

# PARENT STOCK

*YIELD PLUS x ROSS 408*

Performance  
Objectives

2021



## Introduction

This booklet contains the performance objectives for Yield Plus™ (YP) x Ross® 408 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 specifically for poultry producers in Latin America. The advice provided is therefore relevant to the management strategies employed within the Latin American region. However, the recommendations given are useful and informative for other world regions.**

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 number, 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 conditions and should therefore be 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 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 Ross stock, please contact your local Ross representative.

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## 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)	448	448
(weeks)	64	64
Total Eggs (HHA*)	180.8	180.8
Hatching Eggs (HHA*)	174	174
Chicks/female housed at 175 days (25 weeks)	147.8	147.8
Hatchability %	84.9	84.9
Age at 5% Production (days)	175	175
(weeks)	25	25
Peak Production %	86.1	86.1
Body weight at 175 days (25 weeks)	3080 g	6.8 lb
Body weight at depletion	4175 g	9.20 lb
Liveability % (rearing period)	95-96	95-96
Liveability % (laying period)	92	92
Feed/100 Chicks** day old - 448 days (0-64 weeks)	37.8 kg	83.3 lb
Feed/100 Hatching Eggs** day old - 448 days (0-64 weeks)	32.1 kg	71.7 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.

### 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	0.71	0.38	9.3	118
21	3	525	205	49	1.16	0.45	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	3.41	0.28	14.8	188
70	10	1670	125	69	3.68	0.27	15.3	194
77	11	1795	125	72	3.96	0.28	15.8	200
84	12	1920	125	74	4.23	0.27	16.4	208
91	13	2045	125	77	4.51	0.28	17.0	216
98	14	2170	125	80	4.78	0.27	17.6	224
105	15	2295	125	83	5.06	0.28	18.4	233
112	16	2420	125	87	5.34	0.28	19.1	243
119	17	2560	140	90	5.64	0.30	19.8	252
126	18	2715	155	93	5.99	0.35	20.6	262
133	19	2875	160	98	6.34	0.35	21.5	273
140	20	3035	160	102	6.69	0.35	22.5	286
147	21	3195	160	107	7.04	0.35	23.5	299
154	22	3355	160	112	7.40	0.36	24.7	313
161	23	3515	160	118	7.75	0.35	26.0	330
168	24	3675	160	121	8.10	0.35	26.7	340
175	25	3825	150	123	8.43	0.33	27.1	344
182	26	3960	135	124	8.73	0.30	27.4	348
189	27	4035	75	125	8.90	0.17	27.6	351
196	28	4090	55	126	9.02	0.12	27.8	353
203	29	4120	30	127	9.08	0.06	28.0	355
210	30	4150	30	128	9.15	0.07	28.1	357
217	31	4180	30	128	9.22	0.07	28.3	360
224	32	4210	30	129	9.28	0.06	28.5	362
231	33	4240	30	130	9.35	0.07	28.7	365
238	34	4270	30	131	9.41	0.06	28.9	367
245	35	4300	30	132	9.48	0.07	29.1	370
252	36	4330	30	133	9.55	0.07	29.3	372
259	37	4360	30	134	9.61	0.06	29.5	375
266	38	4390	30	135	9.68	0.07	29.7	377
273	39	4420	30	136	9.74	0.06	29.9	380
280	40	4450	30	136	9.81	0.07	30.1	382
287	41	4480	30	137	9.88	0.07	30.3	384
294	42	4510	30	138	9.94	0.06	30.5	387
301	43	4540	30	139	10.01	0.07	30.6	389
308	44	4570	30	140	10.08	0.07	30.8	392
315	45	4600	30	141	10.14	0.06	31.0	394
322	46	4630	30	141	10.21	0.07	31.2	396
329	47	4660	30	142	10.27	0.06	31.4	398
336	48	4690	30	143	10.34	0.07	31.5	401
343	49	4720	30	144	10.41	0.07	31.7	403
350	50	4750	30	145	10.47	0.06	31.9	405
357	51	4780	30	145	10.54	0.07	32.1	407
364	52	4810	30	146	10.60	0.06	32.2	409
371	53	4840	30	147	10.67	0.07	32.4	411
378	54	4870	30	148	10.74	0.07	32.5	413
385	55	4900	30	148	10.80	0.06	32.7	415
392	56	4930	30	149	10.87	0.07	32.8	417
399	57	4960	30	150	10.93	0.06	33.0	419
406	58	4990	30	150	11.00	0.07	33.1	421
413	59	5020	30	151	11.07	0.07	33.3	422
420	60	5050	30	151	11.13	0.06	33.4	424
427	61	5080	30	152	11.20	0.07	33.5	426
434	62	5110	30	153	11.27	0.07	33.6	427
441	63	5140	30	153	11.33	0.06	33.7	429
448	64	5170	30	154	11.40	0.07	33.9	430

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

\*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.

