Ranger Premium Parent Stock

PERFORMANCE OBJECTIVES 2018

ROWAN RANGE®

An Aviagen Brand

Introduction

This booklet contains the performance objectives for Ranger Premium™ parent stock and should be used in conjunction with the **Parent Stock Management Handbook** supplied by Aviagen® and the **Ranger Female Management Supplement**.

Performance

Poultry production is a global activity, and across the world there are differing management strategies adapted to local conditions.

The performance objectives given here are for birds that receive the first light stimulation **at** or **before** 21 weeks (up to 146 days) of age. The Ranger female is an earlier maturing female and so is better suited to a management strategy that accounts for this.

Data contained within this booklet indicates the performance that can be achieved under good management and environmental conditions and when feeding the recommended nutrient levels. In practice, variations in performance may occur for a wide variety of reasons. For example, feed consumption can be affected significantly by form of feed, energy level and house temperature. The information given in this booklet should therefore be regarded as 'Performance Objectives' and not specifications.

While every attempt has been made to ensure the accuracy and relevance of the information presented Aviagen accepts no liability for the consequences of using this information to manage parent stock.

All weight measurements are shown in both metric (kg/g) and imperial (lb/oz) to reflect the global nature of this publication.

In the tables values are rounded, this may result in small inaccuracies when using the objectives to calculate other performance statistics.

For further information on the management of Ranger Premium parent stock, please contact your local Aviagen representative.

Contents

Performance Summary

Global Ranger Premium breeder performance objectives for birds light stimulated **at** or **before** 21 weeks (up to 146 days) of age.

Summary of 40 weeks of production

Age at depletion (days) (weeks)	434 62	434 62
Total Eggs (HH*)	191.5	191.5
Hatching Eggs (HH*)	180.4	180.4
Chicks/female housed at 161 days (23 weeks)	151.7	151.7
Hatchability %	84.1	84.1
Age at 5% Production (days) (weeks)	161 23	161 23
Peak Production %	85.1	85.1
Body weight at 161 days (23 weeks)	2230 g	4.92 lb
Body weight at depletion	3250-3350 g	7.16-7.39 lb
Liveability % (rearing period)	95-96	95-96
Liveability % (laying period)	92	92
Feed/100 Chicks** day old - 434 days (0–62 weeks)	31.9 kg	70.3 lb
Feed/100 Hatching Eggs** day old - 434 days (0–62 weeks)	26.9 kg	59.3 lb

KEY
(kg/g) – metric measurement
(lb/oz) – imperial measurement

NOTES
* Hen-housed average.
** Feed amounts expressed in the table do not include male feed allocations.

