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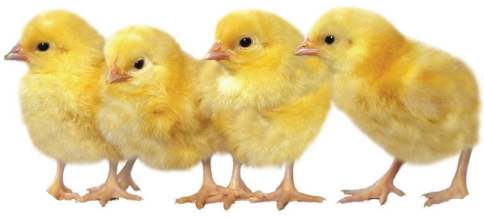
INDIAN RIVER

Parent Stock Nutrition Specifications



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Introduction

This booklet contains the nutritional recommendations for Indian River® (slow feathering) parent stock and is to be used with the **Indian River Parent Stock Management Handbook** and the **Indian River Parent Stock Performance Objectives.**

Performance

To achieve optimal reproductive performance, it is important that the body-weight profiles recommended in the **Indian River 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 **Indian River Parent Stock Performance Objective**s 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**
DIGESTIBLE AMINO ACIDS								
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**
MINERALS								
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
ADDED TRACE MINERALS PER KG								
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		
ADDED VITAMINS PER KG								
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		
MINIMUM SPECIFICATION								
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-BREDER	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**
DIGESTIBLE AMINO ACIDS									
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
Crude Protein (min)	**%**	**19.0**	**17.0**	**14.0**	**14.0**	**14.0**	**15.0**	**14.0**	**13.0**
MINERALS									
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
ADDED TRACE MINERALS PER KG									
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		
ADDED VITAMINS PER KG									
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		
MINIMUM SPECIFICATION									
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 Allocation at Peak Production

In-season

Nutrient	Nutrient Allocation at Peak
Energy (kcal/bird/day)	469
Digestible Amino Acids (mg/bird/day)	
Lysine	1039
Methionine	637
Methionine & Cystine	1039
Threonine	921
Valine	1072
Tryptophan	251
Arginine	1424
Leucine	1591
Isoleucine	871
Histidine	503
Minerals (mg/bird/day)	
Calcium	5025
Available Phosphorus	603

Out-of-season

Nutrient	Nutrient Allocation at Peak
Energy (kcal/bird/day)	475
Digestible Amino Acids (mg/bird/day)	
Lysine	1052
Methionine	645
Methionine & Cystine	1052
Threonine	933
Valine	1086
Tryptophan	254
Arginine	1442
Leucine	1612
Isoleucine	882
Histidine	509
Minerals (mg/bird/day)	
Calcium	5089
Available Phosphorus	611

Male Parent Stock Nutrient Specifications

		MALE DIET
Age fed	days	after 175 days
Energy per kg*	**kcal**	**2800**
	MJ	11.7
Energy per lb	**kcal**	**1271**
DIGESTIBLE AMINO ACIDS		
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**
MINERALS		
Calcium	%	0.70
Available Phosphorus	%	0.35
Sodium	%	0.18-0.20
Chloride	%	0.20-0.23
Potassium	%	0.60-0.75
ADDED TRACE MINERALS PER KG		
Copper	mg	16
Iodine	mg	2
Iron	mg	40
Manganese	mg	120
Selenium	mg	0.3
Zinc	mg	120
ADDED VITAMINS PER KG		
Vitamin A	IU	13000
Vitamin D3	IU	4000
Vitamin E	IU	100
Vitamin K (Menadi-one)	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
MINIMUM SPECIFICATION		
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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