

PARENT STOCK

YIELD PLUS X ROSS 708

Performance Objectives

2021



Introduction

This booklet contains the performance objectives for Yield Plus™ (YP) x Ross® 708 parent stock and should be used in conjunction with the **Ross Parent Stock Management Handbook**.

Performance

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

These performance objectives are for birds that receive the first light stimulation **after** 21 weeks (147 days) of age. This is the most common strategy used worldwide as it gives distinct advantages in early egg size, chick numbers and broiler chick quality.

Achieving the genetic potential of the birds depends on:

- Management to provide birds with their required environment.
- A dietary regime that provides the appropriate nutrients.
- Effective biosecurity and disease control.

If any one of these elements is sub-optimal, performance will suffer. The three sectors, environment, nutrition and health, are also interdependent; a problem in any one will result in a negative response by the bird to the other factors.

Data contained within this booklet indicates the performance that can be achieved under good management and environmental condition and when feeding the recommended nutrient levels. They should be therefore regarded as "Performance Objectives" and not specifications. 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.

While every attempt has been made to ensure the accuracy and relevance of the information presented, Aviagen® accepts no liability for the consequence 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 Ross stock, please contact your local Ross representative.

Contents

04	Performance Summary
05	Female Body Weight and Feeding Program
06	Feeding into Lay
07	Male Body Weight and Feeding Program
08	Weekly Egg Production
9	Weekly Hatchability and Chick Production
10	Weekly Egg Weight and Egg Mass

Performance Summary

The figures below are for birds light-stimulated **after** 21 weeks (147 days of age).

Summary of 40 weeks of production.

Age at depletion (days) (weeks)	448 64	448 64
Total Eggs (HHA)*	176.8	176.8
Hatching Eggs (HHA)*	170.7	170.7
Chicks/female housed at 175 days (25 weeks)	147.4	147.4
Hatchability %	86.3	86.3
Age at 5% Production (days) (weeks)	175 25	175 25
Peak Production %	83.8	83.8
Body weight at 175 days (25 weeks)	2690 g	5.9 lb
Body weight at depletion	3875 g	8.5 lb
Liveability % (rearing period)	95-96	95-96
Liveability % (laying period)	92	92
Feed/100 Chicks** day old - 448 days (0-64 weeks)	36.3 kg	80.0 lb
Feed/100 Hatching Eggs** day old - 448 days (0-64 weeks)	31.4 kg	69.2 lb

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

* Hen-Housed Average.

