Study Of Liquid Smoke Resulting From Coffee Skin Pyrolysis As A Coating To Extend The Freshness Of Large Red Chilis

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ABSTRACT

Liquid smoke is a liquid produced by the pyrolysis of biomass that contains antioxidant and antimicrobial compounds that can be used as a coating or preservative to extend the shelf life of foodstuffs. The objective of this study was to determine the characteristics of purified coffee husk liquid smoke and to test how long coffee husk liquid smoke extends the shelf life of large red chili peppers at temperatures of 4°C, 28°C, and 40°C using the Arrhenius ASLT method. Purified coffee husk liquid smoke produced by distillation and adsorption yielded liquid smoke with a yield of 12%, clear orange color, specific gravity of 1.0156 g/ml, pH of 2.94, acetic acid content of 7.64%, phenol 6.16%, carbonyl 5.36%, and tar 0.56%. The chili peppers were coated with liquid smoke at a concentration of 100% MBC, then tested microbiologically (Total Plate Count) and hedonic (color, texture, odor) for 15 days. The results showed the longest shelf life at 4°C with liquid smoke coating reaching 14.85 days (Arrhenius model) compared to the control at 14.55 days. At 28°C and 40°C, the shelf life was also longer with coating, at 9.26 and 5.02 days, respectively, compared to the control at 7.78 and 4.44 days.

Keywords: Liquid smoke, coffee husk, coating, shelf life, large red chili peppers