

Impact of juice extraction method on the physicochemical, functional, and sensory properties of Sabah snake grass (*Clinacanthus nutans*) juice mix

ABSTRACT

The present work investigated the impact of several juice extraction methods (blender, centrifugal juicer, and slow juicer) and thermal pasteurisation (72°C, 15 s) on the different properties [physicochemical, polyphenol oxidase (PPO) activity, and functional] of *Clinacanthus nutans* juice mix during storage (28 d, 4°C). Regardless of juicing technique, all juices had similar colour and antioxidants [tested using 2,2-diphenyl-1-picrylhydrazyl (DPPH) and ferric reducing antioxidant power (FRAP) methods]. The juices also had similar PPO activity and sensory acceptance in terms of colour, aroma, flavour, mouthfeel, and overall acceptability. The blender yielded juice with higher pH, soluble solids, and relative viscosity than other methods. The slow juicer was the best at retaining ascorbic acid (39.33 ± 3.06 mg/100 mL), while the blender was best at retaining phenolic compounds (11.82 ± 0.12 mg gallic acid equivalents/100 mL) and chlorophyll (6.95 ± 0.31 µg/mL). Pasteurisation negatively affected the colour, functional properties, and sensory characteristics (colour, aroma, flavour, and mouthfeel) of the juice.

Keyword: *Clinacanthus nutans*; Juicing method; Green juice; Antioxidant activities; Sensory evaluation; Refrigerated storage