

Zahra Kamila Adli. NPM 220331100085. Pengaruh Jenis Bahan Perekat dan Bahan Pengapung Terhadap Kualitas Pelet Pakan Ikan Berbahan Limbah Organik Kantin dan Limbah Darah. Di bawah Bimbingan **Cahyo Indarto, S.TP., M.P., Ph.D.** dan **Hamzah Fansuri, S.ST., M.T.**

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh jenis bahan perekat dan bahan pengapung terhadap kualitas fisik dan kimia pelet pakan ikan berbahan limbah organik kantin dan limbah darah. Penelitian menggunakan Rancangan Acak Lengkap (RAL) faktorial dengan dua faktor, yaitu jenis bahan perekat 5% yang terdiri atas tepung tapioka, tepung maizena, dan pati sagu, serta bahan pengapung yang terdiri atas baking powder 2% dan CMC 1,5%, dengan tiga kali ulangan. Parameter yang diamati meliputi daya apung, tingkat kekerasan, dispersi padatan, kecepatan pecah, kadar air, kadar protein, dan kadar lemak. Data dianalisis menggunakan analisis ragam (ANOVA) dan uji lanjut Duncan Multiple Range Test (DMRT) pada taraf 5%, sedangkan perlakuan terbaik ditentukan menggunakan metode De Garmo. Hasil penelitian menunjukkan bahwa jenis bahan perekat dan interaksi antara bahan perekat dengan bahan pengapung berpengaruh nyata terhadap sebagian besar parameter kualitas pelet pakan ikan, sedangkan jenis bahan pengapung tidak berpengaruh nyata terhadap tingkat kekerasan, kadar air, dan kadar lemak. Perlakuan terbaik diperoleh pada kombinasi tepung tapioka 5% dan CMC 1,5% (A1B2) dengan nilai indeks efektivitas sebesar 0,872. Perlakuan tersebut menghasilkan daya apung 24,43 menit, tingkat kekerasan 96,45%, dispersi padatan 6,83%, kecepatan pecah 43,33 menit, kadar air 5,83%, kadar protein 25,50%, dan kadar lemak 7,28%. Hasil tersebut menunjukkan bahwa kombinasi tepung tapioka dan CMC mampu menghasilkan pelet dengan stabilitas yang baik dalam air, tingkat kehilangan bahan yang rendah, serta kandungan nutrisi yang memadai sehingga berpotensi digunakan sebagai alternatif pakan ikan berbahan limbah organik.

Kata kunci: Limbah Darah, Limbah Kantin, Metode De Garmo, Pelet Pakan Ikan

Zahra Kamila Adli. NPM 220331100085. *Effect of Binder and Floating Additive Types on the Quality of Fish Feed Pellets Made from Canteen Organic Waste and Blood Meal.* Supervised by **Cahyo Indarto, S.TP., M.P., Ph.D.** and **Hamzah Fansuri, S.ST., M.T.**

ABSTRACT

This study aimed to analyze the effects of binder type and floating additive on the physical and chemical quality of fish feed pellets produced from canteen organic waste and blood meal. A factorial Completely Randomized Design (CRD) was employed with two factors: 5% binder type consisting of tapioca flour, cornstarch, and sago starch, and floating additives consisting of 2% baking powder and 1.5% carboxymethyl cellulose (CMC), with three replications for each treatment. The observed parameters included buoyancy, hardness, solid dispersion, disintegration time, moisture content, protein content, and fat content. Data were analyzed using Analysis of Variance (ANOVA) followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level, while the best treatment was determined using the De Garmo effectiveness index method. The results showed that the type of binder and the interaction between the binder and floating agent significantly affected most of the physical and chemical quality parameters of the fish feed pellets, whereas the floating agent had no significant effect on hardness, moisture content, and crude fat content. The best treatment was the combination of 5% tapioca flour and 1.5% CMC (A1B2), with an effectiveness index of 0.872. This treatment produced a buoyancy of 24.43 minutes, hardness of 96.45%, solid dispersion of 6.83%, disintegration time of 43.33 minutes, moisture content of 5.83%, crude protein content of 25.50%, and crude fat content of 7.28%. These findings indicate that the combination of tapioca flour and CMC produced fish feed pellets with good water stability, low material loss, and adequate nutritional quality, making it a promising alternative for producing fish feed from organic waste.

Keywords: *Blood Meal, Canteen Waste, De Garmo, Fish Feed Pellets*