

Effects of added fermented feedstuff inclusion of two-phase of solid-state on immune response of finishing pigs ⁽¹⁾

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Abstract

The study was to determine the effects of two-stage solid-state of fermented powder (TSFP) supplemented feed on immunity of finishing Duroc × KHAPS (bred by the Kaohsiung Animal Propagation Station) black pigs. The is carry on two-stage fermentation with different selected bacteria. *Bacillus subtilis natto* (N21), a selected strain with higher proteolytic capacity was supplemented at the first fermentation stage. The specific strain of *Lactobacillus sporogenes* (L12) with higher acidic capacity was added in the second fermentation stage. The raw ingredients used as substrate for the fermentation was a mixture of 60% soybean meal and 40% hydrolyzed feather meal. Four different dietary treatments were formulated into iso-nitrogen (CP = 15.5%) and iso-energy diets (ME = 3,265 kcal/kg). A total of 80 Duroc × KHAPS black pigs with initial body weight of 78.10 ± 0.23 kg were randomly assigned into 4 treatment groups of both genders. Control diet was formulated with 3% fish meal, whereas treatment groups was replaced fish meal by 0, 2.5 or 5% TSFP respectively. The feeding span was 9-wks by *ad libitum*. The result showed that the immunity competence in the 2.5% TSFP were significantly higher than in the 3% fish meal group on the percentage of blood T-lymphocyte subsections of CD³⁺ and CD⁴⁺CD⁸⁺ concentration ($P < 0.05$). The 5% TSFP were significantly higher ($P < 0.05$) than the 3% fish meal group on lymphocyte proliferative response (lipopolysaccharide and concanavalin A), interferon- γ , oxygen burst, IgA and percentage of blood T-lymphocyte subsections of CD³⁺ concentration. There were no significant difference in phagocytosis activity and humoral immune responses of IgM and IgG concentration. Summarized our current results indicate that the 5% TSFP group showing better immunocompetence than other dietary teratments.

Key words: Finishing pigs, Immune response, Fermentation meal.

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