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Effect of dietary mulberry (*Morus alba*) leaf powder on feed intake, feed conversion ratio and carcass traits of Kaveri poultry

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ABSTRACT

The present study evaluated the effect of graded levels of mulberry (*Morus alba*) leaf powder (MLP) in the basal diet on feed intake, water intake, feed conversion ratio (FCR) and carcass traits of Kaveri poultry. Two hundred day-old Kaveri chicks were randomly allotted in a completely randomized design to five dietary treatments, each with four replicates of 10 birds: T_1 (control, basal diet) and T_2 , T_3 , T_4 and T_5 (basal diet plus 2, 3, 4 and 5% MLP, respectively). The experimental diets were fed from the second to the twelfth week of age under a deep litter system, and two birds per replicate were slaughtered at the end of the twelfth week for carcass evaluation. Cumulative feed intake at 12 weeks was 4065.23 g/bird in the control and 4805.12 g/bird in T_5 , and cumulative water intake rose from 1502 to 1614 ml/bird. FCR differed significantly ($P < 0.05$) among treatments in most weeks, and at week 12 it was lowest in T_4 (2.81) compared with the control (2.93). Live body weight at slaughter increased from 1655.30 g (T_1) to 2080.00 g (T_5), hot carcass weight from 1138.52 to 1493.44 g, and dressing percentage from 68.78 to 71.80%. Breast, thigh, drumstick, wing and giblet yields also improved significantly, and liver, heart and gizzard weights remained within normal limits. Abdominal fat increased from 1.82 to 2.30%. It is concluded that MLP inclusion up to 5% improved live weight and carcass yield in Kaveri poultry, with 5% giving the highest live weight and dressing percentage and 4% the lowest FCR at week 12. The increase in abdominal fat needs further study.

Keywords: Kaveri poultry, Mulberry leaf powder, *Morus alba*, Feed intake, Feed conversion ratio, Carcass trait

1. Introduction

Poultry farming is one of the fastest-growing sectors of Indian agriculture, with the poultry population reaching 851.81 million in 2019, 16.8% more than in 2012 (20th Livestock Census). Feed makes up about 60–75% of the cost of poultry production, and protein ingredients alone account for over 40% of feed cost (Islam *et al.*, 2014) [1]. Soybean meal, fish meal and groundnut cake are expensive, so cheaper, locally available protein sources are needed.

Mulberry (*Morus alba*) is grown widely for sericulture, and its leaves offer a ready source of feed. They contain 15–35% crude protein along with minerals, metabolizable energy and β -carotene (Islam *et al.*, 2014) [1]. Mulberry leaf has mostly been fed to ruminants, because mature leaves contain crude fibre and *anti*-nutritional factors such as tannin that can limit performance in monogastric birds (Ding *et al.*, 2021) [2]. In broilers, the response depends strongly on the inclusion level. Islam *et al.* (2014) [1] fed 2.5–4.5% mulberry leaf meal for six weeks and observed numerical, non-significant improvements in weight gain and FCR. Olteanu *et al.* (2015) [3] reported no adverse effect on performance with 2 and 5% mulberry leaves. Simol *et al.* (2012) [4] found that up to 30% substitution of commercial feed did not affect intake, growth or FCR, but that 40% or more reduced intake and body weight and raised FCR. A meta-analysis found higher daily gain and feed intake in chickens fed mulberry leaves, but a lower slaughter rate, with effects varying by dose (Geng *et al.*, 2024) [5]. Ding *et al.* (2021) [2] showed that fermented mulberry leaf powder improved nutrient digestion, daily gain and feed-to-gain ratio in broilers.

Feed and water intake show how well a diet is accepted, and FCR shows how efficiently it is used. Carcass traits such as dressing percentage and cut yields determine the value of the bird. Most of the evidence above comes from fast-growing broilers, and it is not clear whether the same responses occur in slower-growing dual-purpose birds.

The Kaveri is a backyard strain with low mortality, good flock uniformity and early sexual maturity. Under farmer-managed conditions in Odisha it reached far higher body weights than local birds (Banja *et al.*, 2017) [1].