** Feed amounts expressed in the table do not include male feed allocations.

Female 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	110	70	20	0.24	0.15	4.4	56
14	2	215	105	23	0.47	0.23	5.1	65
21	3	310	95	26	0.68	0.21	5.8	73
28	4	400	90	29	0.88	0.20	6.5	82
35	5	490	90	32	1.08	0.20	7.1	91
42	6	580	90	36	1.28	0.20	7.8	99
49	7	670	90	39	1.48	0.20	8.5	108
56	8	760	90	42	1.68	0.20	9.2	117
63	9	850	90	45	1.87	0.19	9.9	126
70	10	940	90	48	2.07	0.20	10.6	135
77	11	1030	90	52	2.27	0.20	11.4	144
84	12	1120	90	55	2.47	0.20	12.1	154
91	13	1210	90	58	2.67	0.20	12.8	163
98	14	1300	90	62	2.87	0.20	13.6	172
105	15	1390	90	65	3.06	0.19	14.3	181
112	16	1480	90	69	3.26	0.20	15.2	193
119	17	1585	105	74	3.49	0.23	16.3	207
126	18	1700	115	79	3.75	0.26	17.4	221
133	19	1825	125	84	4.02	0.27	18.5	235
140	20	1960	135	89	4.32	0.30	19.6	249
147	21	2100	140	94	4.63	0.31	20.7	263
154	22	2245	145	99	4.95	0.32	21.8	277
161	23	2395	150	104	5.28	0.33	22.8	290
168	24	2545	150	110	5.61	0.33	24.2	308
175	25	2690	145	120	5.93	0.32	26.5	337
182	26	2825	135	139	6.23	0.30	30.8	391
189	27	2955	130	153	6.51	0.28	33.7	428
196	28	3055	100	159	6.74	0.23	35.0	445
203	29	3145	90	163	6.93	0.19	35.9	456
210	30	3230	85	163	7.12	0.19	35.9	456
217	31	3285	55	163	7.24	0.12	35.9	456
224	32	3330	45	163	7.34	0.10	35.9	456
231	33	3370	40	163	7.43	0.09	35.9	456
238	34	3400	30	163	7.50	0.07	35.9	456
245	35	3430	30	163	7.56	0.06	35.9	456
252	36	3450	20	162	7.61	0.05	35.8	454
259	37	3470	20	162	7.65	0.04	35.6	452
266	38	3485	15	161	7.68	0.03	35.6	452
273	39	3500	15	161	7.72	0.04	35.4	449
280	40	3515	15	160	7.75	0.03	35.3	448
287	41	3530	15	159	7.78	0.03	35.1	446
294	42	3545	15	159	7.82	0.04	35.0	445
301	43	3560	15	158	7.85	0.03	34.9	443
308	44	3575	15	158	7.88	0.03	34.8	442
315	45	3590	15	157	7.91	0.03	34.7	441
322	46	3605	15	157	7.95	0.04	34.6	440
329	47	3620	15	157	7.98	0.03	34.5	439
336	48	3635	15	156	8.01	0.03	34.4	437
343	49	3650	15	156	8.05	0.04	34.3	436
350	50	3665	15	155	8.08	0.03	34.2	435
357	51	3680	15	155	8.11	0.03	34.1	433
364	52	3695	15	154	8.15	0.04	34.0	432
371	53	3710	15	154	8.18	0.03	33.9	431
378	54	3725	15	153	8.21	0.03	33.8	430
385	55	3740	15	153	8.25	0.04	33.7	429
392	56	3755	15	153	8.28	0.03	33.6	427
399	57	3770	15	152	8.31	0.03	33.6	426
406	58	3785	15	152	8.34	0.03	33.5	425
413	59	3800	15	151	8.38	0.04	33.3	423
420	60	3815	15	151	8.41	0.03	33.3	422
427	61	3830	15	150	8.44	0.03	33.2	421
434	62	3845	15	150	8.48	0.04	33.1	420
441	63	3860	15	150	8.51	0.03	33.0	419
448	64	3875	15	149	8.54	0.03	32.9	418

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

NOTES
 Body weights are based on a feed day, 4-6 hours after feeding.

Weekly body-weight gain beyond 37 weeks (259 days) should average approximately 15 g (0.03-0.04 lb).

*Feed quantities are a guide only, based on recommended dietary energy levels of 2800 kcal ME/kg (1270 kcal ME/lb). Adjustments must be made to reflect feeding differing energy levels.

Female Feeding into Lay

Hen-Day (%)	Daily Energy Intake (kcal ME/bird/day)*	Feed Intake (g/bird/day)	Feed Increase (g/bird/day)
5	337	120	
10	343	122	2
15	348	124	2
20	354	126	2
25	362	129	3
30	371	132	3
35	379	135	3
40	390	139	4
45	401	143	4
50	413	147	4
55	427	152	5
65	441	157	5
>75	456	163	6

NOTES

Feeding program should be adjusted according to actual feed intake at 5% hen-day production. It may be necessary to adjust feed amounts daily (rather than every 5% as given in the table), taking into account the rate of daily production. Adjustments to feed amounts will need to be made if dietary energy levels are different to those recommended or if environmental temperatures are warmer or cooler than assumed here.

* Daily energy and feed intakes are based on current recommended dietary levels of energy [2800 kcal ME/kg (1270 kcal ME/lb)] and assuming an ambient temperature of 20-21°C (68-70°F).

