

significant difference was observed between groups (group 1: 263 days; group 2: 263 days; group 3: 255 days).

As compared with the other groups, the weight at puberty of gilts in group 1 was significantly lower and so was the ovulation rate (group 1: 10.4; group 2: 12.6; group 3: 12.6). This lowering of the ovulation rate affected the litter size at 30 days (group 1: 8.5; group 2: 9.3; group 3: 10.7), but not at farrowing (group 1: 8.5; group 2: 8.5; group 3: 8.5).

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## Use of horse-bean in pregnant gilt diets

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In the present experiment, 54 nulliparous Large White gilts were used to study the effects of a total substitution of soya-bean meal for whole horse-bean in the gestation diet on the survival and development of the embryos. The animals were distributed into three groups. Groups 1 and 2 received a diet containing 8 per cent soya-bean meal and 15 per cent "Ascott" horse-bean, respectively ensuring the same protein supply (12.3 per cent crude protein). The diet of the gilts of group 3 included 25 per cent horse-bean in order to measure the eventual effects of a higher supply of this feedstuff. Between mating at puberty (255 days of age, 117 kg) and slaughter at 105 days of pregnancy, the gilts received daily 2.2 kg of their respective diets.

The proportion of non-fertilized gilts was the same in the three groups (24 %). No difference appeared between the females with respect to weight gain (55 kg), ovulation rate (13.5), mean weight of corpora lutea (0.53 g) and total weight of ovaries (13.12 g). This was also the case for the number of normal (9.41) or abnormal foetuses (0.37) per litter and total embryonic mortality (29.8 per cent). However, the individual weight was lower for foetuses (923, 825 and 854 g, respectively in groups 1, 2 and 3) and placentas (212, 184 and 194 g) of the gilts fed with horsebean (groups 2 and 3). This suggests that the embryonic mortality might be increased in these animals in the case of a higher prolificacy, since the resulting greater competition among foetuses would more affect less vigorous individuals. However that may be, the horse-bean factors responsible for reduction in the weight of foetuses have not yet been determined.

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## Use of a potato protein concentrate in the diet of piglets weaned at 10 or at 21 days

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The nutritive value of a potato protein concentrate (CPDT = PPC: 83.5 per cent of N  $\times$  6.25 6.3 per cent lysine/dry matter) was estimated during two experiments each including 6 piglets weaned at 10 or at 21 days.

In the first experiment, the piglets primarily received 1st age diets containing 25 per cent crude protein out of which 50 per cent was skim-milk. The other fraction (50 per cent) was constituted of dissolved fish (CPSP = DFPC) in groups 1 (control) and 2; in groups 3 and 4, this fraction was composed of 25 per cent DFPC and 25 per cent PPC, finely ground or not, in group 5, 50 per