

## **Pengaruh Konsentrasi dan Ratio Protein Kedelai-Karagenan Terhadap Sifat Fisikokimia Emulsi Gel Minyak Sawit Merah pada Sosis Sapi**

### **INTISARI**

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Emulsi gel merupakan emulsi dengan penambahan *gelling agent*. Penggunaan *minyak sawit merah* memberi keunggulan karena mengandung betakaroten yang tinggi (834,7917). Salah satu pemanfaatan emulsi gel yaitu sebagai pengganti lemak pada sosis sapi. Penelitian ini bertujuan untuk mengetahui sifat fisiko-kimia emulsi gel dan pengaruhnya terhadap sifat fisiko-kimia sosis berbahan emulsi gel terhadap kontrol (lemak sapi). Pembuatan emulsi gel dengan variasi konsentrasi hidrokoloid (5% dan 7%) dan ratio SPC:karagenan (2:1, 3:1, dan 4:1) memiliki pengaruh terhadap sifat fisiko-kimia emulsi gel yang dihasilkan. Emulsi gel konsentrasi hidrokoloid 7% dengan ratio 3:1 memiliki stabilitas yang baik dengan nilai viskositas (25.283), *hardness* (0,1649), dan betakaroten (652,78). Penggunaan emulsi gel pada pembuatan sosis sapi menghasilkan sifat fisiko-kimia yang berbeda terhadap kontrol. Analisis fisiko-kimia sosis sapi emulsi gel konsentrasi 5% dengan ratio 3:1 memiliki kadar beta karoten 47,67 ppm, kadar lemak 6,88% wb, pH 5,96, *cooking loss* 1,90, *hardness* 15,86, dan warna merah kekuningan dengan  $\Delta E = 12,40$ . Sedangkan sosis emulsi gel 7% dengan ratio 3:1 memiliki kadar beta karoten 43,85 ppm, kadar lemak 3,66 wb, pH 6,13, susut bobot 2,48, *hardness* 18,78, dan warna kuning cerah dengan  $\Delta E = 12,81$ . Hasil penelitian ini menunjukkan bahwa dalam pembuatan sosis daging sapi, emulsi gel dapat menjadi alternatif pengganti lemak sapi dengan karakteristik fisiko-kimia yang baik, selain itu diperlukan eksplorasi lebih lanjut mengenai uji sensoris untuk mengetahui penerimaan konsumen.

Kata kunci: Emulsi gel, minyak sawit merah, betakaroten, sosis

## **Effect of Concentration and Ratio of Soy Protein-Carrageenan on Physicochemical Properties Emulsion Gel Red Palm Oil on Beef Sausage**

### **ABSTRACT**

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Emulsion gel is a form of emulsion with an additional gelling agent. The use of red palm oil in emulsion gel gives an advantage because it contains high  $\beta$ -carotene (834,79 ppm). One of the uses of emulsion gel is as a replacement fat in beef sausage. This study aims to determine the physicochemical properties of emulsion gel and its effect on the physicochemical properties of sausage made from emulsion gel, compared with the control (beef tallow). The manufacture of emulsion gel with variations in concentration (5% dan 7%) and ratio (2:1, 3:1, dan 4:1) influences the physicochemical properties of the resulting emulsion gel. An emulsion gel concentration of 7% with a ratio of 3:1 produced a good stability emulsion gel with good viscosity (25.28), hardness (0,1649), and  $\beta$ -carotene (652,78). Beef sausage using emulsion gel as a beef fat replacement results in significant physicochemical properties compared with beef fat sausage. Physicochemical analysis of emulsion gel beef sausage with a concentration of 5% with a ratio of 3:1 had  $\beta$ -carotene levels of 47,67 ppm, a fat content of 6,88% (wb), pH of 5,96, cooking loss of 1,90%, hardness value of 15,86, and yellowish red color with  $\Delta E$  of 12,40. Meanwhile, 7% emulgel sausage with a ratio of 3:1 had  $\beta$ -carotene levels of 43,85 ppm, a fat content of 3,66% (wb), pH of 6,13, weight loss of 2,48%, hardness value of 18,78, and bright yellow color with  $\Delta E$  of 12,81. The results of this study showed that in the manufacture of beef sausages, emulsion gel could be an alternative to beef tallow with good physicochemical characteristics; moreover, sensory evaluation to determine consumer acceptance would be needed for the next step.

**Keywords:** Emulsion gel, red palm oil, betacarotene, sausage