

Full Length Research Paper

An assessment of leguminous plants (*Centrosema pubescens*) as feed additive for growth stimulation on broilers

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The study was carried out in the Poultry session of the Rivers State University of Education, Ndele Campus Demonstration Farm. Seventeen (17) day old chicks, which has been previously broided for three weeks were used for the study. The birds were divided into four groups and fed three times daily under the following treatments – Leaf + feed + Soya bean cake, leaf + water + feed, chaf + soya bean cake + feed and control + feed + water. The birds were tested on weight gain and growth rate. Data were collected and analyzed using Anovva. Result shows that *Centrosema pubensecs* leaves enhances growth rate, weight gain and feed utilization, thereby reducing long period of intake for broilers to mature.

Key words: *Centrosema pubensces*, growth stimulation, birds and production.

INTRODUCTION

In the world today, the poultry industry is bedeviled with losses, with profit margin reduced by high cost of feed and other exigencies. Most poultry farmers spend about 80% of their capital on buying of feeds. One way it has become expedient to reduce the huge amount of money spent on feed is the addiction of leaves that will act as feed additive, which invariably reduces cost.

It has been noted (Oruseibo, 2000) that while intensive system of poultry management prevents birds from being infected, it denies them of free access to fresh green leaves whose contributions as a feed addictive would enhance their productivity and growth. Succulent leguminous plants abound around homesteads and villages, believe to contain reasonable levels of certain valuable nutrients and this resources appear not to have been properly investigated and applied in poultry feeding. The use of such locally abundant green feeds as supplements of poor quality feeds could improve the performance of

poultry. A good knowledge of the nutritional value of such plants in poultry nutrition would be valuable since they grow relatively easy with relatively simple agronomic practices that does not require much labour and cost hence this study.

Centrosema pubensce leaves, with nutrient content of: dry matter 23.3%, crude fibre 30.8%, crude extract 3.9%, crude protein 21% and total digestible nutrient 4.9% are commonly found in the tropics. Being a leguminous plant, it can be used as livestock feed addictive. The abundance of these succulent leguminous plants around homestead and villages that contain reasonable levels of certain valuable nutrients appears not to have been fully explored. It is believed that the use of such locally abundant green leaves as feed supplements without doubt can improve the performance of poultry birds through enhanced growth.

A good knowledge of the nutritional value of such leaves that grows relatively easy will help farmers to accomplish this goal. The objective of this experiment is therefore to evaluate the effects of *Centrosema pubensce* leaves and its extract as a supplementary feed on the performance of broilers.

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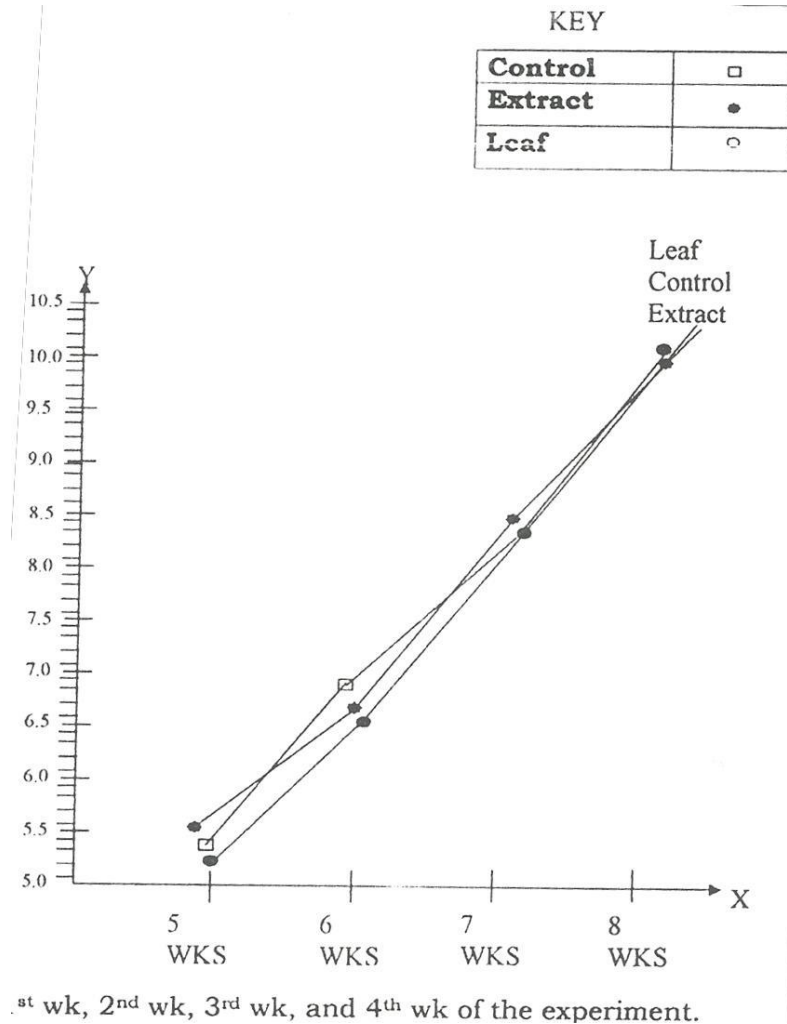


Figure 1. The gradual increase in weight per week.

