

Genetically modified corn and soybean diet on laying performance, egg quality and gene fragments traceability of laying hens ⁽¹⁾

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Abstract

The purpose of this experiment was to investigate the genetically modified (GM) diet on layer hens' health and to evaluate risk of the food safety of eggs. One hundred 10-week-old commercial ISA layers were used as experimental animals and allotted to two groups, the GM group contained GM corn and GM soybean meal, and corn and soybean meal used in non-GM groups were both non-GM. The experiment started when hens were 24 week-old and conducted for 12 weeks. Feed and water were provided *ad libitum*. Feed intake, laying performance and egg quality were recorded. Gut microbiota, modified gene segments of eggs, organs and excreta were investigated. The results showed that hens fed with either GM or non-GM corn and soybean meal diets had normal and similar egg production, egg quality, immune immunoglobulin and gut microbiota. There were no pathological characteristic lesions in the internal organs, no residue of transferred gene events in egg, meat, organ tissues and blood as well. In conclusion, laying hens fed with GM diets for 12 weeks did not affect laying performance, egg quality and health. The modified gene segments could not be traced in eggs, tissues and organs. Eggs and edible organs of layers are recognized safe.

Key words: Genetically modified feed, ISA Layers, Laying performance.

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