

ABSTRACT

The purpose of this study was to determine the effect of gamma ray irradiation on the shelf life of curly red chillies during the storage period. The research has been carried out at the South Jakarta Isotope and Radiation Application Center and Post Harvest and Chemistry Laboratory, Faculty of Agriculture, Muhammadiyah University, Yogyakarta. Research The study was arranged using an experimental method in laboratory experiments using a Completely Randomized Design (CRD) design with a single factor treatment namely variations in gamma ray irradiation doses consisting of 6 treatments namely: without gamma ray irradiation (control), gamma ray irradiation 0,25 kGy, irradiation gamma ray dose 0,50 kGy, irradiation gamma ray dose 0,75 kGy, irradiation gamma ray dose 1 kGy, irradiation gamma ray dose 1,25 kGy. Each treatment was repeated 3 times so that there were 18 experimental units. Each trial unit used 20 red chillies, divided into 8 samples for 12 samples for victims. The parameters observed in this study include physical tests, chemical tests, and microbiological tests. The results showed that gamma ray irradiation treatment did not produce a different shelf life compared to controls. However, the 0,50 kGy dose was able to maintain physical quality, namely the lowest weight loss of 5,82% and the highest hardness value of 20,40 N/m².

Keywords: Curly Red Chili, Gamma Rays Irradiation, Shelf Life