

Pre-lay Feeding Strategy at Sexual Maturity in Commercial Layer Pullets*

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All pullets, mostly white egg strain are expected to be brought up to a mature pullet weight of 1250-1350g before commencing with layer rearing and lighting programs regardless of age. A pullet (pre-layer) will increase body weight by about 200-300 g quite dramatically approximately two to three weeks before egg mass production commences. The development of the ovary and oviduct, an increase in liver size and important period in the life of a successful layer. During this transition time the pre-layers other major physiological changes take place during this stage. This is an extremely needs hike in their nutrient requirement as she approaches a mature pullet weight. High nutrient dense feed becomes essential during this period of rapid physiological development. The requirement for calcium increases during this transition period to lay down reserves in the medullary bone that needs for production cycle. Pre-lay diets are often used to try and manipulate body size. Hence, the present work was conducted to study the effect of pre-lay feeding strategy during transition period (15 weeks to sexual maturity) on pullet performance at sexual maturity under humid tropical condition attempting to review Bureau of Indian Standards, (2007).

Materials and Methods

Three hundred straight run Bovans' commercial layer chicks belonging to the same hatch were raised in conventional floor pens up to 13 weeks. Pullets were vaccinated against Newcastle and infectious bursal disease. At 13 weeks of age, pullets were transferred from the floor pens to cages with four birds per cage (309.6 cm²)

and acclimated to the cage for one week prior to receiving the experimental pre-lay rations. At the age of five per cent egg production to 43 weeks of age, each pullet was provided with 412cm² of cage space. During the chick stage (0-2 weeks) 23 hours light with 20 lux intensity and one hour darkness was provided. After the brooding period, the birds were reared under natural day light that extended to 11 hours with 10 lux intensity.

All birds were fed ad libitum feed as per BIS (2007) recommendation from 0 to 14 weeks of age. The birds were provided with 20 per cent CP and 2800 kcal ME/kg chick ration for the first 8 weeks and fed a 16 per cent CP and 2500 kcal ME/kg grower ration from 9 to 14 weeks of age. At 15th week of age, pre-layer pullets were randomly allotted to seven treatments in layer cages comprising of T1 (BIS control); T2 (Control + 1.5% Ca): Dietary treatment with crude protein of 16 per cent, metabolizable energy of 2500 kcal/kg and calcium of 1.5 per cent; T3 (Control + 2% Ca): Dietary treatment with crude protein of 16 per cent, metabolizable energy of 2500 kcal/kg and calcium of 2 per cent; T4 (High energy + 1.5% Ca): Dietary treatment with crude protein of 16 per cent, metabolizable energy of 2700 kcal/kg and calcium of 1.5 per cent; T5 (High energy + 2% Ca): Dietary treatment with crude protein of 16 per cent, metabolizable energy of 2700 kcal/kg and calcium of 2 per cent; T6 (High dense diet + 1.5% Ca): Dietary treatment with crude protein of 18 per cent, metabolizable energy of 2700 kcal/kg and calcium of 1.5 per cent; T7 (High dense diet + 2% Ca): Dietary treatment with crude protein of 18 per cent, metabolizable energy of 2700 kcal/kg and calcium of 2 per cent; Each treatment comprised of 36 birds with six replicates of six birds each. The pre-lay pullets

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