



Effects of dietary supplementation of a combination of Curcuma and Scutellaria plant extracts in laying hens raised in high ambient and humidity conditions at the peak production phase

In collaboration with AGRIVET

Animal logo

Trial context:

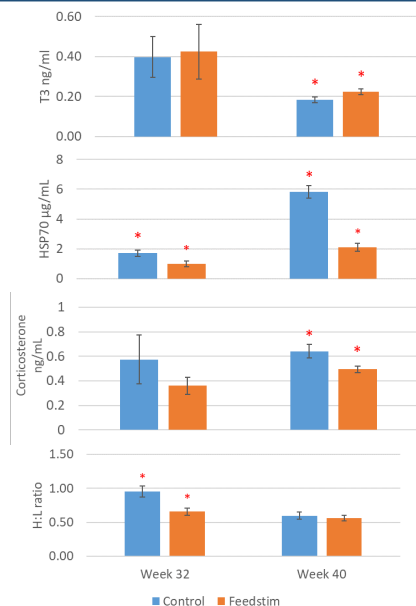
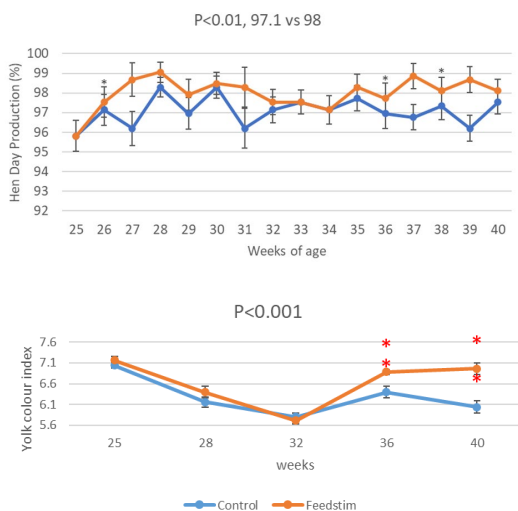
Stressor stimuli, in the form of chronic exposure to high ambient temperatures adversely affect hen productivity and egg quality. Effects are driven by oxidative stress and ensuing inflammation altering metabolism in a tissue specific manner. In the present trial we investigated the effects of dietary supplementation with a phytonutrient solution (Feedstim) consisting of a plant extract combination of Scutellaria baicalensis and Curcuma longa in laying hens raised in subtropical conditions.

PROTOCOL

150, 24-week-old white pullets (BV 300) were allocated in 50 cages and offered a diet either containing 2 g/kg of PHYTO or not, for 16 weeks. Hens were weighed at the start and at the end of the trial and weekly hen day production (HDP), ADFI and egg weight (EW) were calculated. Egg quality traits were measured in 4 eggs per replicate cage at 4-week intervals. In addition, one hen per cage was randomly selected at the beginning of the trial for blood sampling at weeks 8 and 16 to assess serum biomarkers indicative of hormonal milieu and metabolic status (corticosterone and tri-iodine; **T3**), resistance to stressors (Heterophil/Lymphocyte ratio; **H/L**) and heat stress susceptibility (heat shock protein 70-**HSP70**).

MAIN RESULTS

- Improved performance
 - Increased hen day production (HDP)
 - Improved egg quality (yolk colour)
- Improved Hen Thermotolerance
 - Improved metabolic status (triiodine)
 - Reduced heat shock response (HSP70)
 - Reduced stress response (Corticosterone)
 - Reduced inflammatory status (H:L ratio)



Conclusions:

- Offering Feedstim increased HDP with no effects on feed intake or hen BW, therefore improving feed efficiency.
- Improved performance was accompanied by a lower H:L ratio initially, which indicates a lower inflammatory response. At later stages Feedstim increased T3 and reduced Corticosterone which illustrate an improved metabolic rate. The reduced levels of HSP70 clearly show that Feedstim efficiently improves the layer's capacity to tolerate heat.
- Importantly, these effects translated into the production of eggs with improved yolk color.
- Thus, the dietary supplementation with Feedstim could be considered as a natural alternative to help sustain egg production of layers raised in subtropical environments by re-inforcing their thermal tolerance.

www.ccpa.com

Trial code – Pondeuse AXIONFEEDSTIM
Trial Site: AGRIVET

