

**PENGARUH *EDIBLE COATING* GELATIN IKAN TUNA DENGAN
PENAMBAHAN EKSTRAK TEH HITAM TERHADAP
KARAKTERISTIK BUAH PEPAYA POTONG
SELAMA PENYIMPANAN**

INTISARI

Oleh:

AMBAR SUKMA SEKARINA

19/449828/PTP/01697

Buah pepaya merupakan buah klimakterik yang mengalami perubahan fisik dan kimia sangat cepat yang mengakibatkan menurunnya kualitas buah seperti tekstur menjadi lunak, bobot buah berkurang, penurunan nilai gizi dan pertumbuhan mikroba. *Edible coating* salah satu metode yang dapat memperpanjang masa simpan buah potong. *Edible coating* sebagai lapisan tipis yang menutupi permukaan makanan dan dapat dimakan sebagai bagian dari produk yang terbuat dari bahan-bahan alami. Untuk memperbaiki sifat mekanis dan nilai fungsional *edible coating* dilakukan penambahan teh hitam. Ekstrak teh dapat memperbaiki komponen film yang dikonfirmasi oleh peningkatan sifat mekanik, antioksidan dan aktivitas antimikroba.

Penelitian dilakukan melalui tahanan ekstraksi gelatin kulit ikan tuna dengan metode asam-basa. Selanjutnya pembuatan larutan *edible coating* berbasis kitosan, gelatin, gliserol dan teh hitam dengan perbedaan konsentrasi yaitu 0%, 5%, 10% dan 15%. Larutan *edible coating* yang telah didapatkan kemudian diaplikasikan pada buah pepaya potong dan dilakukan penyimpanan pada suhu 14-16°C selama 1, 4, 7 dan 10 hari untuk mengetahui pengaruh *edible coating* terhadap karakteristik fisik, kimia dan mikrobiologis buah pepaya.

Hasil penelitian menunjukkan penambahan konsentrasi ekstrak teh hitam sebesar 0%, 5%, 10% dan 15% tidak berpengaruh nyata terhadap perubahan warna larutan yang dihasilkan ($p > 0,05$), sedangkan viskositas dan pH terjadi selama penambahan konsentrasi ekstrak teh hitam pada larutan *edible coating* ($p < 0,05$). Perlakuan warna tidak berpengaruh nyata pada *fresh-cut* pepaya ($p > 0,05$). Selain itu, dengan *edible coating* mampu menekan penurunan pada susut bobot dan tekstur pepaya. Pada sifat kimia seperti pH, total padatan terlarut, total asam tertitrasi, aktivitas antioksidan dan total karotenoid mengalami kenaikan karena adanya proses pematangan dan adanya pengaruh kandungan terlarut yang terdapat pada lapisan *edible coating* selama masa penyimpanan. TPC menunjukkan bahwa perlakuan *edible coating* dengan penambahan ekstrak teh hitam kontrol mampu menekan pertumbuhan mikroba selama masa penyimpanan.

Kata kunci: *edible coating*, gelatin, kitosan, teh hitam, penyimpanan

EDIBLE COATING TUNA FISH GELATIN WITH THE ADDITION OF EXTRACT BLACK TEA ON THE CHARACTERISTICS OF FRESH CUT PAPAYA DURING STORAGE

ABSTRACT

By:

AMBAR SUKMA SEKARINA

19/449828/PTP/01697

Papaya fruit is a climacteric fruit that undergoes physical and chemical changes very quickly which results in decreased fruit quality such as soft texture, reduced fruit weight, decreased nutritional value and microbial growth. Edible coating is one method that can extend the shelf life of minimally processed fruit. Edible coating as a thin layer that covers the surface of food and can be eaten as part of products made from natural ingredients. To improve the mechanical properties and functional value of edible coatings, black tea was added. The tea extract can improve the component film which is confirmed by the improvement of mechanical properties, antioxidant and antimicrobial activity.

The research was conducted through the extraction of tuna skin gelatin using the acid-base method. Furthermore, the manufacture of edible coating solutions based on chitosan, gelatin, glycerol and black tea with different concentrations of 0%, 5%, 10% and 15%. The edible coating solution that has been obtained is then applied to minimally processed papaya fruit and stored for 1, 4, 7 and 10 days to determine the effect of edible coating on the physical, chemical and microbiological characteristics of papaya fruit.

The results showed that the addition of black tea extract concentrations of 0%, 5%, 10% and 15% had no significant effect on the color change of the resulting solution ($p > 0.05$), while the viscosity and pH occurred during the addition of the concentration to the coating solution which could eaten ($p < 0.05$). Color treatment had no significant effect on fresh-cut papaya ($p > 0.05$). In addition, the edible coating can suppress the decrease in weight loss and papaya texture. Chemical properties such as pH, total dissolved solids, total titrated acid, antioxidant activity and total carotenoids increased due to the ripening process and the effect of dissolved substances contained in the edible layer during storage. TPC showed that edible coating treatment with the addition of black tea extract was able to suppress microbial growth during storage.

Keywords: edible coating, gelatin, chitosan, black tea, storage