**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.

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	
7	1	130	90	23	0.29	0.20	5.1	65
14	2	260	130	27	0.57	0.28	6.0	76
21	3	380	120	30	0.84	0.27	6.7	85
28	4	490	110	33	1.08	0.24	7.3	93
35	5	590	100	36	1.30	0.22	7.8	99
42	6	680	90	38	1.50	0.20	8.4	107
49	7	770	90	41	1.70	0.20	9.1	115
56	8	860	90	44	1.90	0.20	9.8	124
63	9	950	90	47	2.09	0.19	10.5	133
70	10	1040	90	51	2.29	0.20	11.2	142
77	11	1130	90	54	2.49	0.20	11.9	151
84	12	1220	90	57	2.69	0.20	12.6	161
91	13	1315	95	62	2.90	0.21	13.6	173
98	14	1425	110	66	3.14	0.24	14.5	185
105	15	1535	110	71	3.38	0.24	15.6	198
112	16	1655	120	76	3.65	0.27	16.7	212
119	17	1785	130	80	3.94	0.29	17.7	224
126	18	1915	130	85	4.22	0.28	18.8	239
133	19	2060	145	91	4.54	0.32	20.0	254
140	20	2215	155	98	4.88	0.34	21.7	275
147	21	2400	185	104	5.29	0.41	22.9	291
154	22	2575	175	109	5.68	0.39	23.9	304
161	23	2745	170	113	6.05	0.37	24.9	317
168	24	2915	170	120	6.43	0.38	26.3	335
175	25	3080	165	135	6.79	0.36	29.7	377
182	26	3235	155	153	7.13	0.34	33.8	429
189	27	3365	130	164	7.42	0.29	36.2	460
196	28	3455	90	167	7.62	0.20	36.8	468
203	29	3515	60	167	7.75	0.13	36.8	468
210	30	3555	40	167	7.84	0.09	36.8	468
217	31	3590	35	167	7.91	0.07	36.8	468
224	32	3620	30	167	7.98	0.07	36.8	468
231	33	3640	20	167	8.02	0.04	36.8	468
238	34	3660	20	167	8.07	0.05	36.8	468
245	35	3680	20	167	8.11	0.04	36.8	468
252	36	3700	20	166	8.16	0.05	36.7	466
259	37	3720	20	166	8.20	0.04	36.6	465
266	38	3740	20	166	8.25	0.05	36.6	464
273	39	3760	20	166	8.29	0.04	36.5	464
280	40	3780	20	165	8.33	0.04	36.4	462
287	41	3800	20	165	8.38	0.05	36.3	461
294	42	3820	20	164	8.42	0.04	36.2	459
301	43	3840	20	164	8.47	0.05	36.1	458
308	44	3860	20	163	8.51	0.04	35.9	457
315	45	3880	20	163	8.55	0.04	35.9	455
322	46	3900	20	162	8.60	0.05	35.8	454
329	47	3920	20	161	8.64	0.04	35.6	452
336	48	3935	15	161	8.68	0.04	35.4	450
343	49	3950	15	160	8.71	0.03	35.3	448
350	50	3965	15	159	8.74	0.03	35.1	446
357	51	3980	15	159	8.77	0.03	35.0	445
364	52	3995	15	158	8.81	0.04	34.9	443
371	53	4010	15	158	8.84	0.03	34.8	442
378	54	4025	15	157	8.87	0.03	34.7	440
385	55	4040	15	157	8.91	0.04	34.6	439
392	56	4055	15	156	8.94	0.03	34.5	438
399	57	4070	15	156	8.97	0.03	34.3	436
406	58	4085	15	155	9.01	0.04	34.2	435
413	59	4100	15	155	9.04	0.03	34.1	434
420	60	4115	15	154	9.07	0.03	34.0	432
427	61	4130	15	154	9.11	0.04	33.9	431
434	62	4145	15	154	9.14	0.03	33.9	430
441	63	4160	15	153	9.17	0.03	33.8	429
448	64	4175	15	153	9.20	0.03	33.7	428

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

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

**NOTES**  
 Weekly body-weight gain beyond 32 weeks (224 days) should average approximately 15-20 g (0.03-0.04 lb).  
 Body weights are based on a feed day, 4-6 hours after feeding.

