RINGKASAN

Tiwul instan adalah makanan tradisional sebagai salah satu produk diversifikasi pangan. Kandungan protein tiwul instan yang terbuat dari 100% tepung ubi kayu hanya sebesar 1,65%. Rendahnya kandungan protein tiwul instan dapat diatasi dengan substitusi kacang koro pedang atau kedelai. Penelitian ini bertujuan untuk: 1) mengetahui pengaruh variasi jenis tepung ubi kayu; 2) mengetahui pengaruh variasi jenis tepung kacang; 3) mengetahui pengaruh variasi proporsi berat antara tepung ubi kayu-tepung kacang-susu skim; 4) mengetahui pengaruh interaksi antara variasi jenis tepung ubi kayu, variasi jenis tepung kacang dan variasi proporsi berat terhadap sifat kimia, fisik dan sensori tiwul instan.

Penelitian ini menggunakan Rancangan Acak Kelompok (RAK). Tiga faktor yang dicoba yaitu: variasi jenis tepung ubi kayu (A) yaitu non mocaf (A0) dan mocaf (A1); variasi jenis tepung kacang (K) yaitu koro pedang (K1) dan kedelai (K2); proporsi berat tepung ubi kayu-tepung kacang-susu skim (P) yaitu 80:15:5 (P1), 70:25:5 (P2) dan 60:35:5 (P3). Setiap perlakuan diulang sebanyak 3 kali sehingga didapatkan 36 unit percobaan. Variabel yang diamati yaitu sifat fisik dan kimia meliputi koefisien rehidrasi, kadar air, kadar abu, total padatan terlarut dan nilai Formol tiwul instan. Terhadap perlakuan terbaik dianalisis kadar protein, kadar lemak, serta kadar karbohidrat *by difference*. Variabel sensori yang diamati meliputi tekstur (kekenyalan), rasa kacang, flavor, dan kesukaan terhadap tiwul instan tanak.

Hasil penelitian menunjukan bahwa perlakuan terbaik adalah tiwul instan K1P3A0 (tepung koro pedang, proporsi 60:25:5, tepung non mocaf) yang memiliki kadar air 6,22% bb; kadar abu 1,23% bb (1,31% bk); nilai Formol 0,030 ml NaOH 0,1N/g bb (0,033 ml NaOH 0,1 N/g bk); total padatan terlarut 34,96% bb (37,28% bk); koefisien rehidrasi 3,94; kadar protein 9,10% bb (9,70% bk); kadar lemak 1,54% bb (1,64% bk); kadar karbohidrat *by difference* 81,57% bb (86,98% bk); tekstur 2,37 (agak kenyal); rasa kacang 2,71 (terasa); flavor 2,61 (agak enak); dan kesukaan 2,57 (agak suka). Sebagai alternatif adalah tiwul instan K2P2A0 (tepung kedelai, proporsi 70:25:5, tepung non mocaf) yang memiliki kadar air 5,48% bb; kadar abu 0,52% bb (0,55% bk); nilai Formol 0,035 ml NaOH 0,1 N/g bb (0,038 ml NaOH 0,1 N/g bk); total padatan terlarut 43,28% bb (45,78% bk); koefisien rehidrasi 3,91; kadar protein 10,87% bb (11,51% bk); kadar lemak 3,19% bb (3,37% bk); kadar karbohidrat *by difference* 79,94% bb (84,57% bk); tekstur 2,18 (agak kenyal), rasa kacang 2,27 (terasa), flavor 2,69 (agak enak) dan kesukaan 2,37 (agak suka)

SUMMARY

Instant tiwul is a traditional food as one of food diversification product. Protein content of instant tiwul made from 100% cassava flour only amounted to 1.65%. The low content of instant tiwul's protein can be overcome by substitution of jack bean or soy bean flour. This study aims to: 1) determine the effect of the variations of cassava flour; 2) know the effect of substitution from various bean flour type; 3) determine the effect of variation in the proportion of weight between cassava flour-bean flour-skimmed milk; 4) know the effect of interaction between variation of cassava flour type, various type of bean flour and variation of weight proportion to chemical, physical and sensory characteristie of instant tiwul.

This study used Randomized Block Design (RBD). There are three factors that tried: variation of cassava flour (A) which were non mocaf (A0) and mocaf (A1); variation of type of bean flour (K) which were jack bean (K1) and soybean (K2); the weight proportion of cassava flour-bean flour and skim milk (P) which were 80:15:5 (P1), 70:25:5 (P2) and 60:35:5 (P3). Each treatment was repeated 3 times to obtain 36 experimental units. The variables observed were physical and chemical properties including rehydration coefficient, moisture content, ash content, total dissolved solid content and instant tiwul Formol values. The best treatment was analyzed protein content, fat content, and carbohydrate content (by difference). The Sensory variables observed included texture, beany flavor, flavor, and preference of cooked instant tiwul.

The results showed that the best treatment was instant tiwul K1P3A0 (jack bean flour, the proportion of 60:25:5, non mocaf flour) had a moisture content of 6.22% wb; Ash content 1.23% wb (1.31% db); Formol value of 0.030 ml NaOH 0.1N/g wb (0.033 ml NaOH 0.1 N/g db); total dissolved solids 34.96% wb (37.28% db); Rehydration coefficient 3.94; Protein content 9.10% wb (9.70% db); 1.54% wb fat content (1.64% db); carbohydrate content by difference 81.57% wb (86.98% db); texture 2.37 (slightly chewy); 2.71 beany flavor (tasty); flavor 2.61 rather good; and the hedonic valueof 2.57 (like slightly). As an alternative was instant tiwul K2P2A0 (soybean flour, the proportion of 70:25:5, non mocaf flour) which had 5.48% wb water content; ash content of 0.52% wb (0.55% db); Formol value 0.035 ml NaOH 0.1 N / g wb (0.038 ml NaOH 0.1 N / g db); total dissolved solids 43.28% wb (45.78% db); rehydration coefficient 3.91; protein content of 10.87% wb (11.51% db); 3.19% wb fat content (3.37% db); carbohydrate by difference 79.94% wb (84.57% db); texture 2.18 (slightly chewy), beany flavor 2.27 (tasted), flavor 2.69 (tasty) and 2.37 the hedonic value was rather good.