

# Effect of light intensity on health status of broiler chicks of selected poultry farms in Aurangabad district, (MS) India

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## ABSTRACT

The present paper deals with the effect of light intensity on health status of broiler chicks. The study was conducted to analyze the effect of light intensity on health status of broiler chicks. The work is carried out from the three different poultry farms ranges from small to large size poultry farms situated in Aurangabad district during the period July 2016 to December 2016. During the study period it was recorded that major health status problems of broiler chicks faced by the farmers of small poultry farm followed by medium and large poultry farms. It also showed that the major health status problems of broiler chicks faced by the farmers those are insufficient management practices. It is concluded that the health status problems of broiler chicks occurred due to light intensity and its management by the farmers in the study area is improper, due to lack of knowledge about the issues and use of light in various intensities during the rearing of broiler chicks. Additional research work is required to manage the health status of broiler chicks with proper lightening in the poultry farms. Other related aspects will discuss in the text.

**Keywords:** Light intensity, Health status, broiler Chicks, Poultry farms, Aurangabad .

## INTRODUCTION

Poultry farming provides employment at the village level, it is highly labour intensive having high employment potential, the industry help to increase the per capita income and also to minimize the need for migration to overcrowded cities. Small-scale poultry farmers are the main producers of the poultry in many developing countries. It provides protein rich food for deadly growing poor population. The poultry farming can provide an alternate to the farmers in the region reeling under repeated drought spell.

Light is a tiny portion of the total electromagnetic spectrum, which includes radio waves, microwaves, x-rays and gamma rays. Light exhibits characteristics of both an electromagnetic wave and a particle. However light in the environment is usually made up of a mixture of wavelength, which complicates the calculation of the energy emitted by a light source. The light environment can be classified in three ways, wavelength, intensity and duration, [1]. Light is an important source for broiler chicks during the rearing process. It is very important for various body activities of the broiler chicks. Light is one of the powerful factors for controlling various body processes. It influences the growth and development of the broiler chicks. Light is an environmental factor it consist of three different aspects like intensity, duration and wavelength. Light intensity, color and photoperiodic regime can affect the physical activity of broiler chickens [2].

Lightning sources normally used in poultry farming as a result broiler chicks shows normal everyday processes during the rearing in the poultry farming. It includes feed consumption, behavior, body weight etc. Light intensity and their interaction affect the health of broiler chicks. To increase the productivity and to establish proper health status of broiler chicks are the major and important concern of poultry farming. Therefore, the present research work was conducted to analyze the effect of light intensity on the health status of broiler

chicks in the poultry farming in Aurangabad district of Marathwada region.

## METHODOLOGY

To study the effect of light intensity on health status of broiler chicks from three different selected poultry farms. For collecting the information the survey methods including questionnaire was used in these three different poultry farms is conducted in district Aurangabad from Marathwada region. The poultry farms in district Aurangabad were selected and categorized as small, medium and large poultry farms depending on the bird rearing capacity. The three poultry farms were randomly selected as sample for this study. To collect the relevant information, a semi-structured questionnaire was prepared. The information of lightening pattern in poultry farming and its effect on health status of broiler chicks is collected from all the farms through personal interview during the visit in the annual cycle (July 2016 to December 2016) and by observing the management at the farm sites during the study period at different intervals. Information was obtained about lightening pattern and intensity of light, to evaluate the knowledge level about use of light of various intensities. The detailed studies were undertaken with a view to find out the light intensity and effect on health status on broiler chicks and awareness among the poultry farmers.

## RESULTS AND DISCUSSIONS

Three different categories of poultry farms according to the rearing capacity of birds were selected in this study area. Those were small, medium and large poultry farms. In this study the farmers were involved from small poultry, in medium poultry and in large poultry farming. The broiler chick of small poultry farming shows that they faced major health status problems, because they are usually reared by the farmers under low managerial practices.

**Table: Information about lightening and health status problems in different poultry farms.**

Lightening used			Management of lightening			Health status problems faced		
Small farm	Medium farm	Large farm	Small farm	Medium farm	Large farm	Small farm	Medium farm	Large farm
<b>Improper lightening used</b>	Partial proper lightening Used	Proper lightening Used	Improper lightening facility	Partial lightening facility	Proper lightening facility	Major problem faced	Partial problem faced	Never faced

The broiler chicks of the small poultry farms show several health problems like poor feed consumption, lower weight, and inactive behavior. In the small poultry farm did not use any proper lightning and thus the broiler chicks grown poorly. For medium and large poultry farms as compare to small farm they prefer proper lightning according to the number of broiler chicks reared in the respective farms. Deep [3] reported that the body weight, feed consumption, feed gain ratio, and mortality were unaffected by light intensity, percentage of live weight decrease linearly with increasing light intensity. The major health status problems of broiler chicks particularly feed consumption and weight gain faced by the farmers of small poultry farm followed by medium and large poultry farms. The lightning pattern type use in the poultry farm is directly related to the number of birds reared in the poultry farms. Olanrewaju, Hammed [4] recorded use of light management is an important component of broiler production it is widely used to improve the production efficiency.

For proper lightening management of the poultry farms requires necessary automated facilities within the poultry farms. This study shows that large poultry farms found the proper necessary facilities of lightening and the medium poultry farms have partial necessary facilities of lightening and small poultry farms had no proper facilities of lightening. According to the report of [5] light plays an important role for vision for release of various hormones which are important for production and reproduction of poultry birds and the performance

of poultry have been assessed for different light intensities suggested by [6].

In this study area large and medium poultry farmers considered that due to the light intensity health conditions of the chicks become change if it was manage with the help of sufficient light intensity. They never faced any health associated problems of broiler chicks. The small poultry farmer's faced some health related problems of broiler chicks due to the improper lighting pattern. Therefore more health associated problems of broiler chicks faced by small poultry farmers followed by medium and large poultry farmers in the form of different health and growth related problems like feed consumption, body weight gain, behavioral changes, etc. Ahmad F [7] reported that the birds kept under proper or lower light intensity showed better production performance and more profit than the birds kept under higher intensity of light.

## CONCLUSION

From the above study and observations, it can be concluded that the improper lightening conditions found in the small poultry farm due to that broiler chicks of this farm have faced health status problems as compare to the medium and large poultry farms. For that to implement the awareness among the farmers about the lightening patterns and issues occurred in the poultry farms is one of the most important part of management system of poultry farming. Therefore it is

necessary to manage the lightening patterns and to reduce the health status problems in poultry farming and further detail studies need to design for improvement of lightening patterns in the poultry farming in the study area. It also helpful to improve the lightening patterns in the poultry farming as well as health status of broiler chicks.

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