

## **ABSTRACT**

### **THE FORMULATION OF FERMENTED WHEAT CORN (*Zea mays L.*) AND WHEAT FLOUR ON CHEMICAL PROPERTIES, PHYSICOCHEMICAL AND SENSORY OF BOILED NOODLE**

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This study aimed to evaluate the effect of different formulations of fermented corn flour and wheat flour to the properties of chemical, physicochemical and sensory boiled noodle and get formulations fermented wheat corn and wheat flour that produces a boiled noodle to the nature of the chemical, physical and sensory best. This treatment arranged in a randomized block design Complete (RAKL) with six replications. Formulation consists of a comparison fermented corn flour and wheat flour as much as four levels: L1 (10:90), L2 (20:80), L3 (30:70), L4 (40:60) with the addition of the same additives. To know the difference among treatment data is analyzed further using test Honestly Significant Difference (HSD) at 5% level. The results showed the formulation of fermented corn flour and wheat flour in a wet noodle significant effect on water content, protein, fat, carbohydrates, cooking loss, water absorption, color, texture and overall acceptance; and no significant effect on ash content, smell and flavor, and stickiness. The best treatment is found in L3 (30:70) with a ratio of 30% fermented corn flour and wheat flour 70%. Based on the chemical properties of the formulation L3 (30:70)

produces water content of 23,31%, ash content of 1,55%, amounting to 8,50% fat content, protein content of 9,11%, and the carbohydrate content of 57,52 %; the physicochemical properties of noodles cooking loss of 9,85% and water absorption of 13,50%; sensory test on a wet noodle produce brownish yellow color (score 1,53), slightly chewy texture (score 2,88), smell and flavor somewhat typical corn (score 3,05), slightly sticky adhesiveness (score 3,30) and reception like the overall criteria (score 2,93).

**Keywords:** fermented corn flour, wheat flour, boiled noodles.

## **ABSTRAK**

### **FORMULASI TEPUNG JAGUNG (*Zea mays L.*) TERFERMENTASI DAN TEPUNG TERIGU TERHADAP SIFAT KIMIA, FISIKOKIMIA, DAN SENSORI MIE BASAH**

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Penelitian bertujuan untuk mengevaluasi efek perbedaan formulasi tepung jagung terfermentasi dan tepung terigu terhadap sifat kimia, fisikokimia dan sensori mie basah dan mendapatkan formulasi tepung jagung terfermentasi dan tepung terigu yang menghasilkan mie basah dengan sifat kimia, fisikokimia dan sensori terbaik. Perlakuan disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan enam kali ulangan. Formulasi tepung jagung terfermentasi dan tepung terigu sebanyak 4 taraf, yaitu L1 (10:90), L2 (20:80), L3 (30:70), L4 (40:60) dengan jumlah penambahan bahan tambahan yang sama. Data dianalisis dengan sidik ragam dan uji lanjut dengan Beda Nyata Jujur (BNJ) pada taraf 5%. Hasil penelitian menunjukkan formulasi tepung jagung terfermentasi dan tepung terigu pada mie basah berpengaruh nyata terhadap kadar air, protein, lemak, karbohidrat, kehilangan padatan akibat pemasakan (*cooking loss*), daya serap air, warna, tekstur dan penerimaan keseluruhan; serta tidak berpengaruh nyata terhadap kadar abu, aroma dan rasa dan kelengketan. Perlakuan terbaik terdapat pada L3 (30:70) dengan perbandingan tepung jagung terfermentasi 30% dan

tepung terigu 70%. Berdasarkan sifat kimia formulasi L3 (30:70) menghasilkan kadar air sebesar 23,31%, kadar abu sebesar 1,55%, kadar lemak sebesar 8,50%, kadar protein sebesar 9,11%, dan kadar karbohidrat sebesar 57,52% ; sifat fisikokimia mie *cooking loss* sebesar 9,85% dan daya serap air sebesar 13,50%; uji sensori pada mie basah menghasilkan warna kuning kecoklatan (skor 1,53), tekstur agak kenyal (skor 2,88), aroma dan rasa agak khas jagung (skor 3,05), kelengketan agak lengket (skor 3,30) dan penerimaan keseluruhan dengan kriteria suka (skor 2,93).

**Kata kunci** : tepung jagung terfermentasi, tepung terigu, mie basah