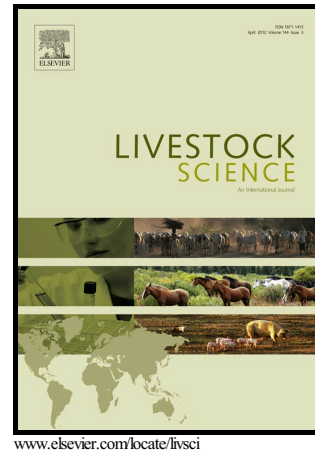


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Energy and lysine requirements and balances of sows during transition and lactation: A factorial approach

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**Energy and lysine requirements and balances of sows during transition and lactation: A factorial approach\*****Takele Feyera and Peter Kappel Theil\***

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**ABSTRACT**

This study aimed to quantify daily requirements for metabolizable energy (ME) and standard ileal digestible (SID) lysine in late gestating and lactating sows using a factorial approach. Metabolizable energy and SID lysine required for fetal and mammary growth, colostrum and milk production, uterine components (including uterus wall, placenta and membrane fluids) and maintenance were estimated. It was estimated that maintenance, additional heat loss, colostrum production, fetal growth, mammary growth and uterine components accounted for 66.8, 19.3, 7.2, 5.0, 1.3 and 0.5% of total ME requirements, respectively, in the last 12 days of gestation. Oxidation/transamination, fetal growth, mammary growth, colostrum production, maintenance and uterine components were estimated to account for 29.5, 22.7, 16.8, 16.1, 10.4 and 4.5% of total SID lysine requirements, respectively, in the last 12 days of gestation. After parturition, ME and SID lysine requirements increased daily until peak lactation (day 17). At peak lactation, 95% and 72% of total required SID lysine and ME, respectively, were associated with milk production (including oxidation). Relative to day 104 of gestation, ME and SID lysine requirements increased by 60 and 149% at day 115 of gestation, and by 228%, and 338% at peak lactation,

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