



WHAT SPRAY-DRIED PLASMA DOES FOR SOWS

Use of plasma in starter feed for weaned pigs is well-known to increase feed intake and growth of pigs through the stressful post-weaning period. The sow herd can also experience heat stress or disease stress such as PRRS during gestation and lactation that can reduce sow herd productivity and profitability. Producers know that lactating sows need high feed intake to maintain their body condition and to support milk production. Producers also know that sows may not eat enough feed, especially during summer months, and that disease episodes like PRRS can harm both sow and litter production. Research has demonstrated beneficial effects on sow production when plasma is included in sow feed.

SOW AND LITTER PRODUCTION IS IMPROVED WHEN PLASMA IS INCLUDED IN THE LACTATION FEED



A summary of the combined data from 5 experiments involving sows fed lactation diets without (Control) or with 0.5% spray-dried plasma (Plasma) during summer months is shown in table 1. All variables were significantly different ($P < 0.05$) between diets and all data was adjusted to an 18-d lactation period.

For sows fed plasma, first or second lactation (parity 1 or 2) sows consumed more (+0.42 kg/d) feed per day and parity 1 sows had reduced (-1.23 d) wean to estrus interval with a higher percentage (+9.6 %) of parity 1 sows returning to estrus within 4 to 6 days after weaning. Also, a higher percentage (+5.5 %) of multiparous sows fed plasma in their previous lactation had a successful farrowing rate to their next litter. Multiparous sows fed plasma also produced heavier litter weight (+1.8 kg), with an average of +0.32 kg heavier average pig weight at weaning and 0.38 more full-value pigs weaned per litter. Full-value pigs are those without physical defect or have an 18 d of age body weight > 3.6 kg (8.0 lb).

SUMMARY OF FIVE EXPERIMENTS

Variable	Parity	Control	Plasma	Variance
Parity 1 & 2 feed intake, kg/d ¹	1 & 2	4.76	5.18	0.42 kg (0.92 lb)
Parity 1 wean to estrus, d ¹	1	9.18	7.95	1.23 d
Parity 1 sows in estrus d 4 to 6, % ¹	1	61.4	71.0	9.6 %
Farrow rate to next litter, % ²	Multiparous	86.8	92.3	5.5 %
Litter weight at weaning, kg ^{1,2}	Multiparous	46.6	48.4	1.8 kg (4.0 lb)
Average pig weight at weaning, kg ^{1,2}	Multiparous	5.16	5.48	0.32 kg (0.7 lb)
Full value pigs weaned per litter ¹	Multiparous	8.94	9.32	0.38 pigs



CHRONIC PRRS SOW HERD PRODUCTIVITY BENEFITS FROM USE OF PLASMA IN SOW FEED

Research³ has also demonstrated that feeding 0.5% plasma in gestation and lactation feed to a sow herd with chronic PRRS is beneficial. Plasma was added to the sow herd feed for 1 year and production records were evaluated by statistical process control techniques to detect significant ($P < 0.05$) changes in the productivity of the sow herd before and after plasma was used. After use of plasma in sow herd feed, farrowing rate of the sow herd increased by 5% (Figure A) and number of pigs weaned per 1000 sows served increased by 397 pigs per week of production (Figure B).

Figure A. Farrowing rate before and after use of plasma in sow herd feed

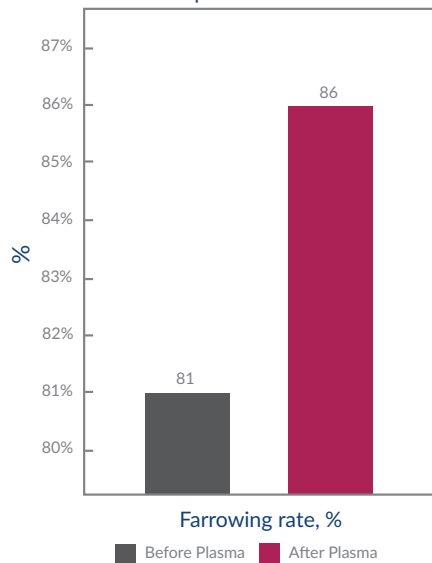
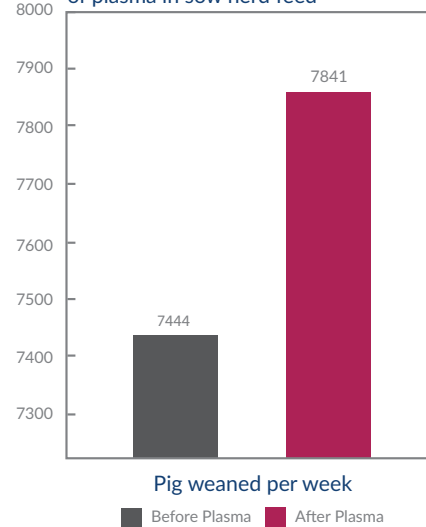


Figure B. Pigs weaned per week per 1000 sows served before and after use of plasma in sow herd feed



BOTTOM LINE

FULL VALUE PIGS



FARROWING RATE



PIGS WEANED PER SOW SERVED



¹ Crenshaw, J. D., R. D. Boyd, J. M. Campbell, L. E. Russell, R. L. Moser, and M. E. Wilson. 2007. Lactation feed disappearance and wean to estrus interval for sows fed spray-dried plasma. *J. Anim. Sci.* 85:3442-3453.

² Crenshaw, J. D., J. M. Campbell, L. E. Russell, and J. P. Sonderman. 2008. Effect of spray-dried plasma in diets fed to lactating sows on litter weight at weaning and subsequent farrowing rate. *Proc. Allen D. Leman Swine Conf., Univ. MN, St. Paul, MN.* p. 47.

³ Campbell, J., T. Donovan, D. Boyd, L. Russell, and J. Crenshaw. 2006. Use of statistical process control analysis to evaluate the effects of spray-dried plasma in gestation and lactation feed on sow productivity in a PRRS-unstable farm. *Amer. Assoc. Swine Vet.* p 139-142.