

Total Bacterial Reduction in Edamame (Glycine Max (L) Merrill) Result of Minimal Processing with Ozone

Dr. Silvia Oktavia Nuryudiastuti, S.TP, M.TP.

Marcello Syahputra
Study Program of Food Engineering Technology
Majoring of Agriculture Technology

ABSTRACT

Minimal processing of plant-based foodstuffs can be carried out by stripping, size reduction and washing methods. Minimal treatment with ozone aims to reduce the total microorganism in fresh edamame products. The results of minimal treatment with ozone can then be used to determine the shelf life of fresh edamame. The method used in this research is descriptive. This research was carried out in two stages, the first stage was to determine the total reduction of microorganisms resulting from minimal processing with ozone. The data were analyzed using the T test. The second stage was to determine the shelf life of fresh edamame after being treated with ozone using a descriptive method (hedonic test) and analyzed by correlation regression. Minimal treatment with ozone consists of 2 levels, the first level is the ozone time for 10 minutes and 15 minutes. The second level is ozone contact time for 0 minutes, 12 minutes, 18 minutes and 24 minutes. The results showed that the longer the ozonation time, the greater the concentration of dissolved ozone. In the treatment, ozonation time of 24 minutes and ozone contact time of 10 minutes reduced the total number of microorganisms in edamame by 3.61 CFU/g and extended the shelf life of up to six days compared to the control.

Keywords : edamame, ozon, microbiology, TPC, sensoric.