

Effect of omega6 : omega3 fatty acid ratios on semen quality of Malaysian village roosters.

ABSTRACT

This experiment was conducted to study the effects of different dietary oil sources on qualitative and quantitative features of Malaysian village rooster's semen. Forty five Malaysian village roosters (BA Breed) at 30 weeks of age were randomly assigned to 1 of the 3 dietary treatments with 3 oil sources (fish oil, vegetable oil and cooked oil). Semen collected from roosters 2 times a week and analyzed by computer-assisted sperm analyzer (Hamilton Thorne Motility Analyzer; IVOS, Beverly, MA). The viability (live to dead spermatozoa ratio) was measured using eosin-nigrosin smears under light microscope and semen volume was determined by reading the scale on the tube. The results showed that in comparison to either vegetable or cooked oils, the addition of fish oil as a source of omega3 fatty acids to diets, significantly ($P < 0.05$) increased motile spermatozoa and average smoothed path velocity (VAP) but decreased static type of spermatozoa in village rooster's semen ($P < 0.05$). Conversely, the addition of cooked oil decreased motility and VAP of rooster's semen ($P < 0.05$). Dietary treatments with different oil sources had no significant effect on progressive traits such as semen volume, semen concentration and live and dead spermatozoa ($P > 0.05$). It was concluded that the addition of polyunsaturated fatty acids may improve semen quality in hot climates.

Keyword: Village roosters; Oil sources; Semen quality; Motility.