

EFFECT OF MARKETING AGES AND
SEX ON DRESSING PERCENTAGE
AND CARCASS PARTS YIELD OF
BROILERS

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INTRODUCTION

Poultry competes with various meats in the marketplace both as whole birds and as individual parts. Recently, there has been an increasing volume of broilers are marketed in further processed or cut up forms. In other view point, the prolonged rearing period of broilers i.e. delaying the marketing age, has become an interesting research area in Iraq and other developing countries in order to decrease there demands to import broiler meat or hatching eggs. Al-Shahwany et al. (1989) stated that elongation of the marketing age of broiler from 56 to 60 days increased the total meat produced and then the income of the farmers. However, information about dressing percentage and carcass part yield in further ages has not been studied.

The eviscerated carcass weight as a percent of live body weight and the dressing percentage tended to increase as the age of bird was progressed. This fact was true in broilers, large white turkey, Leghorn pullet and duck (Leeson and Summers, 1980a,b,c; Leeson et al. 1982). Salmon et al. (1983) reported that the dressing percentage in

broilers was increased from 68.6% to 71.4% when the broilers were slaughtered at age of 6 and 8 weeks, respectively.

The objective of this study was to compare the yield of carcass and the component parts of both sexes at different slaughtering ages.

MATERIALS AND METHODS

Six hundred Isa broiler chicks, one day old, were used in this study. All chicks were housed in (29 X 6 m) closed house and provided with continuous illumination throughout the experimental period. Chicks were fed on starter diet for the first three weeks of age after that they were fed on the finisher diet for the remainder period (Table 1). Brooding temperature was maintained at 35 C for the first 3 days and then reduced stepwise by 3 C every week to a minimum of 20 C.

A total of 96 birds from the two sexes were selected at random when the bird were at ages of 6, 8, 9 and 10 weeks. After overnight fasting, the selected birds were weighted, killed and hot water scalded, the feather were handly removed.

After evisceration, the carcass and its organs (heart, liver eviscerated carcass (less giblets) were then used in calculation of the dressing percentages. The eviscerated carcass was then portioned into the following cuts: 2 wings, 2 thighs, 2 drumsticks, neck, breast and back as described by Moreng and Aves (1985). All the cuts were individually weighted and the percentage of its weights based on the carcass weight were calculated.

Data were subjected to analysis of variance and appropriate multiple range test according to Steel and Torrie (1973) whenever it was necessary. The level of significances were denoted by NS, non-significant ($P > .05$); *, significant, ($P < .05$); **, significant ($p < .01$).

RESULTS AND DISCUSSION

The data for live body weight, eviscerated carcass weight and dressing percentage are summarized in Table 2. The statistical analysis showed that the age of broiler chicks has a significant effect ($P < 0.01$) on live body weight, eviscerated carcass weight (with and without giblets) and dressing percent. As the age of the broiler chicks increased, all the characteristics were also increased. This results had great benefits for the farmers as well as the consumers, since the farmers always aimed to produce larger quantities of live broiler body weight, and the consumers aimed to buy large bird which had a higher dressing percentage. Although, the feed consumption of broiler was increased and feed conversion rate was decreased as the broiler age progressed, the total income of the farmer was increased (Al-Shahwany et al. 1989). Table 2 also showed that male broiler chicks had a significantly higher live body weight, eviscerated carcass weight and carcass weight with giblets than female. The sex seemed to have no significant effect on dressing percentage. These results were in consistent with that of Salmon et al. (1983) and Orr et al. (1984).

Table 3 showed the effect of age and sex on the percentage of carcass parts (% of eviscerated

carcass) of broiler chicks. The age and sex did not significantly influence the proportion of breast, back thigh, neck and wings, but they significantly ($P < 0.05$) affected the proportion of drumsticks. The proportion of these parts were increased as the broiler age increased, also male birds had significantly ($P < 0.05$) higher proportion of drumsticks than female. Similar results were obtained by Broadbent et al. (1981) and Leeson and Summers (1980). However, it is difficult to make overall comparisons to reported data because of weight differences of broiler used, age differences of birds and non-uniformity of cut up procedures.

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ABSTRACT

Six hundred of commercial broiler chicks were used to study the effect of age and sex on dressing percentage, edible and inedible yields, carcass and parts weights of ready to cook broilers. A total of 96 birds from two sexes were randomly selected when the birds were at age of 6, 8, 9 and 10 weeks. The data indicated that the dressing percentage was significantly ($P < 0.01$) increased as the age of the birds were increased. The age and sex have no significant effect on the percent of thigh, wings, breast and back, but they had a significant ($P < 0.05$) effect on drumsticks and edible viscera. The sex seemed to have no significant effect on the dressing percentage.

Table 1. Composition of starter and finisher diet

Ingredient	Starter diet	Finisher diet
-----	----- % -----	-----
Yellow corn	50.0	46.0
Soybean meal (48% CP)	29.5	19.0
Concentrated animal protein	10.0	10.0
Barley	8.0	22.0
Sunflower oil	1.0	1.5
Calcium phosphate (21%P)	0.8	0.8
Salt	0.5	0.5
Vitamin and mineral mix	0.2	0.2
*		
CALCULATED ANALYSIS:		
Mtabolizable energy (Kcal/Kg)	3015.0	3036.0
Crude protein (%)	23.6	20.1
E/P ratio	128.0	151.0
Calcium (%)	1.5	1.8
Total phosphorous (%)	0.8	0.8
Fat (%)	3.4	3.3
Crude fiber (%)	2.8	3.1
Methionine (%)	0.4	0.3
Lysine (%)	1.4	1.1

*

Based on Titus and Fritz (1971)

Table 2. Effect of age and sex on live and carcass weights and dressing percentage of broiler chicks.

Items	Age (week)				Significance	
	6	8	9	10	age	sex
Live body weight (g)					**	**
Male	1240	1960	2360	2640		
Female	1145	1620	1970	2200		
Eviscreated carcass (g)					**	**
Male	843	1419	1777	2057		
Female	776	1168	1474	1725		
Carcass with giblets (g)					**	**
Male	898	1490	1867	2187		
Female	821	1238	1554	1847		
Dressing percentage (*)					**	NS
Male	68	72	75	79		
Female	68	72	75	78		

(*) As a percent of eviscreated carcass less giblet from live body weight.

Table 3. Effect of age and sex on the percentage of carcass parts
(% of eviscerated carcass) of broiler chicks.

Carcass parts	Age (week)				Significance	
	6	8	9	10	age	sex
Breast					NS	NS
Male	30.4	31.1	31.4	31.6		
Female	29.9	31.0	31.5	31.7		
Back					NS	NS
Male	14.7	15.4	16.0	16.1		
Female	15.1	15.7	16.2	16.3		
Thigh					NS	NS
Male	18.2	17.4	17.3	16.6		
Female	17.9	17.3	17.5	16.8		
Drumestics					*	*
Male	13.6	14.0	14.2	14.4		
Female	12.8	13.6	13.4	13.6		
Neck					NS	NS
Male	8.8	8.6	8.4	8.1		
Female	9.2	8.8	8.6	8.3		
Wings					NS	NS
Male	12.8	13.1	12.8	13.0		
Female	13.2	13.3	12.6	12.7		