

Feed intake and weight and body condition changes of 100 % organically fed lactating sows

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Implications

The energy and protein density of sow feed should be increased from the 3rd week of lactation to minimise the live weight loss of the sow during the at least 40 days lactation period.

Feed amino acid balance from 22nd day of lactation should match the amount of live weight lost during the first 21 days of lactation.

This should be supported by providing the piglets feed attractive enough to ensure their high dry feed intake during the late lactation period.

Background and objectives

When nutrient intake of the lactating sow is low, milk production is dependent on the ability of the sow to mobilize body reserves for milk production¹. Designing organic lactation feed for sows may be challenging as some feed ingredients may lower the palatability of the feed.

Objectives were to study:

- lactating sow feed intake and changes in sow's body weight and back fat thickness during long lactation
- weight gain of suckling piglets
- the amino acid balance for sows during long lactation and optimal timing of diet change in phase feeding.



How work was carried out?

A total of 12 sows (7 Finnish Landrace and 5 Finnish Landrace x Finnish Yorkshire) from parities 1 to 6 were in the trial from 109th day of pregnancy until weaning (45-49 d lactation).

The sows were fed organic cereal-legume-based feed with 9.3 MJ NE/kg, 14.3 % crude protein, 6.5 % crude fat and 0.6 % standardised ileal digestible (SID) lysine and some roughage.

Live weight and back fat thickness were recorded weekly. Piglets were weighed at birth, thereafter once a week and at weaning. Piglets got creep feed from 13 days of age.

Live weight of sows and piglets at d 21 was calculated using linear regression from the whole lactation period.

Key results and discussion

The weight loss of sow was 22.8 kg linearly during whole lactation period. The corresponding back fat thickness loss was 7 mm.

With 12-15 kg weight loss during 21 d lactation the optimal ratio of limiting feed SID amino acids to lysine are: Threonine 0.63, Valine 0.78, Leucine 1.18, Isoleucine 0.59, Arginine 0.59 for lactation from 22 d onwards.²

The milk requirement of piglets estimated³ from their weight gain exceeded the maximum milk production 11-12 kg/d⁴ of the sow from day 5 onwards. Thus, creep feed for piglets ensured their good growth. Sows reached their maximum feed intake on 4th week of lactation (Figure 1) which is later than reaching the maximum of milk production on 15th day⁴ of lactation.

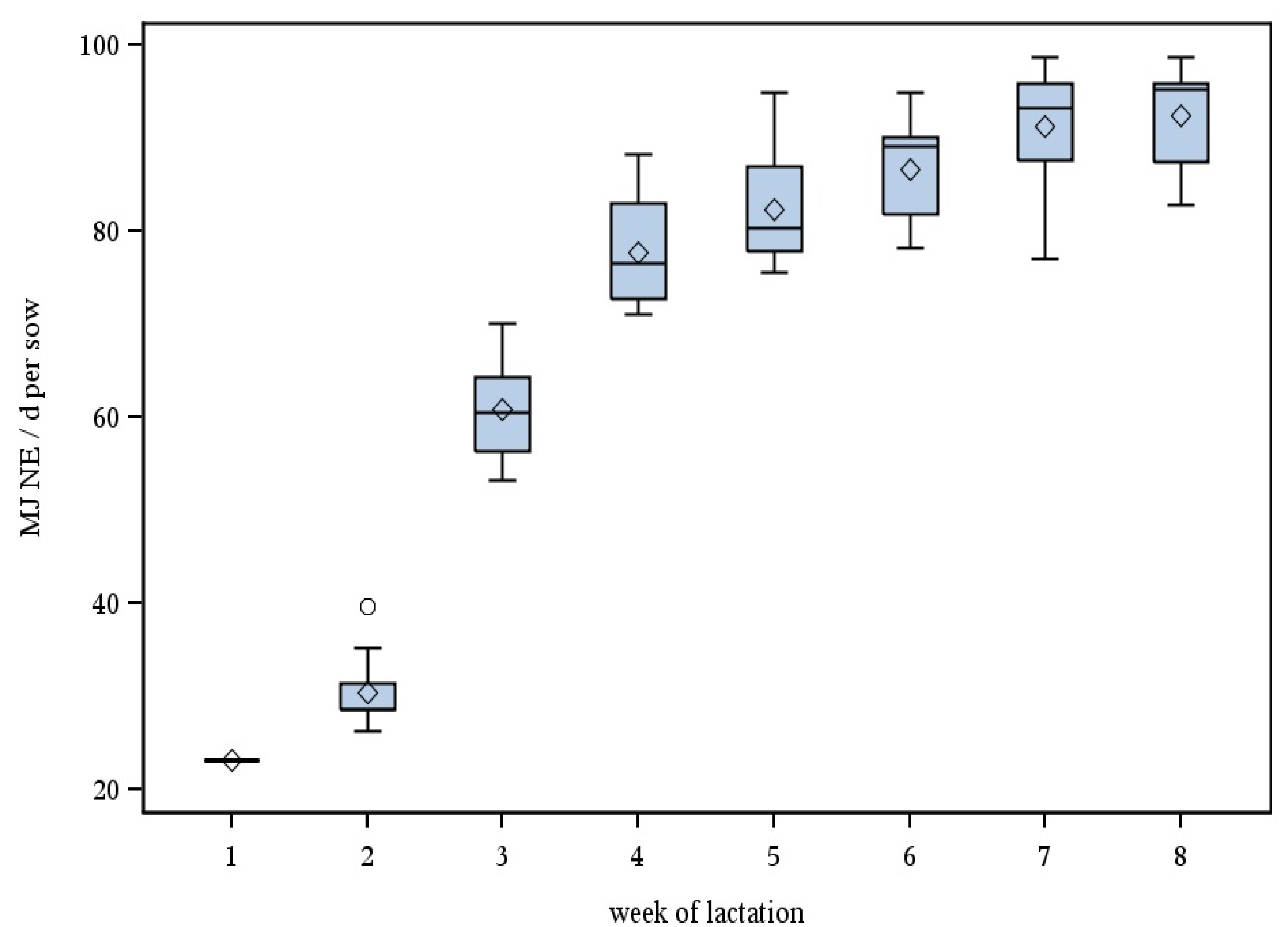


Figure 1. Weekly 100 % organic feed intake in net energy (MJ NE) of the sows from 2-7 days before farrowing to weaning at approx 45 days of lactation. In Box plot \diamond =mean, line is median, and 50% of observations are within the box. Whiskers show the maximum and minimum.

References

1. Etienne et al. 2000. J. Rech. Porcine France 32: 253-264.
2. Kim et al. 2009. J. Anim. Sci. 87 (E suppl.): E123-E132.
3. Noblet & Étienne 1989. J. Anim. Sci. 67: 3352-3359.
4. Hansen et al. 2012. J. Anim. Sci. 90:2285-2298.