MATERIAL AND METHODS

The experiment was carried out at the poultry section of the Rivers State University of Education, Demonstration Farm, Port Harcourt. The Day old chicks numbering about 20 were purchased from sheddy farms Rumuokoro, Port Harcourt. The birds were broided for three weeks and breed together for five weeks before being sent to the experimental unit. At the experimental unit, seventeen birds were used, the birds were divided into four groups and the chicks fed three times daily while sanitary conditions were kept properly.

The following treatments were given to the birds:

1. Leaf + Feed + Soya bean cake
2. Leaf + Water + Feed
3. Chaff + Soya bean cake feed
4. Control + Feed + Water

50% of Centrosema leaves were weighted and given

once a day from the 5th to the 8th week, while for those to be given extract, the leaves were washed and little water poured into a small basin and the fluid in the leaves was squeezed out and mixed with the drinking water.

Measurement and data collection

The birds were individually weighted weekly for weight gain with a weighting balance. Observations of the physical appearance of the different groups were made to ascertain which of the four groups will mature first. The life weight of each bird from the four groups were taken randomly and recorded.

RESULTS AND DISCUSSION

The result in Figure 1 summarize the average weekly weight gained and growth rate and shows that the average weekly weight gained of the experimental birds was higher than those in extract and control groups

(Appendix 1: week 2, 3, 4). The result further indicated that the leaf group has a faster growth rate than the control and extract groups. This implies that the leaf group is consistent in growth than the other treatments (Appendix II). The aforementioned results imply that fresh leaves are succulent and that grass stimulates appetite in birds which invariably increase consumption of feed (Oluyemi and Roberts, 1988). It has been observed that green leaves increases the volume of the crop, thus reducing the value of the gizzard and crop motility (Shurloc and Forbes, 1981).

The slight differences (Figure 1) observed in growth rate and weight gained among birds raised with centrosema leaf, extract and the control is a much more indication that all the three groups reached their point of maturity at slightly different times between experimental groups and control group, owing to variables in nutrient status of the treatment and their inference in growth stimulation. In addition, it could be stated that the birds in the leaf group consumed more mash than the extract and the control, hence the resultant increase in weight gained (Feltwell and Fox, 1978). This higher mash intake could be due to the green feed supplementation. Further deduction from the results show that the birds fed with *Centrosema pubescens* leaf, (gained) and extract has a higher feed conversion in efficiency than the control group. This might be as a result of the minerals and trace food nutrients derived from the leaf (Card and Nesheim, 1975).

The result from this study is a clear indication that leguminous plants (*Centruscine pubesciens*) can be used as feed additive to stimulate growth in Broilers.

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APPENDIX**Appendix 1.** Showing the weekly group weight of birds.

Weeks	One			Two			Three			Four		
Groups	1	2	3	1	2	3	1	2	3	1	2	3
Total weight	5.1	5.4	5.3	6.7	6.8	7.2	8.3	8.5	8.35	10.1	10.0	10.0

Appendix 2. Showing the gradual increase in weight of birds (for graph plotting).

Groups-weeks	Total weight per week
Y	X
A-1	5.1
A-2	6.7
A-3	8.3
A-4	10.1
B-1	5.4
B-2	6.8
B-3	8.5
B-4	10.0
C-1	5.3
C-2	7.2
C-3	8.3
C-4	10.0

Appendix 3. Statistical table used for the experiment.

Treatment	Replication								Treatment total	Mean
A- Centrocema	5.1	5.2	6.7	7.2	8.3	10.1	10.0			
Leave	1.3	1.3	1.7	1.8	2.1	2.1	2.5	2.5	15.3	1.9
B- Centrocema	5.4	5.2	6.8	7.1	8.5	10.0	10.1			
Extract	1.4	1.3	1.7	1.8	2.1	2.1	2.5	2.5	15.4	1.9
C- Control	4.2		6.9		8.3		10.1			
	1.1		1.7		2.1		2.5		7.4	1.8
Total	3.8	2.6	5.1	2.2	6.3	4.2	7.5	5.0	38.1	5.6