



Management Supplement

Cobb500 Slow Feather Breeder

Management Supplement



www.cobb-vantress.com

Use this Cobb Breeder Management Supplement along with the Cobb Breeder Management Guide as aids to build your management program.

Management must meet the basic needs of the stock but also be optimized to attain the full potential of the breed. Our recommendations in this supplement are based on current scientific knowledge and practical experience and reflect the genetic potential of the Cobb hens based on Total Eggs and Hatch Percent records taken from the top 25% of Cobb flocks worldwide.

This supplement should be used as a guide only and adapted locally according to your own experience when projecting performance from all flocks in a particular operation. You should be aware of any local legislation which may influence the management practices that you choose to adopt.

Today's modern breeder chickens are more efficient, more productive, and more robust than prior generations. This progress is due to improved genetics and advances in husbandry methods that enhance the longevity, welfare outcomes and performance of breeder chickens at rearing and laying farms.

Cobb continues to expand the variety of breed crosses to meet global customer needs and expectations. Cobb technical representatives are always available for any questions and assistance.

For more information visit
Cobb Breeder Management
Guide at:
<https://www.cobb-vantress.com/resource/management-guides>

Management Highlights

- ✓ Ideal brooding conditions (feed, light, ventilation, bedding and water management) must always be implemented and closely monitored to ensure physiological requirements are met for optimum bird comfort.
- ✓ Research and field results have shown that Cobb's current feed specifications have a positive impact on flock uniformity, fleshing, feathering, and breeder performance.
- ✓ Adequate feeder space and flock uniformity are essential to achieve optimum performance.
- ✓ Observe the flock during feeding as often as possible – weekly at a minimum. This will help ensure feed distribution of <3 minutes with chain and pan feeders in the dark and proper feed space requirements.
- ✓ Monitor daily water intake and provide adequate drinkers (maximum 10 birds / nipple or 75 birds / bell drinker).
- ✓ Biosecurity should always be top priority. Flock health is essential to achieve breed potential.



Standard Fleshing and Pelvic Fat

Week	Fleshing Score			Total #3 + #4	Pelvic Fat
	#2	#3	#4		
12	70%	30%		30%	
16	40%	60%		60%	
19	<10%	60%	30%	90%	>65%
20	<5%	60%	35%	95%	>75%
21		60%	40%	100%	>85%
22		60%	40%	100%	>90%

- ✓ Light stimulation should be at 150 to 154 days (or 21 weeks and 3 days to 22 weeks) of age. If fleshing is ahead at 16 and 20 weeks, the target mixing (and lighting) could start earlier at 147 days. Bodyweight (BW) should increase 36% between 16 to 20 weeks to facilitate fleshing and pelvic fat deposition. Feed increases between 14 to 20 weeks should be accelerated to achieve the target weight, fleshing and fat deposition at lighting.
- ✓ The fleshing and fat scores at 19 and 20 weeks of age determine the correct age for lighting. All rearing data including the BW curve, feeding curve, feed formulation, fleshing and pelvic fat scoring should be used to make this decision.
- ✓ It is essential for males and females to have sexual synchronization at mixing. If male maturity is ahead of the female, males can be moved or mixed 1 week later. Temporarily mixing less males (5 to 7%) is another option. Please refer to the Cobb male supplement for more information.

The Essentials

- ✓ **Uniformity** - Starts at placement. Achieve early BW and uniformity target at 1, 4, 8, and 12 weeks of age.
- ✓ **Feed guide** - Establish a feeding curve to achieve +/-2% of the BW standard during rearing. The feeding curve should be supported by the feed specifications and local conditions.
- ✓ **Female condition** - To accomplish proper flock condition, it is important to achieve BW and fleshing targets at 12, 16, and 20 weeks of age.
- ✓ **BW (1 to 16 weeks)** - Prevent over weight issues in the first 16 weeks of the rearing period. Achieve +/- 2% of the standard BW.
- ✓ **BW increase (16 to 20 weeks)** - A BW increase of 36% should occur and this is normally obtained by increasing the feed by 40 to 42% in this same period.
- ✓ **Light Stimulation** - Flock performance is directly correlated to flock condition at light stimulation. The goal is for 100% of the females to have a fleshing score between #3 to #4 and >85% of the females with pelvic fat.

Breeder Performance (Top 25% Flocks)			
Age at 5% Production	(Weeks)	25	
	(Days)	175	
Peak Production	(%)	86	
Peak Hatchability	(%)	90	
Age at Depletion	(Weeks)	60	65
	(Days)	420	455
Total Eggs / Hen Housed		165.8	183.4
Hatching Eggs / Hen Housed	(50g minimum)	160.6	177.7
Cumulative Hatchability	(%)	85.2	84.4
Broiler Chicks / Hen Housed		136.9	150.0
Livability from 25 Weeks	(%)	93.5	93.2

Formulas Applied in Breeder Performance, Hatchability and Fertility Calculation

- ✓ Total Eggs (%HW) = Total Eggs Produced / Average Number of Hens for the week
- ✓ HH (Hen Housed) = Number of Hens at Capitalization (normally 25 weeks)
- ✓ Hatching Eggs (%HW) = Total Eggs (%HW) * % HE Weekly
- ✓ Weekly Total Eggs/HH = (1 - Cum. Mortality%) * Total Eggs (HW%) * 7
- ✓ Weekly Hatching Eggs/HH = (1 - Cum. Mortality%) * Hatching Eggs (HW%) * 7
- ✓ Cum. Total Eggs/HH = Cum. Total Eggs Produced / Hen Housed
- ✓ Cum. Hatching Eggs/HH = Cum. Hatching Eggs Produced / Hen Housed
- ✓ Weekly Chicks/HH = Weekly Hatching Eggs/HH * Weekly Hatchability (%)
- ✓ Cum. Chicks/HH = Cum. Chicks produced / Hen Housed
- ✓ Cum. Hatchability = (Cum. Chicks/HH) / (Cum. Hatching Eggs/HH)
- ✓ Weekly Fertile Eggs/HH = Weekly Hatching Eggs/HH * Weekly Fertility (%)
- ✓ Cum. Fertility = (Cum. Fertile Eggs/HH) / (Cum. Hatching Eggs/HH)

Feed Intake, Nutrient Intake, and BW Guide for Cobb 500 Slow Feather Female (Dark Out)

Week	BW* (/bird)		Nutrient Intake** (/bird/day)			Feed Type	Feed Intake***		
	g	lb	Energy Kcal	Protein g	Dig. Lysine mg		g/bird/day	Increase	lb/100birds/day
1	150	0.33	66	4.4	214	ST	23		5.1
2	285	0.63	83	5.5	270	ST	29	6	6.4
3	410	0.90	100	6.7	326	ST	35	6	7.7
4	550	1.21	116	7.7	379	ST	41	6	9.0
5	660	1.46	122	6.6	271	GR	45	4	10.0
6	760	1.68	127	6.8	282	GR	47	2	10.4
7	860	1.90	132	7.1	293	GR	49	2	10.8
8	960	2.12	137	7.4	304	GR	51	2	11.2
9	1060	2.34	140	7.5	310	GR	52	1	11.4
10	1150	2.54	142	7.6	316	GR	53	1	11.6
11	1240	2.73	145	7.8	322	GR	54	1	11.8
12	1330	2.93	148	7.9	329	GR	55	1	12.1
13	1420	3.13	156	8.4	347	GR	58	3	12.7
14	1515	3.34	166	8.9	369	GR	61	3	13.6
15	1615	3.56	180	9.7	400	GR	67	6	14.7
16	1725	3.80	204	10.9	459	DL	73	6	16.1
17	1855	4.09	224	12.0	504	DL	80	7	17.6
18	2005	4.42	244	13.1	549	DL	87	7	19.2
19	2170	4.78	266	14.3	599	DL	95	8	20.9
20	2350	5.18	286	15.3	644	DL	102	7	22.5
21	2530	5.58	300	16.1	675	DL	107	5	23.6
22	2700	5.95	310	16.6	698	DL	111	4	24.4
23	2960	6.53	320	17.1	720	DL	114	3	25.2
24	3120	6.88	330	17.7	743	B1	118	4	26.0