Ranger Premium Parent Stock Performance Objectives

Male Body Weight and Feeding Program

Age (days)	Age (weeks)	Body Weight (g)	Weekly Gain (g)	Feed* (g/bird/day)	Body Weight (lb)	Weekly Gain (lb)	Feed* (lb/100/day)	Energy Intake (kcal/bird/day)
Day old	0	40		ad lib	0.09		ad lib	ad lib
7	1	136	96	31	0.30	0.21	6.9	88
14	2	295	159	40	0.65	0.35	8.8	112
21	3	477	182	48	1.05	0.40	10.6	135
28	4	681	204	50	1.50	0.45	11.1	141
35	5	840	159	54	1.85	0.35	11.8	150
42	6	953	113	62	2.10	0.25	13.6	161
49	7	1067	114	64	2.35	0.25	14.2	167
56	8	1180	113	67	2.60	0.25	14.7	174
63	9	1294	114	69	2.85	0.25	15.3	181
70	10	1407	113	72	3.10	0.25	15.8	186
77	11	1521	114	74	3.35	0.25	16.4	193
84	12	1634	113	76	3.60	0.25	16.8	198
91	13	1771	137	79	3.90	0.30	17.3	204
98	14	1907	136	81	4.20	0.30	17.8	210
105	15	2043	136	84	4.50	0.30	18.6	219
112	16	2179	136	83	4.80	0.30	18.3	224
119	17	2361	182	85	5.21	0.40	18.7	229
126	18	2542	181	86	5.60	0.40	19.0	233
133	19	2724	182	88	6.01	0.40	19.5	239
140	20	2906	182	90	6.41	0.40	19.9	243
147	21	3087	181	93	6.81	0.40	20.5	252
154	22	3178	91	95	7.01	0.20	20.9	256
161	23	3269	91	97	7.21	0.20	21.4	262
168	24	3360	91	100	7.41	0.20	22.0	269
175	25	3450	90	102	7.61	0.20	22.5	276
182	26	3541	91	106	7.81	0.20	23.3	285
189	27	3632	91	108	8.01	0.20	23.7	291
196	28	3723	91	109	8.21	0.20	24.0	293
203	29	3814	91	110	8.41	0.20	24.3	297
210	30	3882	68	112	8.56	0.15	24.6	302
217	31	3905	23	114	8.61	0.05	25.2	309
224	32	3928	23	116	8.66	0.05	25.5	312
231	33	3951	23	117	8.71	0.05	25.8	316
238	34	3974	23	118	8.76	0.05	26.0	318
245	35	3997	23	119	8.81	0.05	26.3	322
252	36	4020	23	121	8.86	0.05	26.6	325
259	37	4043	23	121	8.91	0.05	26.8	328
266	38	4066	23	122	8.96	0.05	27.0	331
273	39	4089	23	124	9.01	0.05	27.4	335
280	40	4112	23	125	9.07	0.05	27.6	338
287	41	4135	23	126	9.12	0.05	27.9	341
294	42	4158	23	127	9.17	0.05	28.1	344
301	43	4181	23	128	9.22	0.05	28.3	346
308	44	4204	23	129	9.27	0.05	28.5	349
315	45	4227	23	130	9.32	0.05	28.6	351
322	46	4250	23	131	9.37	0.05	28.9	354
329	47	4273	23	132	9.42	0.05	29.1	357
336	48	4296	23	133	9.47	0.05	29.3	359
343	49	4319	23	134	9.52	0.05	29.5	362
350	50	4342	23	135	9.57	0.05	29.7	364
357	51	4365	23	136	9.62	0.05	29.9	367
364	52	4388	23	137	9.67	0.05	30.1	369
371	53	4411	23	137	9.72	0.05	30.3	371
378	54	4434	23	138	9.78	0.05	30.4	373
385	55	4457	23	139	9.83	0.05	30.6	375
392	56	4480	23	139	9.88	0.05	30.7	376
399	57	4503	23	140	9.93	0.05	30.9	378
406	58	4526	23	141	9.98	0.05	31.0	379
413	59	4549	23	141	10.03	0.05	31.1	381
420	60	4572	23	141	10.08	0.05	31.2	382
427	61	4595	23	142	10.13	0.05	31.3	383
434	62	4618	23	142	10.18	0.05	31.4	384

KEY

(kg/g) – metric measurement

(lb/oz) – imperial measurement

NOTES

Body weights are those 4-6 hours after feeding.

This profile allows the male to reach sexual maturity by first egg. Weekly body-weight gain beyond 30 weeks (210 days) should average approximately 23 g (0.05 lb).

Field performance has shown that this practice ensures that the body condition of the males is not compromised so they will maintain the best possible fertility levels.

**Feed quantities are a guide only, based on recommended dietary energy levels of a 4-stage rearing program (refer to the Ranger Premium Parent Stock Nutrition Specifications) and a male diet in lay. Adjustments must be made to reflect feeding differing energy levels.*

