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**Effect of different dietary energy / protein ratio on meat production performance of Golpayegan Native Chickens**

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**Abstract**

The current study was conducted to evaluate the effect of dietary fish oil on ram semen quality and fertility potential. Fifteen Iranian Zandi rams were randomly assigned into three equal groups. The first group was the negative control and received the diet without oil supplement. The second group was the positive control group and received the diet containing palm oil and the last group received the diet containing fish oil. All diets were isocaloric and isonitrogenous. The rams were fed during 70 days and the semen samples were collected every 10-days. In experiment I, the following parameters were evaluated: Semen volume, sperm concentration, motility, membrane integrity and viability. In experiment II, 210 Iranian Zandi ewes received CIDR for 12 days and 400 IU eCG at the time of CIDR removal and assigned into three equal groups and artificially inseminated with semen samples. In result, supplementation of ram diet with fish oil as a source of omega-3 fatty acids improved ram semen volume, sperm concentration, total motility, progressive motility, viability, membrane integrity, pregnancy rate, parturition rate and lambing rate ( $P \leq 0.05$ ). In conclusion, addition of fish oil the ram diet could be an effective strategy to improve ram semen quality for artificial insemination and other goals.

**Keywords:** Artificial insemination, Fish oil, Sperm quality, Zandi rams.