Effect of fasting period and feed form on post molt performance and egg quality in laying hens.

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Abstract:

One hundred and eighty, 60 weeks old, Hi-sex Brown laying hens were randomly classified into three equal experimental groups. Each of them included twelve replicates, of 5 hens each. Birds in all replicates were kept individually in wire cages under controlled conditions in a closed laying house. Experimental hens in groups 1, 2 and 3 were fasted all 24 hrs for 8, 10 and 12 days, respectively. All hens were receiving water ad libitum. At the end of fastening, birds in each group were divided into two equal subgroups. Birds in the first three subgroups were fed on mash diets, while those of the second three subgroups fed pelleted diets. Body weight loss of fasted hens for 12 d (35.8%) excelled significantly those (30.6 and 27.3%) of fasted hens for 8 and 10 d, respectively. All fasted groups ceased egg production by 5 d of the start of fasting and remained out of production until 19, 21 and 27 days before the onset of laying for 8, 10, 12 days fasted groups, respectively. They reached 50% hen-day post molt egg production by 40, 48, 55 d, respectively. During the experimental period, the mortality rate (MR) of 10 d fasted group (5.1%) decreased significantly than both of 8 and 12 d fasted groups (6.6%). The molted hens by 10 d fasting which fed on either fed on either mash or pelleted diets had lower morality than the other subgroups. The molted hens by fasting 10 or 12 d had significantly better hen day egg production (HDP) and egg mass (EM); significantly more shell and yolk percentages(SP and YP, respectively); and significantly less albumen percentage (AP) than those of the molted hens by 8 d. The molted hens by fasting 10 d had significantly improved feed conversation ratio (FCR) than those of fasted hens by 8 and 12 d. The differences due to fasting periods in egg weight (EW), feed consumption (FC), mortality rate (MR), egg shape index (ESI), Haugh unit (HU) and egg yolk index (EYI) were very limited and insignificant. Feeding on pelleted rations had significantly higher HDP, EW, EM, FC, shell thickness (ST), SP and HU; as well as significantly less FCR as compared with hens fed on mash diets. Feed form did not affect MR, YP, AP, ESI and EYI. All fasted hens on mash diets had significantly decreased FC; increased EW; and improved FCR as compared with those of fasted hens fed pelleted diets. The achieved results could suggest that inducing molt of laying hens by 10 d fasting and feeding on mash diets can achieves better FCR, lower MR, and without adverse effects on the productive performance.

Keywords:

Fasting period, feed form, force molt, laying hens

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