

Broiler
Performance
& Nutrition
Supplement

CobbAvian48™

cobb-vantress.com



broiler

Introduction

This supplement presents broiler performance and yield targets for your Cobb Avian48 broilers, together with recommendations on nutritional specifications designed to help achieve these targets.

Broiler performance varies from country to country; these targets are based on a combination of field performance results and experience from around the world. The performance data included in this supplement is a blended combination from both the Cobb Male and the CobbMX male, and actual flock performance attained may be different than the values shown in this manual due to individual male line traits. The growth rates shown are the targets for achieving cost-efficient performance.

The key micronutrients in particular are well known for their effect on the development and mineralization of bone. It is essential that adequate levels of these are presented to the bird throughout their development. Supplementation of compound rations with whole or cracked whole wheat can significantly deplete levels of calcium and phosphorus.

Quality and availability of raw materials may require nutrient levels to be adjusted. Formulations will need to be 'fine tuned' to suit your specific requirements and environment.

Please contact your local Cobb technical representative to help develop a program designed specifically to suit your own local conditions based on the advice and information contained in this supplement and the main Cobb Broiler Management Guide.

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Performance objectives - metric

AS HATCHED						
Age days	Weight for Age	Daily Gain (g)	Average Daily Gain (g)	Cumulative Feed Conversion	Daily Feed Consumption (g)	Cumulative Feed Consumption (g)
0	42					
1	52	10				
2	66	14				
3	80	15				
4	99	19				
5	121	22				
6	147	26				
7	176	29	25.1	0.856		150
8	206	31	25.8	0.874	30	180
9	240	34	26.7	0.896	35	215
10	277	37	27.7	0.922	40	255
11	318	41	28.9	0.945	45	300
12	361	44	30.1	0.969	50	350
13	407	46	31.3	0.996	55	405
14	456	49	32.5	1.021	60	465
15	507	52	33.8	1.047	66	531
16	563	56	35.2	1.071	72	603
17	621	59	36.6	1.096	78	681
18	683	62	37.9	1.120	84	765
19	747	65	39.3	1.144	90	855
20	815	67	40.7	1.167	96	951
21	884	69	42.1	1.190	102	1053
22	955	71	43.4	1.216	109	1162
23	1028	73	44.7	1.241	115	1276
24	1103	75	46.0	1.268	123	1399
25	1180	77	47.2	1.296	130	1529
26	1260	79	48.4	1.323	137	1666
27	1341	82	49.7	1.349	144	1810
28	1425	84	50.9	1.376	151	1961
29	1511	86	52.1	1.402	158	2119
30	1598	87	53.3	1.429	165	2284
31	1686	88	54.4	1.456	171	2455
32	1775	89	55.5	1.483	179	2633
33	1866	91	56.5	1.511	186	2819
34	1958	92	57.6	1.538	193	3012
35	2050	92	58.6	1.567	200	3212
36	2143	93	59.5	1.593	201	3413
37	2236	93	60.4	1.617	203	3616
38	2330	94	61.3	1.640	204	3820
39	2424	94	62.2	1.661	206	4026
40	2519	95	63.0	1.681	207	4234
41	2615	96	63.8	1.699	208	4442
42	2712	97	64.6	1.715	210	4652
43	2807	95	65.3	1.733	212	4864
44	2900	93	65.9	1.751	214	5077
45	2992	91	66.5	1.769	216	5293
46	3082	90	67.0	1.788	218	5511
47	3171	89	67.5	1.807	220	5731
48	3260	88	67.9	1.826	222	5953
49	3347	87	68.3	1.845	224	6177
50	3433	86	68.7	1.864	225	6401
51	3519	85	69.0	1.883	225	6627
52	3602	83	69.3	1.902	226	6853
53	3685	82	69.5	1.921	226	7079
54	3766	81	69.7	1.940	227	7306
55	3847	81	70.0	1.958	227	7533
56	3929	81	70.2	1.975	228	7761

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Performance objectives - metric

