
Pigs were assigned to either control (CON, n=5) or a supplemental (SUP) treatment (n=5) to examine the effect of MR on weight gain and pre-weaning survival rate. The study was conducted in 9 farrowing groups over an 18 month period. Commercial MR powder (25% CP, 13% Fat) was reconstituted at a rate of 150 g/l in water and was prepared fresh daily. MR was offered ad libitum in the farrowing crate within 24 h of farrowing and was continued throughout weaning (d 17-21). MR disappearance was recorded daily. Litter performance data was collected for initial weight (1.3 kg) and number of pigs per litter (10.4). Average pig weight was increased in supplemented litters at 7 (CON 2.65, MR 2.75 kg; P < .05) and at weaning (CON 5.37, MR 6.31 kg; P < .0001). There was a trend for improved survival (CON 50.6, MR 93.2%; P < .2). Total litter weight at weaning was increased from 49.0 kg in CON litters to 62.1 kg in MR supplemented litters (P < .0001). There was no effect of supplemental MR on sow feed intake, backfat thickness or body weight loss. Among farrowing groups, there was significant variation in the volume of MR consumed. A portion of this variation was related to average barn temperature (r = .49) or season (r = .54). Average MR intake expressed as liters/pig from birth to weaning was 2.5, 5.4 and 8.6 l/pig (SE = .6; P < .0001) in winter, spring/fall and summer months, respectively. The weaning weight advantage conferred by MR was most evident during the summer months. Similarly, sow feed intake was inversely related to temperature (-.60) and averaged 5.3, 4.7 and 3.6 kg/d over the same periods. These results demonstrate the advantage of MR on weaning weight and survival and also indicate that the greatest benefit from the supplement is during the warmer months when sow feed intake and subsequent milk production is depressed.

Key Words: Pigs, Milk Replacer, Ethylamine.

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A total of 596 weaning pigs was used in three experiments to evaluate the effects of spray-dried porcine plasma (SDPP) in the high nutrient density diet on starter pig performance. In Exp. 1, 354 weaning pigs (initially 6.4 kg and 21 d of age) were used to evaluate increasing levels of SDPP. Pigs were fed monosequential diets containing either 5% 6, 8, 10, and 12% SDPP replacing dried skim milk. Diets were formulated to contain 1.5% lysine and 41% methionine. Experimental diets were fed from 0 to 14 postweaning at which time they were switched to a common phase II diet (d 14 to 28). During phase I (d 0 to 14) and the overall trial (d 0 to 28) there was a linear (P < .01) and a tendency (P < .1) for a quadratic improvement in ADG and ADFI (results below). There were no significant differences in feed efficiency (GE/GE) for any phase of the trial. In Exp. 2, 68 weaning pigs (initially 5.7 kg and 21 d of age) were used to determine if added methionine is needed for diets containing high levels of SDPP. Pigs were fed identical diets containing 20% dried wheat, 7.5% SDPP and 1.75% spray-dried blood meal. EEF (29% methionine) except that one diet contained 1% added DL-methionine (39%). Pigs receiving diets containing added methionine had improved ADG (P < .05) and ADFI (P < .05) for the first week postweaning. Pigs receiving diets with added methionine had improved (P < .05) feed efficiency for the 21-d trial. The results of these experiments indicate that starter pig performance is improved with increasing levels of SDPP through 10% of the diet and DL-methionine must be added to diets containing high levels of SDPP to obtain optimal performance.

Key Words: Spray-dried porcine plasma, Starter Pig, Growth Performance.