Etude de la valeur nutritionnelle d'un nouveau coproduit de bioéthanol de blé : le Weefirst

Fabien SKIBA (1), Didier COULMIER (2), Pascal CERNEAU (3), Patrick CALLU (4), Jean-Paul METAYER (5), Maria VILARIÑO (4)

(1) Arvalis-Institut du végétal, 21 chemin de Pau, F-64121 Montardon
(2) Désialis-Complexe Agricole Mont Bernard, route de Suippes, F-51007 Châlons en Champagne Cedex
(3) Euronutrition SAS, Domaine expérimental Le Pavillon, F-72240 Saint Symphorien
(4) Arvalis- Institut du végétal, Pouline, F-41100 Villerable
(5) Arvalis-Institut du végétal, F-91720 Boigneville

f.skiba@arvalisinstitutduvegetal.fr

Avec la collaboration technique de Jean-Marc BERTIN (4), Patrick BRINET (4), Dominique BARRAULT (4) et Jean-Yves MOREAU (5)

Study of the nutritional value of a new wheat-based bioethanol coproduct: the Weefirst

With the launch of a third wheat-based bioethanol plant in France, a new coproduct, the Weefirst, appeared on the market. This wheat dried distillers' grains with solubles (wDDGS) was evaluated in a fecal digestibility (energy) and an ileal digestibility (amino acids) trials on male castrated pigs (66 and 50 kg) and compared with a wheat and a wheat bran batches. Furthermore, a growth trial was carried out on piglets between 42 and 69 days of age with isoenergetic and iso amino acid wheat/barley/rapeseed meal/soybean meal diets containing either 0, 7.5 or 15% Weefirst. The wDDGS had a high starch content (13.5% DM) owing to the plant's processing method and thus a diluted protein content (32% DM). The wDDGS fecal energy digestibility was high (74.3%) but lower than wheat (87.7%) and higher than wheat bran (54.1%) with corresponding DE values of 3560, 3890 and 2550 kcal/kg DM, respectively. The wDDGS ileal amino acids digestibilities were 5 to 9 percentage points lower than wheat and wheat bran ileal amino acids digestibilities (14 percentage points for lysine: 64% vs. 78.5%) and from 1 to 16 percentage points higher than wheat bran except for lysine (-6.3 percentage points). The growth performance (ADG, ADFI and FCR) of the piglets was similar for the three diets indicating that they could be fed balanced diets with as much as 15% wDDGS.