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Impact of Iraqi probiotic on the Peking ducks carcass traits

Alaa Ahmed Marzouk[1], Naser Sabti Habeeb[2], Wafaa Rshaij Makttoof[3] and Hussam Mohsen Jabbar Al-Khafaji[4]

[1]College of Health and Medical Technologies, Alayen Iraqi University, Iraq.

[2,3,4]Thi Qar Agriculture Directorate, Ministry of Agriculture, Iraq.

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Abstract:

The study was carried out to demonstrate the effect Iraqi probiotic on the Peking ducks carcass traits. Thirty Peking ducks carcass were used. 4 treatments in addition to the control treatment, per replecate had two carcass, were: T1: (control treatment: no additive). T2 , T3 , T4 and T5 were adding the Iraqi probiotic at a rate of 2.50, 5.00, 7.50 and 10.00 gm per kg of diet. The results showed a significant increase on DP (Dressing Percentage) content or not contet of geblit (heart, gizzard and liver), and MC (Main Cuts) percentage (breast and thigh), and low SC (Secondary Cuts) (Back, and Wings,) in T5 compared to the other treatments

Keywords: Iraqi probiotic, carcass traits, Peking ducks.

Introduction:

The results of recent studies indicate that the important measures, which shows the development and progress of the poultry industry, depends mainly on the characteristics of the carcasses, which is one of the most important factors because it fulfills the desires and needs of the consumer, it contains a higher percentage of meat than fat deposited in the carcass (Naji *et al*., 2011; Al-Gharawi *et al*., 2018; Al Salman and Al-Gharawi, 2019; Al-Gharawi and Ebade. 2020).

Feeding broilers a diet supplemented with a probiotic containing a cell of *L. butaricus* and *Streptococcus thermophlius* bacteria at a rate of 2% to the feed, led to a significant increase in the adhesion rate, with a decrease in the relative weight of fat in broiler carcasses (Amoldus *et al*., 2010).

AshayeriZadch *et al*. (2014) showed a significant increase in the main carcass cuts, , a significant, increase in the wieght of giblet (heart, gizzard, and liver), compared to the treatment without the probiotic, the same result was obtained by Piray *et al*. (2007) when adding the probiotic to the diet, due to a high main cuts wieght, with a significant increase on dressing percentage in broilers were fed the diet

contain probiotic, compared to control treatment. Al-Jubouri (2012), show that non-significant differences on the dressing percentage at the age of 42 days, when different levels of the probiotic were used in the diets fed to broiler chickens compared to the control treatment. Mahmmoud *et al*. (2014) showed that of 1 kg probiotics per 100 kg of feed, no significant differences on the dressing percentage, giblet (Gizzard and Liver) and carcass cuts (wing, breast and neck). Hermandez *et al.*(2004) indicated a significant improvement in ducks, which fed feed supplemented with probiotics in main cuts (%) (breast and thigh), DP with or without giblet, and decrease on SC%, in ducks that ate feed supplemented with probiotics, compared to ducks that ate probiotic-free feed, Puspani *et al.* (2016) the same conclusion in that there were no significant differences in the main and secondary cuts in male ducks, compared to ducks that ate feed without probiotics.

This study aimed the effect of adding different levels of Iraqi probiotic on the carcass traits of Peking ducks.

Materials and Methods:

The study was carried out to demonstrate the effect Iraqi probiotic on the Peking ducks carcass traits. Thirty Peking ducks carcass were used. 4 treatments in addition to the control treatment, per replecate had two carcass, were: T1: (control treatment: no additive). T2 , T3 , T4 and T5 were adding the Iraqi probiotic at a rate of 2.50, 5.00, 7.50 and 10.00 gm per kg of diet.

This experiment was conducted to determine the importance of the Iraqi probiotic on the carcass characteristics of Peking ducks using 24 carcasses randomly distributed into 4 treatments, namely T1 (comparison), T2, T3 and T4, adding 2.50, 5.00, 7.50 and 10.00 g of Iraqi probiotic per 1 kg of feed. The characteristics studied are both the percentage of purification with and without the edible entrails (heart, liver, and gizzard), in addition to the main parts (chest, thigh, and drumstick) and the second parts (back, wings, and neck), based on Al-Fayad and Naji (1989).

