The Effect of Head Only Electrical Stunning On *Superoxide Dismutase* (SOD) Serum Activity as a Pre-Slaughter Stress Indicator in *Landrace* Pigs

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ABSTRACT

Stunning is a treatment that aims to stun the animals before slaughter. Stunning is done to minimize pain, fear and stress in the animal during the slaughter process. This aim of this study was to determine the difference of *Landrace* pigs's *superoxide dismutase* (SOD) serum activity which treated with head only electrical stunning and non-stunning as a pre-slaughter stress indicator. SOD is a biomarker used to determine animal stress. The method of this research was post test only grup design. A total of eighteen barrow pigs were randomly divided into two groups, which treated with head only electrical stunning (P1) and non-stunning (P2), then their blood were kept in vacutainer plain for SOD analyzing by calorimetric assay. The data were analyzed with Shapiro-Wilk test and continued with Independent T test. The results of the Independent T test is in each treatment was significantly different ($p<0.05$) with p value $p = 0{,}001$ between head only electrical stunning ($152{,}249 \pm 25{,}166$) and non-stunning ($278{,}292 \pm 87{,}606$) group. From the result, it can be concluded that there is a significant difference that is *Landrace* pigs which treated with head only electrical stunning have lower SOD serum activity compared to non-stunning.

Key words : Head only electrical stunning, Pre-Slaughter Stress
Superoxide Dismutase (SOD)