



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**HANAA ALY**



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التوثيق الإلكتروني والميكروفيلم



# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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التوثيق الإلكتروني والميكروفيلم

# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

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# **NUTRITIONAL STUDIES USING ECONOMICAL FEED FORMULATIONS FOR BROILER CHICKENS**

By

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B.Sc. Agric. Sc. (Poultry Production) Faculty of Agriculture Ain Shams University, 2003

M.Sc. Agri. Sc. (Poultry Nutrition) Faculty of Agriculture Ain Shams University, 2010

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## **ABSTRACT**

**Islam Mohamed El-Sayed Hashish: Nutritional Studies Using Economical Feed Formulations for Broiler Chickens. Unpublished Ph.D. Dissertation, Department of Poultry Production, Faculty of Agriculture, Ain Shams University, 2022.**

In this study, two lab experiments and three farm trials were carried out to investigate the effect of different levels of pellet binder calcium lignosulphonate (CLS) on growth performance, carcass characteristics, and feed mill production parameters. Five hundred and forty Arbor Acers chicks, one day old were used in three farms experiments up to 33 days of age. The chicks were allocated randomly into 54 pens (10 chicks/pen).

**Experimental treatments (1)** were distributed over six groups during starter phase feeds in two diameters (1.5 or 2.5 mm) while CLS was added (2,4, or 8 kg/ton). While grower and finisher were formulated to contain 2 Kg/ton CLS and pelleted 2.5 mm and 3.5 mm, respectively. Showed Initial (LBW) results revealed a significant ( $P<0.05$ ) increment for birds fed 2.5 mm starter diets. While grower or finisher phase, all groups were similar. While (DWG) results revealed a significant ( $P<0.05$ ) increment for birds fed 2.5 mm starter diets. While grower or finisher phase, all groups were similar. On other hand, (DFC) results revealed a significant ( $P<0.05$ ) increase for birds fed 2.5 mm diets. While overall period was significantly ( $P>0.05$ ) similar. Conversely, a significant ( $P<0.05$ ) decrease in (FCR) for birds fed 2.5 mm starter diets. While grower or finisher phase, significantly ( $P>0.05$ ) similar. Also, no significant changes in carcass characteristics while results revealed a significant ( $P\leq 0.01$ ) increase of heart for birds fed 2.5 mm diets during the trial.

**Experimental treatments (2)** were distributed over six groups during grower phase feeds in two diameters (2.5 or 3.5 mm) while CLS was added (2,4 or 8 kg/ton). While, starter and finisher were formulated to contain 2 Kg/ton CLS and pelleted 1.5 mm and 3.5 mm, respectively. Showed, LBW, DWG, DFC, and FCR values have no significant

( $P>0.05$ ) differences among all tested groups. While results revealed a significant ( $P\leq 0.01$ ) increase of dressed carcass and liver for birds fed a diet containing 2 kg/ton during the trial. While, no significant changes in the gizzard, total body fats, and heart. But there was a significant ( $P\leq 0.01$ ) increase of total edible parts for birds fed using additive binder 2 kg per ton diets during the trial.

**Experimental treatments (3)** were distributed over six groups during finisher phase feeds (3.5 mm-4.5 mm) while CLS was added (2,4 or 8 kg/ton).while starter or grower was formulated to contain 2 Kg/ton CLS and pelleted 1.5 mm and 2.5 mm, respectively. Showed, Data LBW, DWG, and FCR showed no significant ( $P>0.05$ ) differences among all tested groups. While results revealed a significant ( $P<0.05$ ) increase of DFC for birds fed 3.5 mm finisher diets.on other hand, results revealed a significant ( $P\leq 0.01$ ) increase of liver for birds fed 4.5 mm finisher diets during the trial. While values of carcass traits indicated that all birds were significantly ( $P>0.05$ ) similar.

Data of the lab experiments that were designed to measure production parameters by adding CLS (0,2,4 or 8 kg/ton) measured parameters as follows: Decrease of fine return by addition of CLS (2,4 or 8 kg/ton) in 3 mm - 2mm addition from (23% to 3%) and (20% to 2%) respectively. On the other hand, noticeable improvement of (PDI) by increasing the addition of CLS to the pelleted feed from 3 mm- 2mm (74.5% to 93%) and (78% to 95%) respectively. While decrease of electric power consumption is required for processing by addition of CLS to feed on 3mm- 2mm feed trail (14.57to 10.84 kW/hr/ton) and (15.94 to 12.07 kW/hr/ton) respectively.

It could be concluded from obtained results under the condition of this study that CLS could be added to broiler diets effectively with no negative impact on growth performance parameters, carcass traits, with remarkable improvement of fine returns, pellet durability, and electric power consumption.

**Keywords:** Broiler, Calcium Lignosulphonate, Performance, Carcass, Pellet and Fine Returns.

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