Comparative utilization of horse-bean and soyabean oil-meal by lactating sows

II. — DIGESTIBILITY AND METABOLIC UTILIZATION OF AMINO ACIDS

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A study was conducted on 10 multiparous sows of the *Large White* breed from day 19 of lactation. The animals were distributed into two groups of 5 and placed in digestibility cages. They received a diet based on barley supplemented with protein either in form of soyabean oil-meal 45 or horse-bean of the variety « Pavane » with addition of DL-methionine (ÉTIENNE *et al.*, 1975).

On account of the mean feeding level at this stage of lactation (5 kg/day), the mean intake of crude protein, lysine and sulphur amino acids were 701.6 g, 32.1 g, 26.3 g respectively per day.

The apparent digestibilities of amino acids in the two diets were evaluated and it appeared that the apparent digestibilities of arginine, histidine, glutamic acid and proline were higher than that of nitrogen; conversely, threonine, lysine, tyrosine and alanine showed lower apparent digestibilities.

Measurement of the blood level of free amino acids, 4 hours after the first meal did not show any important difference between the two groups, confirming the good digestibility and metabolic utilization of the horse-bean diet as compared with the soyabean oil-meal diet (ÉTIENNE *et al.*, 1975).

Estimation of the daily amounts of amino acids available to satisfy maintenance and production expenditures of the animal, except milk production, is discussed. According to this calculation, it appears that the maternal benefit is low or inexistant as regards lysine, which remains the first limiting amino acid of these diets for lactating sows.

Protein supply of piglets weaned at three weeks

I. — EFFECT OF INCORPORATING A SOLUBLE FISH PROTEIN CONCENTRATE (SFPC) INTO THE WEANING DIET ON NITROGEN BALANCES AND ZOOTECHNIC PERFORMANCES

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Two trials were performed on the floor or in balance cages with 84 and 30 piglets, respectively between the age of 3 and 9 weeks, to determine the conditions of skim-milk suppression and utilization of a soluble fish protein concentrate in 21-days-weaning diets. The control diet (group 1)