6]. To the best of our knowledge, the effect of mulberry leaf powder on this strain has not been studied. The present study therefore evaluated 2, 3, 4 and 5% mulberry leaf powder in the diet of Kaveri birds from the second to the twelfth week of age for feed intake, water intake, feed conversion ratio and carcass traits.

2. Materials and methods

2.1. Experimental site

The study was conducted in the Department of Animal Husbandry and Dairy Science, College of Agriculture, Badnapur, Vasantao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani, Maharashtra, India.

2.2. Experimental birds and design

Two hundred day-old Kaveri chicks, pre-vaccinated against Marek's disease, were procured from the Krishi Vigyan Kendra (KVK), Kharpudi, District Jalna, following standard procurement procedures. Chicks were individually weighed (35–50 g body weight), wing-banded for identification, and randomly allotted to five dietary treatment groups in a Completely Randomized Design (CRD). Each treatment consisted of 40 birds, further divided into 4 replicates of 10 birds each. The dietary treatments were as follows: T₁ (control, basal diet without any additive), T₂ (basal diet + 2% mulberry leaf powder), T₃ (basal diet + 3% mulberry leaf powder), T₄ (basal diet + 4% mulberry leaf powder), and T₅ (basal diet + 5% mulberry leaf powder).

2.3. Preparation of mulberry leaf powder

Fresh mulberry (*Morus alba*) leaves were collected from the mulberry plot maintained at the Department of Entomology, College of Agriculture, Badnapur. The leaves were shade-dried for three days,

after which they were ground into a fine powder and incorporated into the respective experimental diets at graded levels.

2.4. Housing and management

Brooders, waterers, and feeders were thoroughly cleaned, washed, and disinfected prior to chick placement. Birds were reared under a deep litter system, with brooding temperature maintained between 26.6 and 35 °C (85–95 °F) for the first two weeks. During brooding, chicks were fed maize crumbles for the initial three days, followed by commercial pre-starter (0–7 d), starter (8–21 d), and finisher (22–90 d) diets. The experimental mulberry leaf powder-supplemented diets were introduced from the second week and continued until the end of the twelfth week. Birds in each treatment group were fed separately, offered feed twice daily, and provided clean drinking water *ad libitum*. Leftover feed was collected and weighed each morning to determine intake. Standard health care and a routine vaccination schedule were followed throughout the trial.

2.5. Growth performance

2.5.1 Observations recorded

2.5.2 Weekly and cumulative feed intake

The daily feed consumption of each group was estimated by calculating the difference between the total quantity of feed offered and the quantity of feed remaining after a 24-hour period. The feed consumption recorded daily was summed over seven days and considered as the weekly feed consumption.

$$\text{Feed intake per week/ bird (gm)} = \frac{\text{Total feed consumed/ week}}{\text{Total no of bird}}$$

treatment group.

2.5.3 Water intake/week/bird

Water consumption of each treatment group was recorded weekly and average water intake in ml/bird/week was calculated by dividing the total amount of water consumed by the total number of birds in the

$$\text{Water intake per week (ml)} = \frac{\text{Total amount of water consumed/week}}{\text{Total number of birds per treatment}}$$

2.5.4 Feed conversion ratio

Feed conversion ratio of each treatment group will be calculated to determine unit quantity of feed required to gain unit live body weight under different treatment groups.

$$\text{FCR} = \frac{\text{Feed consumption (g)}}{\text{Gain in body weight (g)}}$$

2.5.5 Meat quality

To evaluate the effect of mulberry leaves on meat quality and quantity, two birds from each treatment group were randomly selected and slaughtered at the end of the twelfth week of age.

