



MINISTRY OF JIHAD-E-AGRICULTURE
Agricultural Research, Education and Extension Organization
Agriculture and Natural Resources Research and Education Center of Fars

Comparison of technical and economic indices of Grey Shiraz fattening lamb with Ghezel and Grey Shiraz crossbred lamb in Fars Province

Research worker: Abdolhamid Karimi and Roham Rahmani

Abstract

In this study, fattening performance, carcass characteristics and economic indices of kaboodeh and Ghezel-Kobhdeh crossbred lambs were evaluated. 24 male and female same age (3.5-4 months) lambs of kaboodeh and Ghezel-Kobhdeh crossbred after weaning were selected randomly. This experiment was conducted in a completely randomized design with four experimental treatments and 6 replicates per treatment; crossbred Ghezel-Kaboodeh and Kaboodeh male lambs, crossbred Ghezel-Kaboodeh and Kaboodeh female lambs, treatments 1 to 4 respectively; in a 90-day feeding period (15 days of habitual period and 75 days of the main course). The diet of lambs was adjusted (iso-nitrogenous and iso-energetic) and fed on the basis of NRC (2007) with nutritionally available nutrients. At the end of fattening period, lambs were weighed and slaughtered. Fattening performances and carcass characteristics were investigated. The data were analyzed by using the SAS software and data were analyzed in a completely randomized design and using the initial weight as a covariate. The mean of least squares data were compared by Tukey's test with 5% probability level. In order to evaluate the economic value, the cost items were calculated for different treatments and the price of the products that produced during the project, collected and economic indicators were calculated. Results showed that there was a significant difference between the experimental groups in the final live weight, feed conversion ratio ($P < 0.01$), daily weight gain and average daily feed intake ($P < 0.05$). The mean weight at the end of the experiment was 46.57, 43.63, 43.75 and 39.36 kg in experimental groups, respectively. The mean daily weight gain in groups 1 to 4 was 244.4, 204.5, 205, and 146 g, respectively. Daily feed intake in groups 1 to 4 were 1550, 1375, 1637 and 1245 g, respectively. Food conversion ratios in groups 1 to 4 were 6.47, 6.77, 8.4 and 8.55, respectively. The percentage of hot carcass and cold carcass to live weight were significantly different among experimental groups ($P < 0.05$). The mean ratio of warm carcass

to live weight in experimental groups 1 to 4 was 48.16, 45.98, 48.80 and 49.40%, respectively. The percentage of carcass meat to cold carcass weight in experimental groups 1 to 4 was 58.2, 55.5, 53.4 and 53.5%, respectively, which showed a significant difference between the experimental groups ($P < 0.01$). Internal fat weight and percentage of live weight fat were significantly different between the experimental groups ($P < 0.01$). There was no significant difference between the experimental groups in the percentage of thigh, hand, order, brisket, flank and fat-tail to cold carcass weight. The values of economic indexes of feed intake efficiency, feed conversion ratio and feed cost were significantly higher in treatments 1, 2 and 3 ($P < 0.05$) than treatment 4. The highest income (after deduction of feed and livestock purchases costs) is related to treatment 1 and has significant differences with treatments 3 and 4 ($P < 0.05$). The highest average yield per hundred feed cost unit and profit /cost ratio were for treatment 1 and the lowest for treatment 4, and these treatments have a significant difference ($P < 0.05$). Taking into account the prices of 1397, the average return values of one hundred units cost of livestock feed and the cost / benefit ratio for all treatments increased slightly, but the order of the treatments has not changed. There is a significant difference between the mean values of technical efficiency of treatments 1 and 2 with treatment 4 ($P < 0.05$). Given that a type of diet is used for all experimental treatments, the allocative efficiency values for all treatments are equal and the values of economic efficiency are equal to the technical efficiency. The results of this experiment showed that, regardless of fattening female lambs, which is not very common, fattening of crossbred male lambs and Kaboodeh male lambs was not much preferred in terms of fattening performance and carcass traits. Thus, according to results of this experiment, crossing of these two breeds is not recommended to produce more meat.

Key Words: Fattening lambs, Ghezel-Kobhdeh crossbred, carcass characteristics, economic indeces