

## **ABSTRACT**

### **TAURINE EFFECT ON SUPEROXIDE DISMUTASE ENZYME ACTIVITY, MALONDIALDEHYDE AND LIVER HISTOLOGY OF MICE INDUCED BY GLYPHOSATE HERBICIDE**

**By**

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Glyphosate herbicide widely used by farmers in Indonesia. As a result of exposure to herbicides, the production of free radicals or ROS exceeds the body's defense system called oxidative stress. Due to oxidative stress, the activity of antioxidant enzymes in the body decline and thus can cause tissue damage and certain organ dysfunction. ROS can be suppressed by administration of antioxidants. One source of the antioxidant is taurine. Taurine has a protective effect against oxidation and free radical capture in a variety of cells and tissues against toxic oxidant component. This study aims to determine the effect of taurine on the liver of mice induced herbicide glyphosate on the activity of the enzyme superoxide dismutase (SOD), malondialdehyde (MDA), changes in morphology and structure of liver histology. The research used completely randomized design (CRD). Mice were divided into three treatment groups such as control group (K0), a group of glyphosate (K1) at a dose of 25 mg/kg BW/day orally for 25 days, and a group of taurine+glyphosate (K2) at a dose of taurine 7800 mg/kg BW/day + glyphosate dose 25 mg/kg BW/day orally for 25 days. Each treatment consisted of 8 mice as replication. Results of analysis with one ways ANOVA ( $P < 0,05$ ) followed by the Tukey test showed taurine dose of 7800 mg/kg BW/day can reduce liver cells of male mice that were treated by the herbicide glyphosate induction but it not be able to increase the levels of SOD and to decrease MDA levels.

**Key words:** glyphosate, liver histology, malondialdehyde, superoxide dismutase, taurine.