Research Abstract

METABOLISM AND NUTRITION

The Effect of Enzyme Supplementation on Egg Production Parameters and Omega-3 Fatty Acid Deposition in Laying Hens Fed Flaxseed and Canola Seed

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Purpose :

To evaluate the effect of feeding LinPRO to laying hens to produce eggs that contain a significant level of Omega-3 fatty acids for the commercial egg market.

Methodology :

- 648 laying hens under semi controlled conditions were randomly assigned six test diets, administered through the production peak (39 to 63 weeks of age)
- Birds were weighed individually at the start and end of the experiment
- Egg production was recorded daily, and eggs were weighed in the middle of each period
- Using a wide number of scientific methods, the following were tested :
    - Egg production
    - Hen Weight and Eggshell quality
    - Digesta Viscosity and Total Tract Fat and NSP Digestibilities
    - Egg Fatty Acid Profile

Results :

Feeding LinPRO at an inclusion rate of 15% in the commercial laying hen diet resulted in an Omega-3 fatty acid content of >350mg per 52g egg.

Conclusion :

High levels of dietary flax adversely affected hen production performance. Inclusion of LinPRO in laying hen diets diminished these effects and, as well, increased the Omega-3 content of eggs to a level greater than the 300mg/52g egg required by CFIA labelling guidelines.