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Education can improve broiler performance traits

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Introduction

- ✓ Significant improvements in the performance of commercially reared broilers have been made during the last half of the twentieth century.
- ✓ Performances include liveweight, reductions in feed conversion, mortality, and the age to which birds are reared, and decreases in the cost of production
- ✓ The changes are believed to have resulted from genetic selection, improved nutrition and flock health, and better management practices
- ✓ Although there have been major improvements in performance of commercial broilers, available information is often anecdotal, and actual data documenting these changes is not widely available
- ✓ Poultry industry is the largest sector for meat production in Iran
- ✓ Poultry meat is the most important source of protein for lower income groups, and in higher income group due to lower cholesterol in Iran
- ✓ More than 800 million broiler are produced yearly; which more than 6% (50 million) of production belong to northeast of Iran (Khorasan Razave Province)
- ✓ There are 790 flocks with 11944930 chicks capacity in this province

The objectives

✓this survey we aimed to investigate the roll of (human) management on production performance criteria of broiler flocks in northeast of Iran in summer 2007

Materials and methods

- ✓ 94 flocks of commercial broilers farm in 9 cities in northeast of Iran (Khorasan Razave province) were chosen randomly (Fig. 1)
- ✓ Flock's performance during summer of 2007 filled out in systematic questionnaires
- ✓ Management information included farmer age, related education, practical background of farmer in poultry sciences, short time education, having technical manager or not
- ✓ Production performances such as feed conversion (kg/kg), slaughter age (d), final bird weight (kg), weight gain per days (g/d), production per square meter of house (kg/m2), production unite and percentage livability (%) were measured (Table 1)
- ✓ Production unite = Final bird weight (g) * Percentage livability / slaughter age (d) * Feed conversion* 0.1
- ✓ Data were analyzed in a standard least squares model with slaughter age as covariate variable using JMP4.0.4 package
- ✓ significant differences between Means were compared by least square means

Results

- ➢ Related education had significant effect on livability ($p<0.05$) and slaughter age ($p<0.01$) (Table 2)
- ➢ Only 26% of farmers had education over high school
- ➢ Farmers who had master degree could maximize the livability percent and minimize the slaughter age
- ➢ Farmers who took part in short time education training could increase the livability range ($p<0.05$)
- ➢ Having a technical manager could influence on slaughter age ($p<0.05$), so that slaughter age was increased in the case of not having a technical manager
- ✓ Slaughter age could affect on livability, production unite, feed conversion, average of weight, and daily gain (for all traits; $p<0.01$)

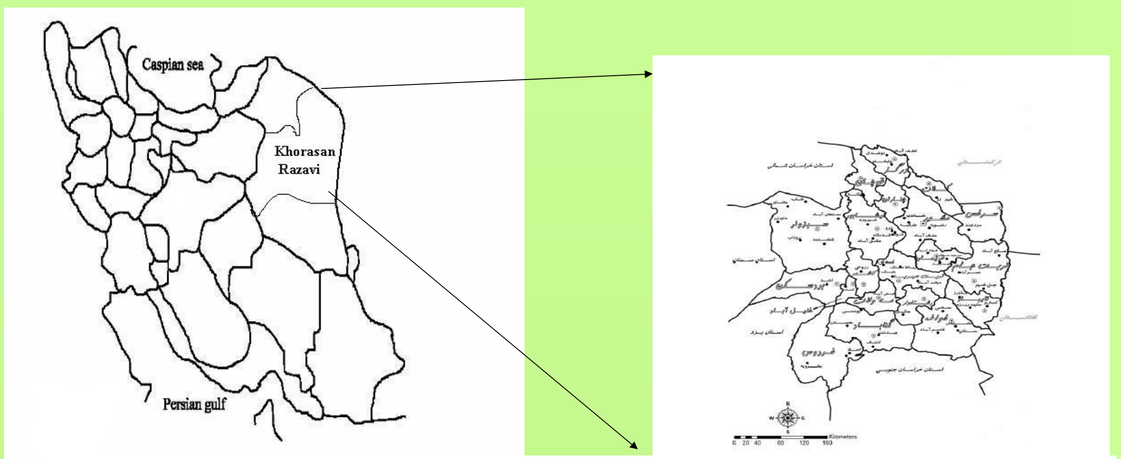

Fig. 1- Geographical distribution of flocks

Table 1- Number of samples, mean, standard deviation, minimal and maximal value of factors affecting on performance criteria in commercial broiler flocks in Khorasan Razavi

Factors	Samples no.	Mean	Standard deviation	Max	Min
Age of farmer(yr)	93	42.1	9.7	23	65
Farmer background (yr)	94	9.8	6.0	1.0	30.0
Flock capacity(chick)	94	20300	15650	5000	110000
Age of breeder flock(wk)	93	41.6	11.1	26	84
Weight of one-day-chick (g)	94	41.0	3.3	33	50
Production round per year	94	4.5	0.5	3.0	6.0
Slaughter age(day)	94	50.0	4.8	43	68
Livability (%)	94	91.8	5.2	68	97
Production index	94	213.0	37.0	70	299
Feed conversion	94	2.2	0.3	1.6	3.7
Average weight (Kg)	94	2.5	0.2	2.03	3.2
Daily gain (g)	94	49.8	4.3	37.1	59.6
production per square meter of house (kg/m2)	94	23.1	3.5	15.2	31.6

Tabe 2- P-value of analysis of variance

Source of variations	Livability	Slaughtered Age	Productio n unite	Feed conversion	Mean weight	Prod/m2	Daily gain
Short Time Educations	0.0443	0.3377	0.9263	0.9954	0.5883	0.3412	0.5785
Farmer Age	0.9672	0.0713	0.3023	0.4985	0.3599	0.3416	0.3724
Farmer Background	0.8459	0.8418	0.7924	0.8952	0.5550	0.4560	0.5378
Graduation	**0.0168**	**0.0025**	0.1500	0.2046	0.3588	0.5669	0.5159
Slaughtered Age	**0.0053**	------	**<.0001**	**0.0030**	**0.0024**	0.4628	**<.0001**
Technical manager	------	**0.0411**	0.8593	0.9626	0.5444	0.7662	0.6914
RSquare	0.25	0.31	0.28	0.16	0.33	0.09	0.36

Results:

- ✓ Feed conversion and average of weight had positive relationship with slaughter age
- ✓ Livability, production unite, and daily gain were decreased by increasing of slaughter age

A broiler production flock in Khorasan Razavi

Conclusion

- ✓ It seems that knowledge of related education, took part in short time training, and having a technical manager could have an important roll in improvement of production performances in broiler flocks.
- ✓ The results suggest that more attention should be given to overcoming problems of poultry management in Iran.

Acknowledgment

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