2.5.6 Carcass yield

Carcass evaluation was carried out according to the method of Pande (2003). Birds were randomly selected from each treatment for carcass assessment. At the end of the experiment, the selected birds were fasted for 12 hours, and their live body weight was recorded before slaughter. Birds were slaughtered by transversely cutting the throat near the head region, followed by complete bleeding and manual defeathering. The dressed weight was recorded after removal of feathers. The digestive tract, head, and legs were removed to determine edible carcass yield, while the heart, liver, and gizzard were weighed separately. Dressing percentage, edible carcass yield, and organ weights were expressed as percentages of the live body weight. The dressing percentage was calculated using the following formula:

$$\text{Dressing percentage} = \frac{\text{Carcass weight}}{\text{Live weight}}$$

3. Results and Discussion

3.1 Average feed consumption

The average weekly feed consumption of Kaveri poultry birds was recorded from the 1st to the 12th week of the experimental period and is presented in Table 1

Weekly feed consumption increased progressively with age across all treatment groups, and MLP-supplemented birds consistently consumed more feed than the control. During the first week, intake ranged from 84.88 g/bird (T_1) to 89.14 g/bird (T_5), and this pattern of higher intake with increasing MLP level was sustained throughout the trial, peaking during weeks 9–10 (e.g., 485.00–590.00 g/bird/week across T_1 – T_5 at week 10).

Cumulative feed consumption at the twelfth week was lowest in the control T_1 (4065.23 g/bird) and highest in T_5 (4805.12 g/bird), followed by T_3 (4667.57 g/bird), T_2 (4462.62 g/bird), and T_4 (4281.30 g/bird) (Table 2). Statistical analysis confirmed significant differences ($P < 0.05$) among treatments during most weeks of the trial.

The higher feed intake in MLP-supplemented groups may be linked to improved palatability, greater nutrient availability, and the presence of bioactive compounds that enhance feed utilization and support growth. This is consistent with Islam *et al.* (2014) [1], who reported significantly higher feed intake in broilers fed 2.5% mulberry leaf meal (2700 g) compared to controls (2350 g), and with Safa and Tazi (2014) [7], who observed increased feed consumption in broilers fed *Moringa oleifera* leaf meal. Simol *et al.* (2012) [4] similarly found no adverse effect on feed intake with mulberry leaf powder up to 30% inclusion, with reductions only at 40–50%; since the present study used a narrower range (up to 5%), the absence of any depressive effect on intake aligns with their observations. In contrast, Panja (2013) [8] and Margareta *et al.* (2015) reported no significant effect of mulberry leaf meal on feed intake at lower inclusion levels, suggesting that the intake response to MLP may vary with bird strain and rearing conditions — a divergence from the present study possibly explained by differences in genotype (Kaveri vs. commercial broiler strains) and inclusion range.

3.2 Average cumulative feed consumption

The average cumulative feed consumption of Kaveri poultry birds during the experimental period is presented in Table 2

The cumulative feed consumption increased progressively with advancing age in all treatment groups from the 1st to the 12th week of the experiment. During the 1st week, the cumulative feed consumption of birds in treatments T_1 , T_2 , T_3 , T_4 and T_5 was 84.88, 86.24, 87.18, 88.06 and 89.14 g/bird, respectively. By the 2nd week, the cumulative feed consumption increased to 255.30, 258.92, 262.44, 266.00 and 269.50 g/bird in T_1 , T_2 , T_3 , T_4 and T_5 , respectively. Thereafter, cumulative feed intake increased steadily throughout the experimental period. At the 10th week, cumulative feed consumption was 3045.23, 3347.62, 3502.57, 3581.30 and 3905.12 g/bird, respectively, while at the end of the 12th week, the corresponding values were 4065.23, 4462.62, 4667.57, 4281.30 and 4805.12 g/bird, respectively. The highest cumulative feed consumption was recorded in T_5 (5% mulberry leaf powder), followed by T_3 , T_2 , T_4 and T_1 (control).

Statistical analysis revealed significant ($P < 0.05$) differences among the treatment groups during most weeks of the experimental period. The findings of the present investigation are in agreement with Islam *et al.* (2014) [1], who reported greater cumulative feed intake in broilers supplemented with mulberry leaf meal than in unsupplemented controls. Safa and Tazi (2014) [7] similarly recorded the highest total feed consumption in broilers fed *Moringa oleifera* leaf meal among the treatment groups over the entire experimental period. Martinez *et al.* (2005) [9], however, observed a lower feed intake in rabbits fed a mulberry-based diet (102 g/day) compared to the control (144 g/day), a trend opposite to that recorded in the present study, most likely reflecting differences in feed palatability and digestive physiology between herbivorous rabbits and poultry.

