

# PARENT STOCK

*ROSS 308*

Nutrition Specifications

2021



## Introduction

This booklet contains the nutritional recommendations for Ross 308 parent stock and is to be used with the **Ross Parent Stock Management Handbook** and the **Ross 308 Parent Stock Performance Objectives**.

## Performance

To achieve optimal reproductive performance, it is important that the body-weight profiles recommended in the **Ross 308 Parent Stock Performance Objectives** are followed. For the nutritional recommendations that follow, nutrient specifications presented have been based upon daily energy allocations that enable body-weight profiles and reproductive performance objectives to be achieved.

Recommendations included in this booklet suggest different rearing programs for the following scenarios:

- **4-Stage Rearing Program** - where a smooth energy transition is applied between rearing and laying phases.
- **5-Stage Rearing Program** - where a developer ration is introduced to smooth the transition to a pre-breeder.
- **Separate Male Feed** - only for males in production.

Please note, these nutrient specifications are based on a common dietary energy level of 2800 kcal/kg (1271 kcal/lb), which must be adapted according to local environmental conditions, ingredient quality and availability, and feeding strategies. Thus, nutrient values must be adjusted proportionally to reflect the feeding of different energy levels, which is especially important when considering digestible lysine. Feed allocation should be determined by body weight, evaluation of fleshing and egg production, and therefore altered to maintain the recommended weight and egg production profiles.

Feed allocations provided in the Ross 308 Parent Stock Performance Objectives should be adjusted proportionally to any change in the energy density. Feed volume is an important tool that can be used to lengthen feed clean-up times and prevent body-weight uniformity loss in the rearing period even when multiple grading sessions are adopted. Feeding a lower dietary energy density Pullet Grower can be achieved using a combination of diluent ingredients (some examples include wheat bran or middlings, rice mill-feed, rice, oat or soy hulls, and inert mineral clay sources such as aluminum silicates). It is crucial to closely monitor feed clean-up times to ascertain that all pullets receive their fair share of feed to maintain good body-weight uniformity.

The energy values used in these specifications are based on assays for Metabolizable Energy (ME) published by the World's Poultry Science Association (WPSA). The values for amino acid digestibility are based on Standardized Ileal Digestibility (SID) assays.

It may be beneficial to use a specific diet for males during the production period. A specification for a male diet is provided in this booklet.

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## Female Parent Stock Nutrient Specifications

### 4-Stage Rearing Program

		Starter 1	Starter 2	Grower	Pre-Breeder	Breeder 1	Breeder 2	Breeder 3
Age Fed	days	0-21 days	22-42 days	43-105 days	106 days to 5% production	>5% production to 224 days	225-350 days	After 351 days
Energy per kg*	kcal	2800	2800	2800	2800	2800	2800	2800
	MJ	11.7	11.7	11.7	11.7	11.7	11.7	11.7
Energy per lb	kcal	1271	1271	1271	1271	1271	1271	1271
<b>DIGESTIBLE AMINO ACIDS</b>								
Lysine (max)**	%	1.00	0.72	0.52	0.49	0.62	0.56	0.52
Methionine	%	0.46	0.37	0.36	0.34	0.38	0.35	0.34
Methionine & Cystine	%	0.84	0.68	0.62	0.59	0.62	0.57	0.55
Threonine	%	0.70	0.60	0.52	0.50	0.55	0.53	0.51
Valine	%	0.81	0.72	0.60	0.57	0.64	0.60	0.56
Tryptophan	%	0.18	0.18	0.15	0.15	0.15	0.14	0.13
Arginine	%	1.15	0.92	0.78	0.75	0.85	0.82	0.79
Leucine	%	1.20	1.03	0.82	0.79	0.95	0.90	0.86
Isoleucine	%	0.70	0.58	0.47	0.44	0.52	0.50	0.49
Histidine	%	0.43	0.32	0.26	0.22	0.30	0.28	0.26
Crude Protein (min)	%	19.0	17.0	14.0	14.0	15.0	14.0	13.0
<b>MINERALS</b>								
Calcium	%	1.05	0.94	0.90	1.20	3.00	3.20	3.40
Available Phosphorus	%	0.50	0.47	0.45	0.45	0.36	0.34	0.32
Sodium	%	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23
Chloride	%	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23
Potassium	%	0.60-0.90	0.60-0.90	0.60-0.90	0.60-0.90	0.70-0.90	0.65-0.90	0.60-0.90
<b>ADDED TRACE MINERALS PER KG</b>								
Copper	mg		16			16		
Iodine	mg		2			3		
Iron	mg		40			50		
Manganese	mg		120			120		
Selenium	mg		0.3			0.3		
Zinc	mg		120			120		
<b>ADDED VITAMINS PER KG</b>								
Vitamin A	IU		13000			15000		
Vitamin D3	IU		4000			5000		
Vitamin E	IU		100			130		
Vitamin K (Menadione)	mg		6			9		
Thiamin (B1)	mg		5			6		
Riboflavin (B2)	mg		15			20		
Niacin	mg		50			70		
Pantothenic Acid	mg		20			25		
Pyridoxine (B6)	mg		5			8		
Biotin	mg		0.3			0.6		
Folic Acid	mg		3			5		
Vitamin B12	mg		0.05			0.07		
<b>MINIMUM SPECIFICATION</b>								
Choline per kg	mg		1400			1600		
Linoleic Acid	%		1.25			2.00		

