

PARENT STOCK
Nutrition
Specification

June 2007



Introduction

This booklet contains the nutrition specifications for **Ross 308** Parent Stock and is to be used with the **Ross 308** Parent Stock Management Manual.

Performance

To achieve optimal reproductive performance, it is important that the bodyweight profiles recommended in the Ross Parent Stock Performance Objectives are followed. For the nutritional recommendations that follow, nutrient specifications presented have been based upon daily energy allocations that enable bodyweight profiles to be achieved.

These are global recommendations. The specifications are therefore presented in two sections, recognising two distinct strategies for breeder management which can be summarised as:

Section 1 To have 5% production at 25 weeks of age, with first light stimulation after 21 weeks (147 days +)

OR

Section 2 To have 5% production at 23 weeks of age, with first light stimulation before 21 weeks (up to 146 days of age)

The former is the most common strategy worldwide and is described in **Section 1** of this booklet. **Section 2** describes the strategy to achieve 5% production at 23 weeks of age.

The feed specifications are based on either a 2-stage or 4-stage rearing programme. In areas where the first light stimulation occurs after 21 weeks of age, it is usual for a 2-stage rearing programme to be used.

In areas where the first light stimulation occurs before 21 weeks of age, it is common to use a 4-stage programme, but this could also be used when the first light stimulation occurs after 21 weeks of age.

Feed specifications and feed allocations have been produced for the two strategies, based on set energy values of 2800 kcal/kg and 2600 kcal/kg.

It must be remembered that these are examples and adjustments to nutrient inclusion will have to be made if energy value is altered. Feed allocation should be determined by bodyweight and therefore altered to maintain the recommended weight profile.

We recommend that you use the specifications which best relate to your production strategy.

It may be beneficial to use a specific male feed during the production period. An example specification can be found on page 12 of this booklet.

The local Nutrition Service Manager or Technical Service Manager should be consulted for more specialised situations and for advice on local markets.

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Section 1 To have 5% production at 25 weeks of age,
with first light stimulation after 21 weeks (147 days +)

- 05 **Section 1** Female Parent Stock Nutrient Specifications
- 06 **Section 1** Female Parent Stock Energy and Feed Allocation
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Female Parent Stock Nutrient Specifications

Two Stage Rearing Programme

First light stimulation after 21 weeks (147 days +) - 5% production at 25 weeks of age

		Starter		Grower		Breeder	
Age fed	days	0-28		28 to 5% production		from 5% production	
Energy per kg	kcal	2800		2800		2800	
	MJ	11.7		11.7		11.7	
AMINO ACIDS*		Total	Digest¹	Total	Digest¹	Total	Digest¹
Lysine	%	1.01	0.90	0.74	0.66	0.65	0.58
Methionine & Cystine	%	0.79	0.70	0.62	0.55	0.64	0.52
Methionine	%	0.38	0.35	0.30	0.27	0.30	0.28
Threonine	%	0.71	0.62	0.56	0.49	0.48	0.42
Valine	%	0.81	0.70	0.64	0.55	0.56	0.49
iso-Leucine	%	0.70	0.61	0.56	0.50	0.53	0.46
Arginine	%	1.08	0.97	0.84	0.76	0.69	0.62
Tryptophan	%	0.17	0.14	0.17	0.15	0.15	0.13
Crude Protein	%	19.00		15.00		14.50-15.50	
MINERALS*							
Calcium	%	1.00		0.90		3.00	
Available Phosphorus	%	0.45		0.42		0.35	
Sodium	%	0.16-0.23		0.16-0.23		0.16-0.23	
Chloride	%	0.16-0.23		0.16-0.23		0.16-0.23	
Potassium	%	0.40-0.90		0.40-0.90		0.60-0.90	
ADDED TRACE MINERALS PER KG							
Copper	mg	16		16		10	
Iodine	mg	1.25		1.25		2.00	
Iron	mg	40		40		50	
Manganese	mg	120		120		120	
Selenium	mg	0.30		0.30		0.30	
Zinc	mg	100		100		100	
ADDED VITAMINS PER KG		Wheat based feed	Maize based feed	Wheat based feed	Maize based feed	Wheat based feed	Maize based feed
Vitamin A	iu	11000	10000	11000	10000	12000	11000
Vitamin D3	iu	3500	3500	3500	3500	3500	3500
Vitamin E	iu	60	60	45	45	100	100
Vitamin K (Menadione)	mg	3	3	2	2	5	5
Thiamin (B1)	mg	3	3	2	2	3	3
Riboflavin (B2)	mg	6	6	5	5	12	12
Nicotinic Acid	mg	30	35	25	30	50	55
Pantothenic Acid	mg	13	15	13	15	13	15
Pyridoxine (B6)	mg	4	3	3	2	5	4
Biotin	mg	0.20	0.15	0.20	0.15	0.30	0.25
Folic Acid	mg	1.50	1.50	1.00	1.00	2.00	2.00
Vitamin B12	mg	0.02	0.02	0.02	0.02	0.03	0.03
MINIMUM SPECIFICATION							
Choline per kg	mg	1400		1400		1000	
Linoleic Acid	%	1.00		1.00		1.20-1.50	

