

PARENT STOCK

ROSS 308 FF

Nutrition
Specifications

2016

Fast Feathering



Introduction

This booklet contains the nutritional recommendations for Ross® 308 FF (fast feathering) parent stock and is to be used with the **Ross Parent Stock Management Handbook**, the Ross 308 FF Management Supplement, and the Ross 308 FF Parent Stock Performance Objectives.

Performance

To achieve optimal reproductive performance, it is important that the body-weight profiles recommended in the Ross 308 FF 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 to be achieved.

Included in this booklet are 3 different rearing programs applicable for the following situations:

- **2-Stage Rearing Program** - where the same energy density is used during rear.
- **3-Stage Rearing Program** - where a Pre-Breeder diet is introduced to prepare the birds for the laying period.
- **4-Stage Rearing Program** - where a lower nutrient density and a higher feed volume feeding strategy is required.

Please note, these nutrient recommendations are based on the specified energy levels. Adjustment of nutrient levels must be made to reflect the feeding of different energy levels. Feed allocation should be determined by body weight and egg production levels, and therefore altered to maintain the recommended weight and egg production profiles.

The energy values used in these specifications are based on assays for Metabolizable Energy 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 separate male diet during the production period. A specification for a male diet is provided in this booklet.

For further information regarding these recommendations or for more specialized situations and advice on local markets, please contact your Aviagen® nutritionist or representative.

Contents

| | |
|----|-------------------------|
| 03 | 2-Stage Rearing Program |
| 04 | 3-Stage Rearing Program |
| 05 | 4-Stage Rearing Program |
| 06 | Male Program |

