Impacts économiques et environnementaux de différents programmes de formulation et d'alimentation chez le porc charcutier

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Economic and environmental impacts of different formulation and feeding methods in growing-finishing pig operations
Feed cost and nitrogen (N) and phosphorus (P) excretion from three formulation methods applied to daily multiphase feeding systems (MP) were compared to a 3 phases (25-50, 50-90, 90-130 kg body weight) feeding system (3P) in which simulated pigs were fed with complete diets formulated at fixed energy density. Formulating feeds for a 3P system with complete feeds but without fixing energy density reduced feed cost by 5.2% while increasing P and N excretion by 10.8 and 7.4%, respectively. Moving from 3P to a MP feeding system in which premixes are complete feeds and formulated at fixed energy density only reduced, in relation to the 3P reference method, feed cost by 1.0% but also reduced P and N excretion by 4.4 and 9.1%, respectively. Optimizing energy densityin the later system reducedfeed cost by 4.8% while increasing P and N by 7.8 % and 5.1%, respectively. Optimizing simultaneously both premixes at variable energy density without the requirement of being complete feeds reduced feed cost by 5.8%, while P and N excretion increased by 6.9 % and 3.0%, respectively. Thus, MP feeding systems in which 2 premixes are formulated simultaneously at optimal energy density is the most cost-effective feed formulation method and feeding alternative but it may significantly increase nutrient excretion. However, limiting the variation on energy density in MP systems can improve the environmental performance in growing-finishing pig operations but limits the reduction in feed cost.