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LIGHTING SYSTEMS IN THE FIELDS OF LAYING HENS (THEIR IMPORTANCE AND IMPACT ON THE PRODUCTION AND IMMUNOLOGICAL) PERFORMANCE OF LAYING HENS

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Article history:		Abstract:
Received:	08 th December 2023	This comprehensive review explores the effects of different lighting systems and the performance of laying hens. It delves into their physiological, behavioral, and immunological responses. Acknowledging the pivotal role of light in poultry production, the article delves into its effects on ovary growth and follicle development, consequently, egg production. Optimal lighting conditions are discussed as a crucial factor in maximizing poultry productivity. The article emphasizes the importance of understanding the interplay of lighting duration, intensity, and spectrum, and elucidating how birds' unique visual apparatus perceives different wavelengths.
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INTRODUCTION

Light significantly influences avian reproduction, enhancing the activity and effectiveness of the reproductive system (England and Ruhnke, 2006). According to England and Ruhnke (2006), ovary growth and follicle development are crucial for egg production in poultry. The longer the lighting, the more primary yellow oocytes there are (Renema et al., 2001). This shows how important light is for controlling reproductive responses of these factors to distinct lighting schemes and photoperiods remain a significant factor. Light is pivotal in chicken production and management, directly influencing growth and productivity (Lien et al., 2010). Recognizing this, lighting programs are meticulously designed to meet the specific production standards (Lien et al., 2008). The acknowledgment of light as a central environmental factor and its profound impact on avian reproductive processes, thereby guiding strategies for optimal lighting. The interplay between light duration, intensity, and spectrum is a complex yet crucial factor in determining the outcomes in poultry egg laying. The influence of light on the bird is produced primarily through the duration of illumination (photoperiod, wavelength) and intensity (Soliman and El-Sab