### Female Feeding into Lay

Hen-day (%)	Daily energy intake (kcal/bird/day)*	Feed intake (g/bird/day)	Feed increase (g/bird/day)
5	377	135	
10	382	137	2
15	388	139	2
20	394	141	2
25	399	143	2
30	405	145	2
35	413	148	3
40	422	151	3
45	430	154	3
50	438	157	3
55	447	160	3
65	458	164	4
>75	469	168	4

\*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).

#### NOTES

*Feeding programs 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.*

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	4.9	4.9	0.3	0.3				
2	182	26	27.1	27.2	1.9	2.2	1.5	1.5	77.0	65.1
3	189	27	56.8	57.1	4.0	6.2	3.3	4.8	83.8	77.1
4	196	28	76.6	77.2	5.4	11.6	4.8	9.6	89.2	82.7
5	203	29	84.3	85.1	5.9	17.5	5.5	15.1	94.1	86.5
6	210	30	86.1	87.1	6.0	23.5	5.8	21.0	97.0	89.2
7	217	31	85.4	86.6	6.0	29.5	5.8	26.8	97.5	90.9
8	224	32	84.8	86.1	5.9	35.4	5.8	32.6	98.0	92.1
9	231	33	84.1	85.6	5.9	41.3	5.8	38.4	98.0	92.9
10	238	34	82.9	84.6	5.8	47.1	5.7	44.1	98.0	93.6
11	245	35	81.8	83.6	5.7	52.8	5.6	49.7	98.0	94.1
12	252	36	80.7	82.6	5.6	58.5	5.5	55.2	98.0	94.4
13	259	37	79.5	81.6	5.6	64.0	5.5	60.7	98.0	94.8
14	266	38	78.4	80.6	5.5	69.5	5.4	66.0	97.7	95.0
15	273	39	77.3	79.6	5.4	74.9	5.3	71.3	97.7	95.2
16	280	40	76.1	78.7	5.3	80.3	5.2	76.5	97.7	95.4
17	287	41	74.7	77.4	5.2	85.5	5.1	81.7	97.7	95.5
18	294	42	73.3	76.1	5.1	90.6	5.0	86.7	97.7	95.6
19	301	43	71.9	74.8	5.0	95.7	4.9	91.6	97.7	95.7
20	308	44	70.5	73.5	4.9	100.6	4.8	96.4	97.7	95.8
21	315	45	69.2	72.3	4.8	105.4	4.7	101.1	97.6	95.9
22	322	46	67.9	71.1	4.8	110.2	4.6	105.8	97.5	96.0
23	329	47	66.7	69.9	4.7	114.9	4.5	110.3	97.5	96.1
24	336	48	65.4	68.7	4.6	119.4	4.5	114.8	97.4	96.1
25	343	49	64.1	67.5	4.5	123.9	4.4	119.2	97.3	96.1
26	350	50	62.8	66.3	4.4	128.3	4.3	123.4	97.2	96.2
27	357	51	61.6	65.1	4.3	132.6	4.2	127.6	97.1	96.2
28	364	52	60.3	63.9	4.2	136.9	4.1	131.7	97.0	96.2
29	371	53	59.0	62.7	4.1	141.0	4.0	135.7	96.9	96.3
30	378	54	57.8	61.5	4.0	145.0	3.9	139.6	96.8	96.3
31	385	55	56.6	60.3	4.0	149.0	3.8	143.4	96.7	96.3
32	392	56	55.3	59.1	3.9	152.9	3.7	147.2	96.6	96.3
33	399	57	54.1	57.9	3.8	156.7	3.7	150.8	96.5	96.3
34	406	58	52.8	56.7	3.7	160.4	3.6	154.4	96.4	96.3
35	413	59	51.6	55.5	3.6	164.0	3.5	157.9	96.3	96.3
36	420	60	50.4	54.3	3.5	167.5	3.4	161.3	96.1	96.3
37	427	61	49.2	53.1	3.4	170.9	3.3	164.6	96.1	96.3
38	434	62	48.0	51.9	3.4	174.3	3.2	167.8	96.1	96.3
39	441	63	46.8	50.7	3.3	177.6	3.1	171.0	96.1	96.3
40	448	64	45.6	49.5	3.2	180.8	3.1	174.0	96.0	96.3

