

# ASSOCIATION BETWEEN ENERGY STATUS AND LIPID METABOLISM OF GARUT EWES REARED IN INTENSIVE HOUSING SYSTEM WITH AND WITHOUT FREE RANGE ACCESS

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## **Abstract**

*The purpose of this study is to determine the association between energy status and lipid metabolism of Garut ewes reared in intensive housing system with and without free range access. Garut ewes with a total of 20 heads were randomly placed into two treatments. The first group/treatment was intensive housing system without free range access (T1, n=10), while the second group was kept in intensive housing system with free range access 2 hr per day (T2, n=10). Blood samples were collected in jugular vein at 70 d of experiment. Blood biochemistry analysis was performed at Laboratory of Animal Physiology and Biochemistry Faculty of Animal Husbandry Universitas Padjadjaran. Data were analyzed using a T-test. The results revealed there is no significant different on glucose concentration as energy status and plasma cholesterol and triglyceride as lipid metabolism parameter between treatments. However, ewes reared on intensive housing system with free range access had higher cholesterol and glucose concentration compared to ewes reared on intensive housing system without free range access. Moreover, there is no association between energy status and lipid metabolism parameters. This study shows that mild exercise of 2 hr doing an active behavior such as walking and running in outside area did not reduce energy status and lipid metabolism. In conclusion, intensive housing system with free range access did not give any negative effect on performances supported with normal energy status and lipid metabolism.*

**Key words:** *Rearing system, Garut ewes, Cholesterol, Triglyceride, Glucose*