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	150	110	33	0.33	0.24	7.2	92
14	2	320	170	42	0.70	0.37	9.3	118
21	3	525	205	49	1.16	0.46	10.8	137
28	4	755	230	54	1.66	0.50	11.9	152
35	5	945	190	58	2.08	0.42	12.8	162
42	6	1130	185	61	2.49	0.41	13.4	170
49	7	1280	150	63	2.82	0.33	13.9	177
56	8	1420	140	65	3.13	0.31	14.4	183
63	9	1545	125	67	3.40	0.27	14.8	188
70	10	1670	125	69	3.68	0.28	15.3	194
77	11	1795	125	72	3.95	0.27	15.8	200
84	12	1920	125	74	4.23	0.28	16.4	208
91	13	2045	125	77	4.50	0.27	17.0	216
98	14	2170	125	80	4.78	0.28	17.6	224
105	15	2295	125	83	5.06	0.28	18.4	233
112	16	2420	125	87	5.33	0.27	19.1	243
119	17	2560	140	90	5.64	0.31	19.8	252
126	18	2715	155	93	5.98	0.34	20.6	262
133	19	2875	160	98	6.33	0.35	21.5	273
140	20	3035	160	102	6.69	0.36	22.5	286
147	21	3195	160	107	7.04	0.35	23.5	299
154	22	3355	160	112	7.39	0.35	24.7	313
161	23	3515	160	118	7.74	0.35	26.0	330
168	24	3675	160	121	8.09	0.35	26.7	340
175	25	3825	150	123	8.43	0.34	27.1	344
182	26	3960	135	124	8.72	0.29	27.4	348
189	27	4035	75	125	8.89	0.17	27.6	351
196	28	4090	55	126	9.01	0.12	27.8	353
203	29	4120	30	127	9.07	0.06	28.0	355
210	30	4150	30	128	9.14	0.07	28.1	357
217	31	4180	30	128	9.21	0.07	28.3	360
224	32	4210	30	129	9.27	0.06	28.5	362
231	33	4240	30	130	9.34	0.07	28.7	365
238	34	4270	30	131	9.41	0.07	28.9	367
245	35	4300	30	132	9.47	0.06	29.1	370
252	36	4330	30	133	9.54	0.07	29.3	372
259	37	4360	30	134	9.60	0.06	29.5	375
266	38	4390	30	135	9.67	0.07	29.7	377
273	39	4420	30	136	9.74	0.07	29.9	380
280	40	4450	30	136	9.80	0.06	30.1	382
287	41	4480	30	137	9.87	0.07	30.3	384
294	42	4510	30	138	9.93	0.06	30.5	387
301	43	4540	30	139	10.00	0.07	30.6	389
308	44	4570	30	140	10.07	0.07	30.8	392
315	45	4600	30	141	10.13	0.06	31.0	394
322	46	4630	30	141	10.20	0.07	31.2	396
329	47	4660	30	142	10.26	0.06	31.4	398
336	48	4690	30	143	10.33	0.07	31.5	401
343	49	4720	30	144	10.40	0.07	31.7	403
350	50	4750	30	145	10.46	0.06	31.9	405
357	51	4780	30	145	10.53	0.07	32.1	407
364	52	4810	30	146	10.59	0.06	32.2	409
371	53	4840	30	147	10.66	0.07	32.4	411
378	54	4870	30	148	10.73	0.07	32.5	413
385	55	4900	30	148	10.79	0.06	32.7	415
392	56	4930	30	149	10.86	0.07	32.8	417
399	57	4960	30	150	10.93	0.07	33.0	419
406	58	4990	30	150	10.99	0.06	33.1	421
413	59	5020	30	151	11.06	0.07	33.3	422
420	60	5050	30	151	11.12	0.06	33.4	424
427	61	5080	30	152	11.19	0.07	33.5	426
434	62	5110	30	153	11.26	0.07	33.6	427
441	63	5140	30	153	11.32	0.06	33.7	429
448	64	5170	30	154	11.39	0.07	33.9	430

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 female first egg. Weekly body-weight gain beyond 28 weeks (196 days) should average approximately 30 g (0.06-0.07 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 2800 kcal ME/kg (1270 kcal ME/lb). Adjustments must be made to reflect feeding differing energy levels.

