Pre-Farrow Feeding

The transition period between the end of gestation housing to parturition in a farrowing room is a short time period. However, the method of how a sow is fed in this time frame can affect lactation feed intake, colostrum synthesis, sow weight loss, and litter performance.

In most commercial production systems, gestating sows are moved to the farrowing house between approximately day 112 and 114 of gestation. During the short time period prior to farrowing, nutrient requirements are dynamically shifting to support maternal maintenance as well as colostrum synthesis and conceptus development. Maternal maintenance represents the greatest proportion of the energy requirements needed prior to parturition, but the energy requirement for colostrum production and fetal development is continually increasing. It is estimated that energy requirements increase approximately 60% in late gestation prior to parturition (Feyera and Thiel, 2017; Figure 1a). Also, it is estimated that the SID lysine requirement increases to approximately 35 g/day in the last few days prior to farrowing (Feyera and Thiel, 2017; Figure 1b). The increase in lysine requirement is due to the rapid development of the conceptus and colostrum production. Restriction of feed intake during the prepartum period can lead to increased backfat loss and reduced colostrum yield in sows (Decaluwé et al., 2014). Providing ad libitum feed upon entry into the farrowing facility promotes feed intake during farrowing and reduces mobilization of body reserves to maintain body condition throughout lactation (Cools et al., 2014). In addition, recent data suggests that farrowing duration, farrowing assistance, and stillbirth rate were all reduced the closer the last meal was consumed before parturition (Feyera et al., 2018). Although energy and amino acid requirements are increasing, providing ad libitum intake of the lactation diet pre-farrowing can easily meet these requirements.

Using a specific transition diet, different than gestation or lactation diets is a concept promoted in Europe. A transition diet in late gestation is a concept that has been developed to support these increasing nutrient demands as sows approach parturition and early lactation. However, evidence is inconclusive on the benefits of specific transition diets, but providing the lactation diet prior to parturition can improve colostrum quality and intake (Garrison et al., 2017). Therefore, sows should be provided the lactation diet ad libitum upon entry into the farrowing house around day 112 to 114 of gestation to meet increased energy and nutrient needs.

Before implementing ad libitum feeding when moving sows into the farrowing house, farms need to examine how many days before farrowing sows are provided feed ad libitum. If done for an extended period of time, ad libitum feeding prior to farrowing could lead to over conditioned sows which will result in decreased lactation feed intake and increased stillbirth rate (Lavery et al., 2019). Therefore, sows should only be allowed ad libitum feed intake for no more than 3 to 4 days prior to farrowing. To achieve this, producers should have an understanding of the average day of gestation their sows farrow to implement ad libitum feeding properly. In summary, providing the lactation diet ad libitum for no more than 3 to 4 days before farrowing will promote feed intake, improve colostrum quality, and maintain body condition throughout lactation.

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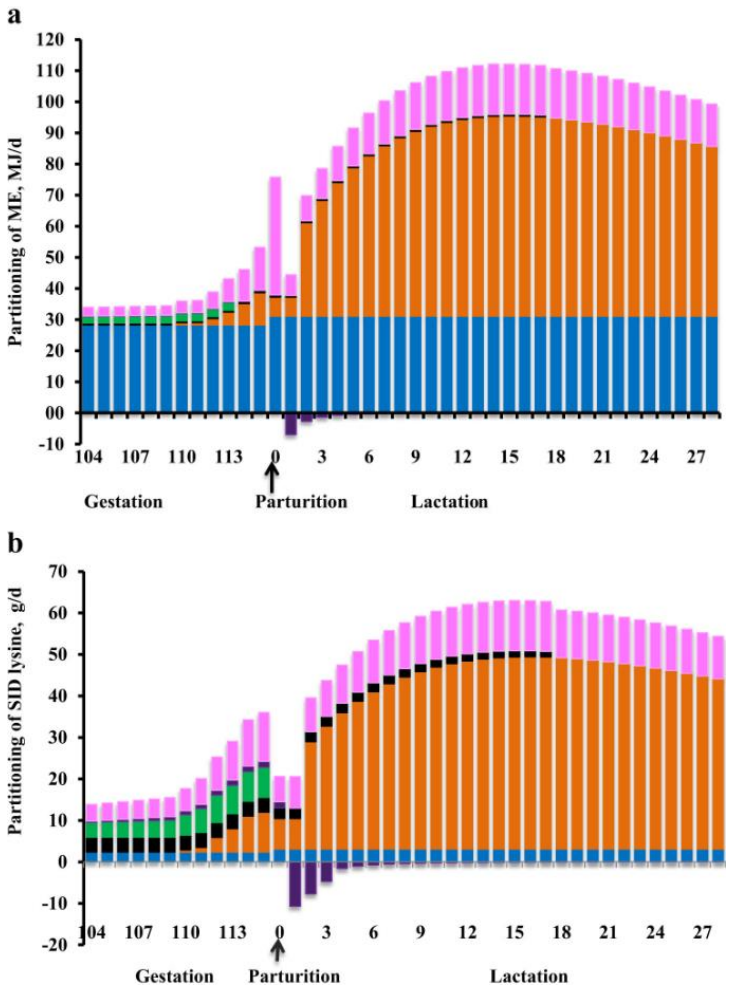

Figure 1. Calculated metabolizable energy (panel a) and lysine (panel b) requirements for maintenance (blue bars), colostrum/milk production (orange bars), mammary growth (black bars), fetal growth (green bars), uterine components (purple bars) and additional heat loss for energy or oxidation/transamination or amino acids (pink bars) in sows during transition and lactation (Reprinted from Livestock Science, 201, Feyera and Theil, Energy and lysine requirements and balances of sows during transition and lactation: A factorial approach, 50-57, 2017, with permission from Elsevier).