Results and Discussions:

Influence of adding different levels of the Iraqi probiotic in the diet on purification percentage with or without the giblet of Peking duck carcasses at 8 weeks of age (Table 1). The table indicates a significant increase ($P \leq 0.05$) on the dressing percentage of with or without the giblet (heart, liver and gizzard) in T5 treatment, compare the other treatments. At the same direction, the T5 treatment outperformed the relative weight of the heart, compare with the control treatment T1, with no significant differences appearing between the two treatments T4 and T5 on the one hand, between transactions T3 and T4, and between treatments T1 and T2 on the other hand. As for the relative weight of the liver, the rise was in T3 and T4 and T5 treatments compare to comparison. Non differences appeared

at T3 and T4 and T5, and treatments T1 and T2 and T3, while no differences appeared on the relative weight of the gizzard among all treatments.

Table (1) Effect of adding different levels of the Iraqi probiotic on the percentage of marinade and edible internal organs (%) of Chinese duck carcass (mean± standard error).

Treatments	DP & Geblit	RW			DP without Geblit
		Heart	Liver	Gizzard	
T1	62.71b±0.60	0.83d±0.001	3.33b±0.003	3.76±0.001	70.64b±0.005
T2	63.17b±0.61	0.84d±0.002	3.34b±0.001	3.77±0.003	71.03b±0.603
T3	63.17b±0.59	0.85bc±0.002	3.35ab±0.011	3.78±0.020	71.16b±0.632
T4	64.54b±0.63	0.86ab±0.005	3.36a±0.004	3.79±0.012	72.56b±0.656
T5	67.28a ±0.69	0.87a±0.003	3.37a±0.005	3.80±0.012	75.32a±0.714
Sig.	*	*	*	N.S	*

The results of our study was consistent with Al-Fayadh and Naji (1989), and Bidrue *et al*. (2019), who noticed a significant improvement in the dressing percentage with or without the giblet in the carcasses in all groups of birds, which were fed with feed supplemented with proboitics compred to comparison, interpreted this as being due to the direct relationship between body weight and dressing percentage, as body weight increases, the dressing percentage recovery increases and vice versa.

Influence of adding the Iraqi probiotic in the feed on the relative weight of the main cuts (%) of Peking duck carcasses (Table 2). A significant increase (P≤0.05) on the relative weight of the breast in T4 and T5 treatments, compared to the other treats, with no difference among treatments T4 and T5. There were significant differences between treatments T1 and T2 and T3. The relative weight of thigh was significantly higher in T5 treatment, compared to the other treatments, which differed significantly in the relative weight of the thigh, while no significant differences on the relative weight of the drumstick among all treatments in the experiment.

As for the relative weight of the second peace. The rising with the increase of the Iraqi probiotic. T5 showed a low on Wings and Back RW of the compared to the other treatments, which differed among themselves in a significant way in these two characteristics, while no significant differences appeared between all treatments in the relative weight of the neck.

Table (2) The effect of adding different levels of the Iraqi probiotic on the relative weight of parts of Chinese duck carcasses (mean ± standard error).

Treatments	Main			Second		
	Brest	Thgh	Drumstck	Wngs	Bck	Nck
T1	31.74c0.20	19.28d ± .230	11.73 ±.010	9.29a ± .150	23.16a ± .010	± 4.73.140
T2	32.16bc ±.360	19.69d ± .190	11.73 ± .080	8.71b ± .150	22.92a ± .810	4.73 ± .110
T3	32.46b ± .090	21.58c ± .190	11.78 ± .060	8.54b ± .100	20.86b ± .460	4.70 ± .110

T4	33.43a ± .170	22.80b ± .310	11.80 ± .020	8.43b ± .070	18.98c ± .440	4.50 ± .080
T5	33.61a ± .150	24.88a ± .200	11.87 ± .030	7.74c ± .060	17.42d ± .200	4.42 ± .140
Sig.	*	*	**N.S**	*	*	**N.S**

These results were consistent with what was indicated by Durst *et al.* (1998), Hernandez (2004), who noticed a significant improvement in MC%, with low SC% of chicks feed with food supplemented with Probiotic to control treatment. This explained the improvement in the main cuts and the low SC, it may be due to the role of probiotic in the feed consumed by birds, it creates beneficial microbial balance within the digestive tract and produces growth-stimulating compounds and substances, contributes to an increase in the final body weight as the carcass weight increases, this has a positive impact on the weights of the main cuts, which constitute the important parts of the carcass weight, while the results of this study were not consistent with what was indicated by Samuel *et al*. (2012), and Uchewa and Onu (2012), show that no differ between the main and secondary cuts in bird carcasses, were containing Probiotic compare to comparison.

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