

**IMPACT OF SOME MARKER AND MAJOR GENES
ON IMMUNE STATUS AND EGGSHELL
ULTRASTRUCTURE OF CHICKEN**

By

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B.Sc. Agric. Sc. (Poultry Production), Ain Shams University, 2009

A thesis submitted in partial fulfillment

of

the requirements for the degree of

MASTER OF SCIENCE

in

Agricultural Science

(Poultry Breeding)

Poultry Production Department

Faculty of Agriculture

Ain Shams University

2013

Approval Sheet

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Date of examination: 13 / 3 / 2013

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ABSTRACT

Abdelmoniem Mohamed Abdelmoniem: Impact of some Marker and Major Genes on Immune Status and Eggshell Ultrastructure of Chicken. Unpublished M.Sc. Thesis, Department of Poultry Production, Faculty of Agriculture, Ain Shams University, Egypt, 2013.

The effect of naked neck (Na), frizzle (F) and double segregation genes on productive performance, immune response and eggshell ultrastructure of chicken was performed under prevailing conditions.

The presence of naked neck gene in a double state with frizzled gene had significantly increased in body weight at 12 weeks of age, relative weight of dressing and breast muscles weight compared to normal feathering counterparts.

With respect to the immune response, the presence of naked neck (Na) gene in a single state or interacted with frizzle gene significantly increased dermal swelling response to phytohemagglutinin-P (PHA-P) injection compared to nanaff counterparts. The antibody level against SRBCs of NanaFf and Nanaff genotypes was significantly higher than that of nanaff ones.

Concerning mechanical and ultrastructure eggshell, it could be speculated that the eggs produced from birds carrying Na gene in a single manner had owned better thickness and breaking strength compared to other produced from nanaff sibs. The presence of Na gene in a single state significantly increased

relative palisade layer thickness compared to nana genotype. Opposite trend was noticed for relative mammary thickness. Type B bodies, which are rounded and located among mammary caps, were more frequent in eggshell of nanaff genotype resulting in poor eggshell quality.

In conclusion, the naked neck, frizzle and double segregation genes were significantly improved the immune response and eggshell ultrastructure under prevailing environmental conditions.

Key words: Naked neck, Frizzle, Immunity, Eggshell, Ultrastructure

| Numbering | CONTENTS | Page |
|------------------|---|-------------|
| I | LIST OF TABLES..... | IX |
| II | LIST OF FIGURES | XII |
| III | LIST OF ABBREVIATION | XV |
| IV | INTRODUCTION | 1 |
| V | REVIEW OF LETERATURE | 3 |
| 1. | Marker and major genes in poultry..... | 3 |
| 1.1. | Naked neck gene | 4 |
| 1.2. | Frizzle gene | 4 |
| 2. | Effect of (naked neck, frizzle & double segregation genes) on feather structure and distribution | 5 |
| 3. | Thermoregulation and resistance to heat stress by (naked neck, frizzle & double segregation genes)..... | 8 |
| 4. | Effect of major and marker genes on Incubation measurements. | 16 |
| 4.1. | Fertility..... | 16 |
| 4.2. | Hatchability..... | 17 |
| 4.3. | Mortality and Viability..... | 18 |
| 4.4. | Water loss from egg during Incubation..... | 19 |
| 4.5. | Chick yield to Egg weight..... | 20 |
| 5. | Effect of major and marker genes on phenotypic characters | 21 |
| 5.1. | Body weight and body weight gain..... | 21 |
| 5.1.1. | Body weight | 21 |
| 5.1.2. | Body weight gain..... | 26 |

II

| | | |
|-------------------|--|----|
| 5.2. | Feed consumption and feed conversion ratio..... | 28 |
| 5.2.1. | Feed consumption and feed conversion ratio for growing birds. | 28 |
| 5.2.2. | Feed consumption and feed conversion ratio for laying hens. | 31 |
| 5.3. | Carcass composition..... | 32 |
| 5.4. | Abdominal fat..... | 37 |
| 5.5. | Sexual maturity measurements..... | 38 |
| 5.5.1. | Age at sexual maturity | 38 |
| 5.5.2. | Body weight at sexual maturity | 39 |
| 5.5.3. | Body measurements at sexual maturity | 40 |
| 5.5.3.1. | Shank length | 40 |
| 5.5.3.2. | Keel length | 42 |
| 5.5.3.3. | Body depth | 42 |
| 5.5.3.4. | Comb and wattle length | 43 |
| 5.5.4. | Rectal temperature at the first egg laid | 43 |
| 5.6. | Egg production measurements | 44 |
| 5.6.1. | Egg weight | 45 |
| 5.6.2. | Egg number | 47 |
| 5.6.3. | Egg mass | 49 |
| 5.7. | Egg quality measurements | 50 |
| 5.7.1. | External egg quality | 50 |
| 5.7.1.1. | Shape index | 51 |
| 5.7.1.2. | Eggshell quality measurements | 52 |
| 5.7.1.2.1. | Eggshell percentage | 52 |

