

KARAKTERISTIK YOGHURT DENGAN PENAMBAHAN HIDROLISAT IKAN
LEMURU (*Sardinella lemuru*) DAN BUBUK KAYU MANIS
(*Cinnamomum* sp.)

INTISARI

Winda Fatma Sari
21/490566/PPT/01206

Penelitian ini bertujuan untuk mengevaluasi kualitas mikrobiologi, kimia, fisik, dan sensoris yoghurt dengan penambahan hidrolisat ikan (*Sardinella lemuru*) dan bubuk kayu manis (*Cinnamomum* sp.). Bahan yang digunakan dalam penelitian ini adalah yoghurt yang terbuat dari susu sapi yang difermentasi menggunakan *Lactobacillus bulgaricus* dan *Streptococcus thermophilus*. Hidrolisat ikan lemuru diperoleh dengan enzim alkalase. Perlakuan dalam penelitian ini terdiri dari penambahan hidrolisat ikan (0%, 1,5%, dan 3%), dan bubuk kayu manis (0% dan 0,3%). Parameter yang diukur meliputi jumlah bakteri asam laktat, nilai pH, keasaman, kadar protein, kadar lemak, kadar air, kadar abu, kadar karbohidrat, aktivitas antioksidan, warna, tekstur, viskositas, sineresis, dan sensoris (warna, rasa, aroma, viskositas, dan penerimaan keseluruhan). Rancangan percobaan yang digunakan adalah Rancangan Acak Lengkap (RAL) Faktorial dengan 3 x 2 perlakuan dan 3 ulangan. Data penelitian dianalisis dengan menggunakan two-way ANOVA dengan taraf signifikan 5% dan untuk mengetahui ada tidaknya perbedaan antara perlakuan dilanjutkan dengan uji Duncan Multiple Range Test (DMRT) pada taraf signifikan $\alpha = 0,05$. Hasil penelitian menunjukkan bahwa penambahan hidrolisat ikan dan bubuk kayu manis berpengaruh nyata ($p < 0,05$) meningkatkan total bakteri asam laktat, keasaman, kadar karbohidrat, kadar abu, aktivitas antioksidan, tekstur, viskositas, menurunkan kualitas warna, nilai pH, kadar air, dan sineresis, sedangkan pada sensoris (aroma, rasa, viskositas, dan keseluruhan) tidak berpengaruh nyata. Yoghurt dengan hidrolisat ikan 3% meningkatkan jumlah bakteri asam laktat, kadar protein, keasaman, aktivitas antioksidan, dan menurunkan sineresis dibandingkan yoghurt dengan hidrolisat 0% dan 1,5%. Yoghurt dengan 0,3% bubuk kayu manis meningkatkan jumlah bakteri asam laktat, keasaman, karbohidrat, aktivitas antioksidan, dan menurunkan sineresis dibandingkan yoghurt dengan bubuk kayu manis 0%. Kesimpulannya, penambahan hidrolisat ikan dan bubuk kayu manis bersinergis meningkatkan aktivitas antioksidan, tekstur, viskositas, menurunkan sineresis, menurunkan nilai pH dan kualitas warna. Kualitas yoghurt yang terbaik dari segi jumlah bakteri asam laktat, nilai pH, kadar protein, kadar lemak, aktivitas antioksidan, tekstur, viskositas dan tingkat sineresis adalah yoghurt dengan penambahan 3% hidrolisat ikan dan bubuk kayu manis 0,3%.

Kata kunci: Bubuk kayu manis, Hidrolisat ikan, Kualitas yoghurt.

CHARACTERISTICS OF YOGURT WITH ADDITION OF LEMURU FISH
(*Sardinella lemuru*) HYDROLYSATE AND CINNAMON
(*Cinnamomum* sp.) POWDER

ABSTRACT

Winda Fatma Sari
21/490566/PPT/01206

The purpose of this research was to evaluate the microbiological, chemical, physical, and sensory qualities of yogurt with the addition of lemuru fish (*Sardinella lemuru*) hydrolysate and cinnamon (*Cinnamomum* sp.) powder. The materials used in this research were yogurt made from cow's milk fermented using *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. Lemuru fish hydrolysate was obtained with alcalase enzyme. The treatments consisted of the addition of fish hydrolysate (0%, 1,5%, and 3%), and cinnamon powder (0% and 0,3%). The parameters which measured were lactic acid bacteria, pH value, acidity, protein content, fat content, water content, ash content, carbohydrate content, antioxidant activity, color, texture, viscosity, syneresis, and sensory (color, taste, aroma, viscosity, and overall acceptability). The research design used was Completely Randomised Design (CRD) with 3 x 2 treatments and 3 replications. The research data were analyzed using two-way ANOVA with a significant level of 5% and to determine the presence or absence of differences between treatments was continued with the Duncan Multiple Range Test (DMRT) at a significant level of $\alpha = 0,05$. The results showed that the addition of fish hydrolysate and cinnamon powder had a significant effect ($p < 0,05$) on increasing total lactic acid bacteria, acidity, carbohydrate content, ash content, antioxidant activity, texture, viscosity, reducing color quality, pH value, water content, and syneresis, whereas on sensory (aroma, taste, viscosity, and overall) there was not significant effect. Yoghurt with 3% fish hydrolysate increased the number of lactic acid bacteria, protein content, acidity, antioxidant activity, and decreased syneresis compared to yoghurt with 0% and 1,5% hydrolysate. Yoghurt with 0,3% cinnamon powder increased the number of lactic acid bacteria, acidity, carbohydrates, antioxidant activity, and decreased syneresis compared to yoghurt with 0% cinnamon powder. In conclusion, the addition of fish hydrolysate and cinnamon powder synergistic increased antioxidant activity, texture, viscosity, decreased syneresis, decreased pH value and color quality. The best yoghurt quality in terms of the number of lactic acid bacteria, pH value, protein content, fat content, antioxidant activity, texture, viscosity and level of syneresis is yoghurt with the addition of 3% fish hydrolysate and 0,3% cinnamon powder.

Keywords: Cinnamon powder, Fish hydrolysate, Yogurt quality.