

ABSTRAK



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PENGARUH PENAMBAHAN TEPUNG TERI (*Stolephorus* sp.) DAN SARI BAYAM MERAH (*Amaranthus gangeticus*) TERHADAP KADAR ZAT BESI, ANTIOKSIDAN DAN PEWARNA ALAMI ROTI TAWAR

VI Bab, 101 Halaman, 10 Tabel, 11 Gambar, 13 Lampiran

Pendahuluan: Pembuatan roti umumnya menggunakan bahan-bahan yang hanya mengandung zat gizi makro serta sedikit mengandung zat gizi lainnya. Hal ini menjadikan roti tawar sebagai makanan yang harus difortifikasi agar dapat meningkatkan nilai zat gizi tertentu, seperti zat besi dan antioksidan. Ikan teri tawar kering memiliki kandungan zat besi yang tinggi dan bayam merah memiliki kandungan zat besi dan antioksidan serta mengandung antosianin yang dapat dijadikan sebagai pewarna alami.

Tujuan: Mengetahui pengaruh penambahan tepung teri dan sari bayam merah terhadap kadar zat besi, antioksidan dan pewarna alami roti tawar.

Metode: Penelitian eksperimental rancangan acak lengkap dengan 4 variasi perlakuan penambahan tepung teri dan sari bayam merah pada F0 (tidak ada penambahan), F1 (20g:80ml), F2 (45 g:55 ml) dan F3 (65g:30ml).

Hasil: Kandungan zat besi tertinggi terdapat pada formulasi F3 (20.19mg/100g) dan terendah pada formulasi F1 (4.73mg/100g). Aktivitas antioksidan tertinggi terdapat pada formulasi F1 (30.93%) dan terendah pada formulasi F3 (6.86%). Analisis warna nilai a (redness) tertinggi terdapat pada formulasi F1 dengan nilai rata-rata 9.51 ± 0.03 dan terendah yaitu formulasi F3

sebesar 4.06 ± 0.01 . Semakin banyak penambahan tepung teri semakin rendah daya terima aroma, warna, rasa dan tekstur. Roti tawar yang memiliki daya terima baik diantara ketiga perlakuan yaitu F1 dengan penambahan tepung teri 20 g dan sari bayam merah 80 ml.

Kesimpulan: Semakin meningkat penambahan tepung teri maka semakin meningkat kadar air, abu, protein, lemak, zat besi serta menurunnya karbohidrat juga daya terima aroma, warna, rasa dan tekstur roti tawar. Semakin menurunnya penambahan sari bayam merah semakin menurun aktivitas antioksidannya.

Kata kunci: Antioksidan, Bayam merah, Ikan teri, Roti tawar, Zat besi.

ABSTRACT



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THE EFFECT OF ADDITIONAL ANCHOVY FLOUR (STOLEPHORUS SP.) AND RED SPINACH EXTRACT (AMARANTHUS GANGETICUS) TO IRON CONTENT, ANTIOXIDANT AND NATURAL COLOR OF BREAD

VI Chapters, 101 Pages, 10 Tables, 11 Pictures, 13 Attachments

Background: Making bread generally use ingredients that contains only macronutrients and few other nutrients. This makes bread a food that must be fortified in order to value certain nutrients such as iron and antioxidants. Dried anchovy contains high iron content and red spinach contains iron, antioxidants and also anthocyanin that can be used as natural colors.

Objective: Knowing the effect of adding anchovy flour and red spinach extract on iron content, antioxidant and the natural color of bread.

Method: Completely randomized design (CRD) experimental study with 4 treatment variations of adding anchovy flour and red spinach extract on F0 (no addition), F1 (20g:80ml), F2 (45g:55ml) and F3 (65g:30ml).

Results: The highest iron content was found in the F3 formulation (20.19mg/100g) and the lowest was in the F1 formulation (4.73mg/100g). The highest antioxidant activity was found in the F1 formulation (30.93%) and the lowest in the F3 formulation (6.86%). The color analysis of the highest a (redness) value was found in the F1 formulation with mean of 9.51 ± 0.03 and the lowest was the F3 formulation of 4.06 ± 0.01 . The more addition of the anchovy flours the lower the

acceptability of aroma, color, taste and texture. Bread that has good acceptance among the three treatments, namely F1 with the addition of 20g anchovy flour and 80ml of red spinach extract.

Conclusion: The more the addition of anchovy flour, the more water, ash, protein, fat, iron content and the decrease in carbohydrates as well as the acceptability of aroma, color, taste, and texture of bread. The lower the addition of red spinach extract, the lower the antioxidant activity.

Keywords: Anchovy, Antioxidant, Bread, Iron, Red Spinach