



# Optimising sow colostrum quality: A multi-farm evaluation of brix classification in sows supplemented with ColfaPig



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## Introduction

The quality of colostrum produced by a sow is a critical factor - poor quality colostrum lessens piglet survival, health and long-term performance.

As piglets are born with a naïve immune system, the quality of colostrum, especially the IgG content, is critical to providing piglets with the best start.

Despite the improvements in breeding genetics and reproductive performance, the quantity and composition of sow colostrum has remained relatively constant over the past 40 years (Zhang et al., 2018).

The same volume of colostrum is being distributed across a larger number of piglets leading to insufficient colostrum availability. Improving colostrum quality will help ensure that despite a lower consumption, the protection provided is optimal.

## Objective

To evaluate the impact of supplementing sow diets with the feed supplement **ColfaPig** (Devenish Nutrition Ltd.) on the quality of sow colostrum

## Key Points

### With 1kg/t ColfaPig:

- Colostrum improved from **borderline to adequate** IgG content (Brix %)
- **76%** of piglets receive **optimal** quality colostrum in comparison to 46%
- Improved **immunological support** for piglets

## Materials & Method

A total of 1,623 sows obtained from 8 different commercial breeding sites were utilised in the evaluation. The evaluation included a diverse range of sow genetics as the farms were spread across 5 countries (United Kingdom, Ireland, Australia, Taiwan and South Africa).

**ColfaPig** was supplemented into the standard gestation and lactation sow diets on each farm at 1kg/tonne for a minimum of 12 weeks.



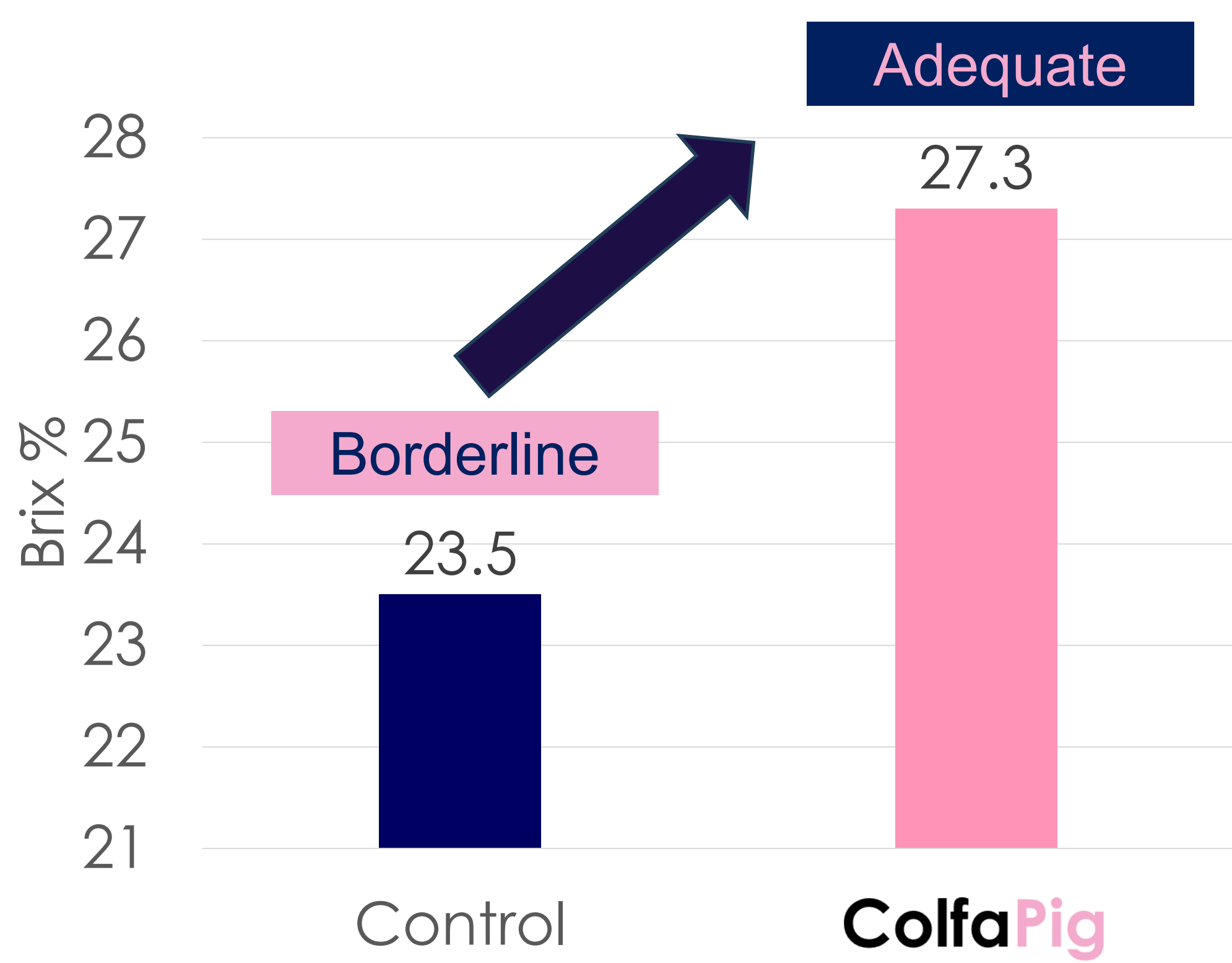
Fresh colostrum samples (0.3ml) were obtained from each sow within 0-3 hours from the onset of farrowing. Each sample was analysed immediately using a Brix Refractometer to determine the IgG content of each sample.

