



## The Effect of $\alpha$ -Tocopherol in Egg Yolk Tris Diluent on the Spermatozoa Plasma Membrane Integrity, Superoxide Dismutase (SOD) and Malondialdehyde (MDA) in Bali Cattle At 5<sup>0</sup>C of Temperature

Lukman hy

Department of Animal Production, Faculty of Animal Husbandry, Mataram University, Pendidikan Street No. 62 Mataram 83114, West Nusa Tenggara, Indonesia.

**Abstract :** This study aims to examine the effect of  $\alpha$ -tocopherol in egg yolk *Aminomethane* tris diluent on the spermatozoa plasma membrane integrity and the activity of Superoxide Dismutase (SOD), Malondialdehyde (MDA) in Bali cattle at 5<sup>0</sup>C of temperature. Semen that collected by using artificial vagina of Bali cattle and kept in the region artificial insemination center (BIBD) of Mataram was evaluated and diluted by using diluent of egg yolk *Aminomethane* Tris and then divided into four parts that was given *alpha-tocopherol* treatment successively 0.0; 0.2; 0.4 and 0.6 g/100 ml of diluen. Semen which was given treatment stored at 5<sup>0</sup>C of temperature and evaluated during eight days everyday. The observation towards the spermatozoa plasma membrane integrity used *Hypoosmotic Swelling Test* (HOST), spermatozoa membrane integrity could be observed by using luminous microscope that had 400X magnification and the examination SOD activity, MDA spermatozoa. The addition of *alpha-tocopherol* in egg yolk *Aminomethane* Tris diluents was better influential ( $P < 0.05$ ) to the percentage of spermatozoa plasma membrane integrity and SOD activity, MDA of Bali cattle. The best *alpha-tocopherol* addition was 0.4 g in maintaining the plasma membrane integrity ( $71.1 \pm 8.72$ ) and SOD, MDA until eighth day storage at 5<sup>0</sup>C of temperature. The percentage of spermatozoa membrane integrity in Bali cattle that was stored at 5<sup>0</sup>C of temperature during eight days was still used for artificial insemination (AI).

**Keywords :** *alpha-tocopherol, Spermatozoa membrane integrity, SOD, MDA and Bali cattle.*