

THE EFFECTS OF 3 FEED LEVELS FROM WEANING TO MATING ON
THE REPRODUCTIVE PERFORMANCE OF THE FEMALE PIG

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A study was made on the reproductive performance of gilts and sows which received 2, 3 or 4 Kg. per day of a commercial feed (table I) from weaning to mating. The parameters evaluated were empty days and number of piglets born alive in the next farrowing.

A total of 54 animals were used; 20, 15 and 19 were randomly assigned at each level of feeding respectively. The sows and gilts were assigned proportionately to each treatment.

The animals were the product of a rotational cross between the Yorkshire, Hampshire and Landrace breeds. The females were weaned at 42 days average. They were housed in groups (1 group for each batch of weaning) in buildings with open yards and fed individually 2, 3 or 4 Kg. according to their treatment, once a day in feedings stalls. After weaning the females were in daily contact with a boar located in the yard of the females building. Sows in heat were identified using the riding test to induce the standing reflex. When in heat the females were mated three times, once every 12 hours, using a group of boars which were distributed as evenly as possible among the different groups of females. After mating the sows and gilts received 2 kg. of the same commercial feed per day until farrowing.

The empty days were calculated as follows:

$$\text{Empty days} = 42 + \frac{(\% \text{repeating breeders} \times \text{W.M.I.}^{**})}{100}$$

The treatment design was a factorial design with two factors: A= Number of farrows with two levels (gilts and sows) and B= amount of feed from weaning to mating with three levels (2, 3 and 4 kg/day). The results were analyzed using analysis of variance.

The results of the trial are in tables II and III.

With respect to the number of empty days, there was found a statistically significant difference ($P < 0.05$) among the different feed levels. The best result were obtained when a level of 3 kg per day was used for sows and gilts.

With respect to the number of piglets born alive there was not found any statistically significant difference among the treatments on the sows nor on the gilts. However, there was found a trend in gilts to increase the number of piglets born alive ($P < 0.20$) when the amount of daily feed increased: in sows the trend was in the opposite direction.

Conclusions:

In the conditions of the trial, it is beneficial to give the gilts 3 kg. per day of feed from weaning to mating. With respect to the sows, although 3 kg. per day significantly diminishes the number of piglets born alive in comparison with the 2 kg. per day rate of feeding.

** W.M.I. = Weaning to mating interval.

Table I Composition of the commercial feed

Ingredient	kg/Ton.
Sorghum	664.0
Sugar cane molasses	17.0
Soybean meal	50.0
Bran	20.0
Sunflower meal	121.25
Lucerne meal	20.0
Linseed meal	20.0
Sunflower meal	29.0
Fish meal	15.0
Phosphoric rock	18.7
Ground limestone	11.0
Dicalcium phosphate	2.0
NaCl	5.0
Vitamin premix a)	6.0
Mineral premix b)	1.0
	1000.0 kg
Calculated levels:	
Metabolizable energy Kcal/kg	- 2732
Crude Protein	- 15 %

a) Contained per kg: Vit. A, 500,000 IU; Vit. D₃ 60,000 IU; Vit. E, 1,000,000 IU; Riboflavin 399 mg; niacin, 2.99 g; calcium pantothenate, 999mg; piridoxin, 100mg; choline chloride 15 g; Vit. B₁₂, 4.49 g; biotin 3 mg; tiamin 99 mg; Vit. K₃ 299 mg; B.H.T. 8.49 g; arsenic acid 4 g; Estafac-500, 2 g.

b) Contained per kg: MnO₂ 36 g; FeSO₄ 632.10 g; ZnO, 73.81 g; CuSO₄, 39.20 g; KI, 5.9 g; CoSO₄, 59.4 g; Ca CO₃ 185 g.

Table II

Effects of feed level from weaning to mating on the reproductive performance of the gilts.

Daily feed allowance (kg)	2	3	4
Number of gilts	8	6	8
Number farrowed	7	5	7
Farrowed of the total (%)	87.5	83.3	87.5
Piglets born alive	9.28	10.2	10.57
Empty days	54.62	49.40	51.74

Table III

Effects of feed level from weaning to mating on the reproductive performance of the sows.

Daily feed allowance (kg)	2	3	4
Number of sows	12	9	11
Number of sows farrowed	11	8	10
Farrowed of the total (%)	91.66	88.88	90.90
Piglets born alive	11.09	10.12	9.3
Empty days	51.15	47.96	50.31

Selected references. (1) Bichard, M., et al. British Society of Anim. Prod. Winter meeting paper no. 12 (1980); (2) Brannmeier, D.C., et al. University of Illinois at Urbana-Champaign (1980); (3) Brooks, P.H. et al., Anim. Prod. 15:259 (1975); (4) Tribble, L.F., et al. Texas Tech University (1976); (5) Tribble, L.F. et al. Texas Tech University (1977); (6) Varley, M.A., et al. Anim. Prod. 22:71 (1976).