Ranger Premium Parent Stock Performance Objectives

Female Body Weight and Feeding Program

KEY
(kg/g) – metric measurement
(lb/oz) – imperial measurement

Age (days)	Age (weeks)	Body Weight (g)	Weekly Gain (g)	Feed* (g/bird/day)	Body Weight (lb)	Weekly Gain (lb)	Feed* (lb/100/day)	Energy Intake (kcal/bird/day)
Day old	0	40		ad lib	0.09		ad lib	ad lib
7	1	115	75	ad lib	0.25	0.17	ad lib	ad lib
14	2	220	105	ad lib	0.49	0.23	ad lib	ad lib
21	3	330	110	37	0.73	0.24	8.16	104
28	4	440	110	40	0.97	0.24	8.82	112
35	5	550	110	42	1.21	0.24	9.26	118
42	6	675	125	44	1.49	0.28	9.70	114
49	7	785	110	46	1.73	0.24	10.14	120
56	8	890	105	49	1.96	0.23	10.80	127
63	9	990	100	52	2.18	0.22	11.46	135
70	10	1080	90	55	2.38	0.20	12.13	143
77	11	1170	90	58	2.58	0.20	12.79	151
84	12	1250	80	60	2.76	0.18	13.23	156
91	13	1330	80	63	2.93	0.18	13.89	164
98	14	1400	70	65	3.09	0.15	14.33	169
105	15	1470	70	67	3.24	0.15	14.77	174
112	16	1570	100	70	3.46	0.22	15.43	189
119	17	1670	100	73	3.68	0.22	16.09	197
126	18	1770	100	76	3.90	0.22	16.75	205
133	19	1870	100	80	4.12	0.22	17.64	216
140	20	1970	100	85	4.34	0.22	18.74	230
147	21	2060	90	90	4.54	0.20	19.84	243
154	22	2150	90	95	4.74	0.20	20.94	257
161	23	2230	80	100	4.92	0.18	22.05	280
168	24	2310	80	130	5.09	0.18	28.66	364
175	25	2390	80	140	5.27	0.18	30.86	392
182	26	2460	70	145	5.42	0.15	31.97	406
189	27	2530	70	145	5.58	0.15	31.97	406
196	28	2590	60	145	5.71	0.13	31.97	406
203	29	2640	50	145	5.82	0.11	31.97	406
210	30	2670	30	145	5.89	0.07	31.97	406
217	31	2690	20	145	5.93	0.04	31.97	406
224	32	2710	20	145	5.97	0.04	31.97	406
231	33	2730	20	145	6.02	0.04	31.97	406
238	34	2750	20	145	6.06	0.04	31.97	406
245	35	2770	20	145	6.11	0.04	31.97	406
252	36	2790	20	145	6.15	0.04	31.93	406
259	37	2810	20	145	6.19	0.04	31.90	405
266	38	2830	20	145	6.24	0.04	31.86	405
273	39	2850	20	144	6.28	0.04	31.83	404
280	40	2870	20	144	6.33	0.04	31.79	404
287	41	2890	20	144	6.37	0.04	31.76	403
294	42	2910	20	144	6.42	0.04	31.72	403
301	43	2930	20	144	6.46	0.04	31.68	402
308	44	2950	20	144	6.50	0.04	31.65	402
315	45	2970	20	143	6.55	0.04	31.61	402
322	46	2990	20	143	6.59	0.04	31.58	401
329	47	3010	20	143	6.64	0.04	31.54	401
336	48	3030	20	143	6.68	0.04	31.51	400
343	49	3050	20	143	6.72	0.04	31.47	400
350	50	3070	20	143	6.77	0.04	31.44	399
357	51	3090	20	142	6.81	0.04	31.40	399
364	52	3110	20	142	6.86	0.04	31.37	398
371	53	3130	20	142	6.90	0.04	31.33	398
378	54	3150	20	142	6.94	0.04	31.30	397
385	55	3170	20	142	6.99	0.04	31.26	397
392	56	3190	20	142	7.03	0.04	31.23	397
399	57	3210	20	141	7.08	0.04	31.19	396
406	58	3230	20	141	7.12	0.04	31.16	396
413	59	3250	20	141	7.16	0.04	31.12	395
420	60	3270	20	141	7.21	0.04	31.08	395
427	61	3290	20	141	7.25	0.04	31.05	394
434	62	3310	20	141	7.30	0.04	31.01	394

NOTES

Body weights are those 4-6 hours after feeding.

Weekly body-weight gain beyond 30 weeks (210 days) should average approximately 20 g (0.04 lb).

**Feed quantities are a guide only, based on recommended dietary energy levels of a 4-stage rearing program (refer to the Ranger Premium Parent Stock Nutrition Specifications for more information). Adjustments must be made to reflect feeding differing energy levels.*

Female Feeding into Lay

The '*Feeding into Lay*' recommendations for the Ranger female are currently under review.

For further information please contact your local Aviagen representative.

Female Nutrient Allocation at Peak

Nutrient	Nutrient Allocation at Peak
Energy (kcal/bird/day)	406
Digestible Amino Acids (mg/bird/day)*	
Lysine	870
Methionine & Cystine	856
Methionine	537
Threonine	711
Valine	812
Isoleucine	725
Argenine	1146
Tryptophan	203
Minerals (mg/bird/day)	
Calcium	4350
Available Phosphorus	508

*Based on a recommended energy level of 2800 kcal ME/kg (1270 kcal ME/lb).