FEMALES						
Age days	Weight for Age	Daily Gain (g)	Average Daily Gain (g)	Cumulative Feed Conversion	Daily Feed Consumption (g)	Cumulative Feed Consumption (g)
0	41					
1	51	10				
2	65	14				
3	79	15				
4	98	19				
5	120	22				
6	145	25				
7	174	29	24.8	0.863		150
8	203	30	25.4	0.884	30	180
9	235	32	26.1	0.913	35	215
10	268	33	26.8	0.951	40	255
11	307	39	27.9	0.974	44	299
12	348	42	29.0	0.995	48	347
13	393	45	30.2	1.014	52	399
14	440	47	31.4	1.036	57	456
15	487	48	32.5	1.062	62	518
16	538	51	33.6	1.087	67	585
17	591	53	34.7	1.112	72	656
18	647	57	36.0	1.133	77	733
19	708	61	37.2	1.153	83	816
20	772	65	38.6	1.172	89	905
21	838	66	39.9	1.194	95	1000
22	904	67	41.1	1.218	101	1101
23	972	67	42.3	1.243	107	1208
24	1040	68	43.3	1.270	113	1321
25	1110	69	44.4	1.297	119	1440
26	1181	71	45.4	1.326	126	1566
27	1255	73	46.5	1.354	133	1699
28	1331	76	47.5	1.381	140	1839
29	1408	77	48.6	1.409	146	1984
30	1487	78	49.6	1.437	152	2136
31	1566	79	50.5	1.465	158	2294
32	1648	81	51.5	1.492	164	2458
33	1731	83	52.5	1.519	171	2629
34	1815	84	53.4	1.546	178	2807
35	1900	84	54.3	1.575	185	2992
36	1984	84	55.1	1.601	186	3177
37	2069	84	55.9	1.626	187	3364
38	2153	84	56.7	1.650	188	3552
39	2237	84	57.4	1.672	189	3741
40	2322	84	58.0	1.693	190	3931
41	2407	85	58.7	1.712	191	4122
42	2492	85	59.3	1.731	192	4314
43	2577	84	59.9	1.749	194	4507
44	2659	82	60.4	1.769	196	4703
45	2740	80	60.9	1.789	198	4901
46	2820	80	61.3	1.809	200	5101
47	2900	80	61.7	1.828	202	5303
48	2981	80	62.1	1.847	204	5507
49	3061	80	62.5	1.866	206	5712
50	3142	80	62.8	1.884	206	5918
51	3222	80	63.2	1.901	206	6124
52	3300	78	63.5	1.918	206	6330
53	3379	78	63.8	1.934	206	6536
54	3457	78	64.0	1.950	206	6742
55	3536	78	64.3	1.965	206	6947
56	3614	78	64.5	1.979	206	7153

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Performance objectives - metric

MALES						
Age days	Weight for Age	Daily Gain (g)	Average Daily Gain (g)	Cumulative Feed Conversion	Daily Feed Consumption (g)	Cumulative Feed Consumption (g)
0	43					
1	53	10				
2	67	14				
3	81	15				
4	100	19				
5	122	22				
6	149	27				
7	178	29	25.4	0.849		151
8	209	32	26.2	0.864	30	181
9	245	36	27.2	0.880	35	216
10	286	41	28.6	0.895	40	256
11	329	43	29.9	0.918	46	302
12	374	46	31.2	0.945	52	354
13	421	47	32.4	0.978	58	412
14	471	51	33.7	1.007	63	475
15	527	56	35.1	1.033	70	545
16	588	61	36.7	1.058	77	622
17	652	65	38.4	1.082	84	705
18	719	67	39.9	1.108	91	796
19	787	68	41.4	1.135	97	893
20	858	70	42.9	1.162	103	996
21	931	73	44.3	1.187	109	1105
22	1006	75	45.7	1.214	117	1222
23	1085	78	47.2	1.240	123	1345
24	1166	81	48.6	1.267	133	1478
25	1251	84	50.0	1.294	141	1619
26	1338	87	51.5	1.320	148	1767
27	1428	90	52.9	1.345	155	1921
28	1520	91	54.3	1.371	162	2083
29	1614	94	55.7	1.396	170	2253
30	1709	95	57.0	1.422	178	2431
31	1806	96	58.2	1.448	184	2615
32	1903	97	59.5	1.476	194	2809
33	2001	98	60.6	1.504	201	3010
34	2100	99	61.8	1.532	208	3217
35	2201	100	62.9	1.560	215	3432
36	2302	101	63.9	1.585	217	3649
37	2404	102	65.0	1.609	219	3868
38	2507	103	66.0	1.631	221	4089
39	2612	104	67.0	1.651	223	4312
40	2717	105	67.9	1.670	225	4536
41	2823	106	68.9	1.687	226	4762
42	2931	108	69.8	1.702	228	4990
43	3037	106	70.6	1.719	230	5220
44	3142	104	71.4	1.735	232	5452
45	3244	102	72.1	1.753	234	5685
46	3344	100	72.7	1.771	236	5921
47	3442	98	73.2	1.789	238	6159
48	3539	96	73.7	1.808	240	6399
49	3633	94	74.1	1.828	242	6641
50	3725	92	74.5	1.848	244	6884
51	3816	90	74.8	1.868	245	7129
52	3904	88	75.1	1.889	246	7375
53	3990	86	75.3	1.910	247	7622
54	4075	84	75.5	1.931	248	7870
55	4159	84	75.6	1.952	249	8119
56	4243	84	75.8	1.972	250	8368

