

Study on processing and sensory properties of Chinese yam bulbils cultivar Hualien # 3¹

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Summary

The Chinese yam (*Dioscorea batatas*) cultivar Hualien # 3 was developed in 1984 and registered in Nov. 30, 2000 by Hualien District Agricultural Research and Extension Station (HDARES). The bulbils of this yam have a size like peanut kernels with smooth surface and good eating quality. Yam bulbils are bulbs like small tubers formed above ground arising from the leaf axils. Bulbils of Chinese yam, besides used as planting material, is a medical crop and also used as a food in Taiwan, China, and Japan. The objective of this study was to evaluate the processing and sensory properties of Chinese yam bulbils for thermal processing. The results showed: the enzymatic activity of yam bulbils for browning reaction was similar to yam tuber. Hot water blanching can prevent the color change effectively, the same as microwave blanching. To modify the flavor of the soup with whole bulbils(unpeeled), a small amount of Chinese herb, hairy root of ginseng(HRG) and radix angelicae sinensis(RAS), was added. The results of the triangle test of three soup; plain bulbil, bulbil with HRG and bulbil with RAS, revealed that the flavor of bulbil in the soup was more like ginseng. The result of consumer preference test showed that soup with bulbil and radix angelicae sinensis was more popular. Three types of packaging, glass jar, retort pouch, and boiling bag with sous vide processing were test. The broken rate of bulbils and the turbidity of soup packed in retort pouch was higher than other two. However, the result of consumer preference test showed that all test items were no significantly different in preference.

Keywords : yam bulbils, browning reaction, blanching, canning, retort pouch, sous vide

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