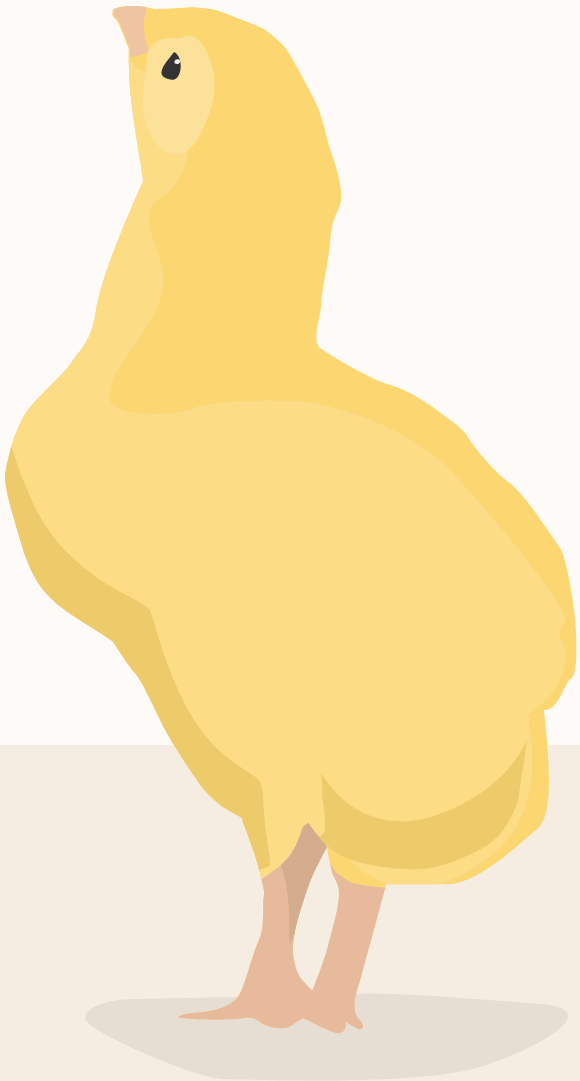
COBB GERMANY

Breeder Supplement

Realising the full potential of the breed



Cobb 500 Breeder Performance

Age at 3 %	Production Weeks	24	
	Days	168	
Peak Production	%	86	
Peak Hatchability	%	90	
Age at Depletion	Weeks	60	65
	Days	420	455
Total Eggs / Hen Housed		166.4	181.3
Hatching Eggs / Hen Housed	50 g minimum	160.3	174.8
Cumulative Hatchability	%	86.2	85.6
Broiler Chicks / Hen Housed		138.2	149.6
Livability from 25 Weeks	%	92.8	92.3

Nutrient Levels for Cobb 500

Nutrient Levels for Cobb 500

Phase Age (Days)	Unit	Starter 0 - 28	Grower 29 - 105	Developer 106 - 1st Egg	Breeder 1 1st Egg - 266	Breeder 2 > 267	Male*
Metabolizable Energy *	MJ/kg	11.92	11.30	11.72	11.72	11.72	11.30
	kcal/k	2850	2700	2800	2800	2800	2700
	kcal/l	1293	1225	1270	1270	1270	1225
Crude Protein	%	19.0	14.5	15.0	15.0	14.5	13.0
Calcium	%	0.95	0.95	1.20	3.00	3.20	0.95
Available Phosphorus	%	0.45	0.42	0.42	0.42	0.38	0.42
Sodium	%	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18
Chloride	%	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18	0.16 – 0.18
Potassium	%	0.60	0.60	0.60	0.60	0.60	0.60
Linoleic Acid	%	1.00	1.00	1.00	1.25	1.25	1.00

Digestible Amino Acids

Lysine	%	0.93	0.60	0.63	0.63	0.60	0.50
Methionine	%	0.42	0.31	0.33	0.33	0.31	0.28
M + C	%	0.70	0.51	0.54	0.55	0.52	0.48
Tryptophan	%	0.20	0.13	0.14	0.14	0.13	0.12
Threonine	%	0.65	0.45	0.47	0.47	0.45	0.44
Arginine	%	0.98	0.66	0.69	0.69	0.66	0.55
Valine	%	0.67	0.45	0.47	0.47	0.45	0.38
Isoleucine	%	0.64	0.42	0.44	0.44	0.42	0.40

If the energy level needs to be adjusted for local conditions, then all other nutrients (protein/amino acids) need to be adjusted at the same ratio.

