

Protocol Development for Fresh Cut Cabbage

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Abstract—Lifestyle of people has been changing and new consumer's profile is "rich in cash and poor in time", so human nutrition has been orienting towards the ready-to-eat products. By establishing an efficient and economic protocol for the development of fresh cut vegetables, consumers will be able to buy fresh vegetables, which is in ready to use form. An experiment was undertaken to standardize an efficient and economic protocol for the development of fresh cut cabbage with extended shelf life. Protocol for fresh cut vegetable preparation includes surface sanitization, removal of inedible portions, cutting into pieces, pre-treatment of shredded pieces, packaging and storage. 30 ppm sodium hypo chlorite was identified as the most effective and economic sanitizer in reducing bacterial population. Physiological loss in weight and percent leakage were minimum for calcium ascorbate and calcium chloride treated pieces, thereby maintaining firmness, freshness and quality of shredded cabbage along with high scores in sensory analysis. 1% calcium chloride was selected as the treatment for shredded cabbage by conducting microbial analysis. When different packaging materials were compared, the samples packaged in laminated pouches under vacuum and nitrogen packaging had lowest physiological loss in weight and percent leakage, retained nutritional parameters indicating their superiority and thereby vacuum packaging in laminated pouches was selected as best packaging. Shredded cabbage can be prepared by surface sanitization using 30ppm sodium hypo chlorite solution for 15 minutes, treating with 1% calcium chloride for 10 minutes and refrigerated storage after vacuum packaged in laminated pouches. Standardized sample was acceptable to the sensory panel even at the end of 7th day.

Keywords: Minimal processing, shredded, laminated pouches, vacuum packaging, shelf life.