

**Penurunan Kadar HCN Melalui Perlakuan High Pulsed Electric Field Pada
Tepung Ubi Kayu (*Manihot esculenta*)
(Reduction of HCN Levels Through High Pulsed Electric Field Treatment on
Cassava Flour (*Manihot esculenta*))
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ABSTRACT

*Cassava (*Manihot esculenta*) is a potential local food source but contains cyanogenic glucoside compounds that can be hydrolyzed into hydrocyanic acid (HCN) and pose a health risk if not handled properly. This study aims to evaluate the effect of High Pulsed Electric Field (HPEF) pretreatment on reducing HCN levels in cassava flour and compare it with conventional methods of soaking in water for 12 hours as a control. This study used a one-factor Completely Randomized Design (CRD) with three treatments (control, HPEF electrode distance 0.5 cm, HPEF electrode distance 1.5 cm) with two replications. Cassava was treated with HPEF before the freeze-drying process, then HCN was analyzed quantitatively using steam distillation and titrimetry methods. Data were analyzed using one-way ANOVA and continued with the Games-Howell test. The results showed that HPEF treatment had a significant effect on reducing HCN levels ($p < 0.05$). The average HCN content of the control was 19.25 ppm, while the electrode distance 0.5 cm and electrode distance 1.5 cm HPEF yielded 15.15 ppm and 14.05 ppm, respectively. Descriptively, the 1.5 cm electrode distance produced the lowest HCN content. All treatments met the SNI maximum limit (40 mg/kg). Thus, HPEF has the potential to be a faster and more efficient pretreatment alternative for reducing HCN levels in cassava flour.*

Keywords: *cassava flour, high pulsed electric field, hydrocyanic acid.*