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

\*\* In order to achieve the amino acid requirements without exceeding the recommended levels of digestible lysine it may be necessary to adopt more complex diets.

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

## Female Parent Stock Nutrient Specifications

### 5-Stage Rearing Program

		Starter 1	Starter 2	Grower	Developer	Pre-Breeder	Breeder 1	Breeder 2	Breeder 3
Age Fed	days	0-21 days	22-42 days	43-105 days	106 -140 days	141 days to 5% production	>5% production to 224 days	225-350 days	After 351 days
Energy per kg*	kcal	2800	2800	2800	2800	2800	2800	2800	2800
	MJ	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
Energy per lb	kcal	1271	1271	1271	1271	1271	1271	1271	1271
<b>DIGESTIBLE AMINO ACIDS</b>									
Lysine (max)**	%	1.00	0.72	0.52	0.50	0.48	0.62	0.56	0.52
Methionine	%	0.46	0.37	0.36	0.34	0.34	0.38	0.35	0.34
Methionine & Cystine	%	0.84	0.68	0.62	0.60	0.58	0.62	0.57	0.55
Threonine	%	0.70	0.60	0.52	0.50	0.49	0.55	0.53	0.51
Valine	%	0.81	0.72	0.60	0.58	0.56	0.64	0.60	0.56
Tryptophan	%	0.18	0.18	0.15	0.15	0.15	0.15	0.14	0.13
Arginine	%	1.15	0.92	0.78	0.76	0.74	0.85	0.82	0.79
Leucine	%	1.20	1.03	0.82	0.80	0.78	0.95	0.90	0.86
Isoleucine	%	0.70	0.58	0.47	0.45	0.43	0.52	0.50	0.49
Histidine	%	0.43	0.32	0.26	0.23	0.20	0.30	0.28	0.26
<b>Crude Protein (min)</b>	<b>%</b>	<b>19.0</b>	<b>17.0</b>	<b>14.0</b>	<b>14.0</b>	<b>14.0</b>	<b>15.0</b>	<b>14.0</b>	<b>13.0</b>
<b>MINERALS</b>									
Calcium	%	1.05	0.94	0.90	0.90	1.50	3.00	3.20	3.40
Available Phosphorus	%	0.50	0.47	0.45	0.45	0.35	0.36	0.34	0.32
Sodium	%	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23
Chloride	%	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23	0.18-0.23
Potassium	%	0.60-0.90	0.60-0.90	0.60-0.90	0.60-0.90	0.60-0.90	0.70-0.90	0.65-0.90	0.60-0.90
<b>ADDED TRACE MINERALS PER KG</b>									
Copper	mg			16				16	
Iodine	mg			2				3	
Iron	mg			40				50	
Manganese	mg			120				120	
Selenium	mg			0.3				0.3	
Zinc	mg			120				120	
<b>ADDED VITAMINS PER KG</b>									
Vitamin A	IU			13000				15000	
Vitamin D3	IU			4000				5000	
Vitamin E	IU			100				130	
Vitamin K (Menadione)	mg			6				9	
Thiamin (B1)	mg			5				6	
Riboflavin (B2)	mg			15				20	
Niacin	mg			50				70	
Pantothenic Acid	mg			20				25	
Pyridoxine (B6)	mg			5				8	
Biotin	mg			0.3				0.6	
Folic Acid	mg			3				5	
Vitamin B12	mg			0.05				0.07	
<b>MINIMUM SPECIFICATION</b>									
Choline per kg	mg			1400				1600	
Linoleic Acid	%			1.25				2.00	

