Fibre parameters for swine nutrition

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Feeding fibre to swine is an old topic as in the early days leftovers, byproducts of grass were used as cheap feed to produce pork. Over the years the application changed and the impact of fibre on energy metabolism was transfered into diet formulation. Since recent years the impact of fibre on animal health, welfare and productivity has been getting very clear. Beside crude fibre or NDF Total Dietary Fibre (TDF) and fermentable Dietary Fibre (fDF) can be used to fulfill a fibre requirement for optimum performance and saving of ressources.
The introduction of Agromed's FibreCalculator allows a much more precise formulation of sow diets to fulfill the various request. These requests may focus on constipation, satiety, fetus growth, farrowing duration and liveability, just to name the more important ones.

Based on practical experience with formulating sow diets with the FibreCalculator on overall requirements, a more focused approach on single physiological parameter may reveal interessting insights. Based on literature research diets in sow trials were recalculated for parameter to have a full dataset as often only a view fibre parameters are published. Statistical analytics werde done based on these fibre parameters and production results. The survey revealed that additional fibre in sow gestation diets can improve feed intake in lactation. However, it may be difficult to expect more than 100 g extra intake. The impact of additional factors is high.

In the whole production cylce the farrowing process is crucial, however not much data is published. The effect of additional fibre in the gestation diet to reduce the farrowing time seem to be best if the number of total born piglets is high. NDF or TDF added may reduce the farrowing duration, whereas the fermentable ones (BfS, fDF) may increase the farrowing duration.

An enlarged dataset showed additional fibre (NDF or TDF) may increase the number of stillborn piglets. This is surprising and contradicts with the mentioned effect of fibre on farrowing duration. Farrowing duration and % stillborn are usually positively correlated. The application of eubiotic lignocellulose (OPTICELL) clearly reduced farrowing duration and % stillborn piglets. A link to basic fibre parameters could not be seen.

In summary, fibre application needs to be made much more precisely due to the quantity that is fed, the type of fibre (fermentable or inert) and the quality of the fibrous product. The right fibre nutrition can improve animal welfare, economics and CO_2-footprint of pork production.