Female Parent Stock Nutrient Specifications

2-Stage Rearing Program

| | | Starter | | Grower | | Breeder 1 | | Breeder 2 ^a | | Breeder 3 ^a | |
|------------------------------------|------|-------------------------|---------------|--------------------------|---------------|---------------------------|---------------|-------------------------|---------------|-------------------------|---------------|
| Age Fed | days | 0-28 days | | 29 days to 5% production | | 5% production to 245 days | | 246-350 days | | After 351 days | |
| Energy per kg | kcal | 2800 | | 2800 | | 2800 | | 2800 | | 2800 | |
| | MJ | 11.70 | | 11.70 | | 11.70 | | 11.70 | | 11.70 | |
| Energy per lb | kcal | 1270 | | 1270 | | 1270 | | 1270 | | 1270 | |
| AMINO ACIDS* | | Total | Digest | Total | Digest | Total | Digest | Total | Digest | Total | Digest |
| Lysine | % | 1.06 | 0.95 | 0.68 | 0.61 | 0.67 | 0.60 | 0.62 | 0.56 | 0.58 | 0.52 |
| Methionine + Cystine | % | 0.84 | 0.74 | 0.63 | 0.55 | 0.67 | 0.59 | 0.65 | 0.57 | 0.59 | 0.54 |
| Methionine | % | 0.51 | 0.46 | 0.38 | 0.35 | 0.41 | 0.37 | 0.40 | 0.36 | 0.36 | 0.35 |
| Threonine | % | 0.75 | 0.66 | 0.54 | 0.48 | 0.55 | 0.49 | 0.53 | 0.47 | 0.51 | 0.47 |
| Valine | % | 0.80 | 0.71 | 0.64 | 0.57 | 0.63 | 0.56 | 0.60 | 0.53 | 0.57 | 0.51 |
| IsoLeucine | % | 0.70 | 0.62 | 0.56 | 0.50 | 0.56 | 0.50 | 0.54 | 0.48 | 0.51 | 0.45 |
| Arginine | % | 1.17 | 1.05 | 0.84 | 0.76 | 0.88 | 0.79 | 0.86 | 0.77 | 0.80 | 0.72 |
| Tryptophan | % | 0.19 | 0.16 | 0.16 | 0.14 | 0.16 | 0.14 | 0.15 | 0.13 | 0.14 | 0.12 |
| Leucine | % | 1.23 | 1.11 | 0.84 | 0.76 | 1.04 | 0.94 | 1.00 | 0.90 | 0.96 | 0.86 |
| Crude Protein | % | 19.00 | | 14.00-15.00 | | 15.00 | | 14.00 | | 13.00 | |
| MINERALS* | | | | | | | | | | | |
| Calcium | % | 1.00 | | 0.90 | | 3.00 | | 3.20 | | 3.40 | |
| Available Phosphorus | % | 0.45 | | 0.42 | | 0.35 | | 0.33 | | 0.32 | |
| Sodium | % | 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 | |
| Potassium | % | 0.40-0.90 | | 0.40-0.90 | | 0.60-0.90 | | 0.60-0.90 | | 0.60-0.90 | |
| ADDED TRACE MINERALS PER KG | | | | | | | | | | | |
| Copper | mg | 16 | | | | | | 10 | | | |
| Iodine | mg | 1.25 | | | | | | 2.00 | | | |
| Iron | mg | 40 | | | | | | 50 | | | |
| Manganese | mg | 120 | | | | | | 120 | | | |
| Selenium | mg | 0.30 | | | | | | 0.30 | | | |
| Zinc | mg | 110 | | | | | | 110 | | | |
| ADDED VITAMINS PER KG | | | | | | | | | | | |
| | | Wheat based feed | | Maize based feed | | | | Wheat based feed | | Maize based feed | |
| Vitamin A | IU | 11000 | | 10000 | | | | 12000 | | 11000 | |
| Vitamin D3 | IU | 3500 | | 3500 | | | | 3500 | | 3500 | |
| Vitamin E | IU | 100 | | 100 | | | | 100 | | 100 | |
| Vitamin K (Menadione) | mg | 3 | | 3 | | | | 5 | | 5 | |
| Thiamin (B1) | mg | 3 | | 3 | | | | 3 | | 3 | |
| Riboflavin (B2) | mg | 6 | | 6 | | | | 12 | | 12 | |
| Nicotinic Acid | mg | 30 | | 35 | | | | 50 | | 55 | |
| Pantothenic Acid | mg | 13 | | 15 | | | | 13 | | 15 | |
| Pyridoxine (B6) | mg | 4 | | 3 | | | | 5 | | 4 | |
| Biotin | mg | 0.20 | | 0.15 | | | | 0.30 | | 0.25 | |
| Folic Acid | mg | 1.50 | | 1.50 | | | | 2.00 | | 2.00 | |
| Vitamin B12 | mg | 0.02 | | 0.02 | | | | 0.03 | | 0.03 | |
| MINIMUM SPECIFICATION | | | | | | | | | | | |
| Choline per kg | mg | 1400 | | 1300 | | 1200 | | 1050 | | 1050 | |
| Linoleic Acid | % | 1.00 | | 1.00 | | 1.25 | | 1.25 | | 1.25 | |

Digest = Digestible

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

^a Breeder 2 and 3 can be useful to help control egg size and improve shell quality.

