

Title Identification characteristics of irradiated spices for storage stage by PSL and TL

Author Byeong Keun Kim, Jun Hwan Ryang, Woo Seok Kang, Jae Kil Shin and Soo Hyun Park

Citation Abstracts, 14th World Congress of Food Science & Technology, October 19-23 2008, Shanghai, China. 721 pages.

Keyword spices; irradiated; UV

Abstract

The purpose of this study was investigate the changes in the PSL counts of irradiated spices (red pepper, parsley, bay leaf and thyme) under various states of light exposure condition (sunlight, UV, fluorescent) according to duration time. All of the samples were found to show a decrease of photon counts as time went by. As in case red pepper which had kept for 12 hrs sunlight, 330 hrs of UV and 110 hrs of fluorescent light respectively, the counts of photon was below the range of 700 cpm which didn't require the TL analysis. The value of photon count was below 700 cpm when parsley was stored for 6 hrs of sunlight, 72 hrs of UV and 60 hrs of fluorescent light. Likewise, the photon count came back below 700 cpm when it had kept for 48 hrs of sunlight, 1098 hrs of UV and 810 hrs of fluorescent light conditions. Additionally, thyme had also below 700 cpm when it had kept for 9 hrs of sunlight, 1200 hrs of UV and 100s hrs of fluorescent light conditions. The most significant decrease of photon count in the PSL was observed under sunlight condition. Then under fluorescent light and UV conditions followed next in that order. The samples which have below 700 cpm were conducted consecutive measuring by TL. From this measurement, glow curve was observed at between 150°C and 250°C range that can give evidence of any irradiation on the samples.