



HHM-044

## EFFECTS OF DIETARY FIBER ON METABOLISM AND PERFORMANCE IN SOW DURING GESTATION AND LACTATION

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### Introduction

Addition of crude fibres-CF in the sow diet has beneficial effects on the gut health; however, the effects on metabolism are not clear. This field study investigated the effects of Arbocel® (raw CF concentrate made from lignocellulose with a CF content>65%) on sow's metabolism and performance.

### Material & Methods

100 sows of a farm suffering from postpartum dysgalactia syndrome (PDS) were allocated into 2 groups; T1 group: basal gestation-GF (CF 4.5%), pre-farrowing-PFF (CF 4.3%), and lactation-LF (CF 3.8%) feed, T2 group: basal GF, PFF and LF supplemented with extra 50 gr of Arbocel®/day on top (104<sup>th</sup> day of gestation until weaning day). The feeding schedule was: a) GF: 2.5-3kg (2 meals), b) PFF-110<sup>th</sup> day of gestation to 2<sup>nd</sup> day post-farrowing: 2.5-3kg (2 meals), 2 days pre-farrowing: 1.5-2kg (1 meal), 1 day pre-farrowing: 1-1.5kg (1 meal), 1<sup>st</sup>-3<sup>rd</sup> day of farrowing: 1/1,5/2kg (1/2/2 meals), c) LF-4<sup>th</sup> day post-farrowing until weaning: 2.5kg plus 0,4 kg/piglet (3 meals). Health parameters (faeces score-FS, PDS score-PDSS, Body condition score-BCS), reproductive and performance parameters were recorded. Blood samples were collected 24h after birth of last piglet and at 14 days of lactation. The levels of insulin, leptin and ghrelin were measured in serum.

### Results

In T2 group, BCS at farrowing, FS and PDSS were improved. The number of deadborn piglets decreased (T1:2.36, T2:1.0-p=0.001), while the number of liveborn (T1:12.0, T2:14.0-p=0.014) and weaning piglets increased (T1:12.0, T2:13.0-p=0.001) in T2 group. Moreover, the gestation length (T1:116.0d, T2:117.0d-p<0.001) and the BW of piglets at weaning (T1:7.2, T2:7.6-p<0.001) were higher in T2 group. Insulin (T1:0.0, T2:1.55-p=0.032) and leptin (T1:0.13, T2:2.53-p=0.032) serum levels 24h post-farrowing were increased in T2 group. No difference was noticed in ghrelin levels.

### Discussion & Conclusion

The supplementation of extra CF in breeding stock with PDS problems during pre-/post-farrowing period has beneficial effects on their health and performance.