MINISTRY OF JIHAD-E-AGRICULTURE

Agricultural Research, Education and Extension Organization
Animal science research institute of Iran

The survey of effective factors on the dressing percentage of broilers in Fars province

Research worker: Mohammad Javad Agah

Abstract

The purpose of this project was to determine the rate of decline in carcasses of broiler chickens and the effects of various factors during rearing period, including weight and age of slaughter, health and nutrition management, climate zone, strain and capacity of poultry unit on percentage of carcass drop. Selection of poultry units was done by stratified random sampling method. For this purpose, Fars province was divided into 7 climatic zone (1- cold and dry, 2- cold and rainy, 3- hot and dry, 4- very hot and dry, 5- hot and semi-dry 6- warm and semi-rainy and 7- Moderate and dry). According to the Cochran's formula, 52 poultry units were selected in seven counties from each climatic zone as a sample of the working poultry unit's population. These cities included Shiraz, Jahrom, Mamasani, Sepidan, Lar, Abadeh and Neyriz. The information of each selected poultry unit like breeding period, time and method of loading to slaughter and slaughterhouse performance was collected by expert co-workers. The results showed that 23.5 percent of the poultry farmers had adegree in animal husbandry. However, a high percentage (64.3%) of poultry farmers have not participated in any specialized courses since they started working. The predominant breeding strain that is used in Fars province was Ross 308. Only 2.1 percent of poultry farmers breed Cobb strain. In the meantime, 14.9 percent of the annual hatching in the province's poultry farms was a combination of Ross 308 and Cobb. A high percentage of poultry farmers (91.5%) were satisfied with the performance of the Ross 308. At the provincial level, the average percentage of carcass drop while transporting, in slaughterhouse and total drop were 2.47, 24.6 and 26.6 percent, respectively. The average percentage of carcass drop in Line 2 slaughterhouse was higher than that of Line 1 slaughterhouse due to the reduced carcass useless parts (lungs, testicles, kidneys, and bursal glands). The final assessment of the water intake and water supply status in the studied poultry units and the percentage of carcass loss showed a significant correlation coefficient of 0.873 ($P < 0.01$). By the way the weight of one-day-old chicks and the percentage of carcass drop at

the time of loading to the slaughterhouse showed a significant negative correlation coefficient of -0.749 ($P<0.05$). In poultry farms, where chicks had better access to a balanced and good, quality diet, the carcass loss rate was lower. The final assessment of the nutritional status of the chickens in the studied poultry units and feed conversion ratio (FCR), showed a significant correlation coefficient of 0.871 ($P<0.05$). The correlation coefficient between the size of the surveyed poultry units and carcass loss, was 0.764 ($P<0.05$). The results of the present study showed a significant correlation coefficient (0.872) between the temperature and humidity regulation of poultry hall and feed conversion ratio ($P<0.01$). The average live weight of chickens delivered to the slaughterhouse and carcass drop in slaughterhouse and total drop showed significant correlation coefficients of 0.857 and 0.929, respectively ($P<0.01$). In general, the results of this study showed that, practical training workshops in various fields can improve poultry farmer's performance and reduce the percentage of carcass drop in slaughterhouse. The percentage of carcass drop is increased with inappropriate drinking and water supply system, has increased. Breeding chickes with higher weight and uniformity at 1st day, had lower carcass drop rates. In higher-capacity poultry farms, the carcass loss rate was higher. In poultry farms that had proper nutrition during the breeding period and the temperature and humidity conditions of the poultry house is suitable, the FCR improved. This means that in poultry farms, with the increase in the average weight of chickens delivered to the slaughterhouse, carcass loss increased. This is another reason why poultry farmers can be advised to help reduce the percentage of carcass loss by reducing the length of the breeding season and preventing the overweight of the produced chicken.
Keywords: Slaughter weight, Percentage of carcass drop, Broiler chickens, Fars province