Supplementary Levels of Vitamins and Trace Elements Per Metric Ton

Nutrients	Unit	Starter / Developer / Males	Breeders in Production
Vit. A (Maize Diets)	KIU	10,000	12,000
Vit. A (Wheat Diets)	KIU	11,000	13,000
Vit. D3	KIU	3,500	3,500
Vit. E	KIU	100	100
Vit. K	g	3	6
Thiamine (B1)	g	2.75	3.00
Riboflavin (B2)	g	8	13
Pantothenic Acid	g	15	20
Niacin	g	40	50
Pyridoxine (B6)	g	3	6
Folic Acid	g	2	3
Vit. B12	g	0.025	0.035
Biotin (Maize Diets)	g	0.25	0.30
Biotin (Wheat Diets)	g	0.300	0.375
Choline	g	500	500
Manganese	g	100	120
Zinc	g	100	110
Iron	g	20 - 50	40 - 55
Copper	g	10 - 15	10 - 15
Iodine	g	1.5	2.0
Selenium	g	0.30	0.30

Rearing - Body Weight and Feed Intake – Cobb 500 Female

Week	Days	Body Weight (g)	Feeding Period (days)	Feed (g)
placement	placement	40	placement - 7	Ad lib or 22
1	7	145	8 - 14	29
2	14	280	15 - 21	33
3	21	405	22 - 28	37
4	28	520	29 - 35	41
5	35	630	36 - 42	44
6	42	740	43 - 49	46
7	49	840	50 - 56	48
8	56	940	57 - 63	51
9	63	1030	64 - 70	54
10	70	1120	71 - 77	57
11	77	1210	78 - 84	60
12	84	1300	85 - 91	63
13	91	1390	92 - 98	66
14	98	1490	99 - 105	69
15	105	1590	106 - 112	73
16	112	1690	113 - 119	78
17	119	1830	120 - 126	83
18	126	1980	127 - 133	89
19	133	2140	134 - 140	97
20	140	2300	141 - 147	103

Production - Body Weight and Feed Intake – Cobb 500 Female

Weeks	Days	Body weight (g)	Feeding Period (days)	Feed (g)
21	147	2450	148 – 154	106
22	154	2600	155 – 161	110
23	161	2850	162 – 168	114
24	168	3000	169 – 175	118
25	175	3130	176 – 182	
26	182	3260	183 – 189	
27	189	3360	190 – 196	
28	196	3460	197 – 203	168
29	203	3540	204 – 210	168
30	210	3600	211 – 217	168
31	217	3645	218 – 224	167
32	224	3680	225 – 231	167
33	231	3715	232 – 238	167
34	238	3750	239 – 245	167
35	245	3780	246 – 252	166
36	252	3810	253 – 259	166
37	259	3835	260 – 266	166
38	266	3860	267 – 273	166
39	273	3880	274 – 280	165
40	280	3900	281 – 287	165
41	287	3920	288 – 294	165
42	294	3940	295 – 301	165
43	301	3960	302 – 308	164
44	308	3980	309 – 315	164
45	315	4000	316 – 322	164

Feeding based on production

% Hen Day	g/bird/day	Increase
5	118	
15	121	3
25	124	3
35	130	6
45	138	8
55	147	9
65	156	9
75	164	8
80	166	2
85	168	2

If egg production goes over 85% give females +1g for every 2% more egg production.