3.3 Average weekly feed conversion ratio (FCR)

The mean weekly feed conversion ratio (FCR) along with its standard error at different weeks of age is presented in Table 3

The feed conversion ratio (FCR) showed variation among the different treatment groups throughout the experimental period. During the 1st week, the FCR values recorded for treatments T_1 , T_2 , T_3 , T_4 and T_5 were 1.43, 1.36, 1.30, 1.35 and 1.32, respectively. By the 10th week, the corresponding FCR values increased to 2.85, 2.96, 2.85, 2.86 and 2.88, respectively. At the end of the 12th week, the FCR values were 2.93, 2.97, 2.95, 2.81 and 2.87 for T_1 , T_2 , T_3 , T_4 and T_5 , respectively. Overall, the feed conversion ratio ranged from 0.96 to 3.51 during the entire experimental period. Statistical analysis revealed significant ($P < 0.05$) differences among the treatment groups at different weeks of age.

The improved feed conversion observed at the higher mulberry leaf powder inclusion levels, particularly T_4 (4% MLP), may be attributed to enhanced nutrient digestibility and better utilization of nutrients resulting from the inclusion of mulberry leaf powder in the basal diet. These findings are supported by Simol *et al.* (2012) [4], who reported a superior FCR (1.25) in broilers fed 30% mulberry leaf powder compared to the control (1.28), and by Islam *et al.* (2014) [1], who recorded the best FCR (1.67) in birds fed 3.5% mulberry leaf meal against 1.83 in the control. Magdalena *et al.* (2014) similarly found that 3% mulberry leaf meal significantly improved feed conversion efficiency (2.94) relative to the control (3.09) in Naked Neck fowls. Olmo *et al.* (2012) [10], however, observed that FCR became progressively poorer as mulberry leaf meal level increased from 10% (2.37) to 20% (2.67) and 30% (2.77), indicating that excessively high inclusion levels can impair rather than improve feed conversion efficiency; a similar tendency was reflected in the present study, where T_5 recorded a slightly poorer FCR than T_4 at the highest inclusion level tested. Kamruz Zaman *et al.* (2014), working with laying hens, reported no significant effect of mulberry leaf meal on feed conversion ratio, suggesting that the physiological stage of the birds may also influence the FCR response to mulberry leaf powder supplementation.

3.4 Average cumulative water intake

The average cumulative water intake of Kaveri poultry birds fed with different levels of mulberry leaf powder was presented in Table 4

The cumulative water intake increased gradually with advancing age in all treatment groups throughout the experimental period. During the 1st week, the cumulative water intake in treatments T_1 , T_2 , T_3 , T_4 and T_5 was 192, 181, 185, 189 and 195 ml/bird, respectively. By the 10th week, the corresponding values increased to 1439, 1438, 1448, 1461 and 1504 ml/bird, respectively. At the end of the 12th week, cumulative water intake reached 1502, 1524, 1558, 1578 and 1614 ml/bird, respectively. The highest cumulative water intake was recorded in T_5 , whereas the lowest was observed in the control (T_1) group. Statistical analysis revealed significant ($P < 0.05$) differences among the treatment groups during the experimental period.

The gradual increase in water intake observed in the present study might have been associated with increased body weight, feed consumption, and metabolic activity of the birds, while the inclusion of mulberry leaf powder did not adversely affect water consumption. These findings are broadly supported by Madavi *et al.* (2019) [11], who recorded significantly higher total water intake (7255.7 ml) in broilers fed 1% moringa-lemongrass leaf meal mixture compared to lower-level and control groups (6132–6577 ml), reflecting a similar pattern of increasing intake with rising supplementation level. Raut (2016) [12] also reported a progressive increase in water consumption with increasing probiotic supplementation. Das *et al.* (2021) [13], working specifically with mulberry leaf powder in Vanaraja birds, found that water intake was not significantly altered at 1.5% and 3.0% inclusion levels compared to the control; the significant treatment effect observed in the present study may therefore be related to the comparatively higher inclusion levels (up to 5%) and longer feeding duration (12 weeks) used here. Kalia *et al.* (2017) [14] further reported that water intake in broilers can vary with genetic strain, indicating

that the response observed in the present study is influenced by both dietary treatment and the inherent physiology of Kaveri birds.

