

THE EFFECT OF ADDING UNDECORTICATED COTTONSEED CAKE IN POULTRY RATION ON THE COLOUR OF EGG YOLK

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INTRODUCTION

This experiment was carried out to study the effect of adding undecorticated cottonseed cake in the rations of laying hens on the colour of the egg contents.

Two hundred and twenty four eggs, from the production of 100 R.I.R. fowls were tested. The fowls were divided into 4 group 3 having rations of different contents of undecorticated cottonseed cake.

EXPERIMENTAL AND METHODS

Methods of conducting the experiment

For each group, the collection period of eggs continued for 7 days. In each day 8 eggs were chosen at random from the daily yield of each group. Four eggs were kept in a refrigerator in a carton box at a temperature of 4°C, the other four were kept in a similar box at room temperature. The eggs were tested for any observed change in colour or appearance of any sign of black spotting. This was repeated every two days at different ages of storage starting from two days up to 28 days from laying. Four eggs were tested at a time from each group, two from cold stored eggs and the other two from those kept at room temperature.

Rations given to the birds

Table (1) shows the ingredient of the four rations A, B, C and D. Ration A did not contain undecorticated cotton seed cake, while rations B, C and D contained 10, 20 and 30% undecorticated cotton seed cake respectively. The birds were fed for 8 days preliminary period before collecting eggs. The rations were suitable for egg production in laying birds. Green fodder was added equal in weight to the daily mash offered to birds.

RESULTS AND DISCUSSION

Comparison of the nature and colour of fresh egg contents produced from the control group of birds, receiving no undecorticated cotton seed cake in their ration, with those fresh eggs produced from the other three tested groups receiving up to 30% undecorticated cotton seed revealed the fact that there is no difference in colour or any observed signs of olivic spots in the yolk. There is no difference as well between the yolk of eggs among the four groups of which eggs are stored at room temperature or among those stored in the refrigerator at all ages of storage used in the experiment, *i.e.*, up to 28 days old. At the same age of storage there is no observed difference between the eggs stored at room temperature and those stored in the refrigerator, the colour is practically the same.

TABLE 1.—The formula of the experimental rations by adding different amounts of undecorticated cotton seed cake

Ingredient	Ration A	Ration B	Ration C	Ration D
Corn (Maize)	% 20	% 17.5	% 15	% 12.5
Barley	20	17.5	15	12.5
Wheat bran	15	15	15	15
Rice bran	15	15	15	15
Horse beans.	30	25	20	15
Undecorticated cottonseed cake	—	10	20	30
TOTAL	100	100	100	100
Meat meal added to 100 parts of the ration	3	3	3	3
Lime added to 100 parts of the ration	1.5	1.5	1.5	1.5
Salt added to 100 parts of the ration	0.5	0.5	0.5	0.5
% digestible protein in the whole mixture	15.2	15.3	15.3	15.4
Starch equivalent in the whole mixture	76.0	71.7	69.1	66.0

It is not possible to differentiate between the yolk of the eggs among the four groups qualitatively by the naked eye, and therefore it appears that for commercial purposes, production of eggs can be achieved using such rations having an increasing amounts of undecorticated cotton seed cake up to 30%. There will be no complain for the consumer from any observed change in the colour of the yolk or any production of olivic spots when using rations properly balanced along with necessary green materials.

The results here are not consistent with Baily's belief that feeding layers with cotton seed cake produced eggs with olivic yolk. Perhaps this may happen under other feeding conditions, but if the ration is properly balanced as used here, such changes in colour may not occur.

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تأثير اضافة كسب بذرة القطن على لون صفار البيض

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الملخص

أضيف كسب القطن غير المشور حتى وصلت نسبته ٣٠٪ من العليقة المعطاة للدجاج البياض . ثم خزن البيض لمدة ٢٨ يوماً . . بعضه في السلاجة على درجة ٤م والبيض الآخر في الجو العادي . وقد وجد أن ليس له أى تأثير على لون محتويات البيض الداخلى وخاصة الصفار ما دامت المادة الخضراء تقدم مع العليقة . ولهذا فمن الوجهة الاقتصادية يمكن أن يضاف كسب القطن غير المشور لانتاج البيض بنسبة ٣٠٪ دون أى تأثير على لون محتويات البيضة الداخلى .