طريقة جديدة لحساب الأهمية الاقتصادية للصفات (طريقة سلطان) طبقا لاحتياجات المربي واستخدامها في تكوين أدلة انتخابية في دجاج سيناء

محمد السيد سلطان

قسم إنتاج الدواجن بكلية الزراعة – جامعة المنوفية

NEW METHOD FOR CALCULATING RELATIVE ECONOMIC VALUE (SOLTAN METHOD) ACCORDING TO BREEDER REQUIREMENTS, AND USE IT FOR CONSTRUCTION OF SOME SELECTION INDICES IN SINAI FOWLS

M.E. Soltan

Department of Poultry production, Fac. of Agric., Minufiya Univ., Egypt.

ABSTRACT : *Fife method, were used to calculate relative economic value. Kolstad (1975), Sharma (1982), Lamont (1991), regression, and Soltan (2012) methods were compared and used to construct general selection indices. Studied traits were egg number among the first 90 days of laying (EN_{90}), mature egg weight (EW), clutch size (C) and interval between clutches (I). The main objective of the present study were to obtain and discuss different methods of calculating economic values in selection indices. Numerical examples were used to illustrate and calculate Soltan method as a new method for calculating relative economic value for the studied traits and use it in constructed general selection index.*

Key words : Selection index, economic value, soltan method for calculating (V) economic vectors.

مقارنة بين الأدلة العامة والأدلة المحددة باستخدام طرق مختلفة لحساب الأهمية الاقتصادية النسبية لبعض صفات إنتاج البيض في دجاج سيناء

محمد سلطان ، أحمد عنب ، فاروق عبده ، نور الجزار

كلية الزراعة – جامعة المنوفية

COMPARISON BETWEEN GENERAL AND COMPLETELY RESTRICTED INDICES BY USING DIFFERENT WAYS OF ESTIMATING RELATIVE ECONOMIC VALUES FOR SOME EGG PRODUCTION TRAITS IN SINAI FOWLS

M.E. Soltan, A.A. Enab, F.H. Abdou and N. Elgazar

ABSTRACT : *The present experiment was carried out in the Poultry Farm, Department of Poultry Production, Faculty of Agriculture, Minufiya University at Shibin El-Kom, Egypt. The local strain used was Sinai Bedouin fowl. The experimental records lasted for eight years. The aim of the experiment was to study the response of selection for egg number at 90 day, egg weight, interval clutches and clutch size by using the selection index method of laying Sinai hens and compare different (Five) methods for calculating the economic values in economic matrices for studied traits.*

The following results were obtained as :

1. Different economic values were estimated.

2. The equations of the general indices which were constructed for different four economic values:

Kolstad $\quad I_G = 0.2032\ EN90d + 0.1094 EW_M - 0.1473\ I + 0.5719 C.$

Reg $\quad I_G = 0.2326\ EN90d + 0.0545\ EW_M - 0.1189\ I + 0.0470\ C.$

Sharma $\quad I_G = 0.2553\ EN90d + 0.0860\ EW_M - 0.2501\ I + 0.8726\ C.$

Lamont $\quad I_G = 0.0079\ EN90d + 0.3209\ EW_M - 1.103\ I + 3.014\ C.$

Soltan $\quad IG = 0.03196\ EN90d - 0.0106\ EW_M - 0.0992\ I + 0.1201\ C.$

3. The equations of the completely I restricted indices ($I_{R,\ I}$) using different economic values which were supposed to stabilize the performance level of pullets concerning I were:

Kolstad $\quad I_R, EW_M = 0.1529\ EN_{90d} + 0.1938\ EW_M - 0.5818\ I + 1.3352\ C.$

Reg $\quad I_R, EW_M = 0.1510\ EN_{90d} + 0.1913\ EW_M - 0.5856\ I + 1.2837\ C.$

Sharma $\quad I_R, EW_M = 0.1733\ EN_{90d} + 0.2236\ EW_M - 0.4586\ I + 2.1164\ C.$