Weeks	Days	Body weight (g)	Feeding Period (days)	Feed (g)
46	322	4020	323 – 329	164
47	329	4040	330 – 336	164
48	336	4060	337 – 343	164
49	343	4080	344 – 350	164
50	350	4095	351 – 357	164
51	357	4110	358 – 364	164
52	364	4125	365 – 371	164
53	371	4140	372 – 378	164
54	378	4150	379 – 385	164
55	385	4160	386 – 392	164
56	392	4170	393 – 399	164
57	399	4180	400 – 406	164
58	406	4190	407 – 413	164
59	413	4200	414 – 420	164
60	420	4210	421 – 427	164
61	427	4220	428 – 434	164
62	434	4230	435 – 441	164
63	441	4240	442 – 448	164
64	448	4250	449 – 455	164
65	455	4260		

Breeder Performance

Week	Total Eggs (%HW)	Hatching Eggs (%HW)	Mortality Cum. (%)	% HE Weekly	Total Eggs / HH	Hatching Eggs / HH
24	3.0	1.5	0.25	50.0	0.2	0.1
25	20.0	15.0	0.50	75.0	1.6	1.1
26	50.0	40.0	0.80	80.0	5.1	3.9
27	73.0	67.2	1.30	92.0	10.1	8.6
28	82.0	77.9	1.70	95.0	15.8	13.9
29	85.0	81.6	2.05	96.0	21.6	19.5
30	86.0	83.0	2.35	96.5	27.5	25.2
31	85.8	83.7	2.60	97.5	33.3	30.9
32	84.8	82.7	2.80	97.5	39.1	36.5
33	83.8	81.7	3.00	97.5	44.8	42.1
34	82.8	81.0	3.20	97.8	50.4	47.6
35	81.8	80.0	3.40	97.8	55.9	53.0
36	80.8	79.0	3.60	97.8	61.4	58.3
37	79.8	78.0	3.80	97.8	66.7	63.6
38	78.8	77.1	4.00	97.8	72.0	68.7
39	77.8	76.1	4.20	97.8	77.3	73.8
40	76.7	74.4	4.40	97.0	82.4	78.8
41	75.6	73.3	4.65	97.0	87.4	83.7
42	74.5	72.3	4.90	97.0	92.4	88.5
43	73.3	71.1	5.15	97.0	97.3	93.2
44	72.1	69.9	5.35	97.0	102.0	97.9
45	70.9	68.8	5.50	97.0	106.7	102.4
46	69.7	67.6	5.65	97.0	111.3	106.9

Week	Total Eggs (%HW)	Hatching Eggs (%HW)	Mortality Cum. (%)	% HE Weekly	Total Eggs / HH	Hatching Eggs / HH
47	68.5	66.4	5.80	97.0	115.8	111.3
48	67.3	65.3	5.95	97.0	120.3	115.6
49	66.1	64.1	6.10	97.0	124.6	119.8
50	64.9	63.0	6.25	97.0	128.9	123.9
51	63.6	61.7	6.35	97.0	133.1	128.0
52	62.3	60.4	6.45	97.0	137.1	131.9
53	61.0	59.2	6.55	97.0	141.1	135.8
54	59.6	57.8	6.65	97.0	145.0	139.6
55	58.2	56.5	6.75	97.0	148.8	143.3
56	56.8	55.1	6.85	97.0	152.5	146.8
57	55.4	53.7	6.95	97.0	156.1	150.3
58	54.0	52.4	7.05	97.0	159.6	153.8
59	52.5	50.9	7.15	97.0	163.1	157.1
60	51.0	49.5	7.25	97.0	166.4	160.3
61	49.5	48.0	7.35	97.0	169.6	163.4
62	47.9	46.5	7.45	97.0	172.7	166.4
63	46.3	44.9	7.55	97.0	175.7	169.3
64	44.7	43.4	7.65	97.0	178.6	172.1
65	43.1	41.8	7.74	97.0	181.3	174.8