Broiler Nutrition

Recommended minimum specifications

		Starter	Grower	Finisher 1	Finisher 2*
FEEDING AMOUNT/bird		250 g 0.55 lb	1000 g 2.20 lb		
FEEDING PERIOD days		0 - 10	11 - 22	23 - 42	43 +
FEED STRUCTURE		Crumb	Pellet	Pellet	Pellet
Crude Protein	%	21-22	19-20	18-19	17-18
Metabolizable energy	MJ/kg	12.70	13.00	13.30	13.40
(AMEn[†])	Kcal/kg	3035	3108	3180	3203
	Kcal/lb	1380	1410	1442	1453
Lysine	%	1.32	1.19	1.05	1.00
Digestible Lysine	%	1.18	1.05	0.95	0.90
Methionine	%	0.50	0.48	0.43	0.41
Digestible Methionine	%	0.45	0.42	0.39	0.37
Met + Cys	%	0.98	0.89	0.82	0.78
Digestible Met + Cys	%	0.88	0.80	0.74	0.70
Tryptophan	%	0.20	0.19	0.19	0.18
Digestible Tryptophan	%	0.18	0.17	0.17	0.16
Threonine	%	0.86	0.78	0.71	0.68
Digestible Threonine	%	0.77	0.69	0.65	0.61
Arginine	%	1.38	1.25	1.13	1.08
Digestible Arginine	%	1.24	1.10	1.03	0.97
Valine	%	1.00	0.91	0.81	0.77
Digestible Valine	%	0.89	0.81	0.73	0.69
Calcium	%	0.90	0.84	0.76	0.76
Available Phosphorus	%	0.45	0.42	0.38	0.38
Sodium	%	0.16-0.23	0.16-0.23	0.15-0.23	0.15-0.23
Chloride	%	0.17-0.35	0.16-0.35	0.15-0.35	0.15-0.35
Potassium	%	0.60-0.95	0.60-0.85	0.60-0.80	0.60-0.80
Linoleic Acid	%	1.00	1.00	1.00	1.00

[†] The AMEn values are based on the WPSA European table of energy values for Poultry Feedstuffs 3rd Edition 1989.

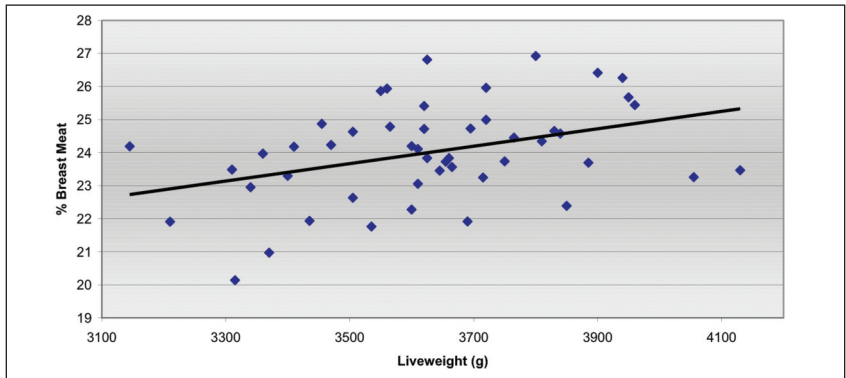
* Should withdrawal feed be required use same finisher specification.

Yield Performance

Meat yield is dependent on many factors, but those that have the most influence are weight, age and nutrition.

Weight

- Carcass and breast meat yield increase as a function of liveweight at any given age.



Percent breast meat yield for birds from a single flock of males processed at 50 days.

Age

- Carcass and breast meat yield increase as a function of age.
- Older birds processed at the same weight will often yield more than their younger counterparts.