* Weights correspond to the weekly age based on the placement or hatch date. Between 2 to 22 weeks, weights should be taken when the crop is empty (dry BW) or at least 6 to 7 hours after the last feeding. Another option is to weigh the birds after the lights come on and before feeding takes place. Please consult with your Cobb technical representative for feed and light programs.

** Nutrient requirements are determined by growth models combined with field data from the best performing Cobb flocks worldwide.

*** Feed intake is developed based on Cobb feed specifications (see page 15-16) recommended for Cobb 500 females in their comfort zone (18-28°C, or 64-82°F).

Feed intake is for guide purposes only and needs to be adjusted based on actual nutritional specifications to achieve the target BW and optimum conditions for the birds. Feed type: ST = starter, GR = grower, DL = developer, B1 = breeder 1

When daily feeding is done in rearing, the weekly feed amount can be increased by 2 to 3g from 5 to 14 weeks by using a lower density grower diet while maintaining the same nutrient intake/bird/day. This will help reduce stress and achieve more feed availability for proper feed distribution.

Please refer to Cobb Breeder Management Guide for general flock recommendations and uniformity management. >75% flock uniformity (<9% CV) is preferred consistently during the rearing period to achieve proper condition prior to light stimulation.

Feed Increase Plan for Pullets

Week	Days of Age	Feed Increase Range (g/bird/day)
14	92 - 98	3 - 5
15	99 - 105	5 - 10
16	106 - 112	6 - 10
17	113 - 119	6 - 10
18	120 - 126	5 - 8
19	127 - 133	5 - 8
20	134 - 140	4 - 7
21	141 - 147	3 - 5
22	148 - 154	3 - 4
23	155 - 161	3 - 4
24	162 - 168	3 - 4
25	169 - 175	Based on production

- ✓ The feed amount in this table is based on Cobb nutritional recommendations and is for guide purposes only. Lower density feed requires higher feed increases.
- ✓ This feed increase plan applies to scenarios when birds are on target BW or slightly below target at 16 weeks of age.
- ✓ Extra feed increases should be considered during transfer or vaccination when birds are experiencing stress.
- ✓ Flocks with poor uniformity (<70%) could require higher feed increases.

Feed Intake, Nutrient Intake, and BW Guide for Cobb 500 Slow Feather Female (Open Sided)

Week	BW* (/bird)		Nutrient Intake** (/bird/day)			Feed Type	Feed Intake***		
	g	lb	Energy Kcal	Protein g	Dig. Lysine mg		g/bird/day	Increase	lb/100birds/day
1	150	0.33	66	4.4	214	ST	23		5.1
2	285	0.63	83	5.5	270	ST	29	6	6.4
3	410	0.90	100	6.7	326	ST	35	6	7.7
4	550	1.21	116	7.7	379	ST	41	6	9.0
5	660	1.46	125	6.7	278	GR	46	5	10.2
6	760	1.68	135	7.3	300	GR	50	4	11.0
7	860	1.90	140	7.5	311	GR	52	2	11.4
8	960	2.12	145	7.8	322	GR	54	2	11.8
9	1060	2.34	148	7.9	328	GR	55	1	12.0
10	1150	2.54	150	8.1	333	GR	56	1	12.3
11	1240	2.73	153	8.2	339	GR	57	1	12.5
12	1330	2.93	158	8.5	350	GR	58	1	12.9
13	1440	3.17	166	8.9	368	GR	61	3	13.5
14	1550	3.42	176	9.4	390	GR	65	4	14.3
15	1665	3.67	189	10.1	419	GR	70	5	15.4
16	1785	3.94	213	11.4	478	DL	76	6	16.7
17	1915	4.22	233	12.5	523	DL	83	7	18.3
18	2075	4.57	255	13.6	573	DL	91	8	20.0
19	2245	4.95	277	14.8	622	DL	99	8	21.8
20	2430	5.36	297	15.9	667	DL	106	7	23.4
21	2600	5.73	307	16.4	690	DL	110	4	24.1
22	2770	6.11	317	17.0	712	DL	113	3	24.9
23	3030	6.68	327	17.5	735	DL	117	4	25.7
24	3180	7.01	337	18.0	757	B1	120	3	26.5

* Weights correspond to the weekly age based on the placement or hatch date. Between 2 to 22 weeks, weights should be taken when the crop is empty (dry BW) or at least 6 to 7 hours after the last feeding. Another option is to weigh the birds after the lights come on and before feeding takes place. Please consult with your Cobb technical representative for feed and light programs.

** Nutrient requirements are determined by growth models combined with field data from the best performing Cobb flocks worldwide.

*** Feed intake is developed based on Cobb feed specifications (see page 15-16) recommended for Cobb 500 females in their comfort zone (18-28°C, or 64-82°F).

Feed intake is for guide purposes only and needs to be adjusted based on actual nutritional specifications to achieve the target BW and optimum conditions for the birds. Feed type: ST = starter, GR = grower, DL = developer, B1 = breeder 1

When daily feeding is done in rearing, the weekly feed amount can be increased by 2 to 3g from 5 to 14 weeks by using a lower density grower diet while maintaining the same nutrient intake/bird/day. This will help reduce stress and achieve more feed availability for proper feed distribution.

Please refer to Cobb Breeder Management Guide for general flock recommendations and uniformity management. >75% flock uniformity (<9% CV) is preferred consistently during the rearing period to achieve proper condition prior to light stimulation. Although BW and feed intake for open sided rearing is provided, dark out rearing system is recommended.

Feed Increase Plan for Pullets

Week	Days of Age	Feed Increase Range (g/bird/day)
14	92 - 98	3 - 5
15	99 - 105	5 - 10
16	106 - 112	6 - 10
17	113 - 119	6 - 10
18	120 - 126	5 - 8
19	127 - 133	5 - 8
20	134 - 140	4 - 7
21	141 - 147	3 - 5
22	148 - 154	3 - 4
23	155 - 161	3 - 4
24	162 - 168	3 - 4
25	169 - 175	Based on production

- ✓ The feed amount in this table is based on Cobb nutritional recommendations and is for guide purposes only. Lower density feed requires higher feed increases.
- ✓ This feed increase plan applies to scenarios when birds are on target BW or slightly below target at 16 weeks of age.
- ✓ Extra feed increases should be considered during transfer or vaccination when birds are experiencing stress.
- ✓ Flocks with poor uniformity (<70%) could require higher feed increases.

