 effect of pre-treatment on the physical properties of pumpkin powder

ABSTRACT

The preservation of pumpkin in powder form and ensuring its quality using different pre-treatments prior to drying is an important concern. The objective of this study is to determine the effect of pre-treatment on the physical properties of different parts of pumpkin powder. Different parts of pumpkin (skin, flesh, seed and unpeel) were pretreated with blanching and soaking in Ca(OH)2 solution and then dried in air fryer at temperature of 80°C and air flow 5.11m/s before being grounded and sieved (250 μm and 710 μm). The Ca(OH)2 pre-treatment showed low moisture content (5.51%-6.38%), low water activity (0.313-0.396), small particle size (112.04-213.46 μm) and high bulk density (505.51-375.75 kg/m3) in different portions of pumpkin powder as compare to blanching pre-treatment. For the color change, it is dependent on the parts of pumpkin and whether pre-treatment is applied. In conclusion, the pre-treatment with Ca(OH)2 could be recommended way in prior to drying of pumpkin ensuring the better quality of powder.

Keyword: Pumpkin powder; Air frying; Powder properties