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EFFECT OF WET FEEDING ON FATTENING I PIGS PERFORMANCE

EFECTUL FURAJĂRII UMEDE ASUPRA PERFORMANŢELE PRODUCTIVE LA PORCINELE DIN FAZA I DE ÎNGRĂŞARE

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The experiment used 240 Landrace pigs assigned to 3 groups. The control group received ground dry feed; group 1 received wet feed 1/1, while group 2 received pelleted feed. The compound feeds were assayed with the Weende method. Compared to the control group, the 60 kg weight was reached three days later by the animals with wet feeding and four days earlier by the animals receiving pelleted feed. At the wet feeding, the average daily gain was 484 g, near control group ($p \leq 0.05$) and the feed conversion ratio was 8.9% lower. Wet feeding is an economic alternative for pig feeding during heir first fattening stage, improving the local microclimate by the generation of less powders.

Key words: wet feeding, pig, fattening

Introduction

The widest and most accepted solution is giving dry feeds to the animals, either as meal or pelleted. However, after 2004, the international scientific investigations into wet or liquid feeding intensified (1, 2, 3), considering that they determine higher digestibility coefficients by improving the enzymatic activity. This form of feeding had positive effects of the indoor microclimate of the production houses by reducing the amount of dusts (2). Wet feeding also uses more efficiently the secondary production of the dairy industry (whey and skimmed milk) and from the sugar industry (molasses), as carrier for dilution. Farms with wet and liquid feeding are operating in France, Belgium, Germany, the Netherlands, etc, some farms even giving warmed feed.

Material and Methods

The experiment used 240 Landrace pigs assigned to 3 groups of 80 pigs each, in the first stage of fattening. The animals received the following diets: control group (C), dry compound feed for stage I (30 – 60 kg), experimental group

1 (L1), wet compound feed 1/1; experimental group 2 (L1), pelleted compound feed.

Table 1

Experimental design

Group	Fattening stage I	Form of the compound feed
Control (M)	30 – 60 kg	Dry, meal
Experimental 1 (L1)	30 – 60 kg	Wet 1/1
Experimental 2 (L1)	30 – 60 kg	Dry, pelleted

The animals had free access to the feeds. The diet for the control group was dry meal. The diet for group L1 was wet, and it was achieved by adding 1/1 water using a special installation. The wet feed was fed in a trough fitted with several distribution inlets. The diets were thus calculated as to be consumed within 30 minutes, so as to prevent the alteration of the feed and the appearance of digestive disorders.

The compound feeds were analysed with the method of Weende. The diets were in accordance with the feeding norms, being isocaloric and isoprotein. They supplied 3100 kcal/kg ME, 14.5% CP, 0.55% lysine.

The following parameters were monitored throughout the experimental period: weigh gain, feed intake, feed conversion ratio.

Results and Discussions

At the beginning of the experimental period the average body weight was 29.51 kg for the control group, 29.05 kg for group L1 and 28.97 kg for group L2.

All animals were 120 days old when the experiment started. Table 2 shows the age at which the animals reached the technological weight specific to this fattening age.

The average weight of 60 kg was reached at 180 days by the control group (meal feed), 187 days for group L1 (wet feed) and 176 days for group L2 (pelleted feed). The shift to the second stage of fattening was done 3 days later than the control group by group L1 which received wet feed and 4 days earlier by group L2 which received pelleted feed.

Table 2

Age (days) at achieving the technological weights

Weight	C	L1	L2
30 kg	120	120	120
60 kg	180	183	176
Duration of stage I	60	63	56

The form of feed administration didn't influence significantly the age when the weight of 60 kg was reached, when the animals pass to from fattening stage I to fattening stage II.

Table 3 shows the weight gain.

Table 3

Weight gain during the fattening stage I

Item	C	L1	L2
Initial weight, kg	29.51	29.05	28.97
Final weight, kg	59.15	59.54	60.32
Total gain, kg	29.64	30.49	31.35
%	100	102	106
Average daily gain, g/day	494	484	560
%	100	98	113

The total gain was 29.64 kg in the control group, 30.49 kg in group L1 and 31.35 in group L2, corresponding to an average daily weight gain of 494 g in the control group, 484 in group L1 and 560 g in group L2.

Compared to the control group, the average daily weight gain was 2% lower in group L1 and 13% higher in group L2. The form of administration of the feed influenced this parameter of the fattening stage I. This parameter was smaller for the wet feeding group, although the differences were not statistically significant ($p \geq 0.05$). The pelleted feeding improved this parameter, the differences being statistically significant ($p \leq 0.05$).

The literature (1, 2) shows that wet feeding decreased the average daily gain during the first stage of fattening. The adverse effects of the liquid and wet feeding can be alleviated by feeding a daily meal, with dry feeding (1).

Table 4 shows the compound feed intake. During this stage of fattening, the compound feed intake was 1.780 kg in the control group, 1.590 kg in group L1 and 1.890 kg in group L2. Compared to the control group, the compound feed intake was 10.7% lower in group L1 ($p \leq 0.05$) and 6.1% higher in group L2.

Table 4

Compound feed intake during the fattening stage I

Item	C	L1	L2
Compound feed, kg/day	1.780	1.590	1.890
%	100	89.3	106.1

The literature mentions that during this stage of fattening, the use of wet feeding depresses feed intake due to the limited ingestion capacity (3). Wet feeding has the advantage of improving the digestibility coefficients (1).

Table 5 shows the feed conversion ratio.

Table 5

Feed conversion ratio during the fattening stage I

Item	C	L1	L2
Feed conversion ratio, kg CF/kg gain	3.603	3.285	3.375
%	100	91.1	93.6

The feed conversion ratio achieved during the fattening stage I was 3.603 kg CF/kg gain in group C, 3.285 kg CF/kg gain in group L1 and 3.375 kg CF/kg gain in group L2. Compared to the control group, the feed conversion ratio was 8.9% lower in group L1 and 6.4% lower in group L2. The difference between groups was not significant ($p \geq 0.05$).

Conclusions

1. The technological trials showed that the optimal variant of dilution is 1/1 (one part feed and neo part water), the mixture being uniform and the sample aspect being homogenous.
2. During the fattening stage I, the achievement of the 60 kg weight was influenced by the form of feed administration, wet feeding causing this parameter to be achieved 7 days later, prolonging thus the first fattening stage.
3. The average daily weight gain was not influenced by the feeding form, being 2% lower ($p \geq 0.05$) for the wet feeding group.
4. Wet feeding is an economic alternative for pig feeding during heir first fattening stage, improving the local microclimate by the generation of less powders.

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