

PARENT STOCK
**Nutrition
Specification**

June 2007



Introduction

This booklet contains the nutrition specifications for **Ross 708** Parent Stock.

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** Example Female Parent Stock Nutrient Specifications
- 06 **Section 1** Female Parent Stock Energy and Feed Allocation
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Example 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	0.58	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	90	32
28	4	104	37
35	5	112	40
42	6	118	42
49	7	120	43
56	8	123	44
63	9	129	46
70	10	132	47
77	11	137	49
84	12	140	50
91	13	146	52
98	14	151	54
105	15	160	57
112	16	171	61
119	17	185	66
126	18	199	71
133	19	218	78
140	20	241	86
147	21	260	93
154	22	283	101
161	23	305	109
168	24	325	116
175	25	358	128
182	26	386	138
189	27	420	150
196	28	442	158
203	29	442	158
210	30	442	158
217	31	442	158
224	32	442	158
231	33	442	158
238	34	442	158
245	35	442	158
252	36	440	157
259	37	440	157
266	38	437	156
273	39	437	156
280	40	434	155
287	41	434	155
294	42	431	154
301	43	431	154
308	44	428	153
315	45	428	153
322	46	426	152
329	47	426	152
336	48	423	151
343	49	423	151
350	50	420	150
357	51	420	150
364	52	417	149
371	53	417	149
378	54	414	148
385	55	414	148
392	56	412	147
399	57	412	147
406	58	409	146
413	59	409	146
420	60	406	145
427	61	406	145
434	62	403	144
441	63	403	144
448	64	400	143

Female Parent Stock Nutrient Allocations at Peak Production

Nutrient	Nutrient Allocation
	at Peak
Energy (kcal/bird/day)	442
DIGESTIBLE AMINO ACIDS	
mg/bird/day	
Lysine	910
Methionine & Cystine	814
Methionine	440
Threonine	670
Valine	776
iso-Leucine	733
Arginine	977
Tryptophan	211
MINERALS	
mg/bird/day	
Calcium	4740
Available Phosphorus	555

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** Example 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

Example 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	0.56	0.50	0.58	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	0.48	0.42	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	0.15	0.13	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	95	34
28	4	106	38
35	5	115	41
42	6	117	45
49	7	125	48
56	8	127	49
63	9	133	51
70	10	135	52
77	11	140	54
84	12	143	55
91	13	148	57
98	14	151	58
105	15	168	60
112	16	176	63
119	17	190	68
126	18	207	74
133	19	224	80
140	20	246	88
147	21	269	96
154	22	291	104
161	23	314	112
168	24	358	128
175	25	403	144
182	26	448	160
189	27	448	160
196	28	448	160
203	29	448	160
210	30	448	160
217	31	448	160
224	32	448	160
231	33	448	160
238	34	448	160
245	35	445	159
252	36	445	159
259	37	442	158
266	38	442	158
273	39	440	157
280	40	440	157
287	41	437	156
294	42	434	155
301	43	434	155
308	44	431	154
315	45	431	154
322	46	428	153
329	47	428	153
336	48	426	152
343	49	423	151
350	50	423	151
357	51	420	150
364	52	420	150
371	53	417	149
378	54	417	149
385	55	414	148
392	56	412	147
399	57	412	147
406	58	409	146
413	59	409	146
420	60	406	145
427	61	406	145
434	62	403	144

Female Parent Stock Nutrient Allocations at Peak Production

Nutrient	Nutrient Allocation at Peak
Energy (kcal/bird/day)	448
DIGESTIBLE AMINO ACIDS mg/bird/day	
Lysine	921
Methionine & Cystine	824
Methionine	446
Threonine	679
Valine	785
iso-Leucine	742
Arginine	989
Tryptophan	213
MINERALS mg/bird/day	
Calcium	4800
Available Phosphorus	562

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 +.*

Example 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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