

BROILER
Nutrition
Specification

June 2007



Introduction

Nutrition specifications for broilers are given in the following tables for a range of production and market situations across the world:

As-Hatched < 1.9kg	(4.2lb) liveweight	Table 1
As-Hatched 2.0-2.5kg	(4.4-5.5lb) liveweight	Table 2
As-Hatched > 3.0kg	(6.6lb) liveweight	Table 3

Modifications may need to be made for specific market conditions. Factors to be considered are:

- Final product - live bird or portioned products
- The supply and price of feed ingredients
- Age and liveweight at slaughter
- Yield and carcass quality
- Market requirements for skin colour, shelf-life etc.
- Use of sexed growing

The most appropriate diet will be designed to either minimise cost for live bird production or maximise margin over cost for portioned products required by the processing plant. For optimal portions margin, it is recommended that amino acid density be increased up to 5% in all diets.

Further information on producing feeds which will satisfy the nutrient requirements of broiler stock is contained in the Ross Nutrition Supplement.

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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06 Table 3 Nutrient Specifications for As-Hatched Broilers Grown >3.0kg (6.6lb) liveweight

Table 1

Nutrient Specifications for As-Hatched Broilers Grown <1.9kg (4.2lb) liveweight

Age fed	days	Starter		Grower		Finisher	
		0-10	11-24	11-24	25-slaughter		
Energy	kcal	3025		3150		3200	
	MJ	12.65		13.20		13.40	
AMINO ACIDS		Total	Digest¹	Total	Digest¹	Total	Digest¹
Lysine	%	1.43	1.27	1.24	1.10	1.09	0.97
Methionine & Cystine	%	1.07	0.94	0.95	0.84	0.86	0.76
Methionine	%	0.51	0.47	0.45	0.42	0.41	0.38
Threonine	%	0.94	0.83	0.83	0.73	0.74	0.65
Valine	%	1.09	0.95	0.96	0.84	0.86	0.75
iso-Leucine	%	0.97	0.85	0.85	0.75	0.76	0.67
Arginine	%	1.45	1.31	1.27	1.14	1.13	1.02
Tryptophan	%	0.24	0.20	0.20	0.18	0.18	0.16
Crude Protein	%	22-25		21-23		19-23	
<i>For optimal portions margin it is recommended that amino acid density be increased up to 5% in all diets</i>							
MINERALS							
Calcium	%	1.05		0.90		0.85	
Available Phosphorus	%	0.50		0.45		0.42	
Magnesium	%	0.05-0.50		0.05-0.50		0.05-0.50	
Sodium	%	0.16-0.23		0.16-0.23		0.16-0.20	
Chloride	%	0.16-0.23		0.16-0.23		0.16-0.23	
Potassium	%	0.40-1.00		0.40-0.90		0.40-0.90	
ADDED TRACE MINERALS PER KG							
Copper	mg	16		16		16	
Iodine	mg	1.25		1.25		1.25	
Iron	mg	40		40		40	
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	12000	11000	10000	9000	10000	900
Vitamin D3	iu	5000	5000	5000	5000	4000	4000
Vitamin E	iu	75	75	50	50	50	50
Vitamin K (Menadione)	mg	3	3	3	3	2	2
Thiamin (B1)	mg	3	3	2	2	2	2
Riboflavin (B2)	mg	8	8	6	6	5	5
Nicotinic Acid	mg	55	60	55	60	35	40
Pantothenic Acid	mg	13	15	13	15	13	15
Pyridoxine (B6)	mg	5	4	4	3	3	2
Biotin	mg	0.20	0.15	0.20	0.10	0.10	0.10
Folic Acid	mg	2.00	2.00	1.75	1.75	1.50	1.50
Vitamin B12	mg	0.016	0.016	0.016	0.016	0.010	0.010
MINIMUM SPECIFICATION							
Choline per kg	mg	1600		1500		1400	
Linoleic Acid	%	1.25		1.20		1.00	

Digest¹ = Digestible

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions and markets. A withdrawal feed should be fed to meet local requirements for drug withdrawal times. This can be formulated to the same standards as the finisher or to a slightly lower specification.

Table 2

Nutrient Specifications for As-Hatched Broilers Grown to 2.0-2.5kg (4.4-5.5lb) liveweight

