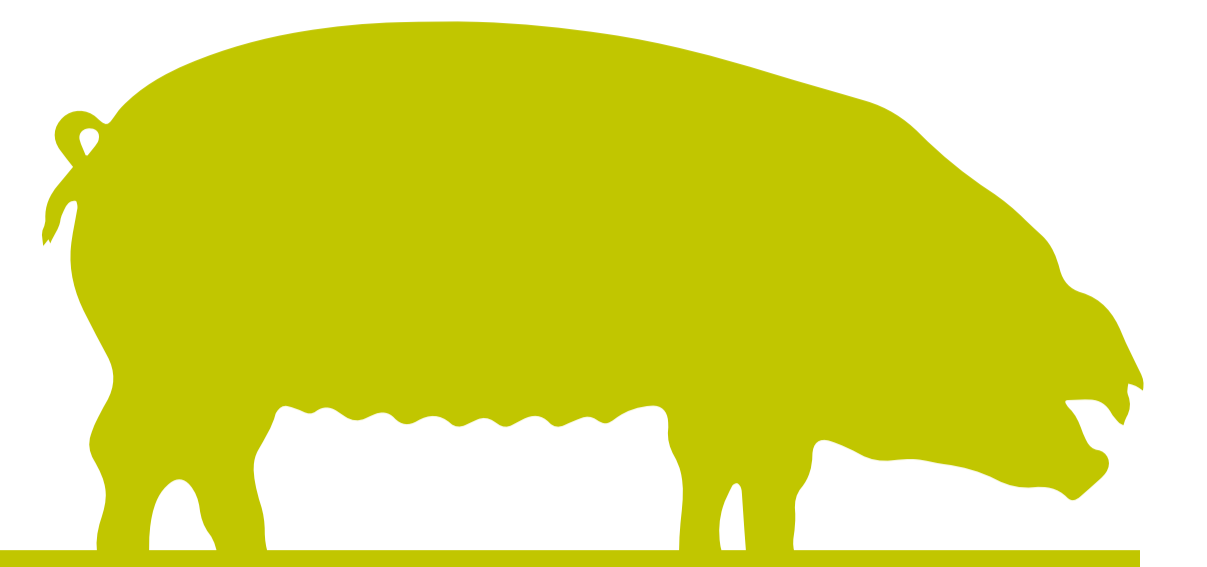


Feeding the transition sow ad libitum: a healthy start for suckling piglets



Introduction

Traditionally, sows are fed restrictively during transition and early lactation, for a number of reasons. With electronic feeders that allow portioned distribution of feed on demand throughout the day, ad lib feeding is feasible without the normal disadvantages of traditional feeder types. With this equipment, it becomes interesting to monitor voluntary feeding behaviour of sows and how this affects their daily intake and performance.

Objective

Investigate the effect of ad lib feeding during transition and lactation on feed intake and sow performance.

Materials and methods

Multiparous sows (n = 48) and gilts (n = 33) of a commercial line (Hypor, Hendrix Genetics, Netherlands) were allocated to a traditional feeding curve or to ad libitum feeding from a week before farrowing through to weaning, distributing parities equally across treatments. The sows used for this study were housed at the Swine Research Centre of Trouw Nutrition R&D (Sint-Anthonis, The Netherlands; Figure 1).

Sows and gilts on the traditional feeding curve were restrict fed (2.5 to 3.5 kg, depending on parity) before parturition, and subsequently feed allowance was stepped up gradually to a maximum of around 8.5 kg. Similar to the ad lib fed sows, restrict fed sows were free to choose their time of feeding, the difference being only the limit in allowance. The electronic feeders (Schauer Agrotronic, Austria) allowed portioned delivery of feed, and feeder access and intake were recorded real time.

Figure 1

Swine Research Centre of Trouw Nutrition R&D



Figure 2

Daily feed intake in primiparous sows (gilts) and multiparous sows that were fed ad libitum ("ad lib") or following a conventional curve ("conv") during transition and lactation.

