Pemanfaatan air terozonasi dalam upaya menjaga kualitas pada tahu: pengaruh konsentrasi ozon, durasi kontak dan suhu kontak = Application of ozonated water to maintain quality tofu: effect of ozone concentration, contact duration and contact temperature

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Abstrak

ABSTRACT
Tahu merupakan bahan pangan yang memiliki kadar air tinggi dan mudah rusak. Salah satu upaya dalam penjagaan kualitas tahu yaitu menggunakan air terozonasi. Ozon memiliki sifat antimikroba yang tinggi dan sudah diakui keamanannya jika dikontakkan dengan produk pangan. Penelitian ini bertjuan untuk mempertahankan kualitas tahu menggunakan air terozonasi dengan melihat pengaruh dosis ozon, serta durasi dan suhu kontak air terozonasi. Tahu dikontakkan dengan air terozonasi dalam durasi kontak 40,80,120 menit dan suhu kontak pada suhu kulkas 8oC , suhu inkubator 37oC, dan suhu ruang 25oC dan disimpan dalam suhu kulkas 8oC selama 7 hari. Kemudian variasi dosis ozon yang digunakan yaitu 0,28 mg/L dan 0,33 mg/L. Hasil menunjukkan bahwa semakin besar dosis ozon, semakin lama durasi kontak dan semakin rendah suhu pengontakkan, maka akan semakin rendah laju penurunan mutu tahu. Durasi Kontak 120 menit dapat mendesinfeksi TBMA hingga 4,5 x 106 CFU/mL, dapat mendesinfeksi E. coli dan menekan laju perubahan pH, kadar air, dan kadar protein. Suhu kontak 8oC dengan durasi kontak 120 menit dapat medesinfeksi TBMA hingga 7 x 106 CFU/mL. Selain itu dengan dosis ozon lebih tinggi, dapat mendesinfeksi TBMA lebih besar hingga 9 x 106 CFU/mL. Penelitian ini menunjukkan bahwa perlakuan dengan suhu kontak 8oC air terozonasi terhadap tahu mampu mempertahankan mutu tahu paling baik dibanding perlakuan lainnya.
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ABSTRACT
Tofu is a kind of food that has high water content and easily damaged. One of the efforts in maintain the quality of tofu is using the ozonated water. Ozone has high antimicrobial properties and has been recognized safety when contacted with food products. This study aims to maintain the quality of tofu using aquatic water by looking at the effect of the dose of ozone, as well as the duration and temperature of the contacts of the terozonated water. This study uses ozonated water to maintain the quality of food by looking at the effect of ozone dosage, as well as the duration and temperature of contacts of the ozonated water. The tofu was contacted with ozonated water in contact duration of 40,80,120 min and the contact temperature at chiller temperature 8oC , incubator temperature 37oC, and room temperature 25oC and stored in refrigerator temperature 8oC for 7 days. Then the variation of ozone dosage used was 0.28 mg L and 0.33 mg L. The results show that the larger the dose of ozone, the longer the contact duration and the lower the contacting temperature, the lower the rate of degradation of the tofu. 120 minutes contact duration can infect TBMA up to 4.5 x 106 CFU mL, can disinfect E. coli and suppress pH change rate, moisture content, and protein content. The contact temperature of 8oC with contact duration of 120 minutes can be TBMA medsinfection up to 7 x 106 CFU mL. In addition, with higher ozone doses, it can disinfect larger TBMA up to 9 x 106 CFU mL. The present study showed that treatment with 8oC contact temperature of the ozonated water to

the tofu was able to maintain the best know quality compared to other treatments.