PENGARUH PENAMBAHAN BUBUK KULIT KACANG MERAH (*Phaseolus vulgaris* L.) TERHADAP KARAKTERISTIK FISIK, KIMIA DAN ORGANOLEPTIK TEMPE KACANG MERAH (*Phaseolus vulgaris* L.) YANG DIHASILKAN

QURRATA A'YUN

1911121030

Pembimbing 1 : Prof. Dr. Ir. Novelina, M.S.

Pembimbing 2 : Purnama Dini Hari, S.T.P., M.Sc.

DEPARTEMEN TEKNOLOGI PANGAN DAN HASIL PERTANIAN

FAKULTAS TEKNOLOGI PERTANIAN

UNIVERSITAS ANDALAS

PADANG

2023

Pengaruh Penambahan Bubuk Kulit Kacang Merah (*Phaseolus vulgaris* L.) Terhadap Karakteristik Fisik, Kimia, dan Organoleptik Tempe Kacang Merah (*Phaseolus vulgaris* L.) yang Dihasilkan

Qurrata A'yun, Novelina, Purnama Dini Hari

ABSTRAK

Pada proses pembuatan tempe, kulit ari kacang merah akan dibuang. Kulit ari yang terkelupas akan menimbulkan limbah padat dari proses produksi tempe. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan bubuk kulit kacang merah terhadap karakteristik fisik, kimia, dan organoleptik tempe kacang merah serta mengetahui konsentrasi penambahan bubuk kulit kacang merah yang terbaik untuk pembuatan tempe kacang merah. Rancangan yang digunakan dalam penelitian ini adalah Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 3 ulangan. Perlakuan pada penelitian ini adalah perbandingan kulit ari kacang merah dan kacang merah dengan urutan sebagai berikut: 0g/250g, 2,62g/250g, 5,24g/250g, 7,86g/250g, 10,48g/250g. Data penelitian dianalisis menggunakan ANOVA dan dilanjutkan dengan *Duncan's New Multiple Range Test* (DNMRT) pada taraf 5%. Hasil penelitian menunjukkan bahwa perlakuan memberikan berbeda nyata terhadap nilai tekstur, kadar air, kadar abu, kadar protein, kadar karbohidrat, kadar serat kasar, kadar zat besi, deskriptif (tekstur dan warna) dan perbandingan jamak (warna, tekstur, rasa, dan aroma) tetapi berbeda tidak nyata terhadap kadar lemak dan deskriptif aroma. Perlakuan terbaik berdasarkan analisa fisik, kimia dan organoleptik yaitu perlakuan P3 (penambahan bubuk kulit kacang merah 5,24g/250g kacang merah) dengan nilai rata-rata nilai tekstur 2,01 N/cm^2; kadar air 61,63%; kadar abu 0,72%; kadar protein 15,83%; kadar lemak 1,51%; kadar karbohidrat 20,30%; kadar serat kasar 6,95%; kadar zat besi 5,00 mg/100 g; *coliform* 0,32 APM/g; *Salmonella* negatif/g; penilaian uji deskriprif aroma 2,75 (khas tempe, tanpa ada aroma ammonia); tekstur 2,45 (kompak); warna 2,5 (miselium berwarna putih merata dan cukup tebal); dan penilaian uji perbandingan jamak warna 6,20 (berbeda sedikit dan lebih disukai); tekstur 6,15 (berbeda sedikit dan lebih disukai); rasa 4,05 (berbeda sedikit dan kurang disukai);dan aroma 4,45 (berbeda sedikit dan kurang disukai).

Kata Kunci : Bubuk kulit kacang merah, tempe kacang merah, serat kasar

The Effect Of The Addition Of Red Kidney Bean Skin Powder (*Phaseolus vulgaris* L.) On The Physical, Chemical, And Organoleptic Characteristics Of Red Kidney Bean Tempeh (*Phaseolus vulgaris* L.) Produced

Qurrata A'yun, Novelina, Purnama Dini Hari

ABSTRACT

In the production of tempeh, the epidermis of red kidney bean is removed. The removed epidermis will cause solid waste from the tempeh production process. This research aimed to determine the effect of the addition of red kidney bean skin powder on the physical, chemical and organoleptic characteristics of red bean kidney tempeh and to determine the best concentration of red kidney bean skin powder addition for the production of red kidney bean tempeh. The design used in this study was a completely randomized design (CRD) with 5 treatments and 3 replications. The treatment in this research is the ratio of red kidney bean skin powder and red kidney bean as follows subsequently: 0g/250g, 2.62g/250g, 5.24g/250g, 7.86g/250g, 10.48g/250g. The data were analyzed using ANOVA and continued with Duncan's New Multiple Range Test (DNMRT) at the 5% level. The results showed that the treatment had a significant effect to texture values, moisture content, ash content, protein content, carbohydrate content, crude fiber content, iron (Fe) content, descriptive test of (texture and color) and multiple comparisons test of (color, texture, taste and aroma) and had no a significant effect to fat content and descriptive test of aroma. The best treatment based on physical, chemical and organoleptic analysis was treatment P3 (addition of red kidney bean skin powder 5.24g/250g red kidney bean) with an average texture value of 2.01 N/cm^2; water content of 61.63%; ash content of 0.72%; protein content of 15.83%; fat content of 1.51%; carbohydrate content of 20.30%; crude fiber content of 6.95%; iron (Fe) content of 5.00 mg/ 100 g; *coliform* of 0.32 APM/g; *salmonella* negative/g; Descriptive test of aroma 2.75 (typical of tempeh, without any ammonia aroma); texture 2.45 (compact); color 2.5 (mycelium is evenly white and quite thick); and plural comparison test of color 6.20 (slightly different and preferred); texture 6.15 (slightly different and preferred); taste 4.05 (slightly different and less preferred); and aroma 4.45 (slightly different and less preferred).

Keywords : Red kidney bean skin powder, red kidney bean tempeh, crude fiber