Feed Intake, Nutrient Intake, and BW Guide for Cobb 500 Slow Feather Female (Production)

Week	BW (/bird)				Nutrient Intake (/bird/day)			Feed Intake	
	Dark Out g	Open Sided lb	Open Sided g	Open Sided lb	Energy Kcal	Protein g	Dig.Lysine mg	g/bird/ day	lb/100birds/ day
25	3220	7.10	3305	7.29					
26	3320	7.32	3405	7.51					
27	3410	7.52	3495	7.71					
28	3500	7.72	3585	7.90	460	24.7	1036	164	36.2
29	3590	7.91	3675	8.10	460	24.7	1036	164	36.2
30	3660	8.07	3745	8.26	460	24.7	1036	164	36.2
31	3700	8.16	3785	8.34	458	24.5	1029	163	36.0
32	3735	8.23	3820	8.42	458	24.5	1029	163	36.0
33	3770	8.31	3855	8.50	455	24.4	1023	162	35.8
34	3800	8.38	3885	8.56	455	24.4	1023	162	35.8
35	3830	8.44	3915	8.63	452	24.2	1017	161	35.6
36	3855	8.50	3940	8.69	452	24.2	1017	161	35.6
37	3880	8.55	3965	8.74	449	24.1	1011	160	35.4
38	3900	8.60	3985	8.79	449	24.1	1011	160	35.4
39	3920	8.64	4005	8.83	446	23.1	956	159	35.1
40	3940	8.69	4020	8.86	446	23.1	956	159	35.1
41	3955	8.72	4035	8.90	444	23.0	950	158	34.9
42	3970	8.75	4050	8.93	444	23.0	950	158	34.9
43	3985	8.79	4065	8.96	444	23.0	950	158	34.9
44	4000	8.82	4080	8.99	441	22.8	944	157	34.7
45	4015	8.85	4095	9.03	441	22.8	944	157	34.7
46	4030	8.88	4110	9.06	441	22.8	944	157	34.7
47	4045	8.92	4125	9.09	438	22.7	938	156	34.5
48	4060	8.95	4140	9.13	438	22.7	938	156	34.5
49	4075	8.98	4155	9.16	438	22.7	938	156	34.5
50	4085	9.01	4165	9.18	435	22.5	932	155	34.3
51	4095	9.03	4175	9.20	435	22.5	932	155	34.3
52	4105	9.05	4185	9.23	435	22.5	932	155	34.3
53	4115	9.07	4195	9.25	435	22.5	932	155	34.3
54	4125	9.09	4205	9.27	432	22.4	926	154	34.0
55	4135	9.12	4215	9.29	432	22.4	926	154	34.0
56	4145	9.14	4225	9.31	432	22.4	926	154	34.0
57	4155	9.16	4235	9.34	432	22.4	926	154	34.0
58	4165	9.18	4245	9.36	430	22.2	920	153	33.8
59	4175	9.20	4255	9.38	430	22.2	920	153	33.8
60	4185	9.23	4265	9.40	430	22.2	920	153	33.8
61	4195	9.25	4275	9.42	430	22.2	920	153	33.8
62	4205	9.27	4285	9.45	427	22.1	914	152	33.6
63	4215	9.29	4295	9.47	427	22.1	914	152	33.6
64	4225	9.31	4305	9.49	427	22.1	914	152	33.6
65	4235	9.34	4315	9.51	427	22.1	914	152	33.6

See Table for Feeding into Lay

Female Feeding into Lay

% Hen Day	Energy Intake		Feed Intake	
	kcal/bird/day	Range	g/bird/day	Increase
5%	330	320-340	118	
15%	339	330-350	121	3
25%	347	335-360	124	3
35%	364	350-375	130	6
45%	386	375-400	138	8
55%	412	400-425	147	9
65%	437	425-450	156	9
75%	460	440-470	164	8

- ✓ This feed amount is based on crumble feed. Mash feed may require higher calorie intake and adjustments have to be made accordingly.
- ✓ The feed amount is based on thermoneutral conditions (21°C, or 70°F, from 3 weeks of age). Consult with your local technical service representative when feeding in extreme climate conditions.
- ✓ When production reaches more than 86%, the peak feed plan can be increased or extended 1 to 2 weeks.
- ✓ Please refer to the Cobb Breeder Management Guide or contact your Cobb technical representative concerning post peak feeding.

BREEDER PERFORMANCE

Breeder Performance						
Week	Total Eggs (%HW)	Hatching Eggs (%HW)	Mortality Cum. (%)	% HE Weekly	Total Eggs / HH	Hatching Eggs / HH
25	5.0	3.3	0.25	65.0	0.3	0.2
26	23.0	19.6	0.55	85.0	2.0	1.6
27	53.0	49.3	0.95	93.0	5.6	5.0
28	74.0	70.3	1.35	95.0	10.7	9.9
29	83.0	80.7	1.65	97.2	16.4	15.4
30	85.5	83.1	1.95	97.2	22.3	21.1
31	86.0	83.6	2.22	97.2	28.2	26.8
32	85.5	83.4	2.47	97.5	34.0	32.5
33	84.8	82.7	2.72	97.5	39.8	38.2
34	84.0	81.9	2.97	97.5	45.5	43.7
35	83.0	80.9	3.22	97.5	51.1	49.2
36	82.0	80.0	3.47	97.5	56.7	54.6
37	81.0	79.0	3.72	97.5	62.1	59.9
38	79.8	77.8	3.97	97.5	67.5	65.2
39	78.7	76.7	4.17	97.5	72.8	70.3
40	77.7	75.8	4.37	97.5	78.0	75.4
41	76.5	74.6	4.57	97.5	83.1	80.4
42	75.4	73.1	4.77	97.0	88.1	85.2
43	74.2	72.0	4.97	97.0	93.1	90.0
44	73.1	70.9	5.17	97.0	97.9	94.7
45	72.1	69.9	5.37	97.0	102.7	99.4
46	71.0	68.9	5.47	97.0	107.4	103.9
47	70.0	67.9	5.57	97.0	112.0	108.4
48	69.0	66.9	5.67	97.0	116.6	112.8
49	68.0	66.0	5.77	97.0	121.1	117.2
50	67.0	65.0	5.87	97.0	125.5	121.5
51	66.0	64.0	5.97	97.0	129.8	125.7
52	65.0	63.1	6.04	97.0	134.1	129.8
53	64.0	62.1	6.12	97.0	138.3	133.9
54	63.0	61.1	6.20	97.0	142.4	137.9
55	62.0	60.1	6.25	97.0	146.5	141.9
56	61.0	59.2	6.30	97.0	150.5	145.7
57	60.0	58.2	6.35	97.0	154.4	149.6
58	59.0	57.2	6.40	97.0	158.3	153.3
59	58.0	56.3	6.45	97.0	162.1	157.0
60	57.0	55.3	6.50	97.0	165.8	160.6
61	56.0	54.3	6.55	97.0	169.5	164.2
62	55.0	53.4	6.60	97.0	173.1	167.7
63	53.8	52.2	6.65	97.0	176.6	171.1
64	52.8	51.2	6.70	97.0	180.1	174.4
65	51.8	50.2	6.75	97.0	183.4	177.7