Weekly Egg Production

Week of production	Age (days)	Age (weeks)	Hen-housed (%)	Hen-week* (%)	Eggs/bird/ week	Eggs/bird/ week cum.	Hatching eggs/bird/ week**	Hatching eggs/bird/ cum.	Hatching egg utilization weekly	Hatching egg utilization cum.
1	161	23	5.4	5.4	0.4	0.4				
2	168	24	21.1	21.2	1.5	1.9	0.8	0.8	55.8	44.5
3	175	25	50.1	50.3	3.5	5.4	2.5	3.3	70.5	61.5
4	182	26	73.1	73.6	5.1	10.5	4.4	7.7	86.5	73.7
5	189	27	81.1	81.8	5.7	16.2	5.1	12.8	89.7	79.3
6	196	28	84.6	85.5	5.9	22.1	5.5	18.3	92.2	82.8
7	203	29	85.1	86.2	6.0	28.0	5.6	23.9	94.2	85.2
8	210	30	85.1	86.3	6.0	34.0	5.6	29.5	94.7	86.9
9	217	31	84.2	85.6	5.9	39.9	5.6	35.2	95.2	88.1
10	224	32	83.3	84.9	5.8	45.7	5.6	40.7	95.7	89.1
11	231	33	82.4	84.1	5.8	51.5	5.6	46.3	96.2	89.9
12	238	34	81.6	83.4	5.7	57.2	5.5	51.8	96.2	90.5
13	245	35	80.7	82.7	5.6	62.9	5.4	57.2	96.2	91.0
14	252	36	79.8	81.9	5.6	68.4	5.4	62.6	96.5	91.5
15	259	37	78.9	81.2	5.5	74.0	5.3	67.9	96.4	91.8
16	266	38	78.0	80.4	5.5	79.4	5.3	73.2	96.4	92.2
17	273	39	77.1	79.7	5.4	84.8	5.2	78.4	96.4	92.4
18	280	40	76.2	78.9	5.3	90.2	5.1	83.5	96.4	92.7
19	287	41	75.3	78.1	5.3	95.4	5.1	88.6	96.1	92.8
20	294	42	74.4	77.4	5.2	100.6	5.0	93.6	96.1	93.0
21	301	43	73.5	76.6	5.1	105.8	4.9	98.6	96.1	93.2
22	308	44	72.7	75.8	5.1	110.9	4.9	103.4	96.0	93.3
23	315	45	71.8	75.1	5.0	115.9	4.8	108.3	96.0	93.4
24	322	46	70.9	74.3	5.0	120.9	4.8	113.0	96.0	93.5
25	329	47	70.0	73.5	4.9	125.8	4.7	117.7	96.0	93.6
26	336	48	69.1	72.7	4.8	130.6	4.6	122.4	96.0	93.7
27	343	49	68.2	71.9	4.8	135.4	4.6	127.0	96.0	93.8
28	350	50	67.3	71.2	4.7	140.1	4.5	131.5	95.9	93.9
29	357	51	66.4	70.4	4.6	144.7	4.5	135.9	95.9	93.9
30	364	52	65.5	69.6	4.6	149.3	4.4	140.3	95.4	94.0
31	371	53	64.6	68.8	4.5	153.8	4.3	144.6	95.4	94.0
32	378	54	63.7	68.0	4.5	158.3	4.3	148.9	95.4	94.0
33	385	55	62.9	67.2	4.4	162.7	4.2	153.1	95.3	94.1
34	392	56	62.0	66.3	4.3	167.0	4.1	157.2	95.3	94.1
35	399	57	61.1	65.5	4.3	171.3	4.1	161.3	95.1	94.1
36	406	58	60.2	64.7	4.2	175.5	4.0	165.3	94.8	94.2
37	413	59	59.3	63.9	4.2	179.7	3.9	169.2	94.7	94.2
38	420	60	58.4	63.1	4.1	183.8	3.9	173.1	94.7	94.2
39	427	61	57.5	62.2	4.0	187.8	3.8	176.9	94.7	94.2
40	434	62	56.6	61.4	3.7	191.5	3.5	180.4	94.7	94.2

