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### **Research Paper (3)**

**Title**                      **Wheat germ meal replaces cottonseed meal at different levels in diets of Ossimi lambs: Impact on growth performance, feed utilization and economic efficiency.**

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### **ABSTRACT**

This experiment aimed to evaluate the replacement of cottonseed meal (CSM) with wheat germ meal (WGM) in diets of growing lambs on feed utilization and growth performance. Twenty-eight Ossimi male lambs ( $38 \pm 0.8$  kg weight), and  $180 \pm 5$  d were divided randomly into four experimental groups in a complete randomized design for 105 d. Cottonseed meal was replaced with WGM at 0 (WGM0 treatment), 50 (WGM50 treatment), 75 (WGM75 treatment) and 100% (WGM100 treatment). The chemical analysis of the total essential and non-essential amino acids showed an increase at the WGM diet compared to CSM. The replacement of CSM with WGM linearly and quadratically improved ( $P < 0.05$ ) lambs' growth performance and feed conversion. The WGM50 and WGM100 treatments lowered ( $P < 0.05$ ) feed intake and feed conversion, without affecting nutrient digestibility or diets' nutritive. Feeding WGM increased ( $P < 0.05$ ) total protein, albumin, and urea-N concentrations in blood of lambs. The WGM100 treatment showed the highest relative percentage of net



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revenue compared to the other treatments. It is concluded that the complete replacement of CSM with WGM showed positive effects on lambs' performance and economic efficiency.

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