FERTILITY, HATCHABILITY AND CHICK WEIGHT

Breeder Flock Fertility, Hatchability and Chick Weight									
Week	Hatchability (%)		Fertility (%)		Hatch of Fertile (%)		Chicks / HH		Chick Weight (g)
	Weekly	Cum.	Weekly	Cum.	Weekly	Cum.	Weekly	Cum.	
25	75.0	75.0	90.0	90.0	83.3	83.3	0.2	0.2	34.5
26	78.0	77.6	92.6	92.2	84.2	84.1	1.1	1.2	35.8
27	80.5	79.6	94.0	93.4	85.6	85.2	2.8	4.0	37.1
28	82.8	81.2	95.0	94.2	87.2	86.2	4.0	8.0	38.3
29	84.7	82.4	95.6	94.7	88.6	87.0	4.7	12.7	39.5
30	86.1	83.4	96.1	95.1	89.6	87.7	4.9	17.6	40.3
31	87.4	84.3	96.4	95.4	90.7	88.4	5.0	22.6	41.0
32	88.4	85.0	96.6	95.6	91.5	88.9	5.0	27.6	41.6
33	89.3	85.6	96.7	95.7	92.3	89.4	5.0	32.7	42.1
34	90.0	86.2	96.7	95.9	93.1	89.9	5.0	37.7	42.7
35	89.9	86.6	96.7	96.0	93.0	90.2	4.9	42.6	43.1
36	89.5	86.9	96.7	96.0	92.6	90.5	4.8	47.4	43.5
37	89.1	87.1	96.6	96.1	92.2	90.6	4.7	52.2	43.8
38	88.7	87.2	96.6	96.1	91.8	90.7	4.6	56.8	44.1
39	88.3	87.3	96.5	96.2	91.5	90.8	4.5	61.4	44.4
40	87.8	87.3	96.5	96.2	91.0	90.8	4.5	65.8	44.7
41	87.4	87.3	96.4	96.2	90.7	90.8	4.4	70.2	45.0
42	86.9	87.3	96.3	96.2	90.2	90.8	4.2	74.4	45.2
43	86.4	87.3	96.2	96.2	89.8	90.7	4.1	78.6	45.4
44	86.0	87.2	96.1	96.2	89.5	90.6	4.0	82.6	45.6
45	85.5	87.1	96.1	96.2	89.0	90.6	4.0	86.6	45.8
46	85.1	87.0	96.0	96.2	88.6	90.5	3.9	90.4	46.0
47	84.7	86.9	95.7	96.2	88.5	90.4	3.8	94.2	46.2
48	84.3	86.8	95.5	96.1	88.3	90.3	3.7	98.0	46.3
49	83.9	86.7	95.2	96.1	88.1	90.2	3.7	101.6	46.4
50	83.5	86.6	95.0	96.1	87.9	90.2	3.6	105.2	46.5
51	83.0	86.5	94.7	96.0	87.6	90.1	3.5	108.7	46.6
52	82.6	86.4	94.4	96.0	87.5	90.0	3.4	112.1	46.8
53	82.1	86.2	94.2	95.9	87.2	89.9	3.3	115.5	46.9
54	81.6	86.1	93.8	95.8	87.0	89.8	3.3	118.7	47.0
55	81.1	86.0	93.4	95.8	86.8	89.7	3.2	121.9	47.0
56	80.6	85.8	92.9	95.7	86.8	89.7	3.1	125.1	47.1
57	80.0	85.7	92.3	95.6	86.7	89.6	3.1	128.1	47.2
58	79.6	85.5	91.9	95.5	86.6	89.5	3.0	131.1	47.3
59	79.0	85.4	91.3	95.4	86.5	89.5	2.9	134.0	47.4
60	78.5	85.2	90.8	95.3	86.5	89.4	2.8	136.9	47.5
61	78.0	85.1	90.3	95.2	86.4	89.3	2.8	139.6	47.6
62	77.4	84.9	89.7	95.1	86.3	89.3	2.7	142.3	47.7
63	76.8	84.7	89.1	95.0	86.2	89.2	2.6	144.9	47.7
64	76.1	84.6	88.4	94.9	86.1	89.2	2.5	147.5	47.8
65	75.4	84.4	87.7	94.7	86.0	89.1	2.5	150.0	47.9

Egg Weight and Grading							
Week	Egg Weight g	Egg Grading %					
		Small	2 Yolk	Cull	Hairline	Cracked	Floor Egg
25	51.1	10.0	6.8	2.5	4.2	1.5	20.0
26	53.0	3.0	3.4	1.0	1.0	0.3	12.5
27	54.9	1.2	1.7	0.5	0.3	0.3	6.0
28	56.8	0.4	1.3	0.5	0.3	0.2	4.5
29	58.5	0.2	0.8	0.3	0.3	0.2	<2.0
30	59.7	0.2	0.8	0.3	0.3	0.2	<2.0
31	60.7	0.1	0.4	0.3	0.5	0.5	<2.0
32	61.6	0.0	0.3	0.2	0.5	0.5	<2.0
33	62.4	0.0	0.3	0.2	0.5	0.5	<2.0
34	63.2	0.0	0.3	0.2	0.5	0.5	<2.0
35	63.9	0.0	0.2	0.2	0.5	0.6	<2.0
36	64.4	0.0	0.2	0.2	0.5	0.6	<2.0
37	64.9	0.0	0.2	0.2	0.5	0.6	<2.0
38	65.4	0.0	0.2	0.2	0.5	0.6	<2.0
39	65.8	0.0	0.0	0.5	0.5	0.5	<2.0
40	66.2	0.0	0.0	0.5	0.5	0.5	<2.0
41	66.6	0.0	0.0	0.5	0.5	0.5	<2.0
42	66.9	0.0	0.0	0.5	1.0	0.5	<2.0
43	67.3	0.0	0.0	0.5	1.0	0.5	<2.0
44	67.6	0.0	0.0	0.5	1.0	0.5	<2.0
45	67.9	0.0	0.0	0.5	1.0	0.5	<2.0
46	68.2	0.0	0.0	0.5	1.0	0.5	<2.0
47	68.4	0.0	0.0	0.5	1.0	0.5	<2.0
48	68.6	0.0	0.0	0.5	1.0	0.5	<2.0
49	68.8	0.0	0.0	0.5	1.0	0.5	<2.0
50	68.9	0.0	0.0	0.5	1.0	0.5	<2.0
51	69.1	0.0	0.0	0.5	1.0	0.5	<2.0
52	69.3	0.0	0.0	0.5	1.0	0.5	<2.0
53	69.5	0.0	0.0	0.5	1.0	0.5	<2.0
54	69.6	0.0	0.0	0.5	1.0	0.5	<2.0
55	69.7	0.0	0.0	0.5	1.0	0.5	<2.0
56	69.8	0.0	0.0	0.5	1.0	0.5	<2.0
57	69.9	0.0	0.0	0.5	1.0	0.5	<2.0
58	70.1	0.0	0.0	0.5	1.0	0.5	<2.0
59	70.2	0.0	0.0	0.5	1.0	0.5	<2.0
60	70.3	0.0	0.0	0.5	1.0	0.5	<2.0
61	70.5	0.0	0.0	0.5	1.0	0.5	<2.0
62	70.6	0.0	0.0	0.5	1.0	0.5	<2.0
63	70.7	0.0	0.0	0.5	1.0	0.5	<2.0
64	70.8	0.0	0.0	0.5	1.0	0.5	<2.0
65	70.9	0.0	0.0	0.5	1.0	0.5	<2.0

