

PUTRI NUR FARIDAH. NPM 220331100044. Pengaruh Konsentrasi *Carrier* dan *Foaming agent* terhadap Karakteristik Penyedap Alami Berbasis Tempe Semangit Hasil Metode *Foam Mat Drying*. Di bawah Bimbingan **Prof. Ir. Umi Purwandari, M.App.Sc., Ph.D.** dan **Rakhmawati, S.TP., M.T.**

ABSTRAK

Tempe semangit berpotensi dimanfaatkan sebagai bahan baku penyedap alami karena mengandung senyawa hasil fermentasi yang menghasilkan cita rasa gurih. Pengembangan penyedap alami dalam bentuk bubuk memerlukan penambahan *carrier* dan *foaming agent* untuk menghasilkan karakteristik produk yang baik. Penelitian ini bertujuan menganalisis pengaruh konsentrasi *carrier* dan *foaming agent* terhadap karakteristik penyedap alami berbasis tempe semangit hasil metode *foam mat drying*. Penelitian menggunakan Rancangan Acak Lengkap (RAL) faktorial dengan dua faktor, yaitu maltodekstrin (10%, 15%, dan 20%) dan putih telur (10%, 15%, dan 20%) dengan dua kali pengulangan. Bahan baku berupa tempe semangit hasil fermentasi bakteri halotoleran yang diisolasi dari terasi. Produk dikeringkan menggunakan metode *foam mat drying* dan dianalisis terhadap rendemen, warna, kelarutan, waktu larut, dan organoleptik. Data dianalisis menggunakan ANOVA dan uji Duncan, sedangkan data organoleptik menggunakan uji Kruskal–Wallis. Hasil penelitian menunjukkan bahwa perlakuan tidak berpengaruh nyata terhadap rendemen. Perlakuan juga tidak berpengaruh nyata terhadap warna (L^* , a^* , dan b^*). Maltodekstrin ($p=0,002$), *foaming agent* ($p=0,011$), dan interaksinya ($p=0,006$) berpengaruh nyata terhadap kelarutan. Kelarutan tertinggi diperoleh pada maltodekstrin 15% (73,68%) dan *foaming agent* 20% (73,17%). Perlakuan tidak berpengaruh nyata terhadap waktu larut yang berkisar 72,67–91,92 detik. Uji organoleptik menunjukkan tidak terdapat perbedaan nyata terhadap atribut rasa, warna, dan aroma. Dengan demikian, konsentrasi maltodekstrin dan *foaming agent* hanya berpengaruh nyata terhadap kelarutan, tetapi tidak berpengaruh nyata terhadap rendemen, warna, waktu larut, dan tingkat kesukaan panelis

Kata kunci : *foaming agent*, *foam mat drying*, *maltodekstrin*, *penyedap alami*, *tempe semangit*

PUTRI NUR FARIDAH. NPM 220331100044. *The Effect of Carrier and Foaming agent Concentrations on the Characteristics of Overripe Tempeh-Based Natural Flavoring Produced by the Foam Mat Drying Method.* Supervised by **Prof. Ir. Umi Purwandari, M.App.Sc., Ph.D.** dan **Rakhmawati, S.TP., M.T.**

ABSTRACT

Overripe tempeh has the potential to be utilized as a raw material for natural seasoning due to its fermented compounds that contribute to a savory flavor. The development of powdered natural seasoning requires the addition of a carrier and a foaming agent to produce products with desirable characteristics. This study aimed to analyze the effect of carrier and foaming agent concentrations on the characteristics of natural seasoning made from overripe tempeh using the foam mat drying method. A factorial Completely Randomized Design (CRD) was employed with two factors: maltodextrin concentration as the carrier (10%, 15%, and 20%) and egg white concentration as the foaming agent (10%, 15%, and 20%), with two replications. The raw material used was overripe tempeh fermented using halotolerant bacteria isolated from shrimp paste. The product was dried using the foam mat drying method and evaluated for yield, color, solubility, dissolution time, and sensory properties. The data were analyzed using Analysis of Variance (ANOVA) followed by Duncan's Multiple Range Test, while sensory data were analyzed using the Kruskal–Wallis test. The results showed that the treatments had no significant effect on yield. No significant differences were also observed in color parameters (L^* , a^* , and b^*). Maltodextrin ($p = 0.002$), the foaming agent ($p = 0.011$), and their interaction ($p = 0.006$) significantly affected the solubility of the product. The highest solubility was obtained with 15% maltodextrin (73.68%) and 20% foaming agent (73.17%). The treatments had no significant effect on dissolution time, which ranged from 72.67 to 91.92 seconds. Sensory evaluation also indicated no significant differences in panelists' preference for taste, color, and aroma. In conclusion, maltodextrin and foaming agent concentrations significantly affected the solubility of overripe tempeh-based natural seasoning but had no significant effect on yield, color, dissolution time, or sensory acceptance.

Keywords : *Foaming agent, foam mat drying, maltodekstrin, natural flavoring, overippe tempeh.*