Weekly Egg Production

Week of Production	Age (days)	Age (weeks)	Hen-Housed (%)	Hen-Week (%)*	Eggs/Bird/Week Hen-Housed	Eggs/Bird/Cum. Hen-Housed	Hatching Eggs/Bird/Week**	Hatching Eggs/Bird/Cum.	Hatching Egg Utilization Weekly	Hatching Egg Utilization Cum.
1	175	25	5.7	5.7	0.4	0.4				
2	182	26	20.2	20.3	1.4	1.8	1.0	1.0	71.2	55.7
3	189	27	50.2	50.5	3.5	5.3	3.1	4.1	88.4	77.2
4	196	28	71.6	72.2	5.0	10.3	4.6	8.7	91.9	84.3
5	203	29	80.2	81.0	5.6	16.0	5.3	14.0	94.5	87.9
6	210	30	83.1	84.1	5.8	21.8	5.6	19.6	96.4	90.2
7	217	31	83.8	85.0	5.9	27.6	5.7	25.3	97.3	91.7
8	224	32	83.1	84.4	5.8	33.5	5.7	31.1	98.1	92.8
9	231	33	81.9	83.4	5.7	39.2	5.6	36.7	98.1	93.6
10	238	34	80.8	82.4	5.7	44.8	5.5	42.2	98.1	94.2
11	245	35	79.6	81.4	5.6	50.4	5.5	47.7	98.0	94.6
12	252	36	78.5	80.4	5.5	55.9	5.4	53.1	98.0	94.9
13	259	37	77.4	79.4	5.4	61.3	5.3	58.4	97.9	95.2
14	266	38	76.2	78.4	5.3	66.7	5.2	63.6	97.9	95.4
15	273	39	75.1	77.4	5.3	71.9	5.1	68.7	97.8	95.6
16	280	40	73.8	76.2	5.2	77.1	5.0	73.8	97.8	95.7
17	287	41	72.6	75.2	5.1	82.2	5.0	78.8	97.7	95.8
18	294	42	71.5	74.2	5.0	87.2	4.9	83.6	97.7	96.0
19	301	43	70.4	73.1	4.9	92.1	4.8	88.4	97.6	96.0
20	308	44	69.2	72.1	4.8	96.9	4.7	93.2	97.6	96.1
21	315	45	68.1	71.1	4.8	101.7	4.6	97.8	97.5	96.2
22	322	46	66.9	70.0	4.7	106.4	4.6	102.4	97.5	96.2
23	329	47	65.8	69.0	4.6	111.0	4.5	106.9	97.4	96.3
24	336	48	64.5	67.8	4.5	115.5	4.4	111.3	97.4	96.3
25	343	49	63.4	66.7	4.4	119.9	4.3	115.6	97.3	96.4
26	350	50	62.2	65.6	4.4	124.3	4.2	119.8	97.3	96.4
27	357	51	61.1	64.6	4.3	128.6	4.2	124.0	97.2	96.4
28	364	52	59.9	63.5	4.2	132.8	4.1	128.1	97.2	96.4
29	371	53	58.8	62.4	4.1	136.9	4.0	132.1	97.1	96.5
30	378	54	57.6	61.3	4.0	140.9	3.9	136.0	97.1	96.5
31	385	55	56.5	60.2	4.0	144.9	3.8	139.8	97.0	96.5
32	392	56	55.2	59.0	3.9	148.7	3.7	143.6	97.0	96.5
33	399	57	54.1	57.9	3.8	152.5	3.7	147.2	96.9	96.5
34	406	58	52.9	56.8	3.7	156.2	3.6	150.8	96.9	96.5
35	413	59	51.8	55.7	3.6	159.9	3.5	154.3	96.8	96.5
36	420	60	50.6	54.6	3.5	163.4	3.4	157.7	96.8	96.5
37	427	61	49.5	53.5	3.5	166.9	3.4	161.1	96.7	96.5
38	434	62	48.4	52.3	3.4	170.3	3.3	164.4	96.7	96.5
39	441	63	47.2	51.2	3.3	173.6	3.2	167.6	96.6	96.5
40	448	64	45.9	49.9	3.2	176.8	3.1	170.7	96.6	96.5

* Hen-week (%) is based on the assumption that cumulative mortality in lay is 8% with 0.2% mortality per week.

