

## Effect of Neem (*Azadirachta Indica*) leaf powder supplementation on growth in broilers

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### Abstract

A experiment was conducted on 120 day old broiler chicks divided into four groups, T0, T1, T2 and T3 which were supplemented with neem leaf powder @ 0gm, 1gm, 2gm and 3gm/kg of broiler ration, respectively. Weekly observations were recorded for live body weight, weekly gain in weight, weekly feed consumption and feed efficiency of birds for six weeks. All the treatment groups T1 (813.03), T2 (855.07) and T3 (834.21) recorded significantly ( $P<0.01$ ) higher means for live body weight than that of control T0 (768.69) group. All the treatment groups showed non-significant increase in weekly gain in weight, feed consumption and feed efficiency as compared to that of control group.

**Keywords:** Neem, Supplementation, Growth, Broiler, Physiology, Medicine, Antibacterial, Ancient.

### Introduction

Many synthetic drugs and growth promoters are supplemented to the broilers to effect rapid growth, but their use have shown many disadvantages like high cost, adverse side effect on health of birds and long residual properties etc.

So, scientists are again concentrating on the use of our ancient medicinal system to find beneficial herbs and plants, which can be safely used to increase the production. One of such plants, Neem (*Azadirachta indica*) is an indigenous plant of Asian subcontinent known for its useful medicinal properties since ancient times. Neem has attracted world wide prominence due to its vast range of medicinal properties like antibacterial, antiviral, antifungal, antiprotozoal, hepatoprotective and various other properties without showing any adverse affects (Kale *et.al.*, 2003). Also, neem promotes growth and feed efficiency of birds because of its antibacterial and hepatoprotective properties (Padalwar, 1994).

This study aimed at evaluating growth performance of broilers supplemented with neem leaf powder.

### Materials and Methods

A total, 120 Vencobb commercial broilers were equally divided into four groups T0, T1, T2 and T3 which

were supplemented with neem leaf powder @ 0 gm, 1 gm, 2 gm and 3 gm/kg of broiler ration.

The chicks were reared on deep litter system under standard managerial practice though out the experimental period. Broiler starter mash was given upto two weeks and finisher ration was fed adlibitum from third to sixth weeks to both control and treatment groups. Live body weights, weekly weight gain, feed consumption and feed efficiency was recorded for each group during six weeks of experimental period. The collected data was statically analyzed as per procedure given by Snedecor and Cochran (1967).

### Results and Discussion

The observations for live body weight (gm) means of T0, T1, T2 and T3 groups for six weeks of the experimental period were 768.69, 813.03, 855.07 and 834.21 gm respectively. It is observed from the results in Table 1, that supplementation of neem leaf powder (NLP) in T1, T2 and T3 groups of broilers effected significant ( $P<0.01$ ) increase in mean live body weights as compared to control (T0) group. Similarly, Manwar *et.al.* (2005) supplemented neem leaf powder @ 1-2 gm/kg feed and reported significant increase in the live body weight of broilers in the neem fed groups when compared with control group.

It is observed From Table1. that, the means of

Table-1. Results of growth parameters of broilers.

Sr.no	Parameters	T0	T1	T2	T3
1.	Live Body Weight	768.69±248.24	813.03±266.94**	855.07±274.60**	834.21±270.93**
2.	Weekly gain in Weight	289.24±49.05	307.33±57.37	322.87±55.76	313.24±53.73
3.	Feed Consumption	622.04±140.83	626.00±141.17	632.36±138.34	625.35±136.85
4.	Feed Efficiency	0.502±0.039	0.527±0.042	0.551±0.044	0.541±0.041

\*\*=P&lt;0.01 \*=P&lt;0.05

weekly gain in weight (gm) for T0, T1, T2 and T3 groups were 289.245, 307.338, 322.871 and 313.243 respectively. All the treatment groups of broilers showed numerically higher body weight gain as compared to control (T0) group.

The weekly feed consumption (gm) means for T0, T1, T2 and T3 groups of broilers were 622.35, 626.00, 632.36 and 625.35 gm respectively (Table1). Supplementation of NLP caused non-significant increase in mean feed consumption in all the treatment groups, as compared to control (T0) group. Also, Upadhyay *et.al.* (1992) reported non-significant increase in feed consumption in the neem fed groups. It is observed from Table 1. that, supplementation of neem leaf powder (NLP) in the treatment groups T1 (0.527) T2 (0.551) and T3 (0.541) caused improvement in the feed efficiency as compared to that of T0 (0.502) group. Similarly, Nemade *et.al.* (1993) reported increase in feed efficiency in neem fed groups, which is in agreement with the findings of the present study. Birds supplemented with neem leaf powder had higher body weight, weekly gain in weight, feed consumption and feed efficiency. These results may be due to anti-microbial and anti-protozoal properties (Kale *et.al.*, 2003) of neem leaves, which help to reduce the microbial load of birds and improved the feed

consumption and feed efficiency of the birds.

It is concluded that supplementation 1-3 gm of neem leaf powder/kg broiler ration of treatment groups caused significant increase in live body weight and improvement in weekly gain in weight and feed efficiency as compared to that of control group of broilers.

#### Acknowledgement

The authors are thankful to Principal, Nagpur Veterinary College, Nagpur for providing all the necessary facilities for conducting the experiment.

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