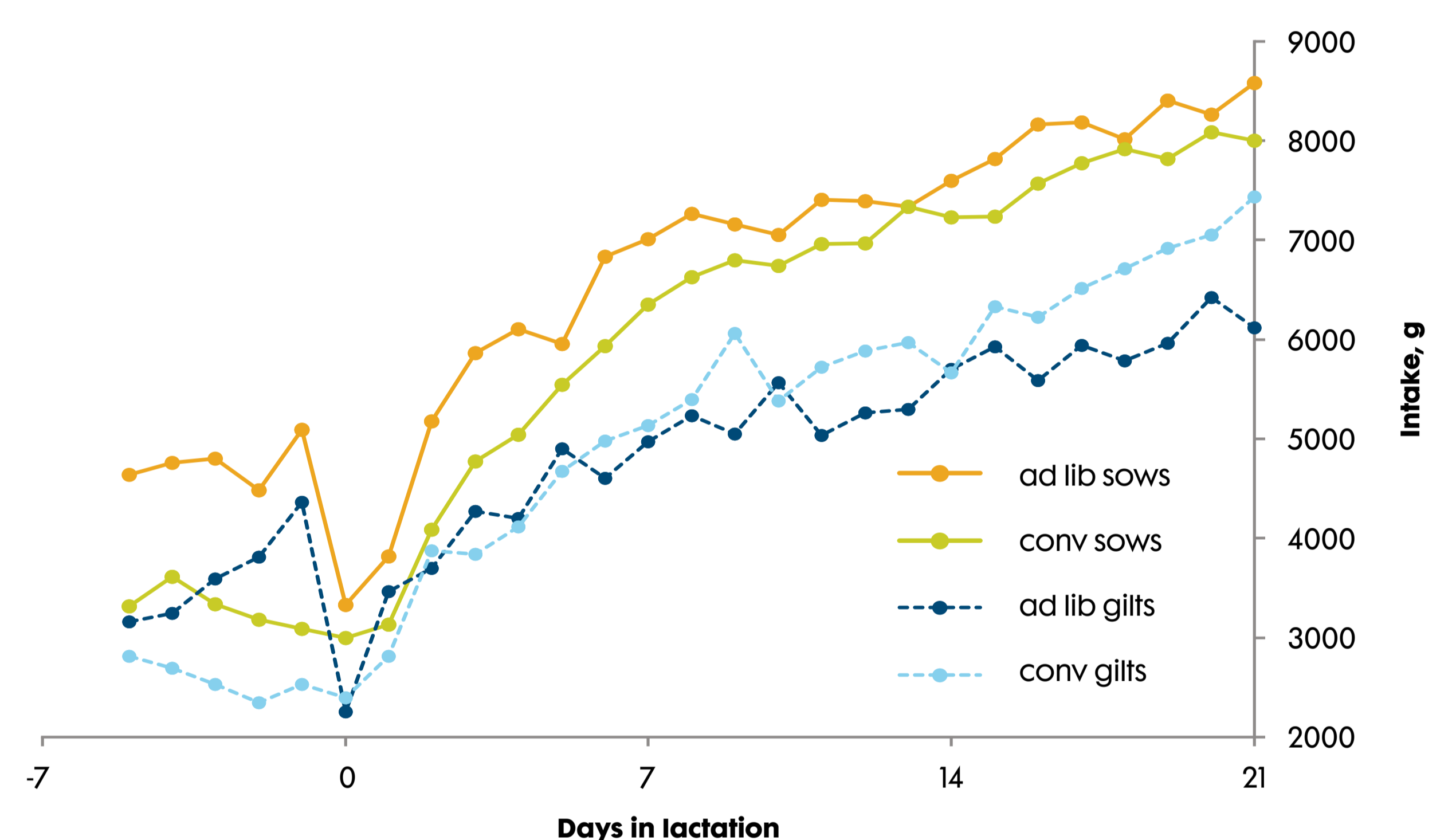


Table 1

Lactation performance of primiparous and multiparous sows fed ad libitum or following a conventional feeding curve during transition and lactation.

Variable	Primiparous sows		Multiparous sows	
	Ad libitum (n=17)	Conventional (n=16)	Ad libitum (n=23)	Conventional (n=25)
Birth weight, g	1305 ± 52	1335 ± 49	1381 ± 47	1406 ± 48
Litter size at start of lactation	12.9 ± 0.4	12.9 ± 0.4	14.8 ± 0.6	15.0 ± 0.6
Weaning age, d	24 ± 0.5	24 ± 0.4	25 ± 0.4	25 ± 0.4
Litter size at weaning	11.6 ± 0.3	12.0 ± 0.3	12.7 ± 0.3	12.8 ± 0.4
Weaning weight, kg	6.27 ± 0.19	6.52 ± 0.20	7.62 ± 0.21 ^a	7.10 ± 0.14 ^b
ADG to wean, g/d*	208 ± 7	218 ± 8	247 ± 6 ^a	231 ± 4 ^b
Litter weaning weight, kg*	73.3 ± 2.5	75.9 ± 2.6	97.0 ± 2.3 ^a	90.2 ± 2.2 ^b
Sow body weight loss, kg	16.7 ± 3.0	17.5 ± 3.4	17.6 ± 3.2	19.8 ± 2.6

*corrected for litter size; ^{a,b}P < 0.05

Results

Feed intake was clearly higher in ad libitum fed sows during transition and in the first week of lactation (Figure 2). Over the whole lactation period, average intake was 7.1 kg/d for ad lib fed sows and 6.6 kg for restricted sows (P < 0.08). Feed intake for gilts was higher before farrowing but similar during lactation. No adverse effects of ad libitum feeding, such as overeating with subsequent drops in feed intake, constipation, or oedema were observed. Stillbirth rate (7.8 % in gilts and 8.5 % in sows) was not affected by treatments. Litters with ad lib fed sows gained 7 kg more during lactation (P < 0.05; Table 1). In gilts there was no significant difference in litter performance.

Conclusion

Ad lib feeding from one week before farrowing clearly increased feed intake in multiparous sows, and the extra intake apparently went to benefit milk production, based on the increased litter gain.