Lamont $\quad I_R, EW_M = 0.1129\ EN_{90d} + 0.1450\ EW_M - 0.1965\ I + 1.4252\ C.$

Soltan $\quad I_R, EW_M = 0.0154\ EN_{90d} + 0.0196\ EW_M - 0.0592\ I + 0.1419\ C.$

4. Generally, the results show that the general index (I_G) was most efficient than each of the completely restricted index ($I_{R,EWM}$) for Sinai strain. Moreover, a single restriction ($I_{R,EWM}$) caused less deterioration in the net efficiency of I_G.

5. There are no discrepancies between the values of expected genetic change per generation for Reg and Lamont methods. The spearman rank correlation coefficient estimated between the fowls under study on the bases of the original index by the both methods was 0.999 at 0.001.

6. The breeder can use any of two methods with some restrictions on Sharma method that it may be disturbed by abnormal values which included when calculate standard deviation. Soltan method was more related to regression method this finding may be due to the use of genetic and phenotypic variances in the way of calculations.

Key words: *Sinai chickens, Selection indices, economic values*

تأثير بعض العوامل البيئية على بعض صفات الدم في سلالتين محليتين من الدجاج

محمد السيد سلطان ، أحمد عبدالوهاب عنب ، عبدالمنعم عبدالحليم الفقى ،

دينا عبدالفتاح سليم

قسم إنتاج دواجن ، كلية الزراعة ، جامعة المنوفية ،مصر

EFFECT OF SOME ENVIRONMENTAL FACTORS ON SOME CHEMICAL BLOOD TRAITS IN TWO LOCAL STRAINS OF CHICKENS

M. E. Soltan, A. A. Enab, A. A. Elfiky and Dina A. Selim

Dep. of poultry production, Faculty of agriculture, Menufiya Univ. Egypt

ABSTRACT: The present study was carried out at the Poultry Research Farm, Department of Poultry Production, Faculty of Agriculture Minufiya University at Shibin El-Kom, This experiment was designed to study the effect of different light colors (Incandescent, Fluorescent and Infrared light) and vitamin E supplementation on some blood characteristics. The first group was exposed to incandescent light (control), the second was exposed to fluorescent light, and the third one was exposed to infrared light. All birds under light treatments were exposed to lighting period for 14 hours / day. Each group was divided into two subgroups, the first: vitamin E 1ml (20.000IU) added to one liter of their drinking water for 5 day/wk, whereas the second one consumes drink water without vitamin E. The numbers of treatments were 12 (6 treatments for each strain).
The obtained results were summarized as follows:-
Results indicated that fluorescent light without vitamin E recorded the best blood characters of males meanwhile, in female birds provided under infrared light with vitamin E had the highest of most blood traits in Sinai strain. However, without vitamin E supplementation, males under infrared light were better blood characters in Norfa strain. While, birds recorded fluorescent light with vitamin E the best in female.
There were no significant difference among light colors blood cells, GPT, GOT and platelets. While, the difference between light colors on white blood cells was highly significant (P<0.01).The interaction between (color x strain), (treatment x strain), (color x treatment x sex x strain) and (color x treatment x strain) in hemoglobin (Hb), red blood cells (RBCs), hematocrit value (HCT), white blood cells (WBCs) and platelets value (PLT) were not significant. While, All interaction effects such as (treatment x sex x strain),(sex x strain) and (color x sex) in Hb were highly significant (P< 0.01).
The correlation coefficient between blood characteristics under the effect of light color , vitamin E, strain and sex were mostly positive and no significant or high significant. But, only few traits had negative correlation coefficient between each other.

