بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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MONA MAGHRABY

ENHANCEMENT OF CHICK QUALITY AND ITS PRODUCTIVE PERFORMANCE BY IN-OVO INJECTION WITH FOLIC ACID AND GLUCOSE

By

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B.Sc. Agric. Sci. (Poultry Production), Fac. Agric., Cairo Univ., 2010

M.Sc. Agric. Sci. (Poultry Production), Fac. Agric., Cairo Univ., 2015

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APPROVAL SHEET

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Title of Thesis: Enhancement of chick quality and its productive performance by in-ovo injection with folic acid and glucose
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Department: Animal Production **Branch:** Animal Breeding
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ABSTRACT

The present study was designed to investigate the impact of in-ovo injection of folic acid and glucose on hatching eggs from 55 weeks old broiler breeders. A total number of 900 hatching eggs were collected from Arbor Acres broiler breeders then, eggs were divided into 6 groups including (1) Negative Control (non-injected) (NC), (2) Dry Punch Control (pricked without injecting any solution) (DPC), (3) Positive Control (eggs were injected with 0.5 mL normal saline) (PC), (4) Folic Acid group (eggs were injected with 0.2 mg/ egg folic acid) (FA), (5) Glucose group (eggs were injected with 125 mg/ egg glucose) (Glu) and (6) Folic Acid with Glucose group (eggs were injected with 0.2 mg folic acid with 125 mg/ egg glucose) (FA+ Glu). Each treatment was divided into five replicates of 30 eggs each. Eggs were injected into the albumen under the air sac. After in-ovo injection, the eggs were stored for four days before hatching. After hatching, the chickens were reared in groups according to the treatments. All treatments were divided into ten replications of nine chickens each. In-ovo injection with folic acid decreased the albumen pH significantly to 9.19 after four days of injection, while the negative control was 9.43. Hatching quality was severely affected by all in-ovo injection treatments, but no significant differences were found between the treatment groups with regard to the hatchability of fertile eggs. Injection treatments had no significant effect on the growth rate or the production number in any of the weeks. Injection of folic acid and (FA+Glu) significantly increased chickens' body weight at two and four weeks of age. Also, the dressing percentage when using folic acid and (FA+ Glu) was significantly increased to 72.1% and 72.5%, respectively, compared to the positive control group (68.3%). In ovo injection with folic acid had significantly positive effects on blood biochemical analysis. In conclusion, Folic acid + glucose may act by different mechanisms or may have complementary roles, as additive effects of them were found, and studies on the best time of in-ovo injection with folic acid and glucose, volume of solution, and the site of injection are also still needed.

Key Words: Broilers, Folic Acid, Glucose, Hatchability, In- Ovo injection, Old breeders, Post-hatch.

DEDICATION

I dedicate this work to whom my heartfelt thanks; to my father Dr. Ahmed Abdel-Halim , my mother, my sisters, my husband Dr. Gomaa Said, and my lovely daughter Raghad for all the support they offered throughout my life and my work.

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