Hatchability, Fertility, Chick Weight

	Hatchability (%)		Fertility (%)		Hatch of Fertile (%)		Chicks / HH		Chick
Week	Weekly	Cum.w	Weekly	Cum.	Weekly	Cum.	Weekly	Cum.	Weight (g)
24	72.0	72.0	88.0	88.0	81.8	81.8	0.1	0.1	32.7
25	77.2	76.7	90.5	90.3	85.3	85.0	0.8	0.9	33.8
26	80.0	79.0	92.8	92.1	86.2	85.9	2.2	3.1	34.7
27	82.1	80.7	94.0	93.1	87.3	86.7	3.8	6.9	35.8
28	83.8	81.9	95.0	93.8	88.2	87.3	4.5	11.4	36.9
29	85.2	82.8	95.5	94.3	89.2	87.8	4.8	16.2	37.8
30	86.4	83.6	96.0	94.7	90.0	88.3	4.9	21.1	38.6
31	87.5	84.4	96.4	95.0	90.8	88.8	5.0	26.1	39.4
32	88.5	85.0	96.6	95.3	91.6	89.2	5.0	31.0	40.0
33	89.4	85.6	96.7	95.4	92.5	89.7	5.0	36.0	40.5
34	90.0	86.1	96.7	95.6	93.1	90.1	4.9	40.9	41.0
35	90.0	86.5	96.7	95.7	93.1	90.4	4.9	45.8	41.4
36	89.9	86.8	96.7	95.8	93.0	90.6	4.8	50.6	41.9
37	89.7	87.0	96.6	95.9	92.9	90.8	4.7	55.3	42.3
38	89.5	87.2	96.6	95.9	92.7	90.9	4.6	60.0	42.6
39	89.3	87.4	96.6	96.0	92.4	91.0	4.6	64.5	42.9
40	89.0	87.5	96.5	96.0	92.2	91.1	4.4	68.9	43.2
41	88.7	87.5	96.4	96.0	92.0	91.2	4.3	73.3	43.5
42	88.4	87.6	96.3	96.0	91.8	91.2	4.3	77.5	43.8
43	88.1	87.6	96.2	96.0	91.6	91.2	4.2	81.7	44.1
44	87.7	87.6	96.1	96.0	91.3	91.2	4.1	85.8	44.3
45	87.3	87.6	96.1	96.0	90.8	91.2	4.0	89.7	44.6
46	86.9	87.6	96.0	96.0	90.5	91.2	3.9	93.6	44.9

	Hatchability (%)		Fertility (%)		Hatch of Fertile (%)		Chicks / HH		Chick
Week	Weekly	Cum.w	Weekly	Cum.	Weekly	Cum.	Weekly	Cum.	Weight (g)
47	86.5	87.5	95.8	96.0	90.3	91.1	3.8	97.4	45.1
48	86.1	87.5	95.5	96.0	90.2	91.1	3.7	101.1	45.4
49	85.6	87.4	95.3	96.0	89.8	91.1	3.6	104.7	45.6
50	85.1	87.3	95.0	96.0	89.6	91.0	3.5	108.2	45.8
51	84.6	87.2	94.8	95.9	89.2	91.0	3.4	111.6	46.0
52	84.1	87.2	94.5	95.9	89.0	90.9	3.3	115.0	46.2
53	83.6	87.1	94.2	95.8	88.7	90.8	3.2	118.2	46.4
54	83.1	86.9	93.8	95.8	88.6	90.8	3.1	121.3	46.5
55	82.6	86.8	93.3	95.7	88.5	90.7	3.0	124.4	46.6
56	82.0	86.7	92.7	95.6	88.5	90.7	2.9	127.3	46.8
57	81.5	86.6	92.2	95.6	88.4	90.6	2.9	130.2	46.9
58	81.0	86.5	91.7	95.5	88.3	90.6	2.8	133.0	47.0
59	80.6	86.3	91.3	95.4	88.3	90.5	2.7	135.6	47.2
60	80.1	86.2	90.8	95.3	88.2	90.5	2.6	138.2	47.3
61	79.7	86.1	90.4	95.2	88.2	90.4	2.5	140.7	47.5
62	79.2	86.0	89.9	95.1	88.1	90.4	2.4	143.1	47.6
63	78.7	85.8	89.4	95.0	88.0	90.4	2.3	145.3	47.7
64	78.3	85.7	89.0	94.9	88.0	90.3	2.2	147.5	47.9
65	77.8	85.6	88.5	94.8	87.9	90.3	2.1	149.6	48.0

Egg Weight

Week	Egg Weight g	Week	Egg Weight g
24	48.5	45	66.1
25	50.0	46	66.5
26	51.4	47	66.8
27	53.0	48	67.2
28	54.6	49	67.5
29	56.0	50	67.8
30	57.2	51	68.1
31	58.3	52	68.4
32	59.2	53	68.7
33	60.0	54	68.9
34	60.7	55	69.1
35	61.4	56	69.3
36	62.0	57	69.5
37	62.6	58	69.7
38	63.1	59	69.9
39	63.6	60	70.1
40	64.0	61	70.3
41	64.5	62	70.5
42	64.9	63	70.7
43	65.3	64	70.9
44	65.7	65	71.1