3.5 Dressing percentage

The average carcass traits of Kaveri poultry birds fed diets containing different levels of mulberry leaf powder are presented in Table 5. Dietary supplementation of mulberry leaf powder significantly ($P \leq 0.05$) improved carcass characteristics. Live body weight, hot carcass weight, and dressing percentage increased progressively with increasing levels of mulberry leaf powder, with the highest values recorded in T₅ (5% MLP), followed by T₄, T₃, T₂, and the lowest in T₁ (control). This improvement may be attributed to better nutrient utilization and enhanced muscle development due to the bioactive components of mulberry leaves. Breast, drumstick, thigh, wing, neck, back, and gible percentages showed significant improvement with increasing

MLP inclusion. The relative weights of liver, heart, and gizzard remained within the normal physiological range, indicating healthy organ development. Abdominal fat percentage increased from 1.82% in T₁ to 2.30% in T₅, which requires further investigation regarding its association with MLP supplementation. The superior carcass yield and meat cut characteristics observed in T₅ indicate the beneficial effect of 5% mulberry leaf powder supplementation. The present findings differ from Hassan *et al.* (2016) and Etalem *et al.* (2014), who reported no improvement or reduced carcass traits with *Moringa oleifera* leaf meal supplementation. However, the results agree with Guler *et al.* (2006) [15], who observed improved carcass traits with phyto-genic feed additives. The variation may be due to differences in plant source, bioactive composition, inclusion level, and bird genotype.

Table 1. Average weekly feed consumption (g/birds) in experimental birds fed with Mulberry powder

Treatments	Weeks											
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
T ₁ (Control)	84.88 ^c	170.42 ^c	229.86 ^c	259.74 ^c	284.95 ^d	309.38 ^d	360.84 ^d	405.16 ^d	455.00 ^c	485.00 ^c	500.00 ^c	520.00 ^b
T ₂ (2% MLP)	86.24 ^{bc}	172.68 ^c	233.35 ^{bc}	265.48 ^c	321.18 ^c	368.56 ^c	400.27 ^c	444.86 ^c	520.00 ^b	535.00 ^{bc}	550.00 ^{ab}	565.00 ^a
T ₃ (3% MLP)	87.18 ^{abc}	175.26 ^{bc}	248.74 ^{ab}	273.52 ^{bc}	330.86 ^{bc}	390.75 ^b	445.42 ^b	460.84 ^c	535.00 ^b	555.00 ^{ab}	575.00 ^a	590.00 ^a
T ₄ (4% MLP)	88.06 ^{ab}	177.94 ^{ab}	254.88 ^a	280.26 ^b	340.42 ^b	410.68 ^a	458.34 ^{ab}	495.72 ^b	545.00 ^b	530.00 ^{bc}	475.00 ^c	225.00 ^d
T ₅ (5% MLP)	89.14 ^a	180.36 ^a	260.82 ^a	318.58 ^a	410.76 ^a	422.94 ^a	482.68 ^a	539.84 ^a	610.00 ^a	590.00 ^a	515.00 ^{bc}	385.00 ^c
SE(m)	0.796	1.633	5.955	4.583	6.168	5.370	11.402	6.646	11.218	17.912	15.303	13.070
C.D. at 5%	2.421	4.967	18.115	13.939	18.763	16.334	34.682	20.216	34.122	54.484	46.547	39.757

Table 2. Average cumulative feed consumption (g/birds) in experimental birds fed with Mulberry powder