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

3-Stage Rearing Program

| | | Starter | Grower | Pre-Breeder | Breeder 1 | Breeder 2 ^a | Breeder 3 ^a |
|------------------------------------|------|--------------|-------------------------|---------------------------|---------------------------|-------------------------|-------------------------|
| Age Fed | days | 0-28 days | 29-133 days | 134 days to 5% production | 5% production to 245 days | 246-350 days | After 351 days |
| Energy per kg | kcal | 2800 | 2800 | 2800 | 2800 | 2800 | 2800 |
| | MJ | 11.70 | 11.70 | 11.70 | 11.70 | 11.70 | 11.70 |
| Energy per lb | kcal | 1270 | 1270 | 1270 | 1270 | 1270 | 1270 |
| AMINO ACIDS* | | Total | Digest | Total | Digest | Total | Digest |
| Lysine | % | 1.06 | 0.95 | 0.68 | 0.61 | 0.60 | 0.54 |
| Methionine + Cystine | % | 0.84 | 0.74 | 0.63 | 0.55 | 0.59 | 0.52 |
| Methionine | % | 0.51 | 0.46 | 0.38 | 0.35 | 0.36 | 0.33 |
| Threonine | % | 0.75 | 0.66 | 0.54 | 0.48 | 0.49 | 0.43 |
| Valine | % | 0.80 | 0.71 | 0.64 | 0.57 | 0.53 | 0.47 |
| IsoLeucine | % | 0.70 | 0.62 | 0.56 | 0.50 | 0.48 | 0.43 |
| Arginine | % | 1.17 | 1.05 | 0.84 | 0.76 | 0.77 | 0.69 |
| Tryptophan | % | 0.19 | 0.16 | 0.16 | 0.14 | 0.15 | 0.13 |
| Leucine | % | 1.23 | 1.11 | 0.84 | 0.76 | 0.83 | 0.75 |
| | | | | | | | |
| Crude Protein | % | 19.00 | 14.00-15.00 | 14.50 | 15.00 | 14.00 | 13.00 |
| MINERALS* | | | | | | | |
| Calcium | % | 1.00 | 0.90 | 1.20 | 3.00 | 3.20 | 3.40 |
| Available Phosphorus | % | 0.45 | 0.42 | 0.35 | 0.35 | 0.33 | 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 |
| 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 |
| Potassium | % | 0.40-0.90 | 0.40-0.90 | 0.60-0.90 | 0.60-0.90 | 0.60-0.90 | 0.60-0.90 |
| ADDED TRACE MINERALS PER KG | | | | | | | |
| Copper | mg | | 16 | | | 10 | |
| Iodine | mg | | 1.25 | | | 2.00 | |
| Iron | mg | | 40 | | | 50 | |
| Manganese | mg | | 120 | | | 120 | |
| Selenium | mg | | 0.30 | | | 0.30 | |
| Zinc | mg | | 110 | | | 110 | |
| ADDED VITAMINS PER KG | | | Wheat based feed | Maize based feed | | Wheat based feed | Maize based feed |
| Vitamin A | IU | | 11000 | 10000 | | 12000 | 11000 |
| Vitamin D3 | IU | | 3500 | 3500 | | 3500 | 3500 |
| Vitamin E | IU | | 100 | 100 | | 100 | 100 |
| Vitamin K (Menadione) | mg | | 3 | 3 | | 5 | 5 |
| Thiamin (B1) | mg | | 3 | 3 | | 3 | 3 |
| Riboflavin (B2) | mg | | 6 | 6 | | 12 | 12 |
| Nicotinic Acid | mg | | 30 | 35 | | 50 | 55 |
| Pantothenic Acid | mg | | 13 | 15 | | 13 | 15 |
| Pyridoxine (B6) | mg | | 4 | 3 | | 5 | 4 |
| Biotin | mg | | 0.20 | 0.15 | | 0.30 | 0.25 |
| Folic Acid | mg | | 1.50 | 1.50 | | 2.00 | 2.00 |
| Vitamin B12 | mg | | 0.02 | 0.02 | | 0.03 | 0.03 |
| MINIMUM SPECIFICATION | | | | | | | |
| Choline per kg | mg | 1400 | 1300 | 1200 | 1200 | 1050 | 1050 |
| Linoleic Acid | % | 1.00 | 1.00 | 1.00 | 1.25 | 1.25 | 1.25 |

Digest = Digestible

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

^a Breeder 2 and 3 can be useful to help control egg size and improve shell quality.