III

| | | |
|------------|--|----|
| 5.7.1.2.2. | Eggshell thickness | 52 |
| 5.7.1.2.3. | Eggshell breaking strength | 53 |
| 5.7.2. | Internal egg quality | 54 |
| 5.7.2.1. | Yolk quality measurements | 54 |
| 5.7.2.1.1. | Yolk weight and percentage | 54 |
| 5.7.2.1.2. | Yolk index | 55 |
| 5.7.2.2. | Albumen quality measurements | 55 |
| 5.7.2.2.1. | Albumen weight and percentage | 55 |
| 5.7.2.2.2. | Haugh units | 56 |
| 6. | Effect of major and marker genes on blood parameters... | 57 |
| 6.1. | Hematocrit value | 57 |
| 6.2. | Cholesterol level | 58 |
| 6.3. | Triglycerides level | 59 |
| 7. | Effect of major and marker genes on immune response | 60 |
| 7.1. | Relative lymphoid organs weight | 60 |
| 7.2. | Cell mediated immunity | 62 |
| 7.3. | Humoral immune response | 63 |
| 7.4. | Phagocytic activity | 65 |
| 8. | Scanning electron microscopy technique | 66 |
| 8.1. | Eggshell ingredients formation | 67 |
| 8.2. | Importance of scanning electron microscopy technique and eggshell ultrastructural assay. | 69 |
| 8.3. | Ultrastructure shell formation | 71 |
| 8.3.1. | Eggshell membranes | 72 |
| 8.3.2. | Mammillary layer or caps | 72 |

IV

| | | |
|--------|---|----|
| 8.3.3. | Palisade layer (effective thickness) | 74 |
| 8.3.4. | Crystal layer | 76 |
| 8.3.5. | Vertical crystal layer | 77 |
| 8.4. | Ultrastructural various structures assessed of the mamillary layer. | 77 |

| | | |
|------------|---|-----------|
| VI | MATERIALS AND METHODS | 83 |
| 1. | Measurements and observations | 90 |
| 1.1. | Incubation measurements | 90 |
| 1.1.1. | Fertility and hatchability | 90 |
| 1.1.2. | Water loss from egg during incubation and chick yield percentage. | 90 |
| 1.2. | Phenotypic characters | 91 |
| 1.2.1. | Body weight and body weight gain | 91 |
| 1.2.2. | Feed consumption and feed conversion ratio | 92 |
| 1.2.3. | Carcass measurements | 92 |
| 1.2.4. | Sexual maturity measurements | 93 |
| 1.2.4.1. | Age at sexual maturity | 93 |
| 1.2.4.2. | Body weight at sexual maturity | 94 |
| 1.2.4.3. | Body measurements at sexual maturity | 94 |
| 1.2.4.3.1. | Head appendages (comb and wattle lengths). | 94 |
| 1.2.4.3.2. | Shank length | 94 |
| 1.2.4.3.3. | Body depth | 94 |
| 1.2.4.3.4. | Keel length | 94 |
| 1.2.4.4. | Rectal temperature at the first egg laid. | 95 |

| | | |
|---------------------|---|-----|
| 1.2.5. | Egg production measurements | 95 |
| 1.2.5.1. | Egg number | 95 |
| 1.2.5.2. | Egg weight | 95 |
| 1.2.5.3. | Egg mass | 95 |
| 1.2.6. | Egg quality measurements | 95 |
| 1.2.6.1. | External egg quality | 95 |
| 1.2.6.1.1. | Egg weight | 95 |
| 1.2.6.1.2. | Shape index | 96 |
| 1.2.6.1.3. | Shell weight | 96 |
| 1.2.6.1.4. | Shell thickness | 96 |
| 1.2.6.1.5. | Shell membranes thickness | 96 |
| 1.2.6.1.6. | Breaking strength with Quasi Static Compression (QSC). | 97 |
| 1.2.6.2. | Internal egg quality | 97 |
| 1.2.6.2.1. | Yolk quality measurements | 97 |
| 1.2.6.2.1.1. | Yolk weight | 97 |
| 1.2.6.2.1.2. | Yolk index | 98 |
| 1.2.6.2.2. | Albumen quality measurements | 98 |
| 1.2.6.2.2.1. | Albumen weight | 98 |
| 1.2.6.2.2.2. | Haugh unit (HU) | 98 |
| 1.3. | Blood parameters | 99 |
| 1.4. | Immunocompetence measurements | 100 |
| 1.4.1. | Relative lymphoid organs weight | 100 |
| 1.4.2. | Phytohemagglutinin-P injection (In vivo cell-mediated immunity assay). | 100 |