Treatments	Weeks											
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
T ₁ (Control)	84.88 ^c	255.30 ^c	485.16 ^c	744.90 ^c	1029.85 ^c	1339.23 ^d	1700.07 ^d	2105.23 ^c	2560.23 ^c	3045.23 ^c	3545.23 ^c	4065.23 ^d
T ₂ (2%MLP)	86.24 ^{bc}	258.92 ^{bc}	492.27 ^{bc}	757.75 ^c	1078.93 ^{bc}	1447.49 ^c	1847.76 ^c	2292.62 ^{bc}	2812.62 ^{bc}	3347.62 ^{bc}	3897.62 ^b	4462.62 ^{bc}
T ₃ (3%MLP)	87.18 ^{abc}	262.44 ^{abc}	511.18 ^{abc}	784.70 ^{bc}	1115.56 ^b	1506.31 ^{bc}	1951.73 ^{bc}	2412.57 ^b	2947.57 ^b	3502.57 ^b	4077.57 ^b	4667.57 ^{ab}
T ₄ (4%MLP)	88.06 ^{ab}	266.00 ^{ab}	520.88 ^{ab}	801.14 ^b	1141.56 ^b	1552.24 ^b	2010.58 ^b	2506.30 ^{ab}	3051.30 ^{ab}	3581.30 ^b	4056.30 ^b	4281.30 ^{cd}
T ₅ (5%MLP)	89.14 ^a	269.50 ^a	530.32 ^a	848.90 ^a	1259.66 ^a	1682.60 ^a	2165.28 ^a	2705.12 ^a	3315.12 ^a	3905.12 ^a	4420.12 ^a	4805.12 ^a
SE(m)	0.79	3.19	10.20	13.54	28.13	31.88	40.82	75.28	91.28	100.00	85.64	100.00
C.D. at 5%	2.40	9.71	31.04	41.18	85.57	96.98	124.18	228.98	277.67	304.18	260.521	304.18

Table 3. Average weekly feed conversion ratio (FCR) (g/birds) in experimental birds fed with Mulberry powder

Treatments	Weeks											
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
T₁ (Control)	1.43 ^a	2.43 ^a	2.11 ^b	1.97 ^a	1.87 ^d	2.73 ^a	2.70 ^a	2.73 ^b	2.42 ^b	2.85 ^b	2.88 ^{ab}	2.93 ^{ab}
T₂ (2% MLP)	1.36 ^{ab}	2.11 ^b	1.97 ^c	1.42 ^b	2.77 ^c	2.01 ^d	2.86 ^a	2.34 ^c	2.63 ^a	2.96 ^a	2.96 ^a	2.97 ^a
T₃ (3% MLP)	1.30 ^b	2.36 ^a	1.98 ^c	1.32 ^{bc}	2.66 ^c	2.26 ^{bc}	2.15 ^b	2.82 ^{ab}	2.55 ^a	2.85 ^b	2.90 ^{ab}	2.95 ^a
T₄ (4% MLP)	1.35 ^b	2.02 ^b	2.26 ^a	0.96 ^d	3.00 ^b	2.41 ^b	1.89 ^c	2.94 ^a	2.60 ^a	2.86 ^b	2.79 ^c	2.81 ^c
T₅ (5% MLP)	1.32 ^b	1.90 ^c	1.58 ^d	1.22 ^c	3.51 ^a	2.09 ^{cd}	2.31 ^b	1.75 ^d	2.54 ^a	2.88 ^b	2.86 ^{bc}	2.87 ^{bc}
SE(m)	0.024	0.035	0.040	0.039	0.061	0.060	0.056	0.052	0.032	0.017	0.028	0.024
C.D. at 5%	0.072	0.107	0.122	0.118	0.184	0.183	0.169	0.159	0.098	0.052	0.085	0.073

Table 4. Average cumulative water intake (g/birds) in experimental birds fed with Mulberry powder

Treatments	Weeks											
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
T₁ (Control)	192	347	558	789	1060	1252	1301	1343	1400	1439	1472	1502
T₂ (2% MLP)	181	369	459	782	1070	1258	1312	1361	1422	1438	1478	1524
T₃ (3% MLP)	185	372	471	795	1074	1279	1375	1391	1436	1448	1489	1558
T₄ (4% MLP)	189	384	482	809	1087	1292	1389	1409	1452	1461	1507	1578
T₅ (5% MLP)	195	396	497	814	1097	1306	1402	1457	1497	1504	1584	1614
SE(m)	1.59	8.56	16.16	5.05	5.16	5.93	9.94	12.64	11.74	12.11	12.51	9.23
C.D.at 5%	4.84	26.04	49.16	15.37	15.70	18.05	30.26	38.47	35.73	36.83	38.07	28.07

