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Effects of Feeding Alabio Ducks with Fresh Golden Snail on Egg Production and Quality

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Abstract: Alabio ducks (*Anas platyrinchos* Borneo) are a local duck breed from South Kalimantan, Indonesia. High feed cost is a major constraint in duck production. Therefore, many efforts have been conducted to find cheaper feedstuffs, especially protein sources. Golden snail (*Pomacea canaliculata*) is abundantly available in the wetland area of South Kalimantan and causes damages to paddy rice. This research aimed to determine the effects of feeding Alabio ducks with fresh golden snails (FGS) in substituting fish meal (FM) on the egg production and quality. The use of FGS to substitute FM has not been commonly applied; hence, this research will provide an applicable method of golden snail utilization as an alternative protein source in feeding Alabio ducks. Five treatment diets were used, namely 0% FGS + 30% FM; 10%FGS + 20% FM; 20%FGS + 10% FM; 30%FGS + 0% FM; and commercial feed (0% FGS + 0% FM). There were four replications for each treatment and eight ducks in each experimental unit. The experiment was carried out for 18 weeks. Results showed that FGS feeding levels significantly effect the egg production, egg weight, feed intake, feed conversion ratio, nutrients intake, Ca and P intakes, albumen index, yolk index, yolk color, feed economic value, and income over feed cost. However, treatments had no significant effects on metabolizable energy intake and Haugh Unit. This research indicated that 10% FGS feeding in ration containing 20% FM resulted in the best laying performance and economic value of Alabio duck farming. Utilizing the golden snail as a protein source in the diet could improve the production and profit of laying duck farming while environmentally managing the golden snail invasion on paddy fields.

Keywords: Alabio ducks, golden snail, laying duck, egg production, egg quality.

鲜金螺饲喂阿拉比奥鸭对产蛋量及品质的影响

摘要：阿拉比奥鸭（鸭嘴兽婆罗洲）是來自印度尼西亞南加里曼丹的當地鴨品種。高飼料成本是鴨生產的主要製約因素，因此已經進行了許多努力以尋找更便宜的飼料，尤其是蛋白質來源。金蝸牛（桃花心木）在南加里曼丹的濕地地區大量存在，對水稻造成損害。本研究旨在確定用新鮮金蝸牛（FGS）代替魚粉（调频）對阿拉比奧鴨的產量和蛋品質的影響。使用 FGS 代替调频尚未普遍應用；因此，本研究將為阿拉比奧鴨的最佳飼餵量提供替代建議。有五種處理飲食，即 0% FGS + 30%调频； 10%FGS + 20% 調頻； 20%FGS + 10% 調頻；30%FGS + 0% 調頻；和商業飼料（0% FGS + 0%调频）。每個處理有四次重複，每個實驗單元有八隻鴨子。實驗進行了 18 週。結果表明，飼餵 FGS 水平對產蛋量、蛋重、採食量、飼料轉化率、營養素攝入量、鈣和磷的攝入量、白蛋白指數、蛋黃指數、蛋黃顏色、飼料經濟價值和收入超過飼料成本有顯著影響。然而，治療對代謝能攝入和哈夫單位沒有顯著影響。該研究表明，在含有 20%调频的日糧中飼餵 10% FGS 導致阿拉比奧鴨養殖的最佳產蛋性能

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