Key words: light colors, vitamin E, blood traits, local stains, chickens

أداء دجاج اللحم فى مزارع مختلفة بمعدلات تحويل غذائى مختلفة

تحت الظروف المصرية

محمد السيد سلطان ، جنار كوساينوفا

قسم إنتاج الدواجن ، كلية الزراعة ، جامعة المنوفية ، شبين الكوم ، مصر

PERFORMANCE OF BROILER CHICKENS IN DIFFERENT FARMING WITH DIFFERENT FEED CONVERSIONS UNDER EGYPTIAN CONDITIONS

M.E. Soltan and Z. Kusainova

Department Of Poultry Production, Faculty Of Agriculture, Minufiya University,
Shibin El Kom, Egypt

ABSTRACT: *Data about the performance of broiler chickens in different houses with different stocking densities, and different feed conversions under Egyptian conditions were collected and analyzed. The studied traits were body weights, livability percentages, growth rates, efficiency of each house, fattening index and European productive index. This study introduces new information about broiler production in Egypt.*

Key words: *Broiler, Density of birds, feed conversion, Egypt.*

EFFECT OF BREEDING SEASON AND SEX RATIO ON FERTILITY AND HATCHABILITY PERCENTAGES OF OSTRICH EGGS

M. Soltan,G. Gebril,M. Kalamah ,E. A. Mostafa
Dept. of Poultry Production, Fac. of Agric., Minufiya Univ. Egypt,,,

ABSTRACT:

A total number of 8 birds of mature black neck bred ostriches (3 males and 5 females) and 130 chicks at hatch were used in the present study, for two consecutive breeding seasons, in order to study some productive and reproductive traits in ostriches. The fertility percentage of 52.4 % and 44.3 % for the first and second season, respectively. The commercial hatchability percentage, which calculate from the total egg set 46.6 % and 38.7 % for the first and second season breeding season, respectively.

THE INTERACTION EFFECT AMONG AGE OF LAYER, STRAIN OF CHICKEN AND YEAR OF LAYING ON INTERNAL EGG QUALITY TRAITS

G. M. Gebriel,M.E. Soltan,F. H. Abdou,M. F. Amer

Faculty of Agric. Minufiya Univ. Egypt,Faculty of Agric. Minufiya Univ. Egypt,Faculty of Agric. Minufiya Univ. Egypt,Faculty of Agric. Ain-Shams University

ABSTRACT:

The present study was conducted to compare the internal egg quality traits in two local developed strains (Sinai and Norfa) with two foreign commercial strains (Lohman Selected Leghorn and Lohman Brown) of chicken at sexual maturity, 32, 42, 52 and 62 – wk of age for two consecutive laying years. The results were summarized as follows. 1. Comparison of local versus foreign strains : It was found that foreign strains (L.S.L. and L.B.) had significantly higher values of yolk weight, yolk index, albumen weight, albumen %, albumen height, Haugh units and lower yolk %, yolk color, and yolk : albumen % as compared to local strains (S. and N.). 2. Effect of layer age : It was found that yolk weight, yolk %, albumen weight and yolk : albumen % were increased and lower values of yolk index, yolk color, albumen %, albumen height and Hauh units with advancing age of layer. 3. The interaction effect : The interaction effects between age and strain, age and laying year, strain and laying year or among age, strain and laying year were significant (P ≤ 0.05) or highly significant (P ≤ 0.01) for most internal egg quality traits studied. 4. Conclusion : Since, yolk and albumen weights were higher in old layer hens, it may be more beneficial for egg producers and processors to use young hens (32 – 42 wk. old) for table egg production and birds of old age (52 – wk. old or more) for liquid egg production.

