84. 飼糧不同鋅來源及鋅含量對生長肥育豬生長與臟器中鋅蓄積量之影響

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本研究旨在探討於生長肥育期豬隻飼糧中添加不同含量或不同型式的鋅化物，對豬隻生長性能及臟器中鋅蓄積量之影響。採用體重 31.3± 1.3 kg 的 LD 雜交肉豬 48 頭，閹公豬及肉女豬各半，平均分置在 4 個處理組。A 組在試驗期間皆餵飼以玉米－大豆粕為主要原料，不額外添加鋅之基礎飼糧，B 組的飼糧分別在 A 組生長期和肥育期飼糧中添加硫酸鋅型式的鋅 120 及 100 mg/kg，C 組或 D 組則分別在 A 組飼糧中添加蛋白質螯合鋅或 γ-聚麩胺酸型式的鋅 60 及 50 mg/kg，至豬隻平均體重 100 kg 時結束，逢機擇半屠宰後，採集肝、腎、脾、胰、膽汁及背最長肌，分析鋅蓄積量。結果顯示，飼糧中添加不同鋅含量或不同型式之鋅化物，不影響生長期豬隻的生長性能，但 A 組在肥育期的日增重和飼料效率均顯著地($P<0.05$)較 B 組為小。A 組和 B 組豬隻的腎臟重量較 C 組和 D 組為大($P<0.05$)。B 組肝臟中鋅的含量（9.55 *vs.* 7.03 mg/g 乾物質）或鋅的總蓄積量（4187 *vs.* 2653 mg/頭）均顯著地較 A 組為多，腎臟中鋅的蓄積量也以 B 組較 A 組為多($P<0.05$)，而各組豬隻胰臟、膽汁和背最長肌中鋅的蓄積量相近($P>0.05$)。腎、脾、胰及膽汁乾物質中鋅的蓄積量均低於 1 mg/g，顯示肝臟是豬隻鋅主要的蓄積處所。

關鍵語：生長肥育豬、飼糧鋅量、鋅蓄積

EFFECT OF DIETARY ZINC LEVELS OR SOURCES ON GROWTH AND ACCUMULATION OF ZINC IN DIFFERENT ORGANS OF GROWING-FINISHING PIGS

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The purpose of this study was to investigate the effect of dietary supplementation with different forms or levels of zinc on the growth and accumulation of zinc in different organs of growing-finishing pigs. A total of 48 LD (Landrace ♀×Duroc ♂) pigs, half barrows and half gilts, were assigned to four dietary treatments when their body weights were 31.3±1.3 kg. Pigs in group A (without extra Zn added) was fed the control diet during growing-finishing stage. In the growing or finishing period, pigs in the groups B, C and D were fed basal diet with 120 or 100, 60 or 50, and 60 or 50 mg Zn/kg by adding of $ZnSO_4$, Zn-proteinate or γ-PGA-Zn, respectively. In this study, the pigs were fed *ad libitum*. The feeding trial was terminated when the body weight of pigs reached 100 kg. Half of the pigs were randomly chosen and slaughtered. The growth performance and zinc concentration of liver, pancreas, spleen, kidney, bile and *Longissimus dorsi* muscle (LM) were measured. The result showed that the different forms or levels of zinc did not affect the growth performance of growing pigs. The pigs of group A had smaller ($P < 0.05$) ADG and G/F than the B group. The pigs of groups A and B had larger ($P < 0.05$) kidney weight when compared with groups C and D. Pigs in group B had significantly higher ($P < 0.05$) hepatic zinc concentration (9.55 *vs.* 7.03 mg/g DM) and total accumulation of zinc (4,187 *vs.* 2,653 mg/head) than the group A. The group B pigs had significantly higher ($P < 0.05$) zinc concentration in kidney than the group A. There was no difference ($P > 0.05$) on concentration of zinc in pancreas, bile and LM among the treatments. Besides, the zinc concentration were all below 1 mg/g DM in pancreas, spleen, kidney, bile and LM, indicating that liver was main organ for zinc accumulation in growing-finishing pigs.

Key words: Growing-finishing pigs, Dietary zinc, Zinc accumulation