Digest¹ = Digestible

* Energy base value. Nutrients should be factored accordingly when feeding differing energy values.

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions, legislation and markets.

Female Parent Stock Energy and Feed Allocation

Two Stage Rearing Programme

First light stimulation **after** 21 weeks (147 days +) - 5% production at 25 weeks of age

Age (days)	Age (weeks)	Energy Allocation (kcal/bird/day)	Feed (g/bird/day)
0	0		ad lib
7	1	70	25
14	2	81	29
21	3	92	33
28	4	109	39
35	5	123	44
42	6	129	46
49	7	134	48
56	8	140	50
63	9	146	52
70	10	151	54
77	11	157	56
84	12	162	58
91	13	168	60
98	14	174	62
105	15	182	65
112	16	196	70
119	17	210	75
126	18	227	81
133	19	246	88
140	20	269	96
147	21	291	104
154	22	316	113
161	23	339	121
168	24	364	130
175	25	389	139
182	26	412	147
189	27	437	156
196	28	462	165
203	29	462	165
210	30	462	165
217	31	462	165
224	32	462	165
231	33	462	165
238	34	462	165
245	35	462	165
252	36	459	164
259	37	459	164
266	38	456	163
273	39	456	163
280	40	454	162
287	41	454	162
294	42	451	161
301	43	448	160
308	44	448	160
315	45	445	159
322	46	445	159
329	47	442	158
336	48	442	158
343	49	440	157
350	50	437	156
357	51	437	156
364	52	434	155
371	53	434	155
378	54	431	154
385	55	431	154
392	56	428	153
399	57	426	152
406	58	426	152
413	59	423	151
420	60	423	151
427	61	420	150
434	62	420	150
441	63	417	149
448	64	414	148

Female Parent Stock Nutrient Allocations at Peak Production

Nutrient	Nutrient Allocation at Peak
Energy (kcal/bird/day)	462
DIGESTIBLE AMINO ACIDS mg/bird/day	
Lysine	950
Methionine & Cystine	850
Methionine	460
Threonine	700
Valine	810
iso-Leucine	765
Arginine	1020
Tryptophan	220
MINERALS mg/bird/day	
Calcium	4950
Available Phosphorus	580

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions, legislation and markets.

