

**APLIKASI KOMBINASI YOGHURT DENGAN SARI BUAH TOMAT
(*Solanum lycopersicum* L.) TERHADAP PENURUNAN KADAR
KOLESTEROL TOTAL MENCIT (*Mus Musculus*)
HIPERKOLESTEROLEMIA**

Oleh:

Yeni Dina Puspasari, NIM 1713091003

Jurusan Biologi dan Perikanan Kelautan

Program Studi Biologi

ABSTRAK

Tujuan penelitian ini yaitu (1) mengetahui perbedaan dan menganalisis penurunan kadar kolesterol total pada mencit hiperkolesterolemia yang diberi kombinasi yoghurt dengan sari buah tomat, (2) mengetahui perlakuan kombinasi yoghurt dengan sari buah tomat yang paling baik dalam menurunkan kadar kolesterol total mencit hiperkolesterolemia. Penelitian ini merupakan eksperimen sungguhan (*true experiment*) menggunakan rancangan *randomized pre and post test control group design*. Jumlah sampel pada penelitian ini sebanyak 24 ekor mencit (*Mus musculus*) jantan dengan berat 20-30 gr, berumur 6-9 minggu. Pembagian sampel terdiri atas 4 kelompok yaitu kelompok kontrol (3 ekor kontrol negatif dan 3 ekor kontrol positif), P1 (perlakuan kombinasi yoghurt dengan sari buah tomat 25:75 ml sebanyak 6 ekor), P2 (perlakuan kombinasi yoghurt dengan sari buah tomat 50:50 ml sebanyak 6 ekor), P3 (perlakuan kombinasi yoghurt dengan sari buah tomat 75:25 ml sebanyak 6 ekor). Hewan uji diberikan pakan tinggi lemak selama *pre test* untuk menaikkan kadar kolesterol selama 7 hari kemudian memberikan perlakuan kombinasi yoghurt dengan sari buah tomat selama 20 hari dengan tetap memberikan pakan dan minum secara *ad libitum*. Selama pemberian perlakuan, kontrol positif diberikan simvastatin 0,9mg/KgBB. Analisis data menggunakan *One Way-Anova* dengan taraf signifikansi 5% karena data berbeda signifikan kemudian dilanjutkan dengan uji lanjut BNT. Hasil penelitian ini menunjukkan bahwa terdapat perbedaan penurunan kadar kolesterol total mencit hiperkolesterolemia yang diberi kombinasi yoghurt dengan sari buah tomat yang ditunjukkan oleh nilai $p = 0,002$ pada uji hipotesis *post test*. Perlakuan 25 ml yoghurt : 75 ml sari tomat dapat menurunkan kolesterol namun tidak berbeda bermakna dibandingkan perlakuan lainnya.

Kata Kunci : Yoghurt, Sari Tomat, Hiperkolesterolemia, Penurunan Kolesterol

**APPLICATION COMBINATION OF YOGHURT WITH TOMATO
EXTRACT (*Solanum lycopersicum* L.) ON DIFFERENCES IN
DECREASING TOTAL CHOLESTEROL LEVEL OF MICE (*Mus
Musculus*) HYPERCHOLESTEROLEMIA**

By:

Yeni Dina Puspasari, NIM 1713091003

Biology and Marine Fisheries Department

Biology Degree Program

ABSTRACT

Purpose of this research are (1) to know the differences and analys decreasing of total cholesterol levels in hypercholesterolemic mice that given a combination of yogurt with tomato extract, (2) to know the best combination of yogurt with tomato extract in decreasing of total cholesterol levels in hypercholesterolemic mice. This research is true experiment with a randomized pre and post test control group design. The number of samples in this research were 24 male mice (*Mus musculus*) with weight 20-30 grams, aged 6-9 weeks. The samples distribution consisted of 4 groups : control group (3 negative and 3 positive controls), P1 (the combination treatment of yogurt with tomato extract 25:75 ml with 6 mice), P2 (the combination treatment of yogurt with tomato extract 50:50 ml with 6 mice), P3 (the combination treatment of yogurt with tomato extract 75:25 with 6 mice). The mice were given a high-fat diet during the pre-test to increase cholesterol levels for 7 days and then given a combination treatment of yogurt with tomato extract for 20 days while still providing food and drink ad libitum. During treatment, the positive control was given simvastatin 0.9mg/KgBB. Data analysis used One Way-Anova with a significance level of 5% because the data significantly different and then continued with the BNT further test. Result of this research, there is a difference in decrease total cholesterol levels of hypercholesterolemic mice given a combination of yogurt with tomato extract as indicated by the value of $p = 0.002$ in the post-test hypothesis test. The 25 ml yoghurt : 75 ml tomato extract treatment can decrease cholesterol but it was not significantly different from another treatment.

Keywords: Yogurt, Tomato Extract, Hypercholesterolemic, Decreasing Cholesterol