Sex	Age	Weight g	% Eviscerated Carcass
A/H	46	2826	74.6
A/H	43	2830	74.1
Difference	3	-4	0.50

Feed

- Carcass composition is affected by nutrition.
- Rations of varying nutrient density will affect yield in different ways.
- As protein is increased there is a corresponding yield increase in breast meat yield as a percent of live weight.

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Yield Performance

Predicted carcass yields at given weights

AS HATCHED					
Weight g	% Carcass	% Boneless Breast	% Whole Thigh	% Whole Drum Stick	% Wing
1600	71.7	20.18	13.91	8.85	7.78
1800	72.3	20.73	14.07	8.87	7.75
2000	72.9	21.60	14.21	8.89	7.72
2200	73.6	22.22	14.29	8.91	7.69
2400	74.2	22.79	14.41	8.93	7.66
2600	74.9	23.31	14.53	8.95	7.63
2800	75.7	23.74	14.63	8.97	7.60
3000	76.2	24.04	14.71	8.99	7.57
3200	76.8	24.59	14.79	9.01	7.54

FEMALES					
Weight g	% Carcass	% Boneless Breast	% Whole Thigh	% Whole Drum Stick	% Wing
1600	71.8	21.01	14.15	8.60	7.84
1800	72.4	21.13	14.33	8.62	7.81
2000	73.0	21.88	14.49	8.64	7.78
2200	73.5	22.46	14.53	8.66	7.75
2400	74.3	22.94	14.65	8.68	7.72
2600	75.4	23.41	14.79	8.70	7.69
2800	75.6	23.79	14.89	8.72	7.66

MALES					
Weight g	% Carcass	% Boneless Breast	% Whole Thigh	% Whole Drum Stick	% Wing
1600	71.6	19.83	13.67	9.10	7.71
1800	72.2	20.45	13.80	9.12	7.68
2000	72.8	21.32	13.92	9.14	7.65
2200	73.5	21.98	14.04	9.16	7.62
2400	74.1	22.63	14.17	9.18	7.58
2600	74.8	23.21	14.27	9.20	7.55
2800	75.4	23.69	14.37	9.22	7.52
3000	76.1	23.94	14.49	9.24	7.49
3200	76.7	24.43	14.61	9.26	7.46
3400	77.3	25.01	14.72	9.28	7.43
3600	78.0	25.58	14.84	9.30	7.40

- Eviscerated carcass is calculated with feet and shanks removed from the hock joint.
- % Boneless breast is as a percentage of live weight.

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Broiler Nutrition

Balanced protein total amino acid profiles

Amino Acid	Starter 0-10 days	Grower 11-22 days	Finisher 1 23-42 days	Finisher 2 43- days
Lysine*	100	100	100	100
Methionine	38	40	41	41
Methionine + Cystine	74	76	78	78
Tryptophan	16	16	18	18
Threonine	65	66	68	68
Arginine	105	105	108	108
Valine	75	76	77	77

* In the profile Lysine is always the reference amino acid, and is shown at 100%.

Supplementary levels of vitamins and trace elements (per tonne)

		Starter	Grower	Finisher 1 and 2
Vitamin A	(MIU)	13	10	10
Vitamin D3	(MIU)	5	5	5
Vitamin E	(KIU)	80	50	50
Vitamin K	(g)	3	3	3
Vitamin B1 (thiamine)	(g)	3	2	2
Vitamin B2 (riboflavin)	(g)	9	8	6
Vitamin B6 (pyridoxine)	(g)	4	3	3
Vitamin B12	(mg)	20	15	15
Biotin (Maize Diets)	(mg)	150	120	120
Biotin (Wheat Diets)	(mg)	200	180	180
Choline*	(mg)	500	400	350
Folic Acid	(g)	2	2	1.5
Nicotinic Acid	(g)	60	50	50
Pantothenic Acid	(g)	15	12	10
Manganese	(g)	100	100	100
Zinc	(g)	100	100	100
Iron	(g)	40	40	40
Copper	(g)	15	15	15
Iodine	(g)	1	1	1
Selenium	(g)	0.35	0.35	0.35

* Preferably Choline is added directly into the mixer rather than via a premix because of its hygroscopic nature.

Vitamin and trace mineral levels may vary depending on the source and supplier. The numbers above refers to e.g. usage of inorganic minerals and a vitamin D3 source.

MIU = million international units; KIU = thousand international units; g = grams; mg = milligrams

Supplementary levels of trace elements should always be reviewed to ensure total levels do not exceed those set in local legislation (e.g. EU 1334/2003).

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