

LOHMANN BROWN Growing Period Nutritional Recommendations

Lohmann Brown Rearing Nutrient Levels (3 stage program)

	Starter		Grower		Developer		Pre-Layer	
Feed to a body weight of (g)	170		620		1380		1530	
Age (weeks) approximate	1-3 wks		1-8 wks		9-16 wks		wk 17-5% prod	
Metabolisable Energy, kcal/kg	2900		2800		2750		2750	
Metabolisable Energy, mj/kg	12.13		11.72		11.51		11.51	
Crude protein (nitrogen x 6.25), %	20.0		18.5		14.5		17.5	
Amino Acids	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig
Lysine, %	1.20	0.98	1.00	0.82	0.65	0.53	0.85	0.70
Methionine, %	0.48	0.39	0.40	0.33	0.34	0.28	0.36	0.29
Methionine+cystine, %	0.83	0.68	0.70	0.57	0.60	0.50	0.68	0.56
Threonine, %	0.80	0.65	0.70	0.57	0.50	0.40	0.60	0.49
Tryptophan, %	0.23	0.19	0.21	0.17	0.16	0.13	0.20	0.16
Arginine, % **	1.28	1.05	1.07	0.88	0.70	0.57	0.91	0.75
Isoleucine, % **	0.83	0.68	0.75	0.62	0.60	0.50	0.74	0.61
Valine, % **	0.89	0.76	0.75	0.64	0.53	0.46	0.64	0.55
Calcium, % *	1.05		1.00		0.90		2.00	
Phosphorus (available), %	0.48		0.45		0.37		0.45	
Sodium, %	0.18		0.17		0.16		0.16	
Chloride, %	0.18-0.23		0.17-0.23		0.16-0.23		0.16-0.22	
Linoleic acid (C18:2 n-6), %	2.0		1.2		1.0		1.0	

* The basis for switching between diet types is the hens' body weight development. The correct time for changing the diet is determined not by age, but by body weight. Chicks and pullets, should therefore be weighed at regular intervals.

** Chicks should be fed starter feed, if the standard body weight is not reached by feeding chick grower or if the daily feed intake is expected to be low.

** Estimated from published sources.

* Calcium should be supplied as a fine calcium carbonate source (mean particle size less than 2 mm).

LOHMANN BROWN Laying Period Nutritional Recommendations

Laying Phase 1: POL - 45 Weeks

Daily feed intake g/hen/day	100		105		110		115	
Metabolisable Energy, kcal/kg	2750		2750		2750		2750	
Metabolisable Energy, mj/kg	11.51		11.51		11.51		11.51	
Crude protein (nitrogen x 6.25), % ³	18.7		17.8		17.0		16.3	
Amino Acids	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig
Lysine, %	0.88	0.72	0.84	0.69	0.80	0.65	0.77	0.63
Methionine, %	0.44	0.36	0.42	0.34	0.40	0.33	0.38	0.31
Methionine+cystine, %	0.80	0.65	0.76	0.62	0.73	0.60	0.69	0.57
Threonine, %	0.61	0.50	0.58	0.48	0.55	0.46	0.53	0.44
Tryptophan, %	0.18	0.15	0.17	0.14	0.16	0.13	0.16	0.13
Arginine, % **	0.91	0.75	0.87	0.71	0.83	0.68	0.79	0.65
Isoleucine, % **	0.69	0.57	0.66	0.54	0.63	0.52	0.60	0.49
Valine, % **	0.75	0.63	0.71	0.60	0.67	0.57	0.64	0.55
Calcium, % *	4.10		3.90		3.73		3.57	
Phosphorus (available), %	0.42		0.40		0.38		0.37	
Sodium, %	0.18		0.17		0.16		0.16	
Chloride, %	0.18-0.22		0.17-0.22		0.16-0.22		0.15-0.22	
Linoleic acid (C18:2 n-6), %	1.05		1.00		0.91		0.87	

AA Ratios

Dig.Lys/1000 kcal/kgME		0.262		0.249		0.238		0.228
Dig.Met:Dig.Lys		0.50		0.50		0.50		0.50
Dig.M+C:Dig.Lys		0.90		0.90		0.90		0.90
Dig.Thr:Dig.Lys		0.70		0.70		0.70		0.70
Dig.Try:Dig.Lys		0.20		0.20		0.20		0.20
Dig.Arg:Dig.Lys		1.04		1.04		1.04		1.04
Dig.Iso:Dig.Lys		0.79		0.79		0.79		0.79
Dig.Val:Dig.Lys		0.88		0.88		0.88		0.88

The time for switching diets is determined more by the level of production and the need for calcium rather than by age.

Major changes in the raw material composition of the various phase diets or marked changes in feed consumption should be avoided.

** Estimated from published sources.

* Calcium source should consist of a mix of fine lime and course lime (approx. 30%:70% for birds in the early phase of lay)

* Pullets should be started on the 100g ration for first 5-6 weeks of lay, then move to a 110g ration or greater according to actual feed intake.