Male Parent Stock Energy and Feed Allocation

Two Stage Rearing Programme

First light stimulation **after** 21 weeks (147 days +) - 5% production at 25 weeks of age

Age (days)	Age (weeks)	Energy Allocation (kcal/bird/day)	Feed (g/bird/day)
0	0		ad lib
7	1	73	26
14	2	101	36
21	3	123	44
28	4	151	54
35	5	171	61
42	6	185	66
49	7	188	67
56	8	190	68
63	9	196	70
70	10	204	73
77	11	210	75
84	12	216	77
91	13	221	79
98	14	230	82
105	15	235	84
112	16	246	88
119	17	260	93
126	18	272	97
133	19	283	101
140	20	297	106
147	21	311	111
154	22	325	116
161	23	336	120
168	24	347	124
175	25	356	127
182	26	364	130
189	27	370	132
196	28	372	133
203	29	372	133
210	30	375	134
217	31	375	134
224	32	378	135
231	33	378	135
238	34	381	136
245	35	381	136
252	36	384	137
259	37	384	137
266	38	386	138
273	39	386	138
280	40	389	139
287	41	389	139
294	42	392	140
301	43	392	140
308	44	395	141
315	45	395	141
322	46	398	142
329	47	398	142
336	48	400	143
343	49	400	143
350	50	403	144
357	51	403	144
364	52	406	145
371	53	406	145
378	54	409	146
385	55	409	146
392	56	412	147
399	57	412	147
406	58	414	148
413	59	414	148
420	60	417	149
427	61	417	149
434	62	420	150
441	63	420	150
448	64	423	151

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions, legislation and markets.

Section 2 To have 5% production at 23 weeks of age, with first light stimulation before 21 weeks (up to 146 days of age)

- 09 **Section 2** Female Parent Stock Nutrient Specifications
- 10 **Section 2** Female Parent Stock Energy and Feed Allocation
- 11 **Section 2** Male Parent Stock Energy and Feed Allocation

Female Parent Stock Nutrient Specifications

Four Stage Rearing Programme*

First light stimulation **before** 21 weeks (up to 146 days of age) – 5% production at 23 weeks of age

		Starter 1		Starter 2		Grower		Pre-Breeder		Breeder	
Age fed	days	0-20		21-41		42-104		105-5% production		from 5% production	
Energy per kg	kcal	2800		2800		2600		2800		2800	
	MJ	11.7		11.7		10.9		11.7		11.7	
AMINO ACIDS*		Total	Digest¹	Total	Digest¹	Total	Digest¹	Total	Digest¹	Total	Digest¹
Lysine	%	1.07	0.95	0.84	0.75	0.62	0.55	0.65	0.58	0.65	0.58
Methionine & Cystine	%	0.83	0.74	0.68	0.60	0.51	0.46	0.58	0.52	0.64	0.52
Methionine	%	0.40	0.37	0.33	0.30	0.25	0.23	0.30	0.28	0.30	0.28
Threonine	%	0.74	0.66	0.61	0.54	0.46	0.41	0.45	0.40	0.48	0.42
Valine	%	0.85	0.74	0.70	0.61	0.53	0.46	0.56	0.49	0.56	0.49
iso-Leucine	%	0.73	0.65	0.61	0.54	0.47	0.41	0.51	0.45	0.53	0.46
Arginine	%	1.14	1.03	0.93	0.84	0.70	0.63	0.71	0.64	0.69	0.62
Tryptophan	%	0.18	0.15	0.17	0.14	0.14	0.12	0.14	0.12	0.15	0.13
Crude Protein	%	20.00		18.00		14.00		14.50-15.50		14.50-15.50	
MINERALS*											
Calcium	%	1.00		1.00		0.90		1.20		3.00	
Available Phosphorus	%	0.45		0.45		0.35		0.35		0.35	
Sodium	%	0.16-0.23		0.16-0.23		0.16-0.23		0.16-0.23		0.16-0.23	
Chloride	%	0.16-0.23		0.16-0.23		0.16-0.23		0.16-0.23		0.16-0.23	
Potassium	%	0.40-0.90		0.40-0.90		0.40-0.90		0.60-0.90		0.60-0.90	
ADDED TRACE MINERALS PER KG											
Copper	mg	16		16		16		10		10	
Iodine	mg	1.25		1.25		1.25		2.00		2.00	
Iron	mg	40		40		40		50		50	
Manganese	mg	120		120		120		120		120	
Selenium	mg	0.30		0.30		0.30		0.30		0.30	
Zinc	mg	100		100		100		100		100	
ADDED VITAMINS PER KG		Wheat based feed	Maize based feed	Wheat based feed	Maize based feed	Wheat based feed	Maize based feed	Wheat based feed	Maize based feed	Wheat based feed	Maize based feed
Vitamin A	iu	11000	10000	11000	10000	11000	10000	12000	11000	12000	11000
Vitamin D3	iu	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Vitamin E	iu	60	60	60	60	45	45	100	100	100	100
Vitamin K (Menadione)	mg	3	3	3	3	2	2	5	5	5	5
Thiamin (B1)	mg	3	3	3	3	2	2	3	3	3	3
Riboflavin (B2)	mg	6	6	6	6	5	5	12	12	12	12
Nicotinic Acid	mg	30	35	30	35	25	30	50	55	50	55
Pantothenic Acid	mg	13	15	13	15	13	15	13	15	13	15
Pyridoxine (B6)	mg	4	3	4	3	3	2	5	4	5	4
Biotin	mg	0.20	0.15	0.20	0.15	0.20	0.15	0.30	0.25	0.30	0.25
Folic Acid	mg	1.50	1.50	1.50	1.50	1.00	1.00	2.00	2.00	2.00	2.00
Vitamin B12	mg	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
MINIMUM SPECIFICATION											
Choline per kg	mg	1400		1400		1000		1000		1000	
Linoleic Acid	%	1.00		1.00		0.85		1.20-1.50		1.20-1.50	

