THE EFFECT OF GROWTH HORMONE ON MILK PRODUCTION IN FIRST LITTER SOWS

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Sow milk production is one of the major determinants limiting preweaning growth in piglets and, as such, possible techniques to improve the milk production of the sow appear to be worthy of investigation. Administration of bovine growth hormone can increase both milk yield and milk components in lactating dairy cows (Peel et al., 1983). The aim of this study was to determine the effect of porcine growth hormone (pGH) on milk yield and composition in lactating first-litter sows.

Twenty-four first-litter sows (mean litter size 8.2 piglets) were fed ad libitum a diet formulated to contain (per kg) 15.1 MJ DE, 171 g CP and 10.2 g lysine during a six week lactation period. A placebo or pGH (10 mg/sow/day) was injected intramuscularly each day from day 8 through to day 39 of lactation when piglets were weaned. Sow feed intake was recorded daily, liveweight was recorded weekly whereas backfat depth at P2 was measured bi-weekly. Milk yield was estimated between days 4 and 7, 11 and 14, 25 and 32 of lactation. Milk samples were collected on the first day of each milk yield period and analysed for protein and fat. Piglets were weighed at regular intervals throughout lactation and at weaning. Milk yield was calculated from milk intakes of individual piglets estimated from their water turnover, determined by dilution of injected deuterium oxide (Prawirodigdo, 1989)

Table 1 The effect of porcine growth hormone on the yield and composition of sow's milk

	day 4-7			day 11-14			day 25-32		
	Con	pGH	SED	Con	pGH	SED	Con	pGH	SED
Yield (kg/d)	6.58	6.85	0.32	9.12	9.19	0.48	8.81	8.87	0.36
Fat (g/100ml)	8.48	9.13	0.57	8.13	8.52	0.36	7.65	7.39	0.63
Protein (g/100ml)	5.54	5.50	0.41	4.83	4.58	0.22	4.84	4.64	0.12

Voluntary feed intake of sows during lactation was not significantly different between the two treatment groups (4.63 vs 4.56 kg/d) for control and pGH treated sows, respectively. Despite there being no significant difference between treatments in milk yield or in milk composition in any time period (Table I), treated sows tended to lose more liveweight (9.8 vs 4.1 kg) and backfat (7.4 vs 4.1 mm) than control sows during lactation. Piglet weaning weights were not improved when sows were treated with growth hormone (10.38 vs 10.44 kg) for control vs treated sows. The results of this study showed that administration of pGH to lactating first-litter sows failed to improve either the yield or the composition of milk produced by these sows during lactation.

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