EFEK VARIASI PERENDAMAN DAN PEREBUSAN TERHADAP KADAR ASAM SIANIDA DAN KOMPONEN GIZI KACANG KERANDANG (*Canavalia virosa*)

INTISARI

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Kacang kerandang (*Canavalia virosa*) merupakan salah satu legum lokal yang berpotensi dikembangkan sebagai sumber protein nabati alternatif. Namun, pemanfaatannya sebagai bahan pangan masih terbatas karena adanya senyawa antigizi seperti asam fitat serta senyawa toksin berupa hidrogen sianida (HCN). Proses pengolahan seperti perendaman dan perebusan diketahui dapat menurunkan kadar senyawa berbahaya sekaligus mempengaruhi kandungan gizi dan senyawa bioaktif dalam bahan pangan. Penelitian ini mengkaji pengaruh kombinasi perlakuan perendaman dan perebusan terhadap kadar hidrogen sianida, asam fitat, zat gizi, serta aktivitas antioksidan pada kacang kerandang. Penelitian dilakukan menggunakan variasi perlakuan perendaman selama 1 dan 2 hari yang dilanjutkan dengan perebusan selama 1 dan 2 jam. Sampel kemudian dianalisis kandungan hidrogen sianida, asam fitat, zat gizi, serta aktivitas antioksidan. Hasil penelitian menunjukkan bahwa kombinasi perlakuan perendaman dan perebusan tidak memberikan perbedaan yang signifikan terhadap kadar hidrogen sianida, asam fitat, dan aktivitas antioksidan pada sampel, tetapi seluruh sampel memiliki kadar HCN yang berada di bawah batas aman konsumsi, yaitu 50 ppm. Sementara itu, perlakuan perendaman dan perebusan tidak memberikan pengaruh signifikan terhadap kadar air, kadar lemak, dan kadar karbohidrat. Pada kacang kerandang, perendaman 1 hari dan perebusan 1 jam menurunkan kadar abu secara signifikan. Sementara pada kacang kedelai, perendaman 1 hari dan perebusan 1 jam menurunkan kadar abu dan meningkatkan kadar protein secara signifikan. Secara keseluruhan, kacang kerandang menunjukkan potensi untuk dikembangkan sebagai bahan pangan alternatif karena memiliki kandungan gizi yang cukup baik serta kadar HCN yang masih berada dalam batas aman konsumsi.

Kata kunci: Gizi, hidrogen sianida, kacang kerandang, perebusan, perendaman.

EFFECT OF SOAKING AND BOILING VARIATIONS ON CYANIDE ACID CONTENT AND NUTRITIONAL COMPONENTS OF TRIBAL BEANS (*Canavalia virosa*)

ABSTRACT

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Tribal beans (*Canavalia virosa*) is a local legume with potential to be developed as an alternative plant-based protein source. However, its utilization as food material is still limited due to the presence of anti-nutritional compounds such as phytic acid and toxic compounds in the form of hydrogen cyanide (HCN). Processing methods such as soaking and boiling are known to reduce the levels of harmful compounds while also affecting the nutritional components and bioactive compounds in food. This study examined the effect of a combination of soaking and boiling treatments on the levels of hydrogen cyanide, phytic acid, nutrients, and antioxidant activity in jack bean. The study was conducted using variations of soaking treatments for 1 and 2 days, followed by boiling for 1 and 2 hours. The samples were then analyzed for hydrogen cyanide, phytic acid, nutrient content, and antioxidant activity. The results showed that the combination of soaking and boiling treatments did not significantly affect the hydrogen cyanide, phytic acid, and antioxidant activity levels in the samples, but all samples had HCN levels below the safe consumption limit of 50 ppm. Meanwhile, soaking and boiling did not significantly affect water, fat, and carbohydrate content. Soaking for 1 day and boiling for 1 hour significantly reduced the ash content of tribal beans, while significantly reduced the ash content and increased the protein content of soybean. Overall, tribal beans show potential for development as an alternative food source due to their relatively good nutritional composition and safe levels of hydrogen cyanide.

Keywords: Boiling, hydrogen cyanide, nutrition, soaking, tribal beans.