Embryo Diagnosis							
Week	Fertility %	Hatchability %	Embryo Diagnosis %				HOF %
			Infertile	Early	Mid	Late	
25	90.0	75.0	10.0	6.9	0.5	7.6	83.3
26	92.6	78.0	7.4	6.6	0.5	7.5	84.2
27	94.0	80.5	6.0	5.8	0.5	7.2	85.6
28	95.0	82.8	5.0	5.0	0.5	6.7	87.2
29	95.6	84.7	4.4	4.6	0.5	5.8	88.6
30	96.1	86.1	3.9	4.4	0.5	5.1	89.6
31	96.4	87.4	3.6	4.0	0.5	4.5	90.7
32	96.6	88.4	3.4	3.5	0.5	4.2	91.5
33	96.7	89.3	3.3	3.3	0.5	3.6	92.3
34	96.7	90.0	3.3	2.8	0.5	3.4	93.1
35	96.7	89.9	3.3	2.9	0.5	3.4	93.0
36	96.7	89.5	3.3	3.1	0.5	3.6	92.6
37	96.6	89.1	3.4	3.3	0.5	3.7	92.2
38	96.6	88.7	3.4	3.5	0.5	3.9	91.8
39	96.5	88.3	3.5	3.6	0.5	4.1	91.5
40	96.5	87.8	3.5	3.7	0.5	4.5	91.0
41	96.4	87.4	3.6	3.8	0.5	4.7	90.7
42	96.3	86.9	3.7	4.2	0.5	4.7	90.2
43	96.2	86.4	3.8	4.5	0.5	4.8	89.8
44	96.1	86.0	3.9	4.5	0.5	5.1	89.5
45	96.1	85.5	3.9	4.8	0.5	5.3	89.0
46	96.0	85.1	4.0	4.9	0.5	5.5	88.6
47	95.7	84.7	4.3	5.0	0.5	5.5	88.5
48	95.5	84.3	4.5	5.2	0.5	5.5	88.3
49	95.2	83.9	4.8	5.3	0.5	5.5	88.1
50	95.0	83.5	5.0	5.4	0.5	5.6	87.9
51	94.7	83.0	5.3	5.4	0.5	5.8	87.6
52	94.4	82.6	5.6	5.5	0.5	5.8	87.5
53	94.2	82.1	5.8	5.6	0.5	6.0	87.2
54	93.8	81.6	6.2	5.8	0.5	5.9	87.0
55	93.4	81.1	6.6	5.8	0.5	6.0	86.8
56	92.9	80.6	7.1	5.8	0.5	6.0	86.8
57	92.3	80.0	7.7	5.8	0.5	6.0	86.7
58	91.9	79.6	8.1	5.8	0.5	6.0	86.6
59	91.3	79.0	8.7	5.8	0.5	6.0	86.5
60	90.8	78.5	9.2	5.8	0.5	6.0	86.5
61	90.3	78.0	9.7	5.8	0.5	6.0	86.4
62	89.7	77.4	10.3	5.8	0.5	6.0	86.3
63	89.1	76.8	10.9	5.8	0.5	6.0	86.2
64	88.4	76.1	11.6	5.8	0.5	6.0	86.1
65	87.7	75.4	12.3	5.8	0.5	6.0	86.0

Recommended Nutrient Levels for Cobb500 Breeders

Phase Age (Days)	Unit	Starter 0 - 28	Grower 29 - 105	Developer 106 - 1 st Egg	Breeder 1 1 st Egg - 266	Breeder 2 > 267	Male*
Metabolizable Energy**	MJ/kg	11.92	11.30	11.72	11.72	11.72	11.30
	kcal/kg	2850	2700	2800	2800	2800	2700
	kcal/lb	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
Av. Phosphorus	%	0.45	0.42	0.42	0.42	0.38	0.42
Sodium	%	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24
Chloride	%	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24	0.15 - 0.24
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

Digestible Amino Acid Levels

Recommended Digestible Amino Acid Levels Based on Amino Acid / Lysine Ratios

Phase Age (Days)	Unit	Starter 0 - 28	Grower / Developer 29 - 1 st Egg	Breeder 1 st Egg +	Male*
Lysine	%	100	100	100	100
Methionine	%	45	52	52	55
M + C	%	75	85	87	95
Tryptophan	%	21	22	22	24
Threonine	%	70	75	75	87
Arginine	%	105	110	110	110
Valine	%	72	75	75	75
Isoleucine	%	68	70	70	80

* Change to male feed is suggested at 28 weeks of age. The higher nutrient level in breeder feed may assist with testicular development in the final phase of male sexual maturity at 24 to 30 weeks. However, it can be earlier at 21 to 22 weeks if males are consuming feed from female feeders.

** 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.

- ✓ The energy values are based on AMEn apparent metabolizable energy corrected by nitrogen, WPSA.
- ✓ The amino acids values are based on Standardized Ileal Digestibility (SID) assays.
- ✓ Add at least 0.75 to 1% added ingredient fat or oil (to developer, breeder 1 and 2) throughout the year in tropical and subtropical regions or during the hot summer months.
- ✓ The Cobb nutrient recommendations are based on crumble feed. If mash feed is provided, increase 50 to 100 kcal/kg to the energy recommendations.

Supplementary Vitamins and Trace Elements

Recommended Supplementary Levels of Vitamins and Trace Elements Per Metric Tonne Basis

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

KIU = thousand international units

g = grams

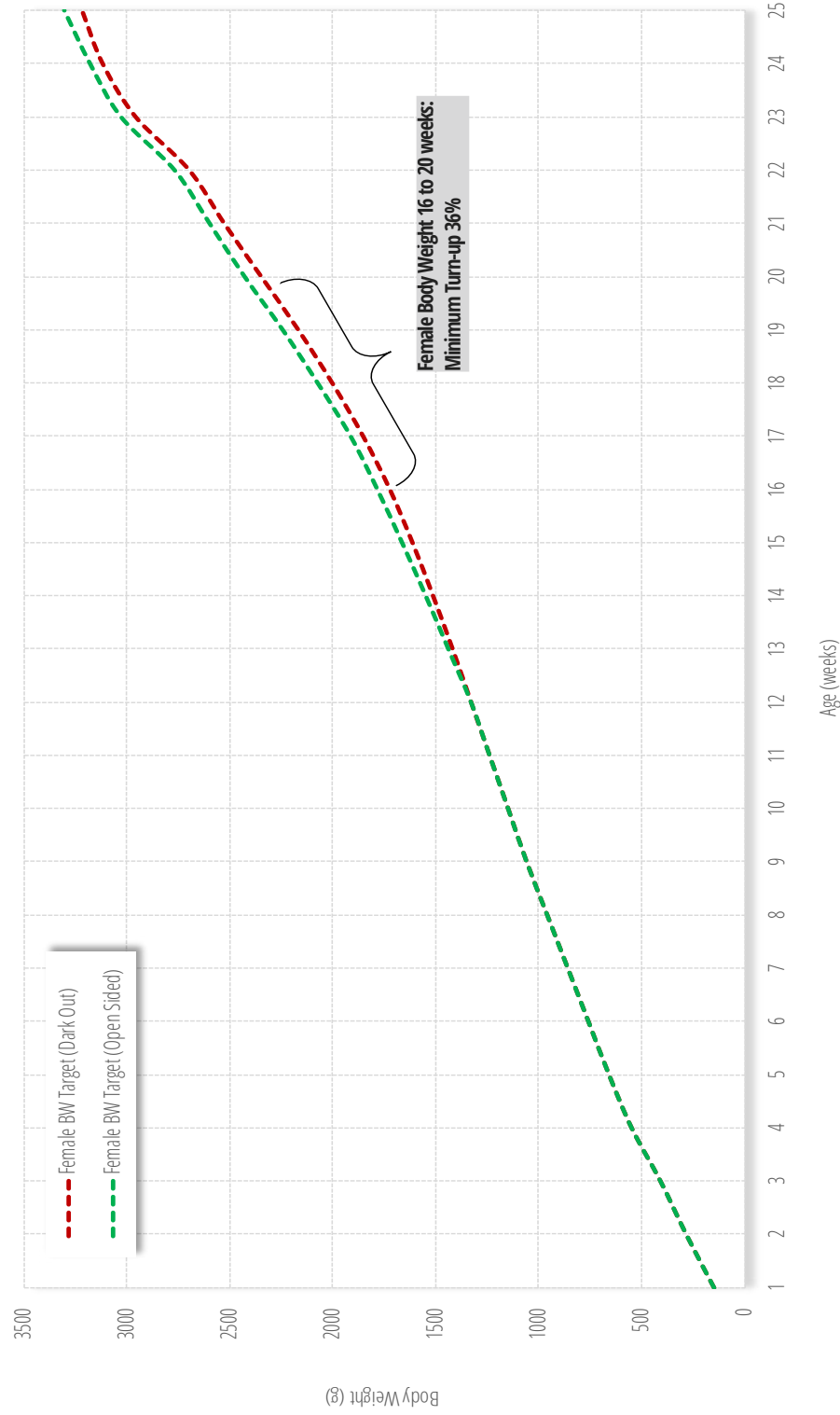
Supplementary levels of vitamins and trace elements should always be reviewed to ensure total levels do not exceed those set in local legislation.