Age fed	days	Starter		Grower		Finisher	
		0-10	11-24	25-slaughter			
Energy	kcal	3025		3150		3200	
	MJ	12.65		13.20		13.40	
AMINO ACIDS		Total	Digest¹	Total	Digest¹	Total	Digest¹
Lysine	%	1.43	1.27	1.24	1.10	1.09	0.97
Methionine & Cystine	%	1.07	0.94	0.95	0.84	0.86	0.76
Methionine	%	0.51	0.47	0.45	0.42	0.41	0.38
Threonine	%	0.94	0.83	0.83	0.73	0.74	0.65
Valine	%	1.09	0.95	0.96	0.84	0.86	0.75
iso-Leucine	%	0.97	0.85	0.85	0.75	0.76	0.67
Arginine	%	1.45	1.31	1.27	1.14	1.13	1.02
Tryptophan	%	0.24	0.20	0.20	0.18	0.18	0.16
Crude Protein	%	22-25		21-23		19-23	
<i>For optimal portions margin it is recommended that amino acid density be increased up to 5% in all diets</i>							
MINERALS							
Calcium	%	1.05		0.90		0.85	
Available Phosphorus	%	0.50		0.45		0.42	
Magnesium	%	0.05-0.50		0.05-0.50		0.05-0.50	
Sodium	%	0.16-0.23		0.16-0.23		0.16-0.20	
Chloride	%	0.16-0.23		0.16-0.23		0.16-0.23	
Potassium	%	0.40-1.00		0.40-0.90		0.40-0.90	
ADDED TRACE MINERALS PER KG							
Copper	mg	16		16		16	
Iodine	mg	1.25		1.25		1.25	
Iron	mg	40		40		40	
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	12000	11000	10000	9000	10000	9000
Vitamin D3	iu	5000	5000	5000	5000	4000	4000
Vitamin E	iu	75	75	50	50	50	50
Vitamin K (Menadione)	mg	3	3	3	3	2	2
Thiamin (B1)	mg	3	3	2	2	2	2
Riboflavin (B2)	mg	8	8	6	6	5	5
Nicotinic Acid	mg	55	60	55	60	35	40
Pantothenic Acid	mg	13	15	13	15	13	15
Pyridoxine (B6)	mg	5	4	4	3	3	2
Biotin	mg	0.20	0.15	0.20	0.10	0.10	0.10
Folic Acid	mg	2.00	2.00	1.75	1.75	1.50	1.50
Vitamin B12	mg	0.016	0.016	0.016	0.016	0.010	0.010
MINIMUM SPECIFICATION							
Choline per kg	mg	1600		1500		1400	
Linoleic Acid	%	1.25		1.20		1.00	

Digest¹ = Digestible

NOTES

These feed specifications should be used as a guide. They require adjustment for local conditions and markets. A withdrawal feed should be fed to meet local requirements for drug withdrawal times. This can be formulated to the same standards as the finisher or to a slightly lower specification.

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Table 3

Nutrient Specifications for As-Hatched Broilers Grown >3.0kg (6.6lb) liveweight

Age fed	days	Starter		Grower		Finisher 1		Finisher 2	
		0-10		11-24		25-42		43-slaughter	
Energy	kcal	3025		3150		3200		3225	
	MJ	12.65		13.20		13.40		13.50	
AMINO ACIDS		Total	Digest¹	Total	Digest¹	Total	Digest¹	Total	Digest¹
Lysine	%	1.43	1.27	1.24	1.10	1.06	0.94	1.00	0.89
Methionine & Cystine	%	1.07	0.94	0.95	0.84	0.83	0.73	0.79	0.69
Methionine	%	0.51	0.47	0.45	0.42	0.40	0.37	0.38	0.35
Threonine	%	0.94	0.83	0.83	0.73	0.72	0.63	0.68	0.60
Valine	%	1.09	0.95	0.96	0.84	0.83	0.72	0.79	0.69
iso-Leucine	%	0.97	0.85	0.85	0.75	0.74	0.65	0.70	0.61
Arginine	%	1.45	1.31	1.27	1.14	1.10	0.99	1.04	0.93
Tryptophan	%	0.24	0.20	0.20	0.18	0.17	0.15	0.17	0.14
Crude Protein	%	22-25		21-23		19-22		17-21	
<i>For optimal portions margin it is recommended that amino acid density be increased up to 5% in all diets</i>									
MINERALS									
Calcium	%	1.05		0.90		0.85		0.80	
Available Phosphorus	%	0.50		0.45		0.42		0.40	
Magnesium	%	0.05-0.50		0.05-0.50		0.05-0.50		0.05-0.50	
Sodium	%	0.16-0.23		0.16-0.23		0.16-0.20		0.16-0.20	
Chloride	%	0.16-0.23		0.16-0.23		0.16-0.23		0.16-0.23	
Potassium	%	0.40-1.00		0.40-0.90		0.40-0.90		0.40-0.90	
ADDED TRACE MINERALS PER KG									
Copper	mg	16		16		16		16	
Iodine	mg	1.25		1.25		1.25		1.25	
Iron	mg	40		40		40		40	
Manganese	mg	120		120		120		120	
Selenium	mg	0.30		0.30		0.30		0.30	
Zinc	mg	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
Vitamin A	iu	12000	11000	10000	9000	10000	9000	10000	9000
Vitamin D3	iu	5000	5000	5000	5000	4000	4000	4000	4000
Vitamin E	iu	75	75	50	50	50	50	50	50
Vitamin K (Menadione)	mg	3	3	3	3	2	2	2	2
Thiamin (B1)	mg	3	3	2	2	2	2	2	2
Riboflavin (B2)	mg	8	8	6	6	5	5	5	5
Nicotinic Acid	mg	55	60	55	60	35	40	35	40
Pantothenic Acid	mg	13	15	13	15	13	15	13	15
Pyridoxine (B6)	mg	5	4	4	3	3	2	3	2
Biotin	mg	0.20	0.15	0.20	0.10	0.10	0.10	0.10	0.10
Folic Acid	mg	2.00	2.00	1.75	1.75	1.50	1.50	1.50	1.50
Vitamin B12	mg	0.016	0.016	0.016	0.016	0.010	0.010	0.010	0.010
MINIMUM SPECIFICATION									
Choline per kg	mg	1600		1500		1400		1300	
Linoleic Acid	%	1.25		1.20		1.00		1.00	

Digest¹ = Digestible

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These feed specifications should be used as a guide. They require adjustment for local conditions and markets. A withdrawal feed should be fed to meet local requirements for drug withdrawal times. This can be formulated to the same standards as the finisher or to a slightly lower specification.

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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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