Rowan Ranger Parent Stock

PERFORMANCE OBJECTIVES 2018

ROWAN RANGER®

An Aviagen Brand

Introduction

This document contains the performance objectives for Rowan Ranger® 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 Rowan Ranger parent stock, please contact your local Aviagen representative.

Contents

Performance Summary

Global Rowan Ranger 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.

Rowan Ranger 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	37		ad lib	0.08		ad lib	ad lib
7	1	138	101	30	0.30	0.22	6.7	85
14	2	285	147	40	0.63	0.32	8.7	111
21	3	465	180	47	1.03	0.40	10.4	132
28	4	663	198	50	1.46	0.44	11.0	139
35	5	828	165	53	1.83	0.36	11.7	149
42	6	989	161	62	2.18	0.35	13.6	160
49	7	1132	143	64	2.50	0.32	14.1	166
56	8	1265	133	67	2.79	0.29	14.7	173
63	9	1389	124	69	3.06	0.27	15.3	180
70	10	1508	119	71	3.32	0.26	15.8	186
77	11	1628	120	74	3.59	0.26	16.3	193
84	12	1748	120	76	3.85	0.26	16.7	197
91	13	1867	119	78	4.12	0.26	17.3	204
98	14	1987	120	81	4.38	0.26	17.8	209
105	15	2106	119	84	4.64	0.26	18.5	218
112	16	2235	129	83	4.93	0.28	18.3	224
119	17	2369	134	85	5.22	0.30	18.6	228
126	18	2507	138	86	5.53	0.30	19.0	233
133	19	2650	143	88	5.84	0.32	19.5	238
140	20	2792	142	90	6.16	0.31	19.8	243
147	21	2939	147	93	6.48	0.32	20.5	252
154	22	3078	139	95	6.79	0.31	20.9	256
161	23	3211	133	97	7.08	0.29	21.4	262
168	24	3340	129	100	7.36	0.28	22.0	269
175	25	3450	110	102	7.61	0.24	22.5	276
182	26	3551	101	104	7.83	0.22	23.0	282
189	27	3638	87	107	8.02	0.19	23.5	288
196	28	3708	70	108	8.17	0.15	23.7	290
203	29	3767	59	109	8.30	0.13	24.0	294
210	30	3806	39	111	8.39	0.09	24.4	299
217	31	3827	21	112	8.44	0.05	24.8	303
224	32	3847	20	114	8.48	0.04	25.2	309
231	33	3867	20	116	8.53	0.04	25.5	312
238	34	3887	20	117	8.57	0.04	25.7	315
245	35	3907	20	118	8.61	0.04	26.0	318
252	36	3927	20	119	8.66	0.04	26.3	322
259	37	3947	20	120	8.70	0.04	26.5	324
266	38	3967	20	121	8.75	0.04	26.7	326
273	39	3987	20	123	8.79	0.04	27.0	331
280	40	4007	20	123	8.83	0.04	27.2	333
287	41	4027	20	125	8.88	0.04	27.5	337
294	42	4047	20	126	8.92	0.04	27.7	339
301	43	4067	20	126	8.97	0.04	27.9	341
308	44	4087	20	127	9.01	0.04	28.1	344
315	45	4107	20	128	9.05	0.04	28.3	346
322	46	4131	24	130	9.11	0.05	28.6	350
329	47	4155	24	131	9.16	0.05	28.8	353
336	48	4179	24	132	9.21	0.05	29.0	355
343	49	4203	24	133	9.27	0.05	29.2	358
350	50	4227	24	133	9.32	0.05	29.4	360
357	51	4251	24	134	9.37	0.05	29.6	363
364	52	4275	24	135	9.42	0.05	29.8	365
371	53	4299	24	136	9.48	0.05	30.0	367
378	54	4323	24	137	9.53	0.05	30.1	369
385	55	4347	24	137	9.58	0.05	30.3	371
392	56	4371	24	138	9.64	0.05	30.4	373
399	57	4395	24	139	9.69	0.05	30.6	374
406	58	4419	24	139	9.74	0.05	30.7	376
413	59	4443	24	140	9.80	0.05	30.8	377
420	60	4467	24	140	9.85	0.05	30.9	379
427	61	4491	24	141	9.90	0.05	31.0	380
434	62	4515	24	141	9.95	0.05	31.1	381

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 31 weeks (217 days) should average approximately 20-24 g (0.04 - 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 Rowan Ranger Parent Stock Nutrition Specifications) and a male diet in lay. Adjustments must be made to reflect feeding differing energy levels.*

Rowan Ranger 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.

This profile allows the male to reach sexual maturity by first egg. 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 Rowan Ranger 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/ week 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*	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

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

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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