

Pengaruh Fermentasi Telur Ayam Ras Terhadap Kandungan Zinc dan Zat Besi Pada Tepung Telur Sebagai Alternatif Makanan Penurunan Stunting

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ABSTRAK

Latar Belakang : Stunting merupakan kondisi terganggunya pertumbuhan anak akibat kekurangan asupan gizi kronis, terutama mikronutrien seperti zinc dan zat besi. Telur ayam ras diketahui memiliki nilai gizi yang tinggi, namun sifatnya mudah rusak. Oleh karena itu, pengolahan telur menjadi bentuk tepung melalui proses fermentasi diharapkan mampu meningkatkan kandungan zat gizi khususnya zinc dan besi.

Tujuan : Menganalisis kadar kandungan Zinc dan Zat Besi pada tepung telur fermentasi

Metode : Penelitian rancangan acak lengkap dengan formulasi terdiri dari satu kontrol (F0) dan tiga perlakuan (F1;F2;F3). Pengujian kadar kandungan Zinc dan Zat Besi menggunakan metode ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry).

Hasil : Kandungan Zinc sampel F0 = 3,72 ; F1 = 4,11 ; F2 = 4,48 ; F3 = 4,54. Kandungan Zat Besi sampel F0 = 10,97 ; F1 = 7,63 ; F2 = 7,75 ; F3 = 8,02. Kandungan Zinc tertinggi terdapat pada formula F3 (telur 91% dan ragi *Saccharomyces Cerevisiae* 6%). Kandungan Zat Besi tertinggi terdapat pada formula F0 (telur 100 % dan ragi *Saccharomyces Cerevisiae* 0%).

Simpulan : Fermentasi telur ayam ras dengan *Saccharomyces Cerevisiae* dapat meningkatkan kandungan zinc secara signifikan dalam tepung telur, namun tidak berdampak positif terhadap peningkatan kandungan zat besi. Formula terbaik dalam meningkatkan kandungan zinc adalah F3 (91% telur, 6% ragi *Saccharomyces Cerevisiae*).

Kata Kunci: Stunting, fermentasi, *Saccharomyces Cerevisiae*, tepung telur, Zinc, Zat Besi

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Effect of Fermentation of Broiler Eggs on Zinc and Iron Content in Egg Flour as an Alternative Food to Reduce Stunting

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ABSTRACT

Background : Stunting is a growth disorder in children caused by chronic nutrient deficiency, particularly micronutrients such as zinc and iron. Chicken eggs are known for their high nutritional value, but they are highly perishable. Processing eggs into powder through fermentation is expected to enhance their nutritional content—especially zinc and iron.

Objective : Analyze the levels of Zinc and Iron content in fermented egg flour

Methods : Completely randomized design study with a formulation consisting of one control (F0) and three treatments (F1; F2; F3). Testing of Zinc and Iron content levels using the ICP (Inductively Coupled Plasma) method.

Results : In the Zinc content of the sample F0 = 3.72; F1 = 4.11; F2 = 4.48; F3 = 4.54. In the Iron content of the sample F0 = 10.97; F1 = 7.63; F2 = 7.75; F3 = 8.02. The highest Zinc content is found in the F3 formula (91% eggs and 6% *Saccharomyces Cerevisiae* yeast). The highest Iron content is found in the F0 formula (100% eggs and 0% *Saccharomyces Cerevisiae* yeast).

Conclusion : Fermentation of chicken eggs with *Saccharomyces Cerevisiae* can significantly increase the zinc content in egg powder, but does not have a positive impact on increasing the iron content. The best formula in increasing zinc content is F3 (91% eggs, 6% *Saccharomyces Cerevisiae* yeast).

Keywords: Stunting, fermentation, *Saccharomyces Cerevisiae*, egg powder, Zinc, Iron

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