Cobb 500™ Slow Feather Rearing Management Record (Grams)

Company Rearing Farm:	House Number:	
Placement Date:	Female	Male
Number Placed:	Female	Male

Breeder Farm:	House Number:	
Date Moved:	Female	Male
Number Transferred:	Female	Male
Point-of-lay Number:	Female	Male

Age	Weeks	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	Days	0	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175
FEMALE BW	BW Target (Dark Out)		150	285	410	550	660	760	860	960	1060	1150	1240	1330	1420	1515	1615	1725	1855	2005	2170	2350	2530	2700	2960	3120	3220
	BW Target (Open Sided)		150	285	410	550	660	760	860	960	1060	1150	1240	1330	1440	1550	1665	1785	1915	2075	2245	2430	2600	2770	3030	3180	3305
	BW Actual																										
	Weekly Gain																										
	Uniformity																										
	Feed Guide (g/b/d)																										
	Feed Actual (g/b/d)																										
	Feed Energy																										
	Feed Type																										
	Female # of Birds																										
	Weekly Mortality (%)																										
	Cumulative Mortality (%)																										
	BW Target																										
	BW Actual																										
	Uniformity																										
	Feed Guide (g/b/d)																										
	Feed Actual (g/b/d)																										
	Feed Energy																										
	Feed Type																										
	Male # of Birds																										
	Weekly Mortality (%)																										
	Cumulative Mortality (%)																										
	Light Hours																										
	Water Consumption																										
	Temperature																										



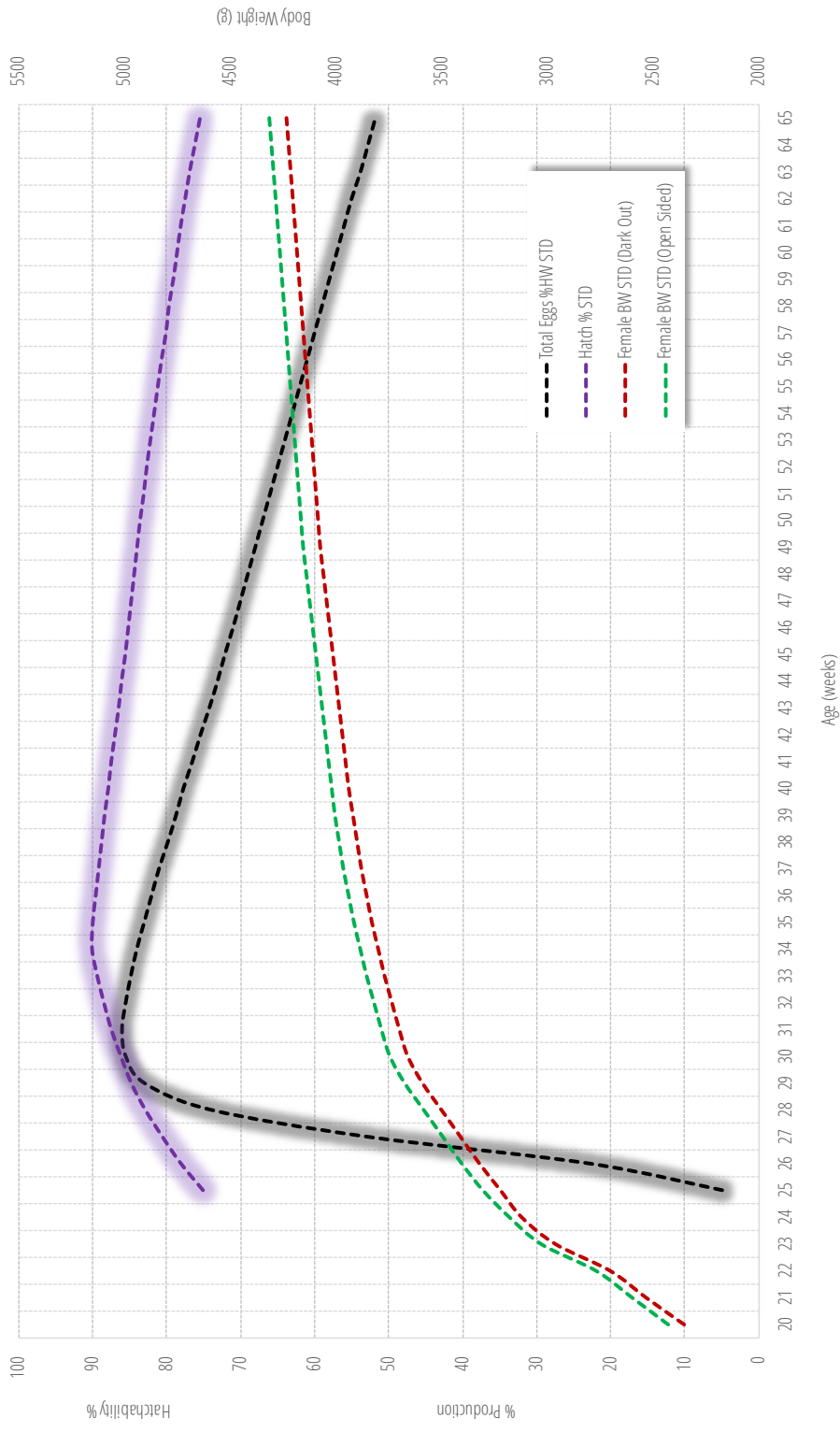
Cobb 500™ Slow Feather Production Management Record (Grams)

