

PERMANENT REFERENCE

**SOME ASPECTS OF LEAF FEEDING BEHAVIOUR IN
DOMESTIC CHICKS (*Gallus gallus domesticus*)**

BY

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ABSTRACT

In jungle fowls which are the ancestor of domestic fowls, leaf has a considerable composition in their diet. In natural condition chicks will also have an enriched environment. In caged condition one such factor; fresh green leaves were provided *ad libitum* to day old chicks to find out such type of enrichment may affect the behaviour in domestic chicks.

There were three groups in this study. Leaves were supplied *ad libitum* and in two forms chopped and suspended to the experimental groups. The ontogeny of behaviours during the first two weeks were studied daily. Then the behavioural observations were carried out at weekly intervals to find out whether the influence of green leaves may affect stereotyped behaviour like feather pecking in caged condition. If chick feed on its enriched environment which is closer to natural condition it significantly reduce stereotyped behaviour like feather pecking.

The onset of perching and ground scratching started on day 6 and day 3 respectively in all three groups. This is similar to the established studies, suggesting that housing system did not have any influence in the ontogeny of perching and ground scratching even in the absence of mother hen. However ground scratching increased on day 10, 11, 12 and thereafter it decreased with age unlike the field data. This difference in ground scratching behaviour between the field and caged conditions needs further investigation. Dust bathing started on day 8 or 9 and reached a peak value at week 2 and decreased thereafter with age. Preening was observed from day 1 onwards and increased gradually in all three groups. Object pecking also started on day 1 and reached a peak at day 8 and 9 in the control group indicating stereotyped behaviour in the absence of green leaves. However object pecking decreased with chicks' maturity.

Pecks at grains started on day 1 and remained at low levels among the three groups up to day 7 and increased suddenly on day 8 in the control group. A gradual increase was noted in the experimental groups. Pecking at leaves started from day 1 in the chopped leaf (CL) group and started late on day 5 in suspended leaf (SL) group. Pecks at chopped leaves were higher than the suspended leaves. This may due to its smaller size. Therefore the efficiency of leaf feeding may be enhanced by the nature form of leaves during the early period of their life.

Unlike a semi natural condition sparring started on week 3 and increased gradually with age and was high for the control group. It sometimes causes pecking of other chicks.

Behavioural data at weekly intervals showed that fresh green leaves reduces some stereotyped behaviour. Feather eating observed at the end of week 5 and terminated at week 9. It was only observed in the control group. Feather pecking started at week 8 and increased gradually in all three groups but it was high for the control group. Feather pecking did not cause any severe damage or cannibalism during the period of 17 weeks.

In addition there was a correlation between feather pecking and object pecking, in that feather pecking started when object pecking declined or terminated at the end of 7th week or at the early period of 8th week. However, there is a clear evidence that higher amount of stereotyped behaviours like feather pecking in the control group is due to the absence of environmental enrichment in the form of green leaves.

On the other hand leaf feeding reduced grain intake in experimental groups. However there is no difference in weight gain of chicks. If a choice is given chicks do feed on green leaves constituting an average of $16.383 \pm 0.437\%$ of total feed intake. Therefore, we can reduce the feed cost by providing restricted amount of grains and additional leaves to a small scale of poultry farm in an area like Batticaloa. Water intake was 19.108% less than control. In addition leaf feeding significantly affects the pigmentation of shank colour i.e. yellow.

Therefore, the supply of environmental enrichment in the form of green leaves play an important role in poultry welfare by reducing stereotyped behaviours like feather pecking.

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