THE EFFECT OF FEED RESTRICTION AND SEX ON YIELDS FROM READY TO COOK DUCKLINGS

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INTRODUCTION

The literature contains relatively little information concerning edible and inedible part yieds from commercially available ducklings. Because mucle conformation and distribution of mucle over the carcass enhances consumer acceptance of ducklingsinformation on part yields is important. Two breeds, white Pekin and white Muscovy ducks are widely produced for meat but have significantly different growth rates (Swatland, 1980). Orr (1969)reported that dressing percentage and meat yields vary in ducks due to age, breed, weight and grade, whereas Swatland(1980) reported only a slight difference in size and yields between sexes. Stadelman and Meinert(1977)reported that percentage of breast meat in white Pekin ducks increased from 4.79 to 15.93% from 28 to 63 days of age, respectively, whreas leg and thigh meat decreased from ahigh of 17.97% at 28 days to 12.28% at 63 days.

Sheldon et. al.(1982) reported that carcass weights, part weights, and percent yields varied even though ducklings were of similar age.

Feed restriction were used widly in broiler chicks, after 4 week old, to decrease the feed consumption and improve feed conversion as it have been reported by several workers (Mc Danial et. al. 1975; Mc Carteny and Brown, 1977; Proudfood and Hulan, 1982), however, this point was not studied previously in ducklings. The following experiment was conducted to study the effect of feed restriction program and sex on edible and inedible yields, carcass weights, part weights of ducklings.

MATERIALS AND METHODS

Two hundred and forty ducklings, 4 weeks old, were randomly allocated into four treatment groups. Ducklings in each treatment group were subdevided into five replicates and housed in 240 x 200 cm flat deck cages. Ducklings in the first treatment group (T_1) were fed ad. libitum and used as control, while ducklings in remaining treatment (T_2, T_3, T_4) were starved every other day at the age of 4,5 and 6 weeks respectively. The experiment continued into 8 weeks of age. At the end of experimental period, 4 males and 4 females from each treatment group were randomly selected for the determination of cut-up yield. Those scheduled for slaughter were placed in holding pens and deprived of feed, but not water, for 12 hr. prior to slaughter. Ducklings were slaughtered by severing carotid artery and jugular vein followed by evisceration using a conventional procedures. All ducklings used in slaughtering were wing banded and weighted befor the slaughtering, then the carcass were weighted with giblets, also the blood, feather, head and leg weights were mesured. The eviscreated carcass were cut into the following portions: wings, breast, thigh, drumesticks, back and neck as it has been described by Morang and Aves (1985). The data were evaluated statistically by analysis of variance according to Steel and Torrie (1960).

RESULTS

The data for live weight, eviscreated carcass weight, dressing percent, offals and carcass part yields are summerized in tables 1,3 . Yields were expresed in grams and as a percentage of eviscreated carcass with giblets, while offals (head, legs, feather and blood loss) were expresed in grams and as a percentage of live body weight . There were no significant difference between the mean live weight, carcass

weight with giblets and dressing percentage between the four treatment groups.

Table 1: Effect of feed restriction programs on live body weight, carcass weight, carcass parts and offals of duckling.

*Items	T_1 (g)	T_2 (g)	T_3 (g)	T_4 (g)
1	2794	2640	2553	2650
2	1978	1893	1811	1877
3	2137	2036	1951	2031
4	76.5	77.1	76.4	76.6
5	589	550	547	540
6	157	150	163	147
7	180	157	163	164
8	292	280	269	284
9	536	532	442	521
10	224	224	227	221
11	59	53	50	53
12	27	28	24	28
13	73	62	66	73
14	127	116	127	125
15	71	73	66	68
16	173	139	138	143
17	150	127	138	145

*Items: 1- live body weight, 2- carcass, 3- carcass with giblets, 4- dressing percentage; carcass cuts(5,6,7,8,9,10): where,5- breast, 6- thigh, 7- drumestic, 8- wings, 9- back,10-neck; giblets(11,12,13): where,11-liver, 12- heart, 13- gizzard;offals(14,15,16,17): where, 14-head, 15-legs, 16- feathers, 17- blood loss.