Company		House Number:	
Rearing Farm:		Male	
Placement Date:	Female	Male	
Number Placed:	Female	Male	

Breeder Farm:		House Number:	
Date Moved:	Female	Male	
Number Transferred:	Female	Male	
Point-of-lay Number:	Female	Male	
Age at Light Stimulation:			

Age (weeks)	Female No.	Male No.	Total Eggs (%HW)	Female Feed	Female BW (Dark Out)	Female BW (Open Sided)	Female BW Actual	Male Feed	Male BW STD	Male BW Actual	Hatch %
20					2350	2430					
21					2550	2600					
22					2700	2770					
23					2960	3030					
24					3120	3180					
25	5.0				3220	3305					
26	23.0				3320	3405					
27	53.0				3410	3495					
28	74.0				3500	3585					
29	83.0				3590	3675					
30	85.5				3660	3745					
31	86.0				3700	3785					
32	85.5				3735	3820					
33	84.8				3770	3855					
34	84.0				3800	3885					
35	83.0				3830	3915					
36	82.0				3855	3940					
37	81.0				3880	3965					
38	79.8				3900	3985					
39	78.7				3920	4005					
40	77.7				3940	4020					
41	76.5				3955	4035					
42	75.4				3970	4050					

Age (weeks)	Female No.	Male No.	Total Eggs (%HW)	Female Feed	Female BW (Dark Out)	Female BW (Open Sided)	Female BW Actual	Female Feed	Female BW (Dark Out)	Female BW (Open Sided)	Female BW Actual	Male Feed	Male BW STD	Male BW Actual	Hatch %
43			74.2		3985	4065			3985	4065					
44			73.1		4000	4080			4000	4080					
45			72.1		4015	4095			4015	4095					
46			71.0		4030	4110			4030	4110					
47			70.0		4045	4125			4045	4125					
48			69.0		4060	4140			4060	4140					
49			68.0		4075	4155			4075	4155					
50			67.0		4085	4165			4085	4165					
51			66.0		4095	4175			4095	4175					
52			65.0		4105	4185			4105	4185					
53			64.0		4115	4195			4115	4195					
54			63.0		4125	4205			4125	4205					
55			62.0		4135	4215			4135	4215					
56			61.0		4145	4225			4145	4225					
57			60.0		4155	4235			4155	4235					
58			59.0		4165	4245			4165	4245					
59			58.0		4175	4255			4175	4255					
60			57.0		4185	4265			4185	4265					
61			56.0		4195	4275			4195	4275					
62			55.0		4205	4285			4205	4285					
63			53.8		4215	4295			4215	4295					
64			52.8		4225	4305			4225	4305					
65			51.8		4235	4315			4235	4315					

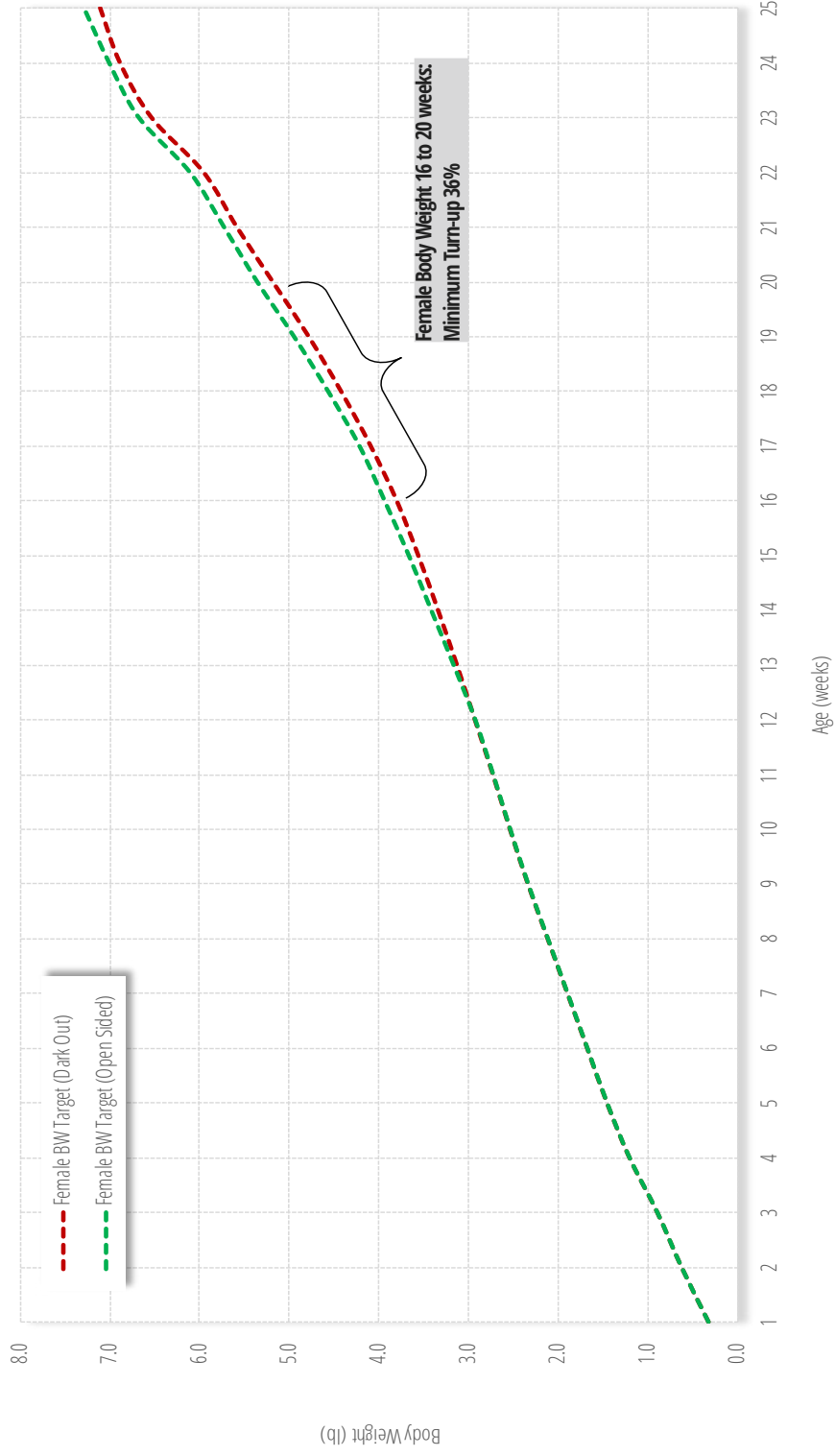


Cobb 500™ Slow Feather Rearing Management Record (Pounds)

Company Rearing Farm:	House Number:
Placement Date:	Male
Number Placed:	Male

Breeder Farm:	House Number:
Date Moved:	Male
Number Transferred:	Male
Point-of-Lay Number:	Male

