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飼糧中添加不同含量高粱酒糟與七層塔粉對白色來亨母雞血清生化與蛋黃脂質過氧化之影響

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摘 要

本試驗係以二個試驗探討不同含量乾燥高粱酒糟與七層塔粉飼糧對白色來亨新母雞蛋抗氧化性之影響。試驗一以來亨新母雞 36 隻為試驗動物，並分成三個處理組；即對照組(玉米-大豆基礎飼糧中添加 0%高粱酒糟)、15%及 30%高粱酒糟。雞隻餵飼等熱能與同蛋白飼料(18% 粗蛋白質和 2800 kcal/kg 代謝能)，飼料與水均採任飲食，並收集蛋分析蛋黃丙二醛(malondialdialdehyde; MDA)含量，試驗期 4 週。試驗二以來亨新母雞 32 隻為試驗動物，並分成四個處理組；即對照組(玉米-大豆基礎飼糧中添加 0%高粱酒糟)、含 30%高粱酒糟分別添加 0%、0.04%和 0.2%七層塔(*Ocimum gratissimum*)葉粉。動物飼養管理同試驗一，試驗期 3 週。結果顯示，試驗一雞蛋中蛋黃 MDA 含量隨飼糧高粱酒糟用量增加而上升之現象，且雞隻採食玉米-大豆基礎飼糧含 15%與 30%高粱酒糟飼料分別在第 28 日與 22 日以後，其所產雞蛋中蛋黃 MDA 含量顯著較對照組為高($P < 0.05$)。試驗二蛋雞蛋黃 MDA 含量隨飼糧添加 30%高粱酒糟而增加，但蛋雞採食玉米-大豆基礎飼糧含 30%高粱酒糟並添加 0.2%七層塔後，其蛋黃 MDA 含量可降低至與玉米-大豆基礎飼糧含 30%高粱酒糟之相同水準。此說明 0.2%七層塔粉有除去蛋黃過氧化的效果，故七層塔粉具有開發成抗氧化性飼料添加物之潛力。

關鍵詞：抗氧化性、高粱酒糟、來亨母雞、七層塔

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The Effect of Adding Different Levels of Sorghum Distillery Residue and *Ocimum Gratissimum* to Feed on Sera Biochemistry and Lipid Peroxidation in Egg Yolk of White Leghorn Layer

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Abstract

This study is based on two experiments to explore the antioxidant effect of different contents of sorghum distillery residue (SDR) with *Ocimum gratissimum* powder (OG) in white Leghorn chicken eggs. The first experiment: 36 Leghorn chicken as experimental animals were divided into three treatment groups, the control group (corn-soybean basal diet, 0% SDR), 15% and 30% SDR groups. All chickens were fed with same energy and protein diet (18% crude protein and 2800 kcal/kg metabolizable energy) and feed and water taken freely. The egg yolk was collected for malondialdialdehyde (MDA) analysis one time per week for four weeks. The second experiment: 32 Leghorn chicken as experimental animals were divided into four treatment groups, the control group (corn - soybean basal diet, 0% SDR), 30% SDR with 0%, 0.04% and 0.2% OG groups. Feeding was the same as the first experiment. The egg yolk was collected for MDA analysis one time per week for three weeks. In the first experiment, the results show that the content of MDA in egg yolk was increased with increasing the amount of SDR, and the content of MDA in egg yolk of the group of chicken feed corn-soybean basal diet containing15% and 30% SDR at the 28 day and after 22 days were significantly higher than that in the control group, respectively ($P < 0.05$). In the second experiment, the results show that the content of MDA in egg yolk was also increased in SDR group, however, the content of MDA in egg yolk of the group of chicken feed corn-soybean basal diet containing 30% SDR with 0.2% OG was significantly lower than that in the group of

chicken feed corn-soybean basal diet containing 30% SDR with 0% and 0.04% OG ($P<0.05$). These findings indicate that 0.2% OG has effect to avoid lipid peroxidation in egg yolk, and suggest that it would be a potential feed additive as antioxidant.

Key words: Antioxidant ability, Dehydrated sorghum distillery residue, Leghorn layer, *Ocimum gratissimum*

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