Embryo Diagnosis

1/2

Week	Fertility %	Hatchability %	Infertile	Embryo Diagnosis %			HOF %
				Early	Mid	Late	
24	88.0	72.0	12.0	7.3	0.5	8.2	81.8
25	90.5	77.2	9.5	6.0	0.5	6.8	85.3
26	92.8	80.0	7.2	5.7	0.5	6.6	86.2
27	94.0	82.1	6.0	5.4	0.5	6.0	87.3
28	95.0	83.8	5.0	5.0	0.5	5.7	88.2
29	95.5	85.2	4.5	4.4	0.5	5.4	89.2
30	96.0	86.4	4.0	4.2	0.5	4.9	90.0
31	96.4	87.5	3.6	3.9	0.5	4.5	90.8
32	96.6	88.5	3.4	3.5	0.5	4.1	91.6
33	96.7	89.4	3.3	3.3	0.5	3.5	92.5
34	96.7	90.0	3.3	2.8	0.5	3.4	93.1
35	96.7	90.0	3.3	2.8	0.5	3.4	93.1
36	96.7	89.9	3.3	2.9	0.5	3.4	93.0
37	96.6	89.7	3.4	2.9	0.5	3.5	92.9
38	96.6	89.5	3.4	3.0	0.5	3.6	92.7
39	96.6	89.3	3.4	3.1	0.5	3.7	92.4
40	96.5	89.0	3.5	3.2	0.5	3.8	92.2
41	96.4	88.7	3.6	3.3	0.5	3.9	92.0
42	96.3	88.4	3.7	3.4	0.5	4.0	91.8
43	96.2	88.1	3.8	3.5	0.5	4.1	91.6
44	96.1	87.7	3.9	3.6	0.5	4.3	91.3
45	96.1	87.3	3.9	4.0	0.5	4.3	90.8
46	96.0	86.9	4.0	4.0	0.5	4.6	90.5

Embryo Diagnosis

2/2

Week	Fertility %	Hatchability %	Infertile	Embryo Diagnosis %			HOF %
				Early	Mid	Late	
47	95.8	86.5	4.2	4.1	0.5	4.7	90.3
48	95.5	86.1	4.5	4.2	0.5	4.7	90.2
49	95.3	85.6	4.7	4.4	0.5	4.8	89.8
50	95.0	85.1	5.0	4.4	0.5	5.0	89.6
51	94.8	84.6	5.2	4.6	0.5	5.1	89.2
52	94.5	84.1	5.5	4.7	0.5	5.2	89.0
53	94.2	83.6	5.8	4.7	0.5	5.4	88.7
54	93.8	83.1	6.2	4.7	0.5	5.5	88.6
55	93.3	82.6	6.7	4.7	0.5	5.5	88.5
56	92.7	82.0	7.3	4.7	0.5	5.5	88.5
57	92.2	81.5	7.8	4.7	0.5	5.5	88.4
58	91.7	81.0	8.3	4.7	0.5	5.5	88.3
59	91.3	80.6	8.7	4.7	0.5	5.5	88.3
60	90.8	80.1	9.2	4.7	0.5	5.5	88.2
61	90.4	79.7	9.6	4.7	0.5	5.5	88.2
62	89.9	79.2	10.1	4.7	0.5	5.5	88.1
63	89.4	78.7	10.6	4.7	0.5	5.5	88.0
64	89.0	78.3	11.0	4.7	0.5	5.5	88.0
65	88.5	77.8	11.5	4.7	0.5	5.5	87.9

