

Nursing management and its impact on weaned piglet weight

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Abstract. During spring, weaned piglet weight varied between 6.5 and 7.02 kg for a weaning period of 27-28.03 days. During summer time, though the breastfeeding duration increased, it resulted in a decrease of piglet weight, i.e. 6.79-6.96 kg. During autumn, the duration of breastfeeding ranged between 26.72 ± 1.94 in September and 27.87 ± 3.01 days in November, with the highest weaned piglet weight 7.21 ± 1.82 kg. In winter, though breastfeeding lasted for 28-29 days, the highest weaned piglet weight was reached in January, reaching 7.95 ± 0.81 kg. In order to get a higher number of piglets per sow per year and with a high weight upon weaning, and to improve farm management, we suggest that weaning be done at different intervals depending on the season.

Key Words: sows, piglets, breastfeeding period, weight upon weaning, management.

Introduction. Breastfeeding hinders heat occurrence because of the antagonism between *prolactin* (a hormone produced by the hypophysis playing an important role in lactation), whose secretion is stimulated by the suckling, and *lactogenesis* (the natural phenomenon of milk production) and the release of follicular stimulation hormone.

If breastfeeding lasts more than 30 days, heat occurs, as a rule, 6-7 days after weaning.

In sows weaned earlier (3 weeks after parturition), there is increase of embryo mortality rate which results, in its turn, into a decrease of the prolificacy.

Lactation in sow hinders heat occurrence because of the antagonism between prolactin (a hormone produced by the hypophysis, playing an important role in lactation) and the folliculo-stimulating hormone. In practice, weaning piglets is done at different intervals, which determines variation of the period between farrowing and weaning and heat occurrence.

If the piglets are separated from their mothers right after farrowing, most sows show ovary cysts and nymphomania signs.

A lactation period shorter than 3 weeks leads to cystic ovaries, to gestation, to changes of heat occurrence regularity, to anoestrus prolongation after weaning, to other heat occurrence; a period of lactation of 3 weeks conditions heat occurrence in 4 days; a period of lactation of 35-56 days is followed by heat occurrence in 70% of the sows after 4-10 days (Cook et al 1998; Deckert et al 1997; Mabry et al 1996; Petroman 1997; Sarandan et al 2002; Untaru et al 2003).

Fractioned weaning (i.e. the weaning of the largest of a litter of piglets on day 28 of lactation, and weaning of the last 5 piglets of the same litter after other 7 days of lactation) does not result in a diminution of the weaning – oestrus period (Mabry et al 1996; Mantea 2003; Sarandan et al 2002; Untaru et al 2011).

Some researchers (Belstra et al 1998; Marsteller et al 1997; Petroman et al 2011; Şandru et al 2009; Untaru et al 2011) have analysed the effect of a fodder restriction regime for 7 days compared to *ad libitum* feeding in lactating sows, focussing on two main aspects: the impact of the two types of feeding regime on the amount of feed

ingested, on the loss of body weight, on weight gain in piglets, and on piglet mortality rate prevention; establishing a relation between these feeding strategies and the energy balance in sows by measuring metabolite levels. The authors cited reached the conclusion that food restrictions in the first lactation week did not result in increases of weight losses or in the thinning of the back fat layer. The slight expansion of the interval between weaning and the oestrus and the large number of sows in anoestrus in the 7-day feeding regime points to the fact that sow reproductive performance was compromised by the restriction of the feeding at the beginning of the lactation period.

Materials and Methods. In order to achieve this scientific approach, we conducted measurements of the way in which breastfeeding duration in hybrid sows F1 (the Great White x Landrace) influences weaned piglet weight with a view to improve farm management and to establish optimum time for weaning depending on the season. Research was carried out between March 2011 and February 2012 on a lot of 430 lactating sows.

Results and Discussion. Besides composition, it is important to know the evolution of milk production (the lactation period). Sow milk production increases after farrowing until the end of the third week, and then it decreases little by little. This has an impact on both weaned piglet weight and on sow's body condition upon weaning. Tab. 1 presents the duration of breastfeeding and the weight of weaned piglets in different seasons.

Table 1

Duration of lactation and weaned piglet weight depending on the season		
Month	Nursing period [days]	Piglet weight upon weaning [kg]
March	27.19 ± 0.14	6.50 ± 0.68
April	28.03 ± 2.66	7.02 ± 1.03
May	27.95 ± 1.89	7.00 ± 0.85
June	28.47 ± 3.01	6.96 ± 1.02
July	29.02 ± 2.50	6.94 ± 1.47
August	28.04 ± 1.58	6.79 ± 1.36
September	26.72 ± 1.94	6.92 ± 2.05
October	26.44 ± 2.08	7.04 ± 1.55
November	27.87 ± 3.01	7.21 ± 1.82
December	27.80 ± 2.47	7.81 ± 0.36
January	29.01 ± 1.59	7.95 ± 0.81
February	28.33 ± 4.04	7.14 ± 1.08

As shown in Tab. 1 and in Fig. 1 and 2, in March, the average nursing period was of 27.19 ± 0.14 days, and weaned piglet weight was 6.50 ± 0.68 kg. The average nursing period in April was of 28.03 ± 2.66 days, and the average weight of weaned piglets was 7.02 ± 1.03 kg. The average nursing period in May was of 27.95 ± 1.89 days, and the average weight of weaned piglets was 7.00 ± 0.85 kg.