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

4-Stage Rearing Program

| | | Starter 1 | | Starter 2 | | Grower | | Pre-Breeder | | Breeder 1 | | Breeder 2 ^a | | Breeder 3 ^a | |
|------------------------------------|------|--------------|---------------|-------------------------|-------------------------|--------------|---------------|---------------------------|---------------|---------------------------|-------------------------|------------------------|---------------|------------------------|---------------|
| Age Fed | days | 0-21 days | | 22-35 days | | 36-105 days | | 106 days to 5% production | | 5% production to 245 days | | 246-350 days | | After 351 days | |
| Energy per kg | kcal | 2800 | | 2800 | | 2600 | | 2700 | | 2800 | | 2800 | | 2800 | |
| | MJ | 11.70 | | 11.70 | | 10.90 | | 11.30 | | 11.70 | | 11.70 | | 11.70 | |
| Energy per lb | kcal | 1270 | | 1270 | | 1179 | | 1225 | | 1270 | | 1270 | | 1270 | |
| AMINO ACIDS* | | Total | Digest | Total | Digest | Total | Digest | Total | Digest | Total | Digest | Total | Digest | Total | Digest |
| Lysine | % | 1.06 | 0.95 | 0.74 | 0.67 | 0.58 | 0.52 | 0.58 | 0.52 | 0.67 | 0.60 | 0.62 | 0.56 | 0.58 | 0.52 |
| Meth + Cyst | % | 0.84 | 0.74 | 0.67 | 0.59 | 0.59 | 0.52 | 0.58 | 0.51 | 0.67 | 0.59 | 0.65 | 0.57 | 0.59 | 0.54 |
| Methionine | % | 0.51 | 0.46 | 0.41 | 0.37 | 0.36 | 0.33 | 0.35 | 0.32 | 0.41 | 0.37 | 0.40 | 0.36 | 0.36 | 0.35 |
| Threonine | % | 0.75 | 0.66 | 0.60 | 0.53 | 0.50 | 0.44 | 0.47 | 0.41 | 0.55 | 0.49 | 0.53 | 0.47 | 0.51 | 0.47 |
| Valine | % | 0.80 | 0.71 | 0.70 | 0.63 | 0.49 | 0.44 | 0.51 | 0.45 | 0.63 | 0.56 | 0.60 | 0.53 | 0.57 | 0.51 |
| IsoLeucine | % | 0.70 | 0.62 | 0.62 | 0.55 | 0.45 | 0.40 | 0.47 | 0.41 | 0.56 | 0.50 | 0.54 | 0.48 | 0.51 | 0.45 |
| Arginine | % | 1.17 | 1.05 | 0.93 | 0.83 | 0.71 | 0.64 | 0.74 | 0.67 | 0.88 | 0.79 | 0.86 | 0.77 | 0.80 | 0.72 |
| Tryptophan | % | 0.19 | 0.16 | 0.18 | 0.15 | 0.14 | 0.12 | 0.15 | 0.13 | 0.16 | 0.14 | 0.15 | 0.13 | 0.14 | 0.12 |
| Leucine | % | 1.23 | 1.11 | 0.93 | 0.83 | 0.77 | 0.69 | 0.80 | 0.72 | 1.04 | 0.94 | 1.00 | 0.90 | 0.96 | 0.86 |
| Crude Protein | % | 19.00 | | 17.00 | | 13.00-14.00 | | 14.00 | | 15.00 | | 14.00 | | 13.00 | |
| MINERALS* | | | | | | | | | | | | | | | |
| Calcium | % | 1.00 | | 1.00 | | 0.90 | | 1.20 | | 3.00 | | 3.20 | | 3.40 | |
| Av. Phosphorus | % | 0.45 | | 0.45 | | 0.42 | | 0.35 | | 0.35 | | 0.33 | | 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 | % | 0.40-0.90 | | 0.40-0.90 | | 0.40-0.90 | | 0.60-0.90 | | 0.60-0.90 | | 0.60-0.90 | | 0.60-0.90 | |
| ADDED TRACE MINERALS PER KG | | | | | | | | | | | | | | | |
| Copper | mg | | | 16 | | | | | | | | 10 | | | |
| Iodine | mg | | | 1.25 | | | | | | | | 2.00 | | | |
| Iron | mg | | | 40 | | | | | | | | 50 | | | |
| Manganese | mg | | | 120 | | | | | | | | 120 | | | |
| Selenium | mg | | | 0.30 | | | | | | | | 0.30 | | | |
| Zinc | mg | | | 110 | | | | | | | | 110 | | | |
| ADDED VITAMINS PER KG | | | | | | | | | | | | | | | |
| | | | | Wheat based feed | Maize based feed | | | | | Wheat based feed | Maize based feed | | | | |
| Vitamin A | IU | | | 11000 | 10000 | | | | | 12000 | 11000 | | | | |
| Vitamin D3 | IU | | | 3500 | 3500 | | | | | 3500 | 3500 | | | | |
| Vitamin E | IU | | | 100 | 100 | | | | | 100 | 100 | | | | |
| Vitamin K | mg | | | 3 | 3 | | | | | 5 | 5 | | | | |
| Thiamin (B1) | mg | | | 3 | 3 | | | | | 3 | 3 | | | | |
| Riboflavin (B2) | mg | | | 6 | 6 | | | | | 12 | 12 | | | | |
| Nicotinic Acid | mg | | | 30 | 35 | | | | | 50 | 55 | | | | |
| Pantothenic Acid | mg | | | 13 | 15 | | | | | 13 | 15 | | | | |
| Pyridoxine (B6) | mg | | | 4 | 3 | | | | | 5 | 4 | | | | |
| Biotin | mg | | | 0.20 | 0.15 | | | | | 0.30 | 0.25 | | | | |
| Folic Acid | mg | | | 1.50 | 1.50 | | | | | 2.00 | 2.00 | | | | |
| Vitamin B12 | mg | | | 0.02 | 0.02 | | | | | 0.03 | 0.03 | | | | |
| MINIMUM SPECIFICATION | | | | | | | | | | | | | | | |
| Choline per kg | mg | 1400 | | 1400 | | 1300 | | 1200 | | 1200 | | 1050 | | 1050 | |
| Linoleic Acid | % | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.25 | | 1.25 | | 1.25 | |

