

**PENGARUH *EDIBLE COATING* DARI PEKTIN KULIT BUAH KOPI
ROBUSTA (*Coffea canephora*) TERHADAP KUALITAS BUAH TOMAT
CERI (*Solanum lycopersicum* var. *Cerasiforme*) SELAMA PENYIMPANAN**

INTISARI

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Tomat ceri sebagai salah satu buah klimaterik akan tetap melanjutkan proses respirasi dan transpirasi setelah proses pematangan sehingga dapat meningkatkan kerentanannya terhadap pembusukan. Salah satu solusi untuk mencegah hal tersebut adalah dengan mengaplikasikan *edible coating* pada tomat ceri. Penelitian ini berfokus pada pemanfaatan pektin dari sisa kulit kopi robusta yang sering dianggap limbah sebagai pelapis alami untuk menjaga kualitas tomat ceri selama penyimpanan. Meskipun dianggap sebagai limbah, kulit kopi robusta memiliki kandungan pektin yang dapat dimanfaatkan untuk bahan campuran pembuatan larutan *edible coating*.

Proses penelitian meliputi lima tahapan, yaitu ekstraksi pektin dari kulit kopi robusta, karakterisasi pektin, pembuatan larutan *edible coating*, aplikasi *coating* pada tomat ceri, serta karakterisasi tomat ceri. Ekstraksi pektin dilakukan menggunakan metode ekstraksi konvensional, yakni melarutkan kulit kopi robusta dalam larutan HCl. Larutan *coating* dibuat dari campuran pektin, CMC, gliserol, kalium sorbat, dan asam stearat, kemudian diaplikasikan pada tomat ceri dengan metode *dip coating* dan disimpan pada suhu ruang selama 14 hari penyimpanan. Karakterisasi pektin meliputi pengujian kadar air, abu, berat ekuivalen, metoksil, asam galakturonat, dan derajat esterifikasi, sementara karakterisasi tomat ceri meliputi pengukuran warna, tekstur, susut bobot, kadar air, dan vitamin C.

Hasil penelitian menunjukkan ekstraksi pektin kulit kopi robusta didapatkan (5,11%) rendemen pektin kering, kadar air (10,67%), kadar abu (9,63%) berat ekuivalen (380,23 mg), kadar metoksil (2,71%), kadar asam galakturonat (76,99%), dan derajat esterifikasi (19,98%). *Edible coating* yang mampu menjaga kualitas tomat ceri paling baik secara keseluruhan ada pada *edible coating* pektin 3%.

Kata kunci: *Edible coating*, ekstraksi, pektin, robusta, tomat ceri.

EFFECT OF EDIBLE COATING FROM ROBUSTA COFFEE (*Coffea canephora*) FRUIT PEEL PECTIN ON THE QUALITY OF CHERRY TOMATOES (*Solanum lycopersicum* var. *Cerasiforme*) DURING STORAGE

ABSTRACT

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Cherry tomatoes, as one of the climacteric fruits, will continue the processes of respiration and transpiration after ripening, which can increase their susceptibility to decay. One solution to prevent this is by applying an edible coating to cherry tomatoes. This research focuses on utilizing pectin from leftover robusta coffee husks, which are often considered waste, as a natural coating to maintain the quality of cherry tomatoes during storage. Although considered waste, robusta coffee husks contain pectin that can be utilized as a mixture for making edible coating solutions.

The research process includes five stages, extraction of pectin from robusta coffee husks, characterization of pectin, preparation of the edible coating solution, application of the coating on cherry tomatoes, and characterization of cherry tomatoes. Pectin extraction was carried out using the conventional extraction method, which involves dissolving robusta coffee husks in an HCl solution. The coating solution was made from a mixture of pectin, CMC, glycerol, potassium sorbate, and stearic acid, then applied to cherry tomatoes using the dip coating method and stored at room temperature for 14 days. Pectin characterization includes testing for moisture content, ash, equivalent weight, methoxyl, galacturonic acid, and degree of esterification, while cherry tomato characterization includes measuring color, texture, weight loss, moisture content, and vitamin C.

The research results show that the extraction of pectin from robusta coffee husks yielded a dry pectin yield of 5.11%, moisture content of 10.67%, ash content of 9.63%, equivalent weight of 380.23 mg, methoxyl content of 2.71%, galacturonic acid content of 76.99%, and degree of esterification of 19.98%. The edible coating that best maintains the overall quality of cherry tomatoes is the 3% pectin edible coating.

Keywords : Edible coating, extraction, pectin, robusta, cherry tomatoes.