Colostrum Classification		
Classification 1	Classification 2	Brix value, %
Poor	Sub-Optimal	<20
Borderline		20-24.9
Adequate	Optimal	25-29.9
Very Good		>30

All samples were classified according to the above classification table. The data were analysed using a linear-effects model fitted by REML, with treatment and parity as fixed effects and farm as a random effect

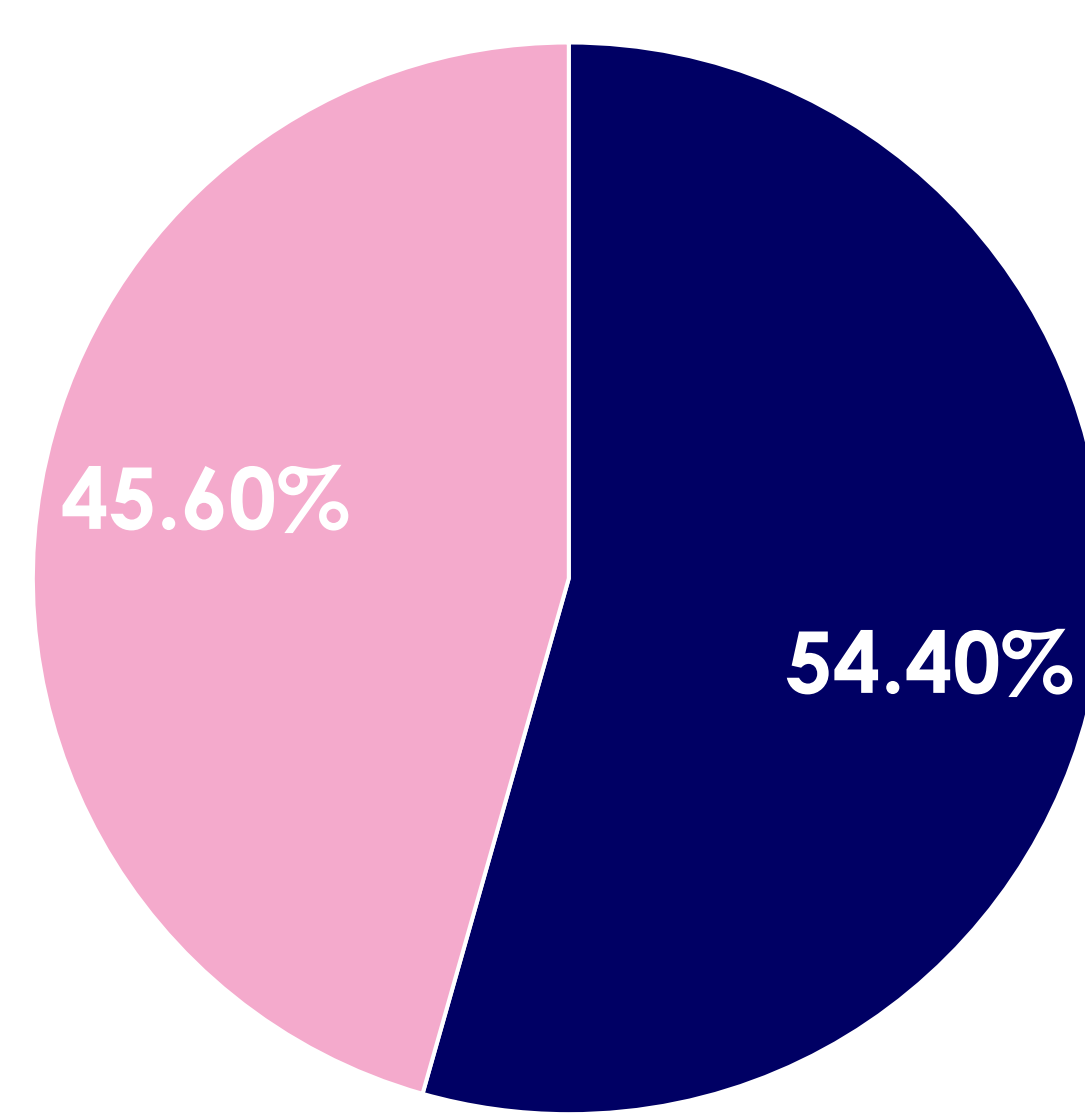
## Results & Discussion

### Colostrum Classification 1



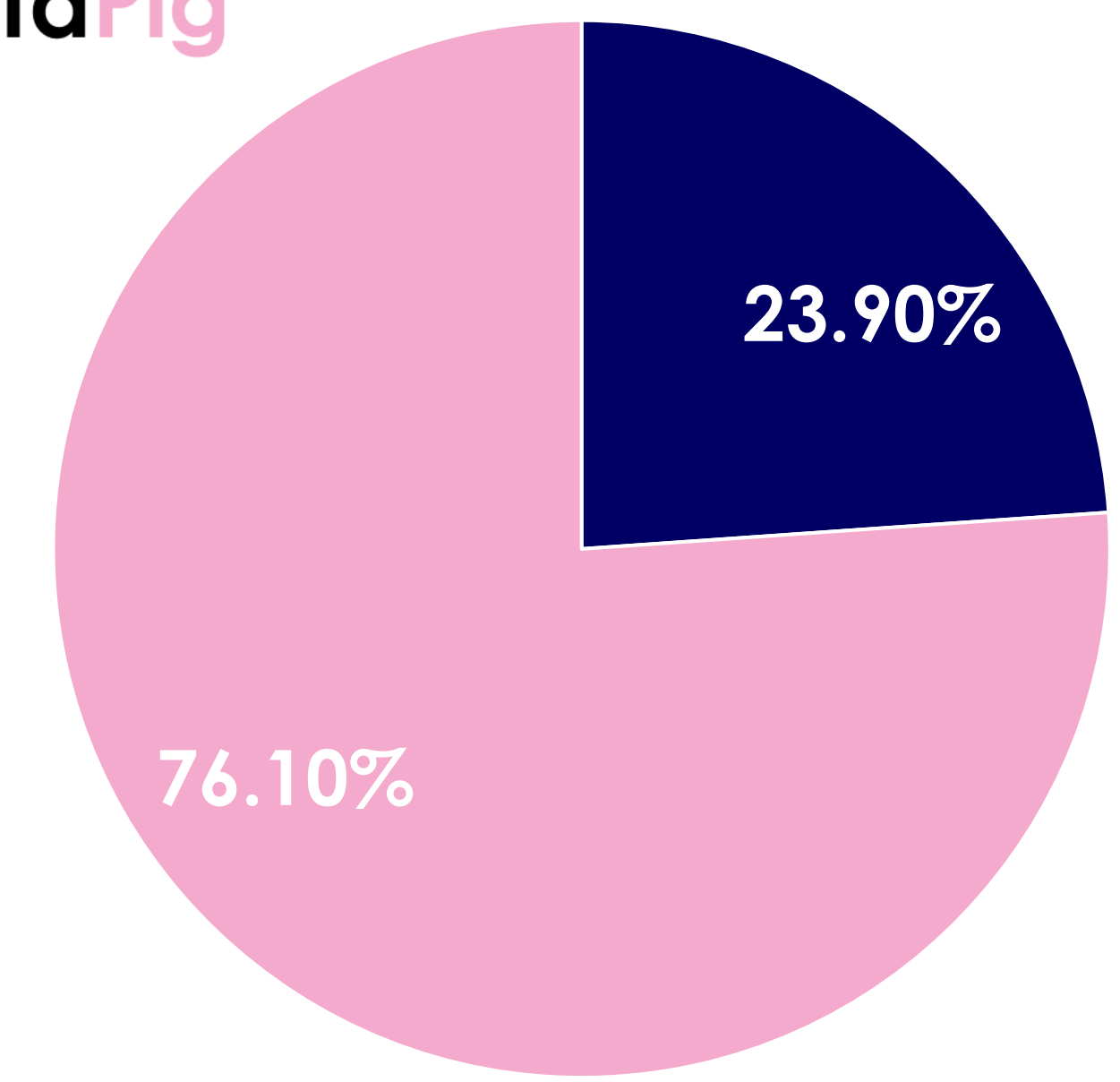
### Colostrum Classification 2

Control



■ Sub-optimal ■ Optimal

ColfaPig



■ Sub-optimal ■ Optimal

**ColfaPig** supplementation significantly increased Brix values from borderline, 23.5% to adequate, 27.5% (P<0.001). As Brix % is directly correlated to IgG content in colostrum, this increase indicates that the IgG content was enhanced in the ColfaPig group.

The spread of samples within each group was determined by analysing the percentage of optimal and sub-optimal samples. Before supplementation, only 45.6% of sows had optimal colostrum; less than half of litters were receiving the required immunological support from sow colostrum. After the sows received sufficient supplementation, the percentage of colostrum in the optimal category increased to 76.1% (P<0.001). **ColfaPig** supplementation resulted in three-quarter of piglets receiving optimal level of immunological support from the sow's colostrum.

## Conclusion

Colostrum quality in sows supplemented with **ColfaPig** was enhanced, with the sows on trial shifting from borderline to adequate classification.

Sows producing optimal colostrum increased from 46% to 76%.

Enhancing colostrum quality has the potential to improve piglet survival, health and growth by providing optimal immunological support.

## Acknowledgements & References

Zhang, S., Chen, F., Zhang, Y., Lv, Y., Heng, J., Min, T., Li, L. and Guan, W., 2018. Recent progress of porcine milk components and mammary gland function. *Journal of animal science and biotechnology*, 9(1), p.77.