

**PENGARUH FORMULASI ISOLAT PROTEIN KEDELAI DAN TEPUNG
RUMPUT LAUT (*Eucheuma cottoni*) TERHADAP KARAKTERISTIK
FISIK DAN ORGANOLEPTIK TVP (*Textured Vegetable Protein*)**

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ABSTRAK

Daging analog merupakan produk yang terbuat dari protein nabati dan memiliki sifat fungsional yang serupa dengan daging asli, seperti tekstur, rasa, penampilan, dan warna. Keuntungan daging analog meliputi sifatnya yang lebih homogen dan daya tahan penyimpanan yang lebih baik dibandingkan dengan daging asli. TVP (*Texturized Vegetable Protein*) adalah salah satu jenis produk daging analog yang dihasilkan melalui modifikasi struktur protein tumbuhan sehingga memiliki tekstur yang mirip dengan daging. TVP digunakan serupa dengan daging konvensional dan umumnya diproses menggunakan *Single screw extruder* dengan *metode low moisture extrusion* untuk menghasilkan produk yang mirip dengan daging otot dan berbahan dasar protein nabati seperti kedelai atau kacang-kacangan. Penelitian ini bertujuan untuk mengetahui mutu fisik, kimia dan organoleptik serta mengetahui formulasi terbaik dalam pembuatan TVP berbasis isolat protein kedelai (IPK), tepung rumput laut *E. cottoni* dan pati jagung. Penelitian dilakukan dengan Rancangan Acak Kelompok (RAK) faktorial dengan 2 faktor. faktor 1 yaitu variasi komposisi isolat protein kedelai, tepung rumput laut dan pati jagung. faktor 2 yaitu variasi penambahan air. Pada penelitian ini didapatkan 9 sampel perlakuan dan dilakukan pengulangan sebanyak 2 kali. Parameter pengamatan pada penelitian ini meliputi analisis yaitu tekstur, uji kadar air, WHC (Water Holding Capacity), OHC (Oil Holding Capacity) dan analisis organoleptik. Hasil pada penelitian ini menunjukkan bahwa penambahan konsentrasi air dan formulasi komposisi tepung rumput laut berpengaruh signifikan pada pengujian tekstur, kadar air, WHC (Water Holding Capacity) dan pengujian organoleptik khususnya sensori tekstur dan penerimaan overall sampel, serta tidak berpengaruh signifikan pada hasil pengujian OHC (Oil Holding Capacity) dan pengujian organoleptik pada rasa, dan aroma. Berdasarkan uji hedonik dan analisis fisik, formulasi terbaik dan mampu diterima oleh panelis yaitu TVP F1-90 (Isolat protein kedelai 70%, tepung rumput laut 20%, pati jagung 10% dan penambahan konsentrasi air 90%) dengan karakteristik tekstur 99,2 g/mm, kadar air 12,43%, WHC 4,55%, OHC 1,19%.

Kata Kunci : TVP, Meat Analog, Rumput laut, Isolat Protein Kedelai, Ekstruder

**INFULECE OF FORMULATION ISOLATE SOY PROTEIN AND
SEAWEED FLOUR (*Eucheuma cottoni*) ON PHYSICAL AND
ORGANOLEPTIC CHARACTERISTICS OF TVP (*Texturized Vegetable
Protein*)**

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ABSTRACT

Meat analogs are products made from plant proteins and have functional properties similar to real meat, such as texture, taste, appearance and color. The advantages of analog meat include its more homogeneous nature and better storage durability compared to real meat. TVP (*Texturized Vegetable Protein*) is one type of meat analog product that is produced through modification of the structure of plant proteins so that it has a texture similar to meat. TVP is used similarly to conventional meat and is generally processed using a *single screw extruder* with a low moisture extrusion method to produce a product that is similar to muscle meat and is based on vegetable proteins such as soy or beans. This study aims to determine the physical, chemical and organoleptic quality and determine the best formulation in the manufacture of TVP based on isolate soy protein (ISP), *E. cottoni* seaweed flour and corn starch. The research was conducted with a factorial Randomized Group Design (RGD) with 2 factors. factor 1 is variation in the composition of soy protein isolate, seaweed flour and corn starch. factor 2 is variation in water addition. In this study, 9 treatment samples were obtained and repeated 2 times. The observation parameters in this study include texture analysis, water content test, WHC (Water Holding Capacity), OHC (Oil Holding Capacity) and organoleptic analysis. The results of this study showed that the addition of water concentration and seaweed flour composition formulation had a significant effect on texture testing, water content, WHC (Water Holding Capacity) and organoleptic testing, especially texture sensory and overall acceptance of the sample while it did not have a significant effect on the results of OHC (Oil Holding Capacity) testing and organoleptic testing on taste and aroma based on hedonic and aroma tests, Based on hedonic test and physics analysis, the best formulation and acceptable by panelists is TVP F1-90 (70% soy protein isolate, 20% seaweed flour, 10% corn starch and 90% water concentration) with texture characteristics of 99.2 g/mm, 12.43% moisture content, WHC 4.55%, OHC 1.19%.

Keywords: Meat Analogue, TVP, Seaweed, Isolate Soy Protein , Extruder