

**PENGARUH PENGGUNAAN ABU PADA PENGERINGAN  
ATAU PERENDAMAN KULIT SINGKONG TERHADAP  
KANDUNGAN ASAM SIANIDA DAN KECERNAAN  
SECARA IN VITRO**

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**INTISARI**

Tujuan dari penelitian ini adalah mengetahui penggunaan level abu dan durasi pada proses pengeringan dan perendaman terhadap kandungan asam sianida (HCN) dan kecernaan secara *in vitro* kulit singkong. Penelitian ini dibedakan menjadi dua perlakuan, yakni pengeringan dan perendaman, di mana pada proses pengeringan dan perendaman terdapat penambahan level abu dan durasi yang sama yakni penambahan level abu sebesar 0, 5, 10, 15, dan dilakukan selama 12, 24, 36, dan 48 jam. Data dianalisis menggunakan analisis variansi mengikuti rancangan acak lengkap pola faktorial 4x4. Jika terdapat perbedaan dilanjutkan dengan menggunakan *Duncan's new multiple range test*. Hasil uji kandungan HCN kulit singkong pada perlakuan pengeringan selama 12, 24, 36, dan 48 jam, kandungan HCN kulit singkong adalah 290,32, 273,42, 198,92, 145,61 (ppm) pada 0% abu; 241,79, 233,95, 221,92, 174,14 (ppm) pada 5% abu; 173,92, 183,92, 183,21, 99,39 (ppm) pada 10% abu; 169,93, 137,83, 127,42, 75,53 (ppm) pada 15% abu. Hasil uji kandungan HCN kulit singkong pada perlakuan perendaman selama 12, 24, 36, dan 48 jam, kandungan HCN kulit singkong adalah 111,39, 80,13, 57,82, 39,77 (ppm) pada 0% abu; 100,76, 70,91, 61,65, 29,50 (ppm) pada 5% abu; 50,12, 53,63, 51,08, 7,82 (ppm) pada 10% abu; dan 62,89, 50,39, 44,39, 13,51 (ppm) pada 15% abu. Kulit singkong dengan kandungan HCN terendah dari dua perlakuan, yakni pengeringan dengan penambahan abu 15% selama 48 jam, dan perendaman dengan penambahan abu 10% selama 48 jam digunakan untuk penetapan kecernaan *in vitro*. Kecernaan *in vitro* kulit singkong dengan penambahan abu sebesar 15% pada proses pengeringan selama 48 jam dan penambahan abu sebesar 10% pada proses perendaman selama 48 jam menunjukkan nilai yang tinggi. Nilai kecernaan bahan kering KcBK dan kecernaan bahan organik (KcBO). yang dihasilkan pada kulit singkong dengan penambahan abu sebesar 15% pada proses pengeringan selama 48 jam nilai KcBK yang diperoleh sebesar 71,40% dan nilai KcBO sebesar 77,51%; dan pada kulit singkong dengan penambahan abu sebesar 10% pada proses perendaman selama 48 jam memiliki KcBK sebesar 69,70±% dan KcBO sebesar 77,09%. Berdasarkan hasil analisis dapat disimpulkan bahwa perlakuan perendaman dengan penambahan abu sebesar 10% selama 48 menunjukkan penurunan HCN tertinggi, yaitu sebesar 92,97% atau 103,57 ppm.

Kata kunci : Pengeringan dan Perendaman, Kandungan HCN, Kulit Singkong, Kecernaan *In Vitro*, Sapi Bali.

## THE EFFECT OF ASH ADDITION IN CASSAVA PEEL DRYING AND SOAKING PROCESS ON CYANIDE ACID CONTENT AND *IN VITRO* DIGESTIBILITY

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### ABSTRACT

The purpose of this study was to evaluate the effect of ash addition based on its concentration and processing time in the drying and soaking on cyanide acid (HCN) content and *in vitro* digestibility of cassava peel. This research was divided into two treatments, which were drying and soaking of cassava peel. In both treatments, the ash was added at the level of 0%, 5%, 10%, 15%, while the processing time were 12, 24, 36, and 48 hours. The obtained data were analyzed using analysis of variance (ANOVA) following a completely randomized factorial design (CRFD) 4x4. The differences on each treatment were measured using Duncan's new multiple range test. The statistical analysis showed a significant difference ( $P < 0.05$ ) to the cassava peel HCN content on both treatments. The HCN content of cassava peel after dried for 12, 24, 36, and 48 hours respectively were 290.32, 273.42, 221.92, and 145.61 (ppm) with 0% ash addition; 241.79, 233.95, 183.21, and 174.14 (ppm) with 5% ash addition; 198.09, 173.92, 183.92, and 99.39 (ppm) with 10% ash addition; 169.92, 137.83, 127.41, and 75.93 (ppm) with 15% ash addition. In the soaking treatment, the HCN content of cassava peel after soaked for 12, 24, 36, and 48 hours respectively were 111.39, 80.13, 61.64, and 39.77 (ppm) with 0% ash addition; 110.76, 70.91, 57.81, and 29.49 (ppm) with 5% ash addition; 62.89, 51.08, 50.12, and 7.82 (ppm) with 10% addition; 53.63, 50.39, 44.39, and 13.55 (ppm) with 15% ash addition. Furthermore, sample with lowest HCN content on each treatment (48 hours of drying with 15% ash addition and 48 hours of soaking with 10% ash addition) were then analyzed for its *in vitro* digestibility it showed high value. To dry matter digestibility (DMD) and organic matter digestibility (OMD). The DMD of the cassava peel after dried for 48 hours with 15% ash addition was 71.40% and the OMD was 77.51%, while the DMD of the cassava peel after soaked for 48 hours with 10% ash addition was 69.70% with 77.09% OMD. It can be concluded that the soaking treatment with 10% ash addition for 48 hours showed the highest HCN reduction, by reducing 92.97% or 103.57 ppm HCN content.

**Keywords:** Drying and Soaking, HCN Content, Cassava peel, *In Vitro* Digestibility, Bali Cow.