\* 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	74.9	74.9	1.1	1.1
3	189	27	78.2	77.2	2.6	3.7
4	196	28	80.9	79.0	3.9	7.6
5	203	29	83.1	80.5	4.6	12.2
6	210	30	84.8	81.7	5.0	17.1
7	217	31	86.2	82.7	5.0	22.2
8	224	32	87.3	83.5	5.1	27.2
9	231	33	88.1	84.2	5.1	32.3
10	238	34	88.7	84.8	5.0	37.4
11	245	35	89.2	85.3	5.0	42.4
12	252	36	89.4	85.7	5.0	47.3
13	259	37	89.6	86.0	4.9	52.2
14	266	38	89.6	86.3	4.8	57.0
15	273	39	89.6	86.6	4.7	61.7
16	280	40	89.4	86.8	4.7	66.4
17	287	41	89.2	86.9	4.6	71.0
18	294	42	88.9	87.0	4.5	75.4
19	301	43	88.6	87.1	4.4	79.8
20	308	44	88.2	87.2	4.3	84.0
21	315	45	87.7	87.2	4.2	88.2
22	322	46	87.2	87.2	4.0	92.2
23	329	47	86.7	87.2	3.9	96.2
24	336	48	86.2	87.1	3.8	100.0
25	343	49	85.6	87.1	3.7	103.8
26	350	50	85.0	87.0	3.6	107.4
27	357	51	84.4	86.9	3.5	110.9
28	364	52	83.7	86.8	3.4	114.3
29	371	53	83.0	86.7	3.3	117.7
30	378	54	82.3	86.6	3.2	120.9
31	385	55	81.6	86.4	3.1	124.0
32	392	56	80.9	86.3	3.0	127.0
33	399	57	80.1	86.2	2.9	130.0
34	406	58	79.4	86.0	2.8	132.8
35	413	59	78.6	85.8	2.7	135.5
36	420	60	77.8	85.7	2.6	138.2
37	427	61	76.9	85.5	2.5	140.7
38	434	62	76.1	85.3	2.5	143.2
39	441	63	75.3	85.1	2.4	145.5
40	448	64	74.4	84.9	2.3	147.8

\* Hatchability is based on an average egg age of 3 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	4.9	50.0	2.5	21.2
2	182	26	27.2	52.3	14.2	22.1
3	189	27	57.1	53.9	30.8	22.8
4	196	28	77.2	55.5	42.8	23.5
5	203	29	85.1	56.8	48.3	24.0
6	210	30	87.1	58.0	50.5	24.6
7	217	31	86.6	59.0	51.1	25.0
8	224	32	86.1	59.8	51.5	25.3
9	231	33	85.6	60.4	51.7	25.6
10	238	34	84.6	61.0	51.6	25.8
11	245	35	83.6	61.6	51.5	26.1
12	252	36	82.6	62.1	51.3	26.3
13	259	37	81.6	62.5	51.0	26.5
14	266	38	80.6	62.9	50.7	26.6
15	273	39	79.6	63.3	50.4	26.8
16	280	40	78.7	63.7	50.1	27.0
17	287	41	77.4	64.0	49.5	27.1
18	294	42	76.1	64.4	49.0	27.3
19	301	43	74.8	64.7	48.4	27.4
20	308	44	73.5	65.1	47.8	27.6
21	315	45	72.3	65.4	47.3	27.7
22	322	46	71.1	65.8	46.8	27.9
23	329	47	69.9	66.1	46.2	28.0
24	336	48	68.7	66.5	45.7	28.1
25	343	49	67.5	66.8	45.1	28.3
26	350	50	66.3	67.2	44.5	28.4
27	357	51	65.1	67.5	43.9	28.6
28	364	52	63.9	67.9	43.4	28.7
29	371	53	62.7	68.2	42.8	28.9
30	378	54	61.5	68.5	42.1	29.0
31	385	55	60.3	68.8	41.5	29.1
32	392	56	59.1	69.1	40.8	29.2
33	399	57	57.9	69.4	40.2	29.4
34	406	58	56.7	69.6	39.5	29.5
35	413	59	55.5	69.8	38.7	29.5
36	420	60	54.3	70.0	38.0	29.6
37	427	61	53.1	70.1	37.2	29.7
38	434	62	51.9	70.2	36.4	29.7
39	441	63	50.7	70.3	35.6	29.8
40	448	64	49.5	70.4	34.9	29.8

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

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

Notes

A series of horizontal dotted lines for writing notes, spanning the width of the page.

**Notes**

Dotted lines for writing notes.



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March 2021