Effect of cooled perches on efficiency of induced molt during hot weather in caged hens

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Introduction:

Induced molt is a management strategy used by the egg industry to extend the life cycle of the laying hen into a second period of lay. Induced molting causes stress which could be even more detrimental to hens when done during hot weather.

Objectives:

The objective of this study was to determine if use of cooled perches by caged hens during an induced molt under heat stress conditions would improve post-molt performance.

Results:

Hy-Line W-36 hens (n = 288) were assigned to of 1 of 3 treatments: cages with perches filled with cooled water (CP), ambient air perches (AP), or no perches (NP). At 85 wk of age, hens were fed a molt diet (71% wheat middling and 23% corn) ad libitum for 4 wk with lighting restricted to 8L:16D. Room temperature was increased to 32 ^{o}C for 12 h (0600 to 1800 h) daily during the 4 wk molt. After molt, hens were fed a regular layer diet and given a 16L:8D photoperiod under normal ambient temperature up to 101 wk of age. Changes in BW were measured weekly on 2 marked birds per cage. Feed utilization was determined for 7 d during wk 1 and 3 of the molt. Number of eggs laid per cage was recorded daily. Five eggs per cage were collected weekly to measure shell quality. Data were subjected to an ANOVA with repeated measures.

The 4 wk BW loss during molt, likely due to regression of the reproductive tract, was 13% (NP), 19% (AP), and 22% (CP) with CP and AP hens different from NP hens (P = 0.02). Egg production during molt was low and did not differ between treatments. The CP hens had higher feed intake during molt (P = 0.02) and better post-molt hen-day production beginning 8 wk into the second cycle (P = 0.0002 for the treatment by age interaction) than AP and NP hens. Shell quality was not affected by treatment. In conclusion, cooled perches ameliorated the stressful effect of an induced molt plus cyclic heating episodes with better feed intake during molt resulting in a more optimum BW loss and improved post-molt egg production.

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