

of lysine (Lysine R.P., a product containing 18.5 p. 100 of lysine base). These diets were successively compared in winter (ambient temperature maintained at 15 °C in the pig house) and in summer (25 °C).

In addition to classical differences related to the sex of the animals (castrated males vs females), there were others depending on the temperature, i.e. a lower feed conversion and a higher growth rate in summer, but with a greater adiposity during this season.

Whatever the season, the three diets provided a similar performance.

The purpose of experiment B was to study the influence of three factors : the feeding rhythm (the same daily diet was offered in one or two meals per day), the nature of the basal diet (either containing a high fibre level and inducing a fast transit or containing a low fibre level and inducing a slower transit), the type of lysine supplementation (either fully natural or partly in the free form).

Feeding of a single meal per day led to a significant increase in feed conversion without altering the growth rate and body composition.

A better performance was noticed with diets containing a low fibre level (more energy).

The form of lysine supplementation (natural or natural + lysine HCl or natural + lysine R.P.) had no effect on the performance. In particular no interaction between this factor and the feeding rhythm was observed.

Utilization of field beans by the weaned piglet. Comparison of different levels of incorporation and varieties

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Results of several trials made in similar experimental conditions were compared to define the maximum level of incorporation of field beans in diets for weaned piglets. The different varieties cultivated in France and exhibiting different tannin contents (0, 4 and 5 g/kg DM) were also compared. In all the trials, piglets (a total of 2216) were weaned at the mean age of 27 days (7.5 kg). Two weeks after weaning they were fed the experimental diets for 4 weeks (from 10.0 to 25.3 kg). Diets were offered *ad libitum* as pellets.

Free tannin selected varieties (with white flowers) did not prove to be better than classical varieties with tannin (coloured flowers) contrary to what was expected after the digestibility trials.

A level of incorporation of 10 p. 100 field beans led to growing performances quite similar to that of the control diets.

A higher level of incorporation (more than 10 p. 100) led to variable growing performances according to trials. However, a decreased feed intake was observed during the first two weeks of experiment as well as a reduced feed efficiency. The daily mean gain was reduced by 4 and 11 p. 100, respectively with 20 and 30 points of field beans.

Further trials should be made to define the effect of field beans at different levels of incorporation (from 10 to 20 p. 100) taking into account the antitryptic factors, tannin and vicin contents of the varieties used.