In summer, though the average nursing period increased, piglet weight decreased; thus, the average nursing period was of 28.47 ± 3.01 days in June, and weaned piglet weight was 6.96 ± 1.02 kg. In July, the nursing period was of 29.02 ± 2.50 days, and weaned piglet weight was 6.94 ± 1.47 kg. In August, the nursing period was of 28.04 ± 1.58 days, and weaned piglet weight was 6.79 ± 1.36 kg.

In the autumn, the nursing period was of 26.72 ± 1.94 days in September, and weaned piglet weight was 6.92 ± 2.05 kg. In October, the nursing period was of 26.44 ± 2.08 days, and weaned piglet weight was of 7.04 ± 1.55 kg; in November, nursing period was of 27.87 ± 3.01 days and weaned piglet weight was 7.21 ± 1.82 kg.

As for the winter period, in December, nursing period was of 27.80 ± 2.47 days, and weaned piglet weight was 7.81 ± 0.36 kg. In January, nursing period was of 29.01 ± 1.59 days, and weaned piglet weight was 7.95 ± 0.81 kg. In February, nursing period was of 28.33 ± 4.04 days, and weaned piglet weight was 7.14 ± 1.08.

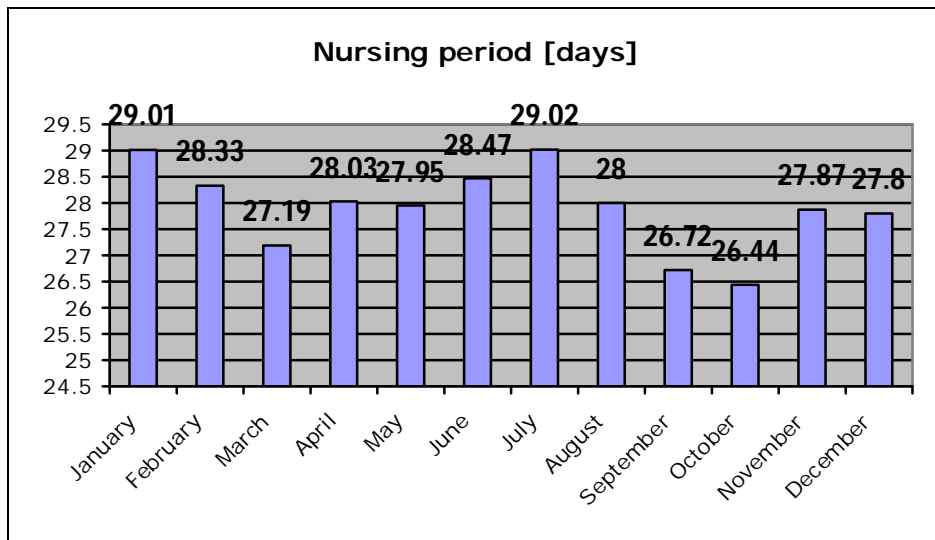


Figure 1. Nursing period depending on the season

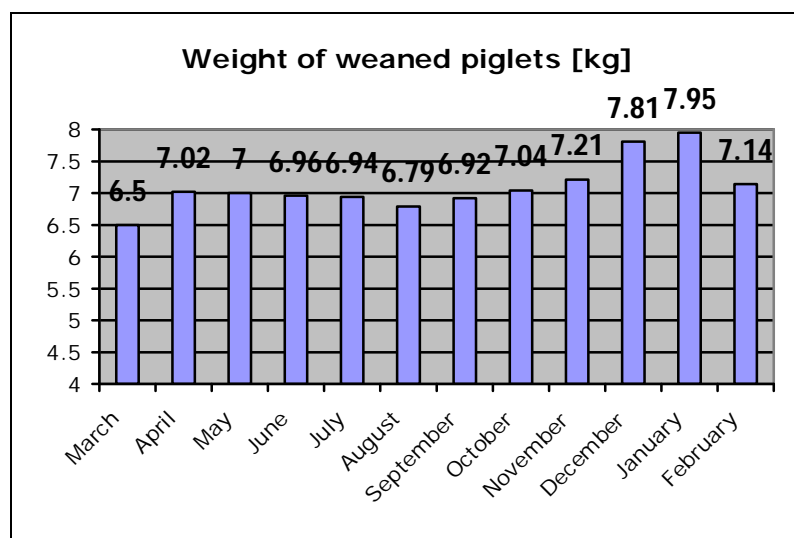


Figure 2. Weaned piglet weight depending on the season

Conclusions. To produce a high number of piglets per sow per year in order to improve sow use indicators we recommend that the weaning time depending on the season ranges between the following parameters (days): in spring, 27-28 days; in summer, 29-30 days; in autumn, 26-27 days; in winter, 28-29 days.

Using this method, weaned piglet weight keeps at acceptable levels – 7-8 kg/head and the piglets bear easily the passage from the lactate feeding to the fodder feeding (pre-starter).

Weaning at lower weights and ages is not profitable because it prolongs the slaughtering period to over 165 days, even if we reduce the number of unproductive days, but the genital apparatus is not ready for another gestation.

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