NOTES

** Hen-week (%) is based on the assumption that liveability in lay is 92%.*

*** A hatching egg is considered to be an egg which is 49 g (20.4 oz/dozen) or heavier.*

Weekly Hatchability and Chick Production

Week of production	Age (days)	Age (weeks)	Hatch all eggs (%)*	Cum. hatchability (%)	Chicks/week hen-housed	Cum. chicks hen-housed
1	161	23				
2	168	24	61.8	61.8		0.5
3	175	25	70.8	68.5	1.7	2.3
4	182	26	78.2	74.1	3.5	5.7
5	189	27	81.6	77.1	4.2	9.9
6	196	28	84.2	79.2	4.6	14.5
7	203	29	86.3	80.9	4.8	19.3
8	210	30	87.6	82.2	4.9	24.3
9	217	31	88.6	83.2	5.0	29.2
10	224	32	88.9	84.0	5.0	34.2
11	231	33	89.5	84.6	5.0	39.2
12	238	34	89.9	85.2	4.9	44.1
13	245	35	89.6	85.6	4.9	49.0
14	252	36	89.4	85.9	4.8	53.8
15	259	37	89.1	86.2	4.7	58.5
16	266	38	88.8	86.4	4.7	63.2
17	273	39	88.4	86.5	4.6	67.8
18	280	40	87.9	86.6	4.5	72.3
19	287	41	87.3	86.6	4.4	76.8
20	294	42	86.8	86.6	4.3	81.1
21	301	43	86.2	86.6	4.3	85.4
22	308	44	85.7	86.6	4.2	89.6
23	315	45	85.1	86.5	4.1	93.7
24	322	46	84.6	86.4	4.0	97.7
25	329	47	84.0	86.3	4.0	101.6
26	336	48	83.5	86.2	3.9	105.5
27	343	49	82.9	86.1	3.8	109.3
28	350	50	82.3	86.0	3.7	113.0
29	357	51	81.8	85.8	3.6	116.7
30	364	52	81.1	85.7	3.6	120.2
31	371	53	80.6	85.5	3.5	123.7
32	378	54	80.0	85.4	3.4	127.1
33	385	55	79.4	85.2	3.3	130.4
34	392	56	78.8	85.0	3.3	133.7
35	399	57	78.2	84.9	3.2	136.9
36	406	58	77.6	84.7	3.1	140.0
37	413	59	77.0	84.5	3.0	143.0
38	420	60	76.4	84.3	3.0	146.0
39	427	61	75.8	84.2	2.9	148.9
40	434	62	75.3	84.1	2.8	151.7

NOTES

** Hatchability is based on an average egg age of 3 days. Hatchability will drop by 0.5% per day between 7 and 14 days of egg storage and 1% per day between 14 and 21 days of egg storage. It is recommended to store eggs at 15°C (59°F).*

Weekly Egg Weight and Egg Mass

Week of production	Age (days)	Age (weeks)	Hen-week (%)	Egg weight (g)	Egg mass* (g)	Egg weight (oz/dozen)
1	161	23	5.4	47.5	2.6	20.1
2	168	24	21.2	49.5	10.5	21.0
3	175	25	50.3	50.7	25.5	21.5
4	182	26	73.6	52.2	38.4	22.1
5	189	27	81.8	53.5	43.7	22.6
6	196	28	85.5	54.7	46.8	23.2
7	203	29	86.2	55.8	48.1	23.6
8	210	30	86.3	56.7	48.9	24.0
9	217	31	85.6	57.5	49.2	24.3
10	224	32	84.9	58.3	49.5	24.7
11	231	33	84.1	58.9	49.6	24.9
12	238	34	83.4	59.5	49.6	25.2
13	245	35	82.7	60.1	49.7	25.4
14	252	36	81.9	60.6	49.6	25.7
15	259	37	81.2	61.0	49.5	25.8
16	266	38	80.4	61.4	49.4	26.0
17	273	39	79.7	61.8	49.2	26.2
18	280	40	78.9	62.2	49.1	26.3
19	287	41	78.1	62.5	48.8	26.5
20	294	42	77.4	62.9	48.7	26.6
21	301	43	76.6	63.2	48.4	26.8
22	308	44	75.8	63.6	48.2	26.9
23	315	45	75.1	63.9	48.0	27.1
24	322	46	74.3	64.3	47.8	27.2
25	329	47	73.5	64.6	47.5	27.3
26	336	48	72.7	65.0	47.3	27.5
27	343	49	71.9	65.3	47.0	27.6
28	350	50	71.2	65.7	46.8	27.8
29	357	51	70.4	66.0	46.4	27.9
30	364	52	69.6	66.4	46.2	28.1
31	371	53	68.8	66.7	45.9	28.2
32	378	54	68.0	67.0	45.5	28.4
33	385	55	67.2	67.3	45.2	28.5
34	392	56	66.3	67.6	44.8	28.6
35	399	57	65.5	67.9	44.5	28.7
36	406	58	64.7	68.1	44.1	28.8
37	413	59	63.9	68.3	43.6	28.9
38	420	60	63.1	68.5	43.2	29.0
39	427	61	62.2	68.8	42.8	29.1
40	434	62	61.4	69.0	42.4	29.2

KEY
(kg/g) – metric measurement
(lb/oz) – imperial measurement

$$*\text{Egg mass} = \frac{\text{Hen-week (\%)} \times \text{Egg weight (g)}}{100}$$

Notes

Notes

Every attempt has been made to ensure the accuracy and relevance of the information presented. However, Aviagen accepts no liability for the consequences of using the information for the management of chickens.

For further information on the management of Rowan Range® stock, please contact your local representative.

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