

(lysine : 0.85 p. 100 - methionine + cystine : 0.35 p. 100 - threonine : 0.47 p. 100 - tryptophan : 0.11 p. 100 - isoleucine : 0.47 p. 100) exhibiting relative deficiencies as compared with the requirements; a diet CE of the same composition as the previous one, was supplemented with the 5 amino acids so as to obtain the same levels than in the control diet. Five diets were supplemented with 4 amino acids so that each one exhibited only one deficiency : in lysine (CL), in sulphur amino acids (CM), in threonine (CT), in tryptophan (CR) or in isoleucine (CI).

In the first experiment (A) piglets were fed one of the 8 diets. As compared to the control diet E, diets CR, CI and CE led to an increase in the feed conversion ratio of 7 to 8 p.100, this increase reached 20 p. 100 with diets C, CL and CT.

Feed consumption was quite differently affected by the various deficiencies. It was slightly or not affected by deficiencies in lysine (CL), methionine (CM), threonine (CT) or non essential amino acids (CE). It was reduced by 9, 10 and 13 p. 100, respectively with diets C, CI and CR. These results showed the privileged influence of tryptophan and isoleucine deficiencies on feed intake.

When piglets could choose between the balanced diet E and one of the others (experiment B) they always consumed more of the first diet. The most marked differences were obtained with diet CI (isoleucine deficient) whose level of feed intake only represented 25 p. 100 of the total feed intake, and particularly with diet CR (tryptophan deficient) : only 15 p. 100 of the total feed intake.

Influence of sugar incorporation in a soybean-maize 2nd age diet for weaned piglets

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The purpose of this trial was to compare three 2nd age diets of the soybean-maize type including 0, 4 and 8 p. 100 sugar (sucrose) and given in the form of pellets (2.5 mm diameter).

The piglets weaned at 27 days on an average were fed for two weeks the 1st age diet that they received before weaning, then for 28 days one or the other of the experimental diets *ad libitum*. Their mean weight changed from 10 to 25 kg. A total of 360 piglets was used, i.e. 120 piglets per diet.

On the whole, the differences between the three diets were small :

- the level of feed intake increased slightly with the 8 p. 100 diet (+ 4.7 p. 100), while the 4 p. 100 diet was not better consumed than the control diet without sugar ;
- growth rates were similar for the three diets with a slight advantage (+ 2 p. 100) for the sugar diets :
- the feed conversion ratio of the 4 p. 100 diet was comparable to that of the control diet. While the 8 p. 100 diet resulted in a slight deterioration of the feed conversion ratio (+ 2.3 p. 100).

Addition of sugar did not lead to a noticeable improvement of the performance. Therefore it is not interesting for a second age diet as far as it increases the costs.