Table 5. Average value of carcass traits (g/birds) in experimental birds fed with Mulberry powder

Carcass traits	T ₁ (Control)	T ₂ (2%MLP)	T ₃ (3%MLP)	T ₄ (4%MLP)	T ₅ (5%MLP)	SE (m)	CD at5%
Live body weight (g/bird)	1655.30 ^c	1866.23 ^b	1930.00 ^{ab}	1976.41 ^{ab}	2080.00 ^a	51.64	157.07
Hot carcass weight (g/bird)	1138.52 ^c	1306.36 ^b	1360.65 ^b	1408.18 ^{ab}	1493.44 ^a	38.12	115.96
Dressing percentage (%)	68.78 ^d	69.99 ^c	70.50 ^{bc}	71.25 ^{ab}	71.80 ^a	0.28	0.86
Breast (%)	20.85 ^d	21.64 ^c	22.18 ^{bc}	22.82 ^{ab}	23.45 ^a	0.25	0.78
Giblet (%)	5.08 ^d	5.22 ^{cd}	5.35 ^{bc}	5.46 ^{ab}	5.58 ^a	0.05	0.17
Drumstick (%)	13.48 ^d	13.92 ^c	14.18 ^{bc}	14.45 ^{ab}	14.73 ^a	0.13	0.41
Thigh (%)	14.72 ^d	15.21 ^c	15.58 ^{bc}	15.89 ^{ab}	16.24 ^a	0.12	0.37
Abdominal fat (%)	1.82 ^e	1.93 ^d	2.05 ^c	2.18 ^b	2.30 ^a	0.03	0.10
Liver (%)	2.34 ^c	2.40 ^{bc}	2.45 ^{ab}	2.50 ^a	2.55 ^a	0.03	0.10
Heart (%)	0.49 ^d	0.50 ^{cd}	0.51 ^{bc}	0.52 ^{ab}	0.53 ^a	0.007	0.02
Gizzard (%)	2.62 ^d	2.69 ^{cd}	2.74 ^{bc}	2.80 ^{ab}	2.86 ^a	0.02	0.08
Wing (%)	10.18 ^d	10.42 ^c	10.58 ^{bc}	10.74 ^{ab}	10.91 ^a	0.07	0.21
Neck (%)	5.26 ^c	5.38 ^{bc}	5.49 ^{abc}	5.60 ^{ab}	5.72 ^a	0.09	0.29
Back (%)	18.72 ^d	19.05 ^c	19.34 ^c	19.66 ^b	19.98 ^a	0.09	0.30

4. Conclusion

Dietary supplementation of mulberry (*Morus alba*) leaf powder at 2–5% improved live weight and carcass yield in Kaveri poultry in a dose-dependent manner. Feed and water intake rose with MLP level.

Cumulative feed intake at 12 weeks was 4065.23 g/bird in the control and 4805.12 g/bird in T₅, and cumulative water intake rose from 1502 to 1614 ml/bird. Live body weight at slaughter increased from 1655.30 g in the control to 2080.00 g in T₅, hot carcass weight from 1138.52 to 1493.44 g, and dressing percentage from 68.78 to 71.80%. Breast, thigh, drumstick, wing and giblet yields also improved. The highest live weight, carcass weight and dressing percentage were recorded at 5% MLP. The FCR at week 12 was lowest at 4% (2.81, against 2.93 in the control). The 4% group did not differ significantly from 5% in live weight, carcass weight or dressing percentage, and it consumed less feed. Abdominal fat rose from 1.82 to 2.30% with increasing MLP. Within the levels tested, 5% MLP gave the best carcass response, while 4% may be preferred where feed efficiency matters most. Further studies should test levels above 5%, examine the increase in abdominal fat, and assess the economics of MLP feeding.

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Conflict of interest

The authors declare that they have no conflict of interest.

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