Pellet processing reduces variability of corn soybean meal-based diet digestibility in growing pigs

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This study was conducted to determine the effect of pelleting on the digestibility of corn-soybean meal-based diet in growing pigs. Two trials with 6 pigs cannulated at the distal ileum were conducted. In each trial, pigs were assigned to each treatment following a crossover design. In each experiment, the same diet, composed of corn and soybean meal with 10% wheat from two different feed mills, was served in pellet or mash form. Pelleting allowed an increase in digestibility in one of the trials. Apparent ileal digestibility (AID) of dry matter (DM), crude protein (CP) and digestible energy (DE) were improved with pelleting by 8, 12 and 9% ($P< 0.01$). The AID of amino acids (AA) was also improved ($P< 0.05$). Apparent total tract digestibility (ATTD) was increased by pelleting in DM, CP and DE by 5, 7 and 6% respectively ($P< 0.01$). The digestibility of the mash diet in experiment 1 was lower than in the pelleted diet in the experiment 1 and both diets in experiment 2 as shown by the interaction Pelleting X Trial which was significant for the AID and ATTD of DM, CP and DE ($P< 0.01$). Therefore, in experiment 1, pelleting allows to improve the digestibility of diet to the same level as in experiment 2. The AID of CP was higher by 37% in the mash diet from the second experiment compared to the one in the first experiment. Even though the same ingredients were chosen in the two experiments, this shows the variability in digestibility existing between different feed mills and ingredient sources. This difference was not observed in pelleted diets.

The results obtained in these two trials show that pelleting can reduce the variability of digestibility and then give a good digestibility of diets even if the ingredients are of different quality or sources.