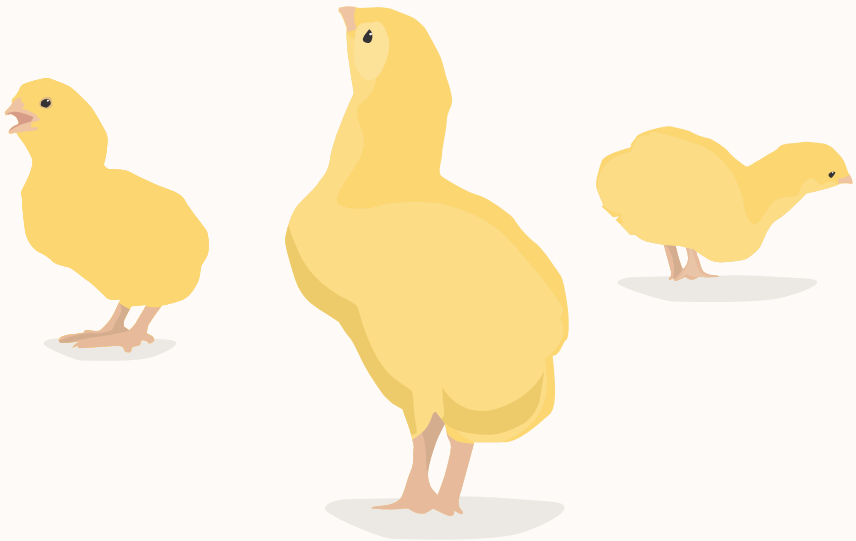
Rearing - Body Weight and Feed Intake – Cobb 500 Male

Week	Days	Body weight (g)	Feeding Period (days)	Feed (g)
Placement	placement	40	Placement - 7	23
1	7	150	8 - 14	30
2	14	335	15 - 21	35
3	21	520	22 - 28	40
4	28	690	29 - 35	45
5	35	830	36 - 42	49
6	42	965	43 - 49	53
7	49	1095	50 - 56	58
8	56	1225	57 - 63	62
9	63	1355	64 - 70	66
10	70	1490	71 - 77	69
11	77	1625	78 - 84	73
12	84	1760	85 - 91	76
13	91	1900	91 - 98	79
14	98	2040	99 - 105	82
15	105	2180	106 - 112	85
16	112	2330	113 - 119	89
17	119	2490	120 - 126	92
18	126	2650	127 - 133	95
19	133	2820	134 - 140	98
20	140	3000	141 - 147	101

