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MATERNALLY DERIVED IMMUNITY IN PIGS. EXPLORING ITS MANAGEMENT THROUGH THE IMMUNOCRIT ASSAY

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Introduction

Colostrum intake is crucial for piglet survival and a critical point in the health management of swine farms because it is the main known transmission mechanism of maternal derived immunity (MDI). The immunocrit assay has been suggested as a cost effective method to quantitatively evaluate maternal antibodies in piglets after colostrum intake. The objective of this study was to describe the immunocrit values in farms with high health status and good productive performances.

Material & Methods

Spanish farrow-to-weaning pig farms with pre-weaning mortality below the national average (12%), correct management and high health status were considered here having a good MDI status. Ten farms were selected and one piglet per sow was bled after colostrum intake (n=27-36/per farm); in particular, samples were collected 24-30 hours after birth. Immunocrit was performed and calculated as previously described in literature.

Results

Average immunocrit values were ranging 13.2-16.4%. The coefficient of variation within farms was ranging 19.2-32.6% and piglet subpopulations with different immunocrit values were identified. Stratification of results depending on parity showed that litters from 4-5 parities sows had higher immunocrit values than litters from 1-3 and 6-9 parities sows. Finally, farms implementing split nursing were showing higher average immunocrit values.

Discussion & Conclusion

Immunocrit values in Spanish farms with good MDI status were similar to those previously

described in piglet with high survivability. Study within farm homogeneity permitted to identify piglet subpopulation with different levels of maternal antibodies; this determination might aid to identify piglets with a higher susceptibility to diseases even in farms with good MDI status. This study supported the reproducibility of the immunocrit as method to evaluate the MDI status in a farm; however, further studies are needed to evaluate the ability of the immunocrit assay as a tool to compare the MDI status of different farms.