Detection of Adulteration of Water Injection in Meat

許清其、陳明造

E-mail: 9607829@mail.dyu.edu.tw

ABSTRACT

In Taiwan ,some butchers intend to increase the weight of carcass or raw meat to get more economical profits. Therefore, some butchers try to add water into meat. The objective of this study was to investigate the change of some physico-chemical characteristics of the meat injected water for detection of adulteration. In experiment, Longissimus dorsi muscle of pork was injected with 10%（A）, 20%（B）, and 30%（C）meat weight of water, 10% meat weight of 10%（w/w）NaCl and control（E）（without injection water）, then frozen at -20℃ for 48 hr and thawed at 4℃ for 24 hr. Color, conductivity, crude protein content and drip loss of the meat samples were determined. The microstructure of muscle tissue from all treatments were also studied. In addition, the finger-touching and filter paper pressing were used to detect the water adulteration compensatorily. The result indicate the group C had the highest in L-value both before freezing and after thawing among the treatments. The crude protein contents were found in the descending order as follows: E>D>A>B>C, and the conductivity values of the meat samples and drips were D>E>A>B>C in the descending order. The microstructure of muscle tissue from the meat injected water was showing disrupture of fibers, but the control was not. For the quick detection method, it was sticky for the control and brine injected samples, while the water injected samples was not when touched by fingers. It was also found that the filter paper was smeared and moisten for the water injected meat samples when the filter paper was pressed on the meat surface for 3 seconds, but not found in the control and salt solution injected meat.

Keywords : Fresh meat, water adulteration

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