VI

| | | |
|------------|--|------------|
| 1.4.3. | Antibody response against sheep red blood cells (SRBCs). | 101 |
| 1.4.4. | Carbon clearance (mononuclear phagocytic system function assay). | 102 |
| 1.5. | Scanning Electron Microscopy (SEM) technique. | 102 |
| 1.5.1. | Preparation of samples for ultrastructural analysis using (SEM). | 102 |
| 2. | Statistical analysis | 104 |
| 3. | Gene effect | 104 |
| VII | RESULTS AND DISCUSSION | 105 |
| 1. | Incubation measurements | 105 |
| 1.1. | Fertility and hatchability | 105 |
| 1.2. | Water loss from egg during incubation | 109 |
| 1.3. | Chick yield weight and percentage | 112 |
| 2. | Phenotypic characters | 115 |
| 2.1. | Body weight | 115 |
| 2.2. | Body weight gain | 118 |
| 2.3. | Feed consumption and feed conversion ratio. | 121 |
| 2.3.1. | Feed consumption and feed conversion ratio for growing birds | 121 |
| 2.3.2. | Feed consumption and feed conversion ratio for laying birds. | 124 |
| 2.4. | Carcass measurements | 126 |
| 2.4.1. | Carcass measurements at 12 week of age | 126 |

VII

| | | |
|-----------------|---|-----|
| 2.4.2. | Carcass measurements at 16 week of age | 129 |
| 2.4.2.1. | Inedible parts | 129 |
| 2.4.2.2. | Edible parts | 132 |
| 2.5. | Relative abdominal fat | 135 |
| 2.6. | Sexual maturity measurements | 137 |
| 2.7. | Egg production measurements | 142 |
| 2.8. | Egg quality measurements | 146 |
| 2.8.1. | Egg quality at 35 week of age | 146 |
| 2.8.1.1. | External egg quality | 146 |
| 2.8.1.2. | Internal egg quality | 149 |
| 2.8.2. | Egg quality at 47 week of age | 152 |
| 2.8.2.1. | External egg quality | 152 |
| 2.8.2.2. | Internal egg quality | 155 |
| 3. | Blood parameters | 158 |
| 4. | Immunocompetence measurements | 163 |
| 4.1. | Relative lymphoid organs | 163 |
| 4.1.1. | Relative lymphoid organs weight at 12 week of age. | 163 |
| 4.1.2. | Relative lymphoid organs weight at 16 week of age. | 166 |
| 4.2. | In vivo cell-mediated immunity assay | 168 |
| 4.2.1. | PHA-P injection in toe web | 168 |
| 4.2.2. | PHA-P injection in wattle | 171 |
| 4.3. | Antibody response against sheep red blood cells. | 174 |

VIII

| | | |
|------|---|-----|
| 4.4. | Carbon clearance (mononuclear phagocytic system function assay). | 178 |
| 5. | Eggshell ultrastructure (vertical and horizontal sections).. | 182 |
| VIII | SUMMARY AND CONCLUSION | 193 |
| IX | REFERENCES | 202 |
| X | ARABIC SUMMARY | |

IX

| Table No. | LIST OF TABLES | Page |
|--------------|---|------|
| 1 | Number of chicks produced for each sex within genotype. ... | 84 |
| 2 | The composition and calculated chemical analysis of the experimental diets. | 87 |
| 3 | Fertility and hatchability percentage as affected by naked neck, frizzle and naked neck-frizzle genes. | 107 |
| 4 | Water loss (%) from egg during the incubation periods of naked neck-frizzle, naked neck, frizzle and normal feathering genotypes..... | 110 |
| 5 | Chick yield percentage to Incubated egg weight of naked neck-frizzle, naked neck, frizzle and normal feathering genotypes. | 113 |
| 6 | Body weight of birds as affected by naked neck (Na), frizzled (F) and double segregation genes. | 117 |
| 7 | Body weight gain of birds as affected by naked neck (Na), frizzled (F) and double segregation genes. | 120 |
| 8 | Feed consumption and feed conversion ratio of growing birds as affected by naked neck (Na), frizzled (F) and double segregation genes. | 123 |
| 9 | Feed consumption and feed conversion ratio of laying hens at the age between 30 and 36 week as affected by naked neck (Na), frizzled (F) and double segregation genes. | 125 |
| 10 | Body weight and carcass characteristics in males (at 12 week) of naked neck, frizzled, naked neck-frizzled and normally feathered chicken genotypes. | 128 |