentation. Methods of analysis used were the following: vitamin C – iodometric titration, vitamin B6 – high performance liquid chromatography (HPLC), potassium and sodium – atomic absorption spectrophotometry (AAS); and shelf life study – pH analysis. Compared to commercial brands, WRSD has the highest amount of potassium at 34.8 mg/100 g and significant amount of sodium at 45 mg/100 g. It is an excellent source of vitamin C at 192 mg/100 g. However, it is an insignificant source of vitamin B6 at <10 mg/100 g. As a natural drink, it is shown to be stable for at least 12 days. Study concludes that watermelon rind is a viable source of electrolytes and substrate for sport drink production. A value-added product from underutilized waste rinds may be developed where electrolytes are naturally available.