Digest¹ = Digestible

* Energy base value. Nutrients should be factored accordingly when feeding differing energy values.

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions, legislation and markets.

*In some situations this programme can be used with flocks which receive their first light stimulation after 21 weeks of age, 147 days +.

Female Parent Stock Energy and Feed Allocation

Four Stage Rearing Programme*

First light stimulation **before** 21 weeks (up to 146 days of age) – 5% production at 23 weeks of age

Age (days)	Age (weeks)	Energy Allocation (kcal/bird/day)	Feed (g/bird/day)
0	0		ad lib
7	1	70	25
14	2	84	30
21	3	98	35
28	4	112	40
35	5	126	45
42	6	122	47
49	7	138	53
56	8	146	56
63	9	151	58
70	10	156	60
77	11	161	62
84	12	166	64
91	13	169	65
98	14	174	67
105	15	190	68
112	16	202	72
119	17	216	77
126	18	232	83
133	19	252	90
140	20	277	99
147	21	300	107
154	22	325	116
161	23	350	125
168	24	386	138
175	25	426	152
182	26	462	165
189	27	462	165
196	28	462	165
203	29	462	165
210	30	462	165
217	31	462	165
224	32	462	165
231	33	462	165
238	34	459	164
245	35	459	164
252	36	456	163
259	37	456	163
266	38	454	162
273	39	454	162
280	40	451	161
287	41	448	160
294	42	448	160
301	43	445	159
308	44	445	159
315	45	442	158
322	46	440	157
329	47	440	157
336	48	437	156
343	49	437	156
350	50	434	155
357	51	434	155
364	52	431	154
371	53	428	153
378	54	428	153
385	55	426	152
392	56	426	152
399	57	423	151
406	58	423	151
413	59	421	150
420	60	417	149
427	61	417	149
434	62	414	148

Female Parent Stock Nutrient Allocations at Peak Production

Nutrient	Nutrient Allocation at Peak
Energy (kcal/bird/day)	462
DIGESTIBLE AMINO ACIDS mg/bird/day	
Lysine	950
Methionine & Cystine	850
Methionine	460
Threonine	700
Valine	810
iso-Leucine	765
Arginine	1020
Tryptophan	220
MINERALS mg/bird/day	
Calcium	4950
Available Phosphorus	580

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions, legislation and markets.

