

〈 Summary 〉

Purpose& Contents	<p>The study was conducted establishment of quality limit factor and shelf life of 10 kinds of fresh-cut vegetables, to develop the postharvest technologies for shelf-life extension of three ready-to-cook fresh-cut vegetables facilitating export and import potentials, to develop the freshness-keeping materials utilizing nano-technology, and to evaluate the distribution pattern of fresh-cut products in market.</p>
Results	<p>To setting of 10 kinds of fresh-cut vegetables and establishment of quality limit factor. In case of fresh-cut potatoes, freshness of appearance was set as the quality limit indicators(factor) due to occurrence of browning on the surface. and It was confirmed that the quality was reduced faster in the small piece of potatoes for fried rice cook compared to the peeled potatoes. In the case of fresh-cut onions, softening index on the surface was identified as the first to reach the limit of merchantability. In addition, we determined the quality limit factors and setting the shelf-life according to the distribution temperature (4, 10℃) in the fresh cut green onion, garlic, ginger, lettuce, radish, sweet potato and carrot.</p> <p>The prediction of response surface design revealed that the application of pre-treatment condition, dipping for 38 min in 15℃ water and drying for 59 min, for reducing of off-odor of fresh-cut potatoes may maintain the better quality with packing in SSPE film and stored in 10℃ for 12 days. Fresh-cut onions maintained the better quality with short period storage of onions as raw materials, two times washing in 10℃ water during the process of fresh-cut, and vacuum packing with 4℃ storage. The PE film storage of carrots after washing in 10℃ water or 100ppm sodium hypochlorite solution showed the best quality with less loss of fresh weight and decay rate during 3 months in 1℃ storage. Ordinary package of fresh-cut carrots with PE film, and whole or slice shapes of fresh-cuts showed extended shelf life compared with vacuum package, and stick shape of fresh-cut. Storage in 0℃ or 5℃ resulted in extending shelf life of fresh-cut carrots. Three fresh-cut carrot package in a PE film was effective to extend shelf life than 10kg fresh-cut carrot package in a PE film.</p>