Age	Weeks																										
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
FEMALE BW	Days	0	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175
	BW Target (Dark Out)	0.33	0.63	0.90	1.21	1.46	1.68	1.90	2.12	2.34	2.54	2.73	2.93	3.13	3.34	3.56	3.80	4.09	4.42	4.78	5.18	5.58	5.95	6.53	6.88	7.01	7.29
FEMALE FEED	BW Target (Open Sided)	0.33	0.63	0.90	1.21	1.46	1.68	1.90	2.12	2.34	2.54	2.73	2.93	3.17	3.42	3.67	3.94	4.22	4.57	4.95	5.36	5.73	6.11	6.68	7.01	7.29	
	BW Actual																										
FEMALE MORTALITY	Weekly Gain																										
	Uniformity																										
MALE BW	Feed Guide (lb/100b/d)																										
	Feed Actual (lb/100b/d)																										
MALE FEED	Feed Energy																										
	Feed Type																										
MALE MORTALITY	Female # of Birds																										
	Weekly Mortality (%)																										
	Cumulative Mortality (%)																										
	BW Target																										
	BW Actual																										
	Uniformity																										
	Feed Guide (lb/100b/d)																										
	Feed Actual (lb/100b/d)																										
	Feed Energy																										
	Feed Type																										
	Male # of Birds																										
	Weekly Mortality (%)																										
	Cumulative Mortality (%)																										
	Light Hours																										
	Water Consumption																										
	Temperature																										



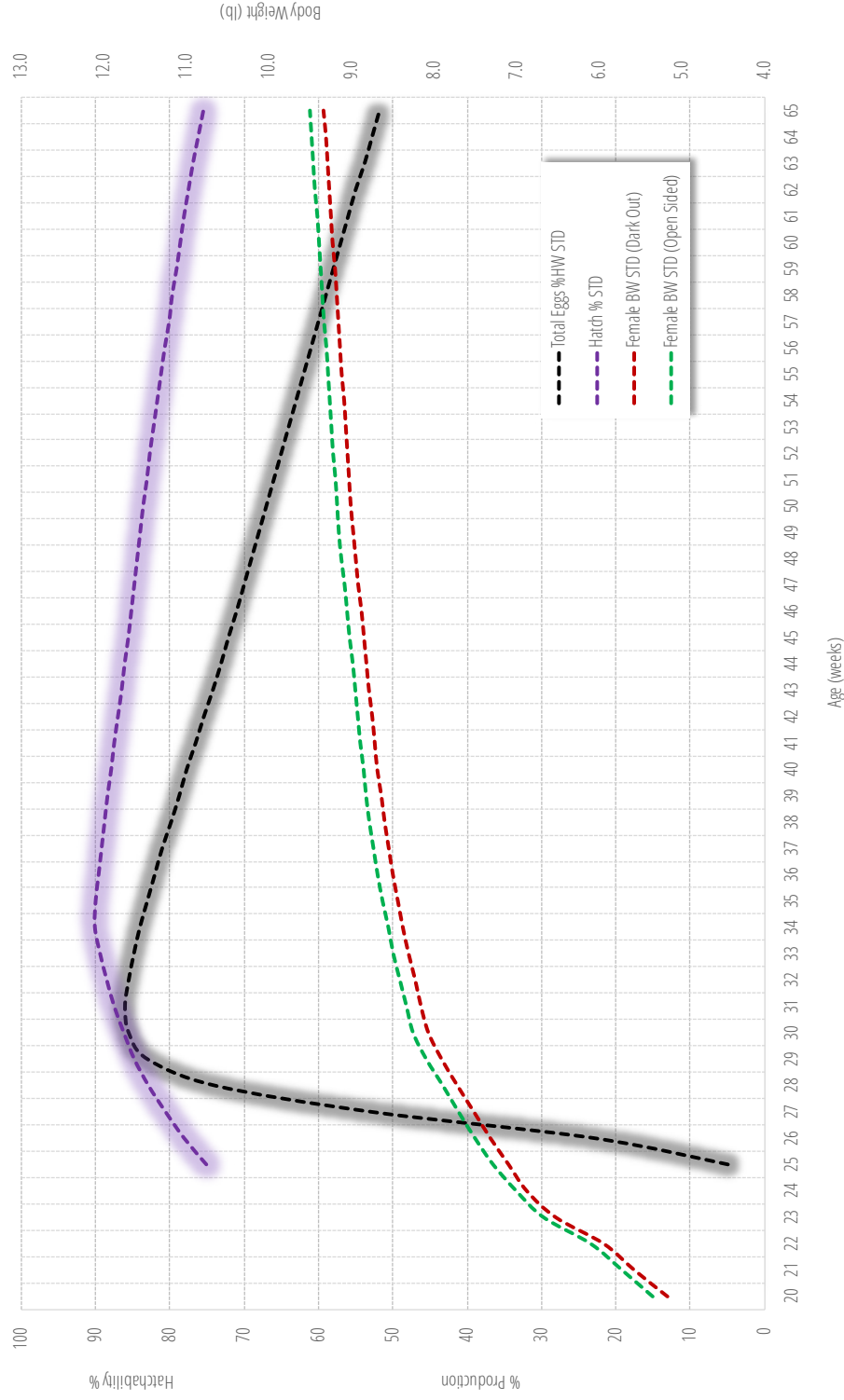
Cobb 500™ Slow Feather Production Management Record (Pounds)

Company		House Number:
Rearing Farm:		Male
Placement Date:	Female	Male
Number Placed:	Female	Male

Breeder Farm:		House Number:
Date Moved:	Female	Male
Number Transferred:	Female	Male
Point-of-lay Number:	Female	Male
Age at Light Stimulation:		

Age (weeks)	Female No.	Male No.	Total Eggs (%HW)	Female Feed	Female BW (Dark Out)	Female BW (Open Sided)	Female BW Actual	Male Feed	Male BW STD	Male BW Actual	Hatch %
20					5.18	5.36					
21					5.58	5.73					
22					5.95	6.11					
23					6.53	6.68					
24					6.88	7.01					
25			5.0		7.10	7.29					
26			23.0		7.32	7.51					
27			53.0		7.52	7.71					
28			74.0		7.72	7.90					
29			83.0		7.91	8.10					
30			85.5		8.07	8.26					
31			86.0		8.16	8.34					
32			85.5		8.23	8.42					
33			84.8		8.31	8.50					
34			84.0		8.38	8.56					
35			83.0		8.44	8.63					
36			82.0		8.50	8.69					
37			81.0		8.55	8.74					
38			79.8		8.60	8.79					
39			78.7		8.64	8.83					
40			77.7		8.69	8.86					
41			76.5		8.72	8.90					
42			75.4		8.75	8.93					

Age (weeks)	Date	Female No.	Male No.	Total Eggs (%HW)	Female Feed	Female BW (Dark Out)	Female BW (Open Sided)	Female BW Actual	Male Feed	Male BW STD	Male BW Actual	Hatch %
43				74.2		8.79	8.96					
44				73.1		8.82	8.99					
45				72.1		8.85	9.03					
46				71.0		8.88	9.06					
47				70.0		8.92	9.09					
48				69.0		8.95	9.13					
49				68.0		8.98	9.16					
50				67.0		9.01	9.18					
51				66.0		9.03	9.20					
52				65.0		9.05	9.23					
53				64.0		9.07	9.25					
54				63.0		9.09	9.27					
55				62.0		9.12	9.29					
56				61.0		9.14	9.31					
57				60.0		9.16	9.34					
58				59.0		9.18	9.36					
59				58.0		9.20	9.38					
60				57.0		9.23	9.40					
61				56.0		9.25	9.42					
62				55.0		9.27	9.45					
63				53.8		9.29	9.47					
64				52.8		9.31	9.49					
65				51.8		9.34	9.51					





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