INTISARI

KRISTANTI, 2023, PENGARUH VARIASI SUHU PEMANASAN TERHADAP KADAR AKRILAMIDA PADA UBI JALAR CILEMBU SECARA SPEKTROFOTOMETRI UV-VIS, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Akrilamida merupakan senyawa yang bersifat karsinogenik, mekanisme terbentuk dengan adanya reaksi antara protein (asam amino) dengan karbohidrat (gula pereduksi) yang tinggi melalui proses pemanasan suhu tinggi. Ubi jalar cilembu mengandung protein dan karbohidrat yang tinggi, jika diolah dengan pemanasan suhu tinggi akan berpotensi terbentuknya akrilamida. Tujuan penelitian ini adalah untuk mengetahui pengaruh variasi suhu terhadap kadar akrilamida yang terbentuk pada ubi jalar cilembu.

Sampel ubi jalar cilembu dioven pada variasi suhu 100; 120; 140; dan 160°C selama 3 jam serta ubi jalar cilembu mentah. Akrilamida pada sampel dianalisis secara kualitatif dengan metode KLT dan kuantitatif dengan metode spektrofotometri UV-Vis. Ubi jalar cilembu melalui beberapa variasi suhu yang diekstraksi dengan pelarut diklorometha na p.a dan dilarutkan dengan aquadest. Sampel di baca pada panjang gelombang 206 nm. Hasil data dianalisis dengan menggunakan metode *one-way anova.*

Hasil analisis kadar akrilamida pada ubi jalar cilembu mentah sebesar 5,44 mg/Kg, sedangkan pada ubi jalar cilembu yang melalui pemanasan suhu 100; 120; 140; dan 160°C sebesar 8,43; 20,09; 38,44; dan 43,38 mg/Kg. Pada analisis spss menghasilkan perbedaan kadar akrilamida yang signifikan pada semua variasi suhu. Berdasarkan hasil penelitian variasi suhu pemanasan mempengaruhi kadar akrilamida yang terbentuk sehingga semakin tinggi suhu pemanasan akan meningkatkan kadar akrilamida.

Kata kunci : Akrilamida, ubi jalar cilembu, suhu, spektrofotometri UV-Vis

ABSTRAK

KRISTANTI, 2023, THE EFFECT OF HEATING TEMPERATURE VARIATION ON ACRYLAMIDE LEVELS IN CILEMBU SWEET POTATO BY UV-VIS SPECTROPHOTOMETRY, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

Acrylamide is a carcinogenic compound, the mechanism is formed by the reaction between protein (amino acids) and high carbohydrates (reducing sugars) through a high temperature heating process Cilembu sweet potato contains high protein and carbohydrates, if it is processed by heating at high temperatures it will have the potential to form acrylamide. The purpose of this study was to determine the effect of temperature variations on acrylamide levels formed in cilembu sweet potato.

Cilembu sweet potato samples were baked in a temperature variation of 100; 120; 140; and 160°C for 3 hours and raw Cilembu sweet potato. Acrylamide in the samples was analyzed qualitatively by TLC method and quantitatively by UV-Vis spectrophotometry method. Cilembu sweet potato through several temperature variations extracted with dichloromethane p.a solvent and dissolved with distilled water. The sample is read at a wavelength of 206 nm. The results of the data were analyzed using the one-way ANOVA method.

The results of the analysis of acrylamide levels in raw Cilembu sweet potato were 5.44 mg/Kg, while Cilembu sweet potatoes were heated to a temperature of 100; 120; 140; and 160°C of 8.43; 20.09; 38.44; and 43.38 mg/Kg. The SPSS analysis yielded significant differences in acrylamide levels at all temperature variations. Based on the research results, variations in heating temperature affect the levels of acrylamide formed, so that the higher the heating temperature, the higher the acrylamide levels.

Keywords: ***Acrylamide, cilembu sweet potato, temperature, UV-Vis spectrophotometry***