LOHMANN BROWN Laying Period Nutritional Recommendations

Laying Phase 2: 45 - 65 Weeks

Daily feed intake g/hen/day	105		110		115		120	
Metabolisable Energy, kcal/kg	2725		2725		2725		2725	
Metabolisable Energy, mj/kg	11.40		11.40		11.40		11.40	
Crude protein (nitrogen x 6.25), % ³	17.1		16.32		15.61		14.96	
Amino Acids	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig
Lysine, %	0.80	0.66	0.76	0.63	0.73	0.60	0.70	0.57
Methionine, %	0.40	0.33	0.38	0.32	0.37	0.30	0.35	0.29
Methionine+cystine, %	0.73	0.60	0.70	0.57	0.67	0.55	0.64	0.52
Threonine, %	0.56	0.46	0.53	0.44	0.51	0.42	0.49	0.40
Tryptophan, %	0.17	0.14	0.16	0.13	0.15	0.13	0.15	0.12
Arginine, % **	0.84	0.69	0.80	0.65	0.76	0.63	0.73	0.60
Isoleucine, % **	0.64	0.52	0.61	0.50	0.58	0.48	0.56	0.46
Valine, % **	0.68	0.58	0.65	0.55	0.62	0.53	0.59	0.51
Calcium, % *	4.19		4.00		3.83		3.67	
Phosphorus (available), %	0.38		0.36		0.35		0.33	
Sodium, %	0.16		0.15		0.15		0.14	
Chloride, %	0.16-0.22		0.16-0.22		0.15-0.22		0.15-0.22	
Linoleic acid (C18:2 n-6), %	0.95		0.91		0.87		0.83	
AA Ratios								
Dig.Lys/1000 kcal/kg ME		0.241		0.23		0.22		0.211
Dig.Met:Dig.Lys		0.51		0.51		0.51		0.51
Dig.M+C:Dig.Lys		0.91		0.91		0.91		0.91
Dig.Thr:Dig.Lys		0.70		0.70		0.70		0.70
Dig.Try:Dig.Lys		0.21		0.21		0.21		0.21
Dig.Arg:Dig.Lys		1.04		1.04		1.04		1.04
Dig.Iso:Dig.Lys		0.80		0.80		0.79		0.79
Dig.Val:Dig.Lys		0.88		0.88		0.88		0.88

The time for switching diets is determined more by the level of production and the need for calcium rather than by age.

Major changes in the raw material composition of the various phase diets or marked changes in feed consumption should be avoided.

** Estimated from published sources.

* Calcium source should consist of a mix of fine lime and course lime (approx. 25%:75% for birds in the mid phase of lay)

Laying Phase 3: 65 Weeks - End

Daily feed intake g/hen/day	105		110		115		120	
Metabolisable Energy, kcal/kg	2725		2725		2725		2725	
Metabolisable Energy, mj/kg	11.40		11.40		11.40		11.40	
Crude protein (nitrogen x 6.25), % ³	16.2		15.5		14.8		14.2	
Amino Acids	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig	Total	Std.Ileal.Dig
Lysine, %	0.76	0.62	0.73	0.59	0.69	0.57	0.67	0.54
Methionine, %	0.38	0.31	0.36	0.30	0.35	0.28	0.33	0.27
Methionine+cystine, %	0.69	0.57	0.66	0.54	0.63	0.52	0.61	0.50
Threonine, %	0.53	0.43	0.50	0.41	0.48	0.39	0.46	0.38
Tryptophan, %	0.16	0.13	0.15	0.12	0.15	0.12	0.14	0.11
Arginine, % **	0.79	0.65	0.75	0.62	0.72	0.59	0.69	0.57
Isoleucine, % **	0.60	0.49	0.57	0.47	0.55	0.45	0.52	0.43
Valine, % **	0.64	0.55	0.61	0.52	0.58	0.50	0.56	0.48
Calcium, % *	4.29		4.09		3.92		3.75	
Phosphorus (available), %	0.36		0.34		0.33		0.31	
Sodium, %	0.16		0.15		0.15		0.14	
Chloride, %	0.16-0.22		0.16-0.22		0.15-0.22		0.15-0.22	
Linoleic acid (C18:2 n-6), %	0.95		0.91		0.87		0.83	
AA Ratios								
Dig.Lys/1000 kcal/kgME		0.228		0.217		0.208		0.199
Dig.Met:Dig.Lys		0.50		0.50		0.50		0.50
Dig.M+C:Dig.Lys		0.92		0.92		0.92		0.92
Dig.Thr:Dig.Lys		0.69		0.69		0.69		0.69
Dig.Try:Dig.Lys		0.21		0.21		0.21		0.21
Dig.Arg:Dig.Lys		1.05		1.05		1.05		1.05
Dig.Iso:Dig.Lys		0.79		0.79		0.79		0.79
Dig.Val:Dig.Lys		0.89		0.89		0.89		0.89

The time for switching diets is determined more by the level of production and the need for calcium rather than by age.

Major changes in the raw material composition of the various phase diets or marked changes in feed consumption should be avoided.

** Estimated from published sources.

* Calcium source should consist of a mix of fine lime and course lime (approx. 15%:85% for birds in the late phase of lay)