**In some situations this programme can be used with flocks which receive their first light stimulation after 21 weeks of age, 147 days +.*

Male Parent Stock Energy and Feed Allocation**Four Stage Rearing Programme***First light stimulation **before** 21 weeks (up to 146 days of age) – **5% production at 23 weeks of age**

Age (days)	Age (weeks)	Energy Allocation (kcal/bird/day)	Feed (g/bird/day)
0	0		ad lib
7	1	73	26
14	2	101	36
21	3	123	44
28	4	151	54
35	5	171	61
42	6	172	66
49	7	174	67
56	8	182	70
63	9	187	72
70	10	195	75
77	11	200	77
84	12	205	79
91	13	211	81
98	14	218	84
105	15	241	86
112	16	266	95
119	17	274	98
126	18	283	101
133	19	297	106
140	20	316	113
147	21	336	120
154	22	353	126
161	23	364	130
168	24	370	132
175	25	372	133
182	26	372	133
189	27	375	134
196	28	375	134
203	29	378	135
210	30	378	135
217	31	381	136
224	32	381	136
231	33	384	137
238	34	384	137
245	35	386	138
252	36	386	138
259	37	389	139
266	38	389	139
273	39	392	140
280	40	392	140
287	41	395	141
294	42	395	141
301	43	398	142
308	44	398	142
315	45	400	143
322	46	400	143
329	47	403	144
336	48	403	144
343	49	406	145
350	50	406	145
357	51	409	146
364	52	409	146
371	53	412	147
378	54	412	147
385	55	414	148
392	56	414	148
399	57	417	149
406	58	417	149
413	59	420	150
420	60	420	150
427	61	423	151
434	62	423	151

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions, legislation and markets.

**In some situations this programme can be used with flocks which receive their first light stimulation after 21 weeks of age, 147 days +.*

Male Parent Stock Nutrient Specifications

The following male feed specification can be used for adult parent stock males for both pre- and post-21 week light stimulation. Feed allocation will be determined by male bodyweight and condition and should follow the guidelines for males previously described.

Crude Protein	%	12-14	
Energy per kg:	kcal	2600-2800	
	MJ	10.9-11.7	
AMINO ACIDS*		Total	Digest¹
Lysine	%	0.45-0.55	0.40-0.49
Methionine & Cystine	%	0.38-0.46	0.34-0.41
Methionine	%	0.16-0.22	0.15-0.20
Threonine	%	0.36-0.46	0.32-0.40
Valine	%	0.48-0.58	0.42-0.50
iso-Leucine	%	0.40-0.51	0.35-0.45
Arginine	%	0.61-0.72	0.55-0.65
Tryptophan	%	0.10-0.17	0.09-0.15
MINERALS*			
Calcium	%	0.8-1.2	
Available Phosphorus	%	0.3-0.4	
Magnesium	%	0.05-0.10	
Sodium	%	0.16-0.23	
Chloride	%	0.16-0.23	
Potassium	%	0.40-0.75	
ADDED TRACE MINERALS PER KG			
Copper	mg	10	
Iodine	mg	2	
Iron	mg	50	
Manganese	mg	120	
Zinc	mg	100	
Selenium	mg	0.3	
ADDED VITAMINS PER KG		Wheat based feed	Maize based feed
Vitamin A	iu	12000	11000
Vitamin D3	iu	3500	3500
Vitamin E	iu	100	100
Vitamin K (Menadione)	mg	5	5
Thiamin (B1)	mg	3	3
Riboflavin (B2)	mg	12	12
Nicotinic Acid	mg	50	55
Pantothenic Acid	mg	13	15
Pyridoxine (B6)	mg	5	4
Biotin	mg	0.30	0.25
Folic Acid	mg	2	2
Vitamin B12	mg	0.03	0.03
MINIMUM SPECIFICATION			
Choline per kg	mg	1000	
Linoleic Acid	%	0.80 - 1.20	

Digest¹ = Digestible

* Energy base value. Nutrients should be factored accordingly when feeding differing energy values.



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.

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