

Intisari

PENGARUH KONSENTRASI ENZIM PAPAIN TERHADAP AKTIVITAS ANTIOKSIDAN HIDROLISAT PROTEIN INSANG DAN *ARBORESCENT* LELE

Ikan lele merupakan ikan air tawar yang banyak diminati oleh masyarakat. Dalam proses pengolahannya, tidak semua bagian lele dapat diproses menjadi produk akhir dan hanya menjadi produk hasil samping. Penelitian ini bertujuan untuk memanfaatkan insang dan *arborescent* lele sebagai bahan baku dalam pembuatan hidrolisat protein. Insang dan *arborescent* lele yang sudah dihaluskan kemudian dihidrolisis menggunakan enzim papain 'PAYA' dengan konsentrasi 0%, 1%, 2%, 3%, 4%, 5% dan 6% dengan 0% papain sebagai kontrol negatif selama 48 jam pada pH 7 dan suhu 55°C. Pengujian hidrolisat protein insang & *arborescent* lele meliputi uji kadar protein terlarut, derajat hidrolisis (DH) dan aktivitas antioksidan. Hasil menunjukkan bahwa konsentrasi 3% memiliki hasil yang optimal dengan kadar protein terlarut sebesar 377,01 ppm, DH sebesar 92,65% serta aktivitas antioksidan diuji menggunakan metode DPPH dan ABTS dan didapatkan aktivitas penghambatan masing-masing sebesar 85% dan ABTS sebesar 9,57 μ M TEAC. Kata kunci: Insang dan *arborescent* lele, Hidrolisat protein ikan, Aktivitas antioksidan, Produk hasil samping, Enzim papain, PAYA.

Abstract

EFFECT OF PAPAIN ENZYME CONCENTRATION ON THE ANTIOXIDANT
ACTIVITY OF PROTEIN HYDROLYSATE OF CATFISH GILL AND
ARBORESCENT

Catfish is a freshwater fish that is in great demand by the public. In the processing process, not all parts of the catfish can be processed into final products and only become by-products. This study aims to utilize gills and arborescent catfish as raw materials in the manufacture of protein hydrolyzate. The mashed catfish gills and arborescent were then hydrolyzed using the enzyme papain 'PAYA' with a concentration of 0%, 1%, 2%, 3%, 4%, 5% and 6% with 0% papain as a negative control for 48 hours at pH 7 and temperature 55°C. Tests for catfish gill & arborescent protein hydrolyzate included testing for dissolved protein content, degree of hydrolysis (DH) and antioxidant activity. The results showed that a concentration of 3% had optimal results with a dissolved protein content of 377.01 ppm, DH of 92.65% and antioxidant activity was tested using the DPPH and ABTS methods and obtained inhibitory activity of 85% and ABTS of 9. 57µM TEAC.

Keywords: Catfish gills and arborescent, Fish protein hydrolyzate, Antioxidant activity, By-products, Papain enzyme, PAYA.