

## ABSTRAK

Penelitian ini bertujuan untuk (1) Mengetahui ada pengaruh kombinasi tepung darah ayam dan bekatul terhadap kualitas pakan ayam broiler, (2) Mengetahui kombinasi tepung darah ayam dan bekatul terbaik terhadap kualitas pakan ayam broiler, (3) Mengetahui bahwa hasil penelitian dapat dimanfaatkan sebagai sumber belajar biologi. Jenis penelitian yang digunakan adalah kuantitatif dengan menggunakan metode eksperimen dan teknik *random sampling*. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL), menerapkan 4 perlakuan dan 5 kali ulangan dengan P1 (10 gram tepung darah ayam, 190 gram bekatul, 150 ml formula pumakkal), P2 (15 gram tepung darah ayam, 185 gram bekatul, 150 ml formula pumakkal), P3 (20 gram tepung darah ayam, 180 gram bekatul, 150 ml formula pumakkal), dan P4 (25 gram tepung darah ayam, 175 gram bekatul, 150 ml pumakkal). Berdasarkan hasil penelitian dapat disimpulkan bahwa terdapat pengaruh nyata kadar protein terhadap kualitas pakan kombinasi tepung darah ayam dan bekatul namun tidak terdapat pengaruh nyata kadar lemak, air, dan serat kasar terhadap kualitas pakan kombinasi tepung darah ayam dan bekatul. Dengan hasil penelitian terbaik, rata-rata kadar protein pada P4 = 21,941%, kadar lemak pada P1 = 9,513, kadar air pada P1 = 14,009%, dan kadar serat kasar pada P1 = 4,949%. Hasil penelitian ini dapat dijadikan sebagai bahan ajar biologi berupa LKPD pada materi bioteknologi untuk SMA kelas XII. Hasil validasi sumber belajar oleh ahli materi, ahli desain dan ahli bahasa disimpulkan bahwa LKPD layak digunakan sebagai sumber belajar dengan skor rata-rata ahli materi 95%, ahli desain 80% dan ahli bahasa 83,3%.

**Kata Kunci:** Fermentasi Darah Ayam, Bekatul, Sumber Belajar.

## ABSTRACT

This research aims to (1) find out the effect of the combination of chicken blood meal and rice bran on the quality of broiler chicken feed, (2) find out the best combination of chicken blood meal and rice bran on the quality of broiler chicken feed, and (3) find out that the research results can be used as a source of study in biology. The type of research used is quantitative, using experimental methods and random sampling techniques. This research used a Completely Randomized Design (CRD), applying 4 treatments and 5 repetitions with P1 (10 grams of chicken blood meal, 190 grams of rice bran, 150 ml of pumakkal formula), P2 (15 grams of chicken blood meal, 185 grams of rice bran, 150 ml of pumakkal formula), P3 (20 grams of chicken blood meal, 180 grams of rice bran, 150 ml of pumakkal formula), and P4 (25 grams of chicken blood meal, 175 grams of rice bran, 150 ml of pumakkal). Based on the research results, it can be concluded that there is a real influence of protein content on the quality of the feed combined with chicken blood meal and rice bran, but there is no real influence of fat, water, and crude fiber content on the quality of the feed combined with chicken blood meal and rice bran. With the best research results, the average protein content in P4 = 21.941%, the fat content in P1 = 9.513, the water content in P1 = 14.009%, and the crude fiber content in P1 = 4.949%. The results of this research can be used as biology teaching material in the form of a student worksheet (LKPD) on biotechnology material for high school class XII. The results of the validation of learning resources by material experts, design experts, and language experts concluded that the LKPD was suitable for use as a learning resource, with an average score of 95% for material experts, 80% for design experts, and 83.3% for language experts.

**Keywords:** Fermented Chicken Blood, Rice Bran, Learning Resources.