Digest = Digestible

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

^a Breeder 2 and 3 can be useful to help control egg size and improve shell quality.

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

Male Parent Stock Nutrient Specifications

Feed allocation will be determined by male body weight and condition.
The male diet should be introduced when birds are moved to the laying house or at light stimulation.

| | | Male Feed | |
|------------------------------------|------|-------------------------|-------------------------|
| Energy per kg | kcal | 2700 | |
| | MJ | 11.30 | |
| Energy per lb | kcal | 1225 | |
| AMINO ACIDS* | | Total | Digest |
| Lysine | % | 0.49 | 0.44 |
| Methionine + Cystine | % | 0.48 | 0.42 |
| Methionine | % | 0.31 | 0.28 |
| Threonine | % | 0.38 | 0.33 |
| Valine | % | 0.42 | 0.37 |
| IsoLeucine | % | 0.39 | 0.34 |
| Arginine | % | 0.58 | 0.52 |
| Tryptophan | % | 0.09 | 0.08 |
| Leucine | % | 0.58 | 0.52 |
| Crude Protein | % | 11.50 | |
| MINERALS* | | | |
| Calcium | % | 0.70 | |
| Available Phosphorus | % | 0.35 | |
| Sodium | % | 0.18-0.23 | |
| Chloride | % | 0.18-0.23 | |
| Potassium | % | 0.60-0.90 | |
| ADDED TRACE MINERALS PER KG | | | |
| Copper | mg | 10 | |
| Iodine | mg | 2.00 | |
| Iron | mg | 50 | |
| Manganese | mg | 120 | |
| Selenium | mg | 0.30 | |
| Zinc | mg | 110 | |
| 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 | 2.00 | 2.00 |
| Vitamin B12 | mg | 0.03 | 0.03 |
| MINIMUM SPECIFICATION | | | |
| Choline per kg | mg | 1000 | |
| Linoleic Acid | % | 1.00 | |

Digest = 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 may require adjustment for local conditions, legislation and markets.



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Fast Feathering