

RINGKASAN

Tiwul merupakan salah satu makanan tradisional yang berbahan baku ubi kayu. Konsumsi tiwul semakin berkurang karena dianggap kurang menarik, dengan demikian pada penelitian ini dilakukan pembuatan tiwul instan yang lebih mudah untuk disajikan. Penambahan tepung koro pedang pragerminasi bertujuan untuk meningkatkan kandungan protein tiwul, sehingga dihasilkan tiwul instan tinggi protein. Masalah lain pada tiwul pada umumnya adalah teksturnya yang kurang kenyal. Tekstur tersebut dapat diperbaiki dengan penambahan bahan pengental komersial *food grade*.

Penelitian ini bertujuan untuk menetapkan: 1) jenis tepung ubi kayu modifikasi yang lebih sesuai antara kimiawi dan mikrobiawi, 2) proporsi tepung ubi kayu modifikasi-tepung koro pedang pragerminasi-tapioka yang tepat, 3) penambahan bahan pengental komersial *food grade* yang tepat dan 4) kombinasi perlakuan terbaik yang menghasilkan tiwul instan yang memiliki sifat kimia dan sensori terbaik. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) dengan 2 kali ulangan. Faktor yang dicoba adalah jenis tepung ubi kayu modifikasi kimiawi (J1) dan mikrobiawi (J2), proporsi berat tepung ubi kayu modifikasi-tepung koro pedang pragerminasi-tapioka terdiri dari P1= 75:15:10; P2= 70:20:10; P3=65:25:10, dan penambahan bahan pengental terdiri dari K1= 0,5%; K2= 0,75%; K3= 1,0% b/b terhadap total tepung, sehingga diperoleh 18 kombinasi perlakuan.

Hasil penelitian menunjukkan bahwa perlakuan terbaik adalah tiwul instan J2P3K3 (jenis tepung ubi kayu modifikasi mikrobiawi, proporsi berat tepung ubi kayu modifikasi-tepung koro pedang pragerminasi-tapioka 65:25:10 dan bahan pengental komersial *food grade* 1,0%). Produk memiliki koefisien rehidrasi 3,67%; kadar air 4,39% bb; kadar abu 0,97% bk (0,93% bb); nilai Formol 0,038 ml NaOH 0,1 N/g bk (0,036 ml NaOH 0,1 N/g bb); kadar lemak 0,72% bk (0,69% bb); kadar protein total 7,05% bk (6,73% bb), kadar karbohidrat *by difference* 91,25% bk (87,25% bb), warna kuning kecokelatan (3,35); rasa khas kacang agak terasa (3,03); flavor enak (2,73); tekstur kenyal (2,83) dan produk disukai (2,68).

SUMMARY

Tiwul is one of traditional foods made of cassava. Tiwul consumption have decreased because they are considered less interesting, thus it is necessary to prepare instant tiwul which is easier to be served. The addition of pregerminated jack bean flour was conducted to improve the protein content of tiwul, thus produced instant tiwul high protein. The other problem in tiwul is generally of its texture less chewy. The texture can be improved by addition of food grade chewy agent.

This research aimed to determine: 1) the suitable type of modified cassava flour (chemical, microbiological), 2) the best proportion of modified cassava flour- pregerminated jack bean flour-tapioca, and 3) the best addition of food grade chewy agent, also to 4) determine the treatment combination unit of instant tiwul produced which had the best chemical and sensory properties. The research used Randomized Block Design (RBD) with two repetitions. The factors of research were a kind of modified cassava flour consisted of J1= chemically modified cassava flour; J2= microbiologically modified cassava flour, the weight proportion of modified cassava flour-pregerminated jack bean flour-tapioca consisted of P1= 75:15:10; P2= 70:20:10; P3= 65:25:10, and addition of commercial chewy agent food grade consisted of K1= 0.5%; K2= 0.75%; K3= 1.0% w/w to the total flour, so that obtained by 18 treatments combinations.

The results showed that the best treatment was an instant tiwul of J2P3K3 (microbiologically modified cassava flour, the proportion of modified cassava flour-pregerminated jack bean flour-tapioca 65:25:10 and food grade chewy agent 1.0%). The product had rehydration coefficient of 3.67%; the water content of 4.39% db; ash content of 0.97% wb (0.93% db); Formol value of 0.038 ml NaOH 0.1 N/g wb (0.036 ml NaOH 0.1 N/g db); fat content of 0.72% wb (0.69% db); total protein content of 7.05% bk (6.73% db), carbohydrate by difference content of 91.25% wb (87.25% wb), tanned yellow color (3.35); slightly specific taste of beans (3.03); tasty flavor (2.73); chewy texture (2.83) and products favored (2.68).