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

\*\* In order to achieve the amino acid requirements without exceeding the recommended levels of digestible lysine it may be necessary to adopt more complex diets.

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

**Female Parent Stock Nutrient Specifications**

Nutrient Allocations at Peak Production

*In-season*

NUTRIENT	NUTRIENT ALLOCATION AT PEAK
Energy (kcal/bird/day)	468
<b>DIGESTIBLE AMINO ACIDS (mg/bird/day)</b>	
Lysine	1036
Methionine	635
Methionine & Cystine	1036
Threonine	919
Valine	1070
Tryptophan	251
Arginine	1421
Leucine	1588
Isoleucine	869
Histidine	501
<b>MINERALS (mg/bird/day)</b>	
Calcium	5014
Available Phosphorus	602

*Out-of-season*

NUTRIENT	NUTRIENT ALLOCATION AT PEAK
Energy (kcal/bird/day)	474
<b>DIGESTIBLE AMINO ACIDS (mg/bird/day)</b>	
Lysine	1050
Methionine	643
Methionine & Cystine	1050
Threonine	931
Valine	1083
Tryptophan	254
Arginine	1439
Leucine	1608
Isoleucine	880
Histidine	508
<b>MINERALS (mg/bird/day)</b>	
Calcium	5079
Available Phosphorus	609

## Male Parent Stock Nutrient Specifications

### Separate Diet in Production

		MALE DIET
Age		after 175 days
Energy per kg*	kcal	2800
	MJ	11.7
Energy per lb	kcal	1271
<b>DIGESTIBLE AMINO ACIDS</b>		
Lysine**	%	0.35
Methionine	%	0.33
Methionine + Cystine	%	0.58
Threonine	%	0.43
Valine	%	0.47
Tryptophan	%	0.15
Arginine	%	0.68
Leucine	%	0.66
Isoleucine	%	0.41
Histidine	%	0.16
Crude Protein	%	12.0
<b>MINERALS</b>		
Calcium	%	0.70
Available Phosphorus	%	0.35
Sodium	%	0.18-0.20
Chloride	%	0.20-0.23
Potassium	%	0.60-0.75
<b>ADDED TRACE MINERALS PER KG</b>		
Copper	mg	16
Iodine	mg	2
Iron	mg	40
Manganese	mg	120
Selenium	mg	0.3
Zinc	mg	120
<b>ADDED VITAMINS PER KG</b>		
Vitamin A	IU	13000
Vitamin D3	IU	4000
Vitamin E	IU	100
Vitamin K (Menadione)	mg	6
Thiamin (B1)	mg	5
Riboflavin (B2)	mg	15
Niacin	mg	50
Pantothenic Acid	mg	20
Pyridoxine (B6)	mg	5
Biotin	mg	0.3
Folic Acid	mg	3
Vitamin B12	mg	0.05
<b>MINIMUM SPECIFICATION</b>		
Choline per kg	mg	1400
Linoleic Acid	%	1.25

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

\*\* In order to achieve the amino acid requirements without exceeding the recommended levels of digestible lysine it may be necessary to adopt more complex diets.

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





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