

**KARAKTERISTIK FISIK DAN PENDUGAAN UMUR SIMPAN
BUBUK PEPTON LIMBAH IKAN GABUS DENGAN METODE
PENDEKATAN KADAR AIR KRITIS
INTISARI**

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Bubuk pepton limbah ikan gabus merupakan hidrolisat protein yang diproduksi menggunakan bahan dasar limbah ikan gabus yang sudah diambil albuminnya kemudian dikeringkan menggunakan *spray drying*. Sebelum diedarkan, pepton yang diproduksi harus memenuhi beberapa standar kualitas, seperti sifat fisik dan umur simpan. Oleh karena itu, penelitian ini bertujuan untuk mengetahui karakteristik fisik dan umur simpan bubuk pepton limbah ikan gabus yang dikemas dalam kemasan botol HDPE menggunakan metode ASLT pendekatan kadar air kritis. Bubuk pepton limbah ikan gabus disimpan pada suhu ruang dengan 5 kondisi kelembaban relatif ruang penyimpanan (RH 11%, 32%, 54%, 75%, dan 97%) sehingga dapat diperkirakan umur simpannya berdasarkan model pendekatan kadar air kritis. Hasil penelitian menunjukkan bahwa fisik bubuk pepton limbah ikan gabus yang mencakup dispersibilitas, *bulk density*, dan aktivitas air (*aw*) sudah mendekati pepton komersial (Millipore). Namun, untuk kelarutannya masih lebih rendah dan kadar airnya masih lebih tinggi dibandingkan pepton komersial (Millipore). Bubuk pepton dengan kemasan botol HDPE yang disimpan pada kelembaban relatif 54% memiliki umur simpan selama 527 hari (17,57 bulan) dan RH 75% selama 180 hari (6 bulan).

Kata kunci: bubuk pepton, karakteristik fisik, umur simpan, ASLT

**PHYSICAL CHARACTERISTICS AND SHELF LIFE ESTIMATION
OF SNAKEHEAD FISH WASTE PEPTONE POWDER USING
CRITICAL MOISTURE CONTENT APPROACH METHOD**

ABSTRACT

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Snakehead fish waste peptone powder is a protein hydrolysate produced using snakehead fish waste as a base material that has been taken from albumin and then dried using spray drying. Prior to commercialization, the product must comply with established quality standards, especially regarding its physical properties and shelf life. Therefore, this study aims to determine the physical characteristics and shelf life of snakehead fish waste peptone powder packaged in HDPE bottles using the ASLT method of critical moisture content approach. Snakehead fish waste peptone powder was stored at room temperature with 5 storage room relative humidity conditions (RH 11%, 32%, 54%, 75%, and 97%) so that the shelf life could be estimated based on the critical moisture content approach model. The results showed that the physical properties of snakehead fish waste peptone powder including dispersibility, bulk density, and water activity (a_w) already resembled commercial peptone (Millipore). However, the solubility is still lower and the water content is still higher than commercial peptone (Millipore). Peptone powder with HDPE bottle packaging stored at 54% relative humidity has a shelf life of 527 days (17,57 months) and 75% RH for 180 days (6 months).

Keywords: peptone powder, physical characteristics, shelf life, ASLT