Production - Body Weight and Feed Intake – Cobb 500 Male

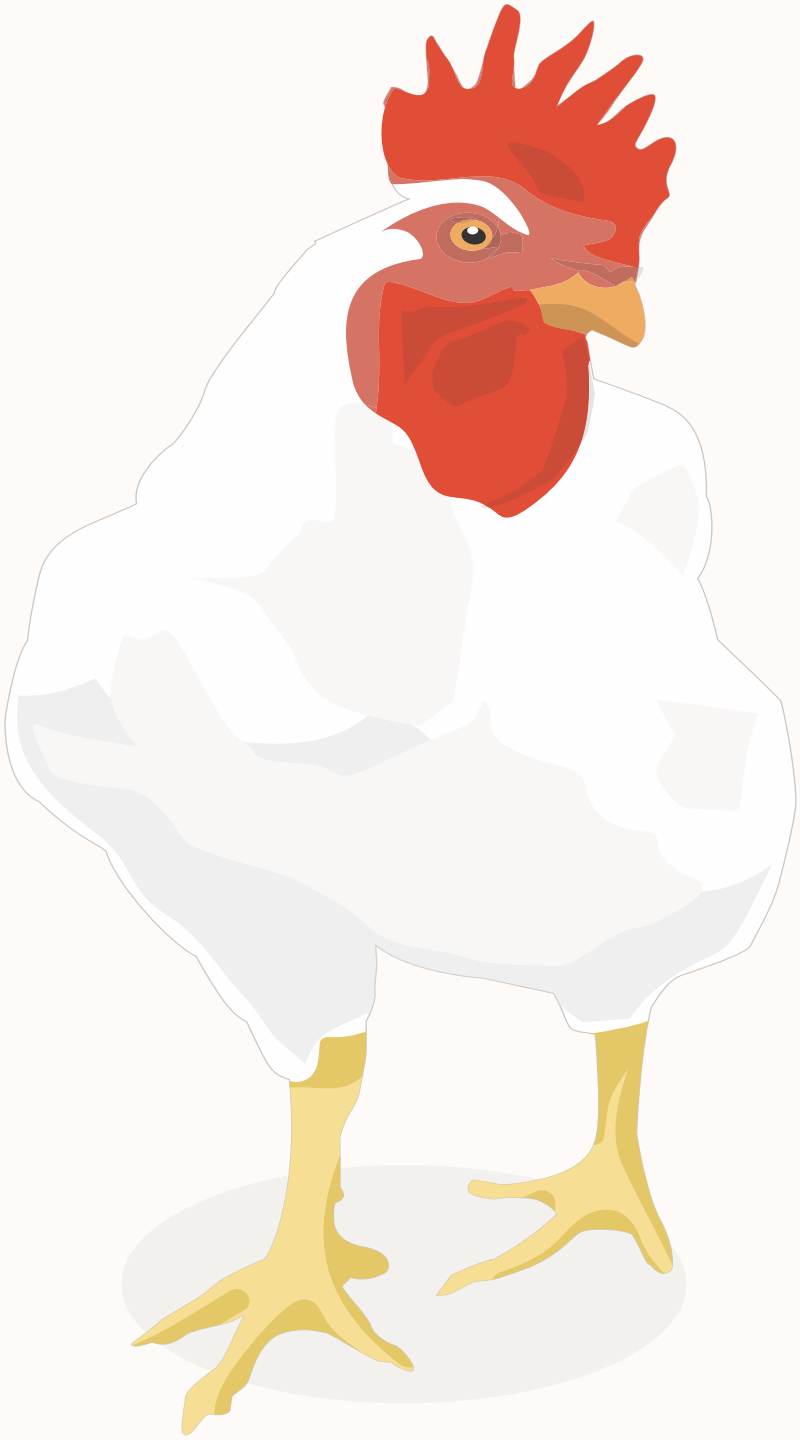
Weeks	Days	Body weight	Feeding Period (days)	Feed (g)
21	147	3200	148 – 154	104
22	154	3400	155 – 161	106
23	161	3560	162 – 168	108
24	168	3700	169 – 175	110
25	175	3800	176 – 182	112
26	182	3900	183 – 189	114
27	189	4000	190 – 196	117
28	196	4100	197 – 203	120
29	203	4190	204 – 210	123
30	210	4270	211 – 217	125
31	217	4320	218 – 224	127
32	224	4360	225 – 231	129
33	231	4390	232 – 238	131
34	238	4420	239 – 245	133
35	245	4450	246 – 252	135
36	252	4480	253 – 259	136
37	259	4510	260 – 266	137
38	266	4540	267 – 273	137
39	273	4570	274 – 280	138
40	280	4600	281 – 287	138
41	287	4630	288 – 294	139
42	294	4660	295 – 301	139
43	301	4690	302 – 308	141

Weeks	Days	Body weight	Feeding Period (days)	Feed (g)
44	308	4720	309 – 315	141
45	315	4750	316 – 322	141
46	322	4780	323 – 329	143
47	329	4810	330 – 336	143
48	336	4840	337 – 343	143
49	343	4870	344 – 350	145
50	350	4900	351 – 357	145
51	357	4930	358 – 364	145
52	364	4960	365 – 371	147
53	371	4990	372 – 378	147
54	378	5020	379 – 385	147
55	385	5050	386 – 392	149
56	392	5080	393 – 399	149
57	399	5110	400 – 406	149
58	406	5140	407 – 413	151
59	413	5170	414 – 420	151
60	420	5200	421 – 427	151
61	427	5230	428 – 434	153
62	434	5260	435 – 441	153
63	441	5290	442 – 448	153
64	448	5320	449 – 455	155
65	455	5350		



Cobb Germany Breeder Supplement

Management must meet the basic needs of the stock but also be optimized to attain the full potential of the breed. Our supplement reflects the genetic potential of the Cobb 500 breeder based on total eggs and hatch percent records taken from the top 25% of Cobb flocks worldwide.



Cobb Germany Avimex GmbH
Brösenweg 80
04509 Wiedemar

Telefon: +49 (0) 9402-9307-0
E-Mail: info@cobb-germany.com

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