

Spray dried plasma (SDP) - an opportunity to improve sow performance in challenging commercial conditions

Luís F. S. Rangel¹, Javier Polo², Joy M. Campbell², Yanbin Shen², Leandro Borges³, Joe D. Crenshaw²

¹APC, São Paulo, BR; ²APC LLC, Ankeny, IA, USA, ³Consultant – DVM,
Author of contact: luis.rangel@apcproteins.com

Spray Plasma Dried (SDP) is a traditional ingredient in piglet diets and helps in sow performance. It is increasingly common to see farms adopting this technology in sow feed. Hot regions and summer months are interesting conditions to try the application of SDP in sow feed. Several scientific studies validate the benefits of using SDP in sow feed. This article aims to briefly summarize results from some of these publications.

Crenshaw et al. (2007) conducted three experiments in the summer (experiments 1, 3 and 4) and one in the fall-winter (experiment 2) and verified the effect of SDP in lactation sows:

Experiment 1 (0.25% SDP in lactation feed) - parity 1 and 2 sows had increased ($P < 0.01$) feed intake (4.89 vs. 4.59 kg/day) and tended ($P = 0.06$) to have reduced wean to estrus interval (7.27 vs. 8.88 days).

Experiment 2 (0.25% SDP in lactation feed) - multiparous sows evaluated during the fall-winter months had a tendency ($P = 0.09$) for heavier sows at weaning (210.1 vs 205.7 kg).

Experiment 3 (0.50% SDP in lactation feed) - also observed higher ($P < 0.01$) feed intake by parity 1 (5.03 vs 4.5 kg/day) and parity 2 (5.68 vs. 5.30 kg/day) sows. Parity 1 sows had reduced ($P < 0.02$) wean to estrus interval (5.7 vs. 8.1 days) and multiparous sows had a tendency ($P = 0.10$) for reduced wean to estrus interval (5.6 vs. 6.4 days) when fed SDP. They also observed a higher ($P < 0.01$) percentage of parity 1 sows in estrus during days 4 to 6 after weaning (75.6 vs. 59.1%).

Experiment 4 (0.5% SDP in lactation feed) - lower ($P < 0.01$) feed consumption was observed in multiparous sows (5.11 vs. 5.32 kg/day), but multiparous sows fed SDP in feed had heavier ($P < 0.01$) litter and average pig weight at weaning (54.7 vs 51.1 kg and 5.57 vs. 5.28 kg, respectively). Multiparous sows fed SDP also weaned a higher ($P < 0.01$) number of full value pigs per litter (9.32 vs. 8.94), without any detrimental effect on their wean to estrus interval.

Crenshaw et al. (2008), in an evaluation conducted in the summer involving 600 lactating sows, verified that using the SDP resulted in:

Significant ($P < 0.05$) increase in the average weight of piglets at weaning (5.35 vs. 5.01 kg), improvement in the following farrowing rate (92.3 vs. 86.8%) and reduction in post-weaning sow mortality (0.80 vs. 4.36%).

They also observed a tendency ($P = 0.06$) for heavier litter weight at weaning (50.6 vs. 48.8 kg).

The improvements observed in the average weight of piglets at weaning and in the subsequent farrowing rate and lower sow mortality suggest greater sow lifetime productivity for sows fed diets containing 0.5% SDP during lactation.

Van Iersel et al. (2011) conducted a study in summer months involving 335 sows and their litters and observed that the use of 0.5% SDP in lactation diets promoted:

A significant ($P < 0.01$) reduction in piglet mortality from 2 to 21 days of age (8.44% vs. 4.63%). The reduction in mortality resulted in an additional 0.48 piglets weaned per sow when fed 0.5% SDP in lactation feed.

Vitagliano et al. (2009) evaluated feeding 1% dietary SDP provided in a supplement to sows from mating to 35 days of gestation during summer months in Santa Catarina, Brazil and verified:

significant improvements ($P < 0.05$) in farrowing rate (90.8 vs 81.1%) and percentage of sows that failed to conceive (5.2 vs. 11.6%) were reported for sows provided SDP.

Conclusion

Considering the results mentioned above, it is recommended that 0.5 to 1% SDP should be included in gestation and lactation diets. The expected benefits of 290 to 340 g extra body weight per piglet at weaning and an improvement in farrowing rate around 6% compared to sows not fed SDP in their diets can provide a favorable economic return. In addition, depending on the degree of environmental and production challenges, reductions in both sow and piglet mortality rates can be expected.

References

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