** A hatching egg is considered to be an egg which is 50 g (21.2 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	175	25				
2	182	26	80.1	80.1	0.8	0.8
3	189	27	82.8	81.9	2.6	3.4
4	196	28	84.6	83.2	3.9	7.3
5	203	29	86.5	84.5	4.6	11.9
6	210	30	88.1	85.6	4.9	16.8
7	217	31	89.2	86.4	5.1	21.9
8	224	32	90.2	87.1	5.1	27.1
9	231	33	91.0	87.8	5.1	32.2
10	238	34	91.5	88.3	5.1	37.3
11	245	35	91.9	88.7	5.0	42.3
12	252	36	92.1	89.1	5.0	47.2
13	259	37	92.2	89.4	4.9	52.1
14	266	38	92.2	89.6	4.8	57.0
15	273	39	92.0	89.8	4.7	61.7
16	280	40	91.7	89.9	4.6	66.3
17	287	41	91.5	90.0	4.5	70.9
18	294	42	91.2	90.1	4.5	75.3
19	301	43	90.8	90.2	4.4	79.7
20	308	44	90.2	90.2	4.3	83.9
21	315	45	89.6	90.1	4.2	88.1
22	322	46	89.0	90.1	4.1	92.2
23	329	47	88.4	90.0	4.0	96.1
24	336	48	87.4	89.9	3.8	100.0
25	343	49	86.5	89.8	3.7	103.7
26	350	50	85.6	89.6	3.6	107.3
27	357	51	84.7	89.5	3.5	110.9
28	364	52	83.7	89.3	3.4	114.3
29	371	53	82.7	89.0	3.3	117.6
30	378	54	81.8	88.8	3.2	120.8
31	385	55	80.8	88.5	3.1	123.9
32	392	56	79.9	88.4	3.0	126.9
33	399	57	78.9	88.1	2.9	129.8
34	406	58	77.9	87.9	2.8	132.6
35	413	59	77.0	87.6	2.7	135.3
36	420	60	75.9	87.4	2.6	137.9
37	427	61	75.0	87.1	2.5	140.4
38	434	62	74.1	86.8	2.4	142.8
39	441	63	72.9	86.5	2.3	145.1
40	448	64	71.7	86.3	2.2	147.4

* Hatchability is based on an average egg age of three days. Hatchability will drop by 0.5% per day of storage between 7 and 11 days.

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	175	25	5.7	49.4	2.8	20.9
2	182	26	20.3	51.2	10.4	21.7
3	189	27	50.5	52.8	26.7	22.3
4	196	28	72.2	54.6	39.4	23.1
5	203	29	81.0	55.7	45.1	23.6
6	210	30	84.1	57.0	47.9	24.1
7	217	31	85.0	58.1	49.4	24.6
8	224	32	84.4	58.9	49.7	24.9
9	231	33	83.4	59.7	49.8	25.3
10	238	34	82.4	60.4	49.8	25.6
11	245	35	81.4	60.9	49.6	25.8
12	252	36	80.4	61.4	49.4	26.0
13	259	37	79.4	61.9	49.2	26.2
14	266	38	78.4	62.3	48.8	26.4
15	273	39	77.4	62.7	48.5	26.5
16	280	40	76.2	63.0	48.0	26.7
17	287	41	75.2	63.4	47.7	26.8
18	294	42	74.2	63.7	47.2	27.0
19	301	43	73.1	64.1	46.9	27.1
20	308	44	72.1	64.4	46.4	27.3
21	315	45	71.1	64.8	46.0	27.4
22	322	46	70.0	65.1	45.6	27.6
23	329	47	69.0	65.4	45.1	27.7
24	336	48	67.8	65.8	44.6	27.8
25	343	49	66.7	66.1	44.1	28.0
26	350	50	65.6	66.5	43.6	28.1
27	357	51	64.6	66.8	43.1	28.3
28	364	52	63.5	67.2	42.7	28.4
29	371	53	62.4	67.5	42.1	28.6
30	378	54	61.3	67.8	41.6	28.7
31	385	55	60.2	68.1	41.0	28.8
32	392	56	59.0	68.4	40.3	28.9
33	399	57	57.9	68.7	39.8	29.1
34	406	58	56.8	68.9	39.1	29.2
35	413	59	55.7	69.1	38.5	29.2
36	420	60	54.6	69.3	37.8	29.3
37	427	61	53.5	69.4	37.1	29.4
38	434	62	52.3	69.5	36.4	29.4
39	441	63	51.2	69.6	35.6	29.5
40	448	64	49.9	69.7	34.8	29.5

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

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

100



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