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## Effects of Organic Iron Supplementation on the Performance and Iron Content in the Egg Yolk of Laying Hens

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An experiment was conducted to determine the efficacy of dietary iron-soy proteinate (Fe-SP) and iron-methionine chelate (Fe-Met) on the performance of laying hens and iron content in egg yolk. Eight hundred Hy-Line Brown laying hens of 68wk old were housed in 400 cages of 2 birds each. Two hundred birds (10 cages×10 replicates) were assigned to one of the following four treatments: Control; non supplementation with Fe-SP or Fe-Met, Fe-Met 100; 100ppm iron supplementation with Fe-Met, Fe-SP 100; 100ppm iron supplementation with Fe-SP, Fe-SP 200; 200ppm iron supplementation with Fe-SP. Results of 35d feeding trial showed that there were significant differences in egg production, egg weight, feed conversion ratio and Haugh unit among the treatments. Egg weight and Haugh unit of Fe-SP 200 were significantly higher than the control. Hen-day egg production and feed conversion ratio of Fe-SP 100 and Fe-SP 200 were not significantly different from those of the control. Eggshell color was significantly improved in the Fe supplementation treatments compared to the control. The iron content of egg-yolk was maximized 5wk after feeding supplemental Fe and that of Fe-SP 100 was highest being 16.6% higher than the control. There were no significant differences in iron content of egg-yolk between source and level of iron supplementation. Copper content in the egg-yolk was not significantly affected by treatments but zinc content was significantly increased in iron supplemented treatments at 5<sup>th</sup> week after feeding. In conclusion, Fe content of egg-yolk could be effectively increased by supplementing 100ppm iron as iron-soy proteinate for 5wks. No significant difference was found in Fe content of egg yolk between Fe-SP and Fe-Met.

**Keywords:** [egg shell color](#), [iron content of egg-yolk](#), [iron-methionine chelate](#), [iron-soy](#)

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