Key words: Chicken strain, age, year of laying, Internal egg quality traits

DIRECT SELECTION RESPONSE FOR FEED EFFICIENCY OF EGG PRODUCTION

M. Soltan,S. Abed El-Rahman,F. H. Abdou ,Rasha H. Ashour
Dept. of Poultry Production, Fac. of Agric., Minufiya Univ., Shibin El-Kom, Egypt.,,,

ABSTRACT:

The present experiment was carried out in the Poultry Farm, Department of Poultry Production, Faculty of Agriculture, Minufya University at Shibin El-Kom, Egypt. The local strain used was Sinai Bedouin fowl. The experiments lasted for four years, starting from October 2004. The aim of the experiment was to study the effect of selection for high feed efficiency on laying Sinai hens. A base population consisted of 300 Sinai pullets aged 38 weeks were used to measure individually residual feed consumption (R) as will be mentioned later. Feed consumption (FC) was calculated as the difference between taken feed and residual feed. To improve feed efficiency for egg production during 90 days (FE) mass selection was applied. Fifty hens were selected for high feed efficiency to be used as parents for next generation. A total of 50 hens were chosen at random from the base population as a control line with no significant difference between control and the base line. In each generation 50 females and 17 males were chosen at random with aim to keep family size stable as possible in order to minimize the inbreeding, and mated randomly with expections full sib mating. The following results were obtained : 1. The means of the selected trait [feed efficiency (g F / 1 g egg)] for the selected line and control line were estimated among the base population and three selected generations 1, 2 and 3, respectively. In the selected line means of feed efficiency were 5.66, 5.63, 11.39 and 4.76 [(g) feed / 1 g egg) in base, 1, 2 and 3, generations, respectively. The corresponding values in control line were 6.66, 6.98, 11.91and 7.93 (g Feed / 1 g egg), respectively. 2. The differences between generations were highly significant. The difference between the selected line and control line was also highly significant. But the interaction between generations and lines was not significant. 3. The cumulative realized selection response in last generation was equal to â€" 3.17 g where the expected value was â€" 2.88 g and in the same generation the difference was equal to (- 0.25). These results illustrate the possibility of improving feed efficiency of Sinai Bedouin fowls during laying period by direct selection for more than 3 generations of individual selection method or by using selection indices, family selection and independent culling level for more rapid and high selection responses. 4. It was noticed that the realized heritability was higher (0.75) than the calculated value (0.419) from dam component.

Key words: Selection, Feed efficiency, Sinai fowl.

EFFECT OF SEX RATIO AND STRAINS ON FERTILITY AND HATCHABILITY AMONG THREE GENERATIONS IN QUAIL

M. Soltan,F. Abdou,A. Abou-Ashour ,N. Elgazar
Faculty of Agric. Dep. Of Poult. Prod., Minufiya Univ. Egypt,,,

ABSTRACT:

The experiment continued for three generations G1, G2 and G3 through the hatching seasons 2006 – 2007 and 2007 – 2008. This experiment was aimed to study the effect of some environmental and genetical factors on hatchability and fertility percentages and growth rates in quail. Eighty nine quails (38 males and 51 females) were used as foundation stock from local quails from Kafer El-Sheikh (strain A) and the same number of birds were used as foundation stock from local quails from Shebin El-Kom (strain B). Mating system was applied in a ratio one male with one female (as ratio 1) and one male with two females (as ratio 2). In each generation 204 females and 150 males in both strains were tested and the total number overall generations were 612 females and 450 males. The results can be summarized as follows : 1. The fertility of generation (1) was lower than that of generation (2) and (3) which were similar. There are significant differences among generation. The fertility of strain (A) was higher than that of strain (B). The differences in this concept were highly significant. 2. The fertility of sex ratio (1) was higher than that of sex ratio (2). The differences in this respect were highly significantly ($P \leq 0.01$). The hatchability of generation (1) was lower than that of generation 2 and 3 which were similar. The significant difference ($P \leq 0.01$) among generations. 3. The hatchability of strain (A) was higher than that of strain (B). The differences between strains were highly significant ($P \leq 0.01$). The hatchability of sex ratio (1) was significantly ($P \leq 0.01$) higher than sex ratio (2). 4. The interaction between generation and strains, between generation and sex ratio, between strain and sex ratio and among generation, strain and sex ratio were not significant.

Key words: Sex ratio, Fertility, Hatchability, Quail.