



1C-116: Enriching the Environment of group housed sows using straw / hay in racks

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Aims and Objectives:

1. To determine whether providing group housed, gestating sows (fed via ESFs) with access to straw or hay in racks would reduce aggression and improve reproduction
2. To determine which substrate (Straw versus hay) was most valued and used by groups housed gestating sows

Key Findings

- Incidences of aggression (number and duration) decreased significantly between day 2 and 9 post-mixing
- Access to straw or hay in racks did not affect aggressive interactions or reproduction.
- Sows appeared to place greater value on hay, based on the higher incidence of guarding behaviour exhibited
- The provision of substrate reduced the proportion of sows removed from group pens due to failure to eat
- Weight gain and P2 backfat was reduced by the provision of straw (but not hay)
- Providing sows access to either Hay or Straw increased the incidences of mummified fetuses (0.1 (control) to 0.2 (Hay and Straw) per litter)
- Straw and Hay filled racks, and associated substrate, continued to retain sow interest on day 30 post-grouping, suggesting their potential as a long-term enrichment.
- Regardless of treatment, pre-weaning mortality was higher in sows, which farrowed before day 115 of gestation compared with days 115 and 116 of gestation (despite no difference in total litter size). Indicating strategies to reduce the incidence of short gestations may be beneficial to reduced pre-weaning mortalities within the Australian breeding herd.

Application to Industry

Providing sows with opportunities to express natural behaviours, such as foraging, and access to malleable substrates, is commonly referred to as enrichment, and is a high priority for producers, retailers and consumers. Access to foraging, digestible substrates such as straw or hay, represents one strategy to provide sows with nutritional enrichment and a focus for foraging behaviour. This study demonstrated no effect of providing straw or hay in racks on the incidence of aggression amongst group housed sows, which were fed via electronic sow feeders. However, based on guarding behaviour and exploration on the rack and associated substrate it is apparent that both substrates continue to be of interest to group housed sows for at least the first 30 days after grouping. Sows appear to value hay more highly as a resource (as evidenced by higher incidences of guarding behaviour). However, sows spent more time exploring the straw filled racks and associated fallen substrate on days 9 and 30 post-grouping compared to Hay and Control, suggesting that straw may retain their interest for longer. Interestingly, providing access to Hay and Straw reduced the proportion of sows failing to eat from the ESF's, suggesting that providing these substrates may reduce pressure at the ESF, thus encouraging less dominant sows to eat. Weight gain and P2 backfat were reduced in sows with access to straw indicating an impact on sow appetite for their grain based ration. This may require re-formulation of concentrate rations to ensure no negative impact on productivity. Based on usage, the provision of hay or straw in racks may be a commercially relevant method of 'enriching' the environment of group housed, gestating sows.