

Beside the question concerning the manure load per hectare varying from one farm to another, many other elements have to be taken into account to analyse the improvement of the waste utilization policy. According to our investigations, manure is only spread on about one third of the agricultural area and only 14 p. 100 of the farmers is using it on their whole farmland area. According to these farmers, pig manure spreading is not possible on 7 p. 100 of the agricultural area because of regulations, topography or access to the lots.

Moreover, the choice of the culture and the quantities to spread per type of culture are important factors. For some cereals with straw they do not exceed 50 m<sup>2</sup>, while for pasture or maize they may exceed 100 m<sup>2</sup>.

Agricultural utilization of manure seems to remain the best solution and the methods used can still be improved. However, the storage capacities represent an important limiting factor for controlling the chronological distribution of manure according to cultures.

## II. - FEEDING

### **Utilization of cereals in simple diets for weaned piglets Influence of the protein level (crude protein and lysine)**

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Six trials were made in the same conditions and in two experimental stations using cereals (wheat, maize, barley) at three protein levels obtained by a soybean meal supplementation (18, 20, 22 p. 100). Furthermore, in order to examine the advantage of using industrial lysine, we tested a fourth diet including 18 p. 100 protein and the same lysine level than that obtained with 22 p. 100 protein feeds.

The incorporation levels of the cereals varied from 53 to 72 p. 100 and that of the soybean meal « 50 » from 19.5 to 38 p. 100. Piglets were weaned at 26 days of age on an average (5.9 kg) whereafter the experimental groups were formed taking into account the weight at weaning and the mean litter weight at birth. They were housed in groups of 6 to 7 animals per box in isolated, warmed and ventilated post weaning houses (flat-deck). They were fed for two weeks the first age diet (pellets) already used before weaning, then for 28 or 35 days one of the experimental diets (pellets) *ad libitum*.

A total of 3 096 piglets were used, i.e., 120 to 168 animals per diet.

Simple diets composed of cereals and soybean meal allowed to reach high performance when used between 8-10 and 25-27 kg in the weaned piglet (feed consumption : 900-1 000 g/d, growth : 400 to 600 g/d).

Starting from a protein level of 18 p. 100 it is possible to improve the growth rate and the feed efficiency by increasing the lysine content of the diet either by enhancing the proportion of soybean meal or by adding industrial lysine. The best performance was reached with a diet including 3.5 to 3.8 g lysine per 1 000 Kcal digestible energy.