



Innovation in action

Low environmental footprint, welfare positive feed solution for sows

CIEL supported industry-led research

Challenge

Environmental considerations are becoming increasingly important when pig producers are considering what to feed their animals. The same factors impact on feed suppliers who provide millions of tonnes of animal feed per year.

New legislation associated with European BREF regulations and the UK Environment Bill add an extra layer of challenge as the feed industry seeks to comply with stricter air emissions limits within manufacturing processes. Feed specialists AB Agri is one such company. They are actively seeking a suitable replacement for dried sugar beet pulp (SBP), produced by drying the waste product of sugar production from sugar beet.



Action

Feeding undried (pressed) sugar beet pulp removes the need for drying (e.g. using coal-fired dryers), significantly reducing the carbon footprint of diets. Working in partnership with researchers from the University of Leeds, AB Agri tested the performance benefits and practicality of feeding fresh pressed sugar beet pulp (PSBP), with a dry compound feed balancer, to gestating and pregnant sows. Trials were carried out in the National Pig Centre, developed between the University of Leeds and CIEL. This unique facility is the UK's largest and most advanced R&D centre supporting research into pig nutrition, behaviour, health & welfare and production systems.

The CIEL-supported project compared the effects on reproduction and lactation in sows and gilts of feeding diets containing PSBP or SBP. Results indicated sows and gilts fed PSBP during gestation will have equal or better farrowing performance than those fed a control diet. Feeding PSBP during gestation is likely to be more beneficial with respect to piglet birth weight for gilts than sows. Trial data also suggested sows and gilts that consume PSBP during gestation will have reduced pre-weaning mortality and greater litter weaning weights than those consuming the control diet. Lactating sows should only be fed PSBP during lactation if they received it during gestation.

Impact

SBP saves 400kgCO² eq/T at 15% inclusion rate when used in place of cereals. Using PSBP will save further energy costs and have a lower environmental impact. Increased pressed pulp in feed can decrease ammonia emissions – in metabolism chamber work replacing 5% of the starch in the feed with pressed pulp reduced ammonia emissions by 15%. Over and above potential environmental effects, the fibre-rich diet could improve animal welfare – making sows feel less hungry, less stressed, as well as offering gut-health benefits. Farmers could see increased production efficiency and returns on investment in feed. A further study is now taking place on commercial farms.

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