Table 2:Percentages of carcass cuts, giblets and offals of ducling

*Items	T_1	T_2	T_3	T_4
5	27.6	27.0	28.0	26.6
6	7.4	7.4	8.4	7.2
7	8.4	7.7	8.4	8.1
8	13.7	13.8	13.8	14.0
9	25.1	26.1	22.7	25.7
10	10.5	11.0	11.6	10.9
11	2.8	2.6	2.6	2.6
12	1.3	1.4	1.2	1.4
13	3.4	3.1	3.4	3.6
14	4.6	4.4	5.0	4.7
15	2.5	2.8	2.6	2.6
16	6.2	5.3	5.4	5.4
17	5.4	4.8	5.4	5.5

*Items:carcass cuts (5,6,7,8,9,10), where, 5- breast, 6- thigh, 7- drumestic, 8- wings,9-back 10- neck; giblets (11,12,13), where, 11- liver, 12- heart, 13- gizzard; offals (14,15,16, 17), where, 14-head, 15- legs, 16- feathers, 17- blood loss.

When the results of the four treatment groups were pooled, the mean live weights of ducklings at 56 day of age were 2700 and 2455 g for male and female, respectively. The corresponding carcass weights with giblets were 2044.5 and 1877.3 g, respectively. As a proportion of live body weight, the carcass yield minus giblets for males and females was 69.9 and 71.2 respectively, while the carcass yield with giblets was 75.7 and 76.5 respectively (table 3). Similar values have been reported by Sheldon et. al. (1982). Table 3 also show that the differences in body weight, carcass weight and dressing percentage between sexes were statisticaly ($p<0.05$).

Unlikely in broiler, the females duckling have a higher dressing percentage than males (75.7 and 76.5% respectively). But in broiler, Orr and Hunt (1984), reported that, the percentage of carcass yield minus giblets as proportion of live body weight for males and females was 71.1 and 70.7%, respectively.
Feed restriction seemed to have no significant effect on carcass parts, head, legs, feather and blood loss weights (table 1). Sex differences were observed for yield of parts expressed either as weight or as apercentage of carcass with giblets. Males had significantly larger proportions of neck, liver, gizzard and legs ($p<0.05$) than females.

Table 3 : Effect of sex on live body weight, carcass weight, carcass parts and offals of duckling.

Items	Male		Female
1	2700	*	2455
2	1888.5	*	1745
3	2044.5	*	1877.3
4	75.7	*	76.5
5	571(27.9)		535(28.5)
6	142.5(7.0)		139.5(7.4)
7	164.5(8.1)		159.5(8.5)
8	288(14.1)		258.5(13.8)
9	487(23.8)		450(24.0)
10	235.5(11.5)	*	202.5(10.8)
11	58(2.8)	*	44.5(2.4)
12	28(1.4)		25.5(1.4)
13	70(3.4)	*	62.5(3.3)
14	125(4.6)		120.3(4.9)
15	73.5(2.7)	*	65.5(2.6)
16	142.5(5.3)	*	144.3(5.9)
17	152.5(5.7)	*	125(5.1)

* Differed significantly ($p<0.05$).
Items: 1-live body weight, 2- carcass weight, 3- carcass with giblets, 4- dressing percentage; carcass cut :(5,6,7,8,9,10),where, 5- breast,6- thigh, 7- drumestic, 8- wings, 9- back, 10- neck; giblets: (11,12,13), where, 11- liver, 12- heart, 13- gizzard; offals: (14,15,16,17),where 14- head, 15- legs, 16- feather,17- blood loss.Items No.(5,6,7,8,9,10,11, 12,13)expresed as a percent of carcass weight with giblets.Items No. (14,15,16,17) expresed as a percent of live body weight.

CONCLUSION

According to the results of this experiment, appear that using feed restriction leads to minimize the quantity of consumed food, in the other hand it doesn't have any effect on carcass cuts. So using the feed restriction to increase the profitability is recommended.

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