

2. Technical Specifications

1. Calf Starter Feed

Parameter		
Nutrients		
	Crude protein % (min)	18.0
	Crude Fat % (max)	6.0
	Moisture % (max)	12.0
	Acid Insoluble Ash (sand) % (max)	2.0
Mineral		
	Calcium % (min)	0.90
	Phosphorous % (min)	0.45
Energy		
	Metabolisable energy (Kcal/kg) (min)	2.6

- Calf starter meal should have at least 3% of either whole or skimmed milk powder
- Should not contain any non-proteinous nitrogen compounds
- Should have a shelf life of at least 4 weeks
- Should not contain any moulds/ deleterious compounds
- Should be palatable to calves
- Should be provided in pelleted form
- Total aflatoxin content should be less than 20 ppb

2. Dairy Cattle Feed

Parameter		
Nutrients		
	Crude protein % (min)	16.0
	Crude Fat % (max)	5.0
	Moisture % (max)	12.0
	Acid Insoluble Ash (sand) % (max)	2.0
Mineral		
	Calcium % (min)	0.9
	Phosphorous % (min)	0.45
Energy		
	Metabolisable energy (Mcal/kg) (min)	2.4

- No more than 1% of total crude protein should from added non-protein nitrogen compounds
- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to cows
- Should be provided in pelleted form
- Total aflatoxin content should be less than 20 ppb

3. Stud Bull Feed

Parameter		
Nutrients		
	Crude protein % (min)	15.0
	Crude Fat % (max)	5.0
	Moisture % (max)	12.0
	Acid Insoluble Ash (sand) % (max)	2.0
Mineral		
	Calcium % (min)	1.00
	Phosphorous % (min)	0.50
Energy		
	Metabolisable energy (Mcal/kg) (min)	2.4

- No more than 1 % of total crude protein should from added non-protein nitrogen compounds
- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to bulls
- Should be provided in pelleted form
- Total aflatoxin content should be less than 20 ppb

4. Goat Feed

	Parameter	
Nutrients		
	Crude protein % (min)	16.0
	Crude Fat % (max)	5.0
	Moisture % (max)	12.0
	Acid Insoluble Ash (sand) % (max)	2.0
Mineral		
	Calcium % (min)	0.60
	Phosphorous % (min)	0.55
Energy		
	Metabolisable energy (Kcal/kg) (min)	2.4

- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to goats
- Total aflatoxin content should be less than 20 ppb

5. Sow feed

34

	Nutrient	Pig Grower	Bidders Responds (yes/no)	If "NO" comments
Nutrients	Moisture % (max)	12.00		
	Crude Protein % (min)	16.00		
	Crude Fiber % (max)	8.00		
	Acid Insoluble Ash % (max)	2.0		
Amino Acids				
	Lysine % (min)	0.80		
	Methionine + Cysteine % (min)	0.50		
Minerals				
	Calcium % (min)	0.90		
	Total Phosphorus % (min)	0.60		
Energy				
	Gross Energy (Mcal/kg) (min)	3.5		
	Digestible energy (Mcal/kg) (min)	3.0		

- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to breeding female pigs
- Total aflatoxin content should be less than 20 ppb

6. Creep Feed

	Nutrient	Creep Feed	Bidders Responds (yes/no)	If "NO" comments
Nutrients	Moisture % (max)	12.00		
	Crude Protein % (min)	21.00		
	Crude Fiber % (max)	6.00		
	Acid Insoluble Ash % (max)	2.0		
Amino Acids				
	Lysine % (min)	1.40		
	Methionine + Cysteine % (min)	0.75		
Minerals				
	Calcium % (min)	1.20		
	Total Phosphorus % (min)	0.85		
Energy				
	Gross Energy (Mcal/kg) min	3.65		
	Digestible energy (Mcal/kg) (min)	3.1		

- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to young suckling piglets
- Total aflatoxin content should be less than 20 ppb

7. Commercial Layer Feed

36

	Parameter	Layer Feed	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	16.5 - 17.5		
	Crude Fat % (max)	7.0		
	Crude Fiber % (max)	7.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	2.0		
Amino Acids				
	Lysine %	0.70 - 0.74		
	Methionine	0.34 - 0.35		
	Methionine & Cysteine %	0.60 - 0.62		
	Tryptophan%	0.16 - 0.18		
Mineral				
	Calcium % (min)	3.00		
	Total Phosphorous % (min)	0.65		
	Available Phosphorus % (min)	0.40		
Energy				
	Metabolisable Energy (Kcal/kg)	2650 - 2800		

- Should have a shelf life of at least 4 weeks
- Should be palatable to laying poultry.
- Should not contain any molds/ deleterious compounds.
- Total aflatoxin-content should be less than 20 ppb

8. Commercial layer Grower Feed / Chick Grower Feed

	Parameter	Grower Feed	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	15.5-16		
	Crude Fat % (max)	7.0		
	Crude Fiber % (max)	7.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	2.0		
Amino Acids				
	Lysine %	0.78 – 0.80		
	Methionine	0.32 – 0.34		
	Methionine & Cysteine %	0.55 – 0.58		
	Tryptophan%	0.16 – 0.18		
Mineral				
	Calcium % (min)	0.90		
	Total Phosphorous % (min)	0.60		
	Available Phosphorus % (min)	0.40		
Energy				
	Metabolisable energy (kcal/kg)	2650 - 2750		

- Should have a shelf life of at least 4 weeks
- Should be palatable to growing layer poultry
- Should not contain any molds/ deleterious compounds
- Total aflatoxin content should be less than 20 ppb

9. Layer Chick Starter Feed

	Parameter	Chick Starter	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	18.5 – 19.0		
	Crude Fat % (max)	6.0		
	Crude Fiber % (max)	6.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	2.0		
Amino Acids				
	Lysine %	0.9 – 0.95		
	Methionine	0.36 – 0.38		
	Methionine & Cysteine %	0.65 – 0.67		
	Tryptophan%	0.18 – 0.20		
Mineral				
	Calcium % (min)	0.95		
	Total Phosphorous % (min)	0.7		
	Available Phosphorus % (min)	0.4		
Energy				
	Metabolisable energy (kcal/kg)	2750 - 2800		

- Should have a shelf life of at least 4 weeks
- Should be palatable to laying poultry chicks
- Should not contain any molds/ deleterious compounds
- Total aflatoxin content should be less than 20 ppb

10. Layer Breeder Starter Feed / Layer Breeder Starter Feed (Crumbles)

	Parameter	Layer Breeder Starter	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	19.0-19.5		
	Crude Fat % (max)	6.0		
	Crude Fiber % (max)	6.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	2.0		
Amino Acids				
	Lysine %	0.95-1.00		
	Methionine	0.40-0.42		
	Methionine & Cysteine %	0.70-0.72		
	Tryptophan%	0.2-0.25		
Mineral				
	Calcium % (min)	0.85-0.95		
	Total Phosphorous % (min)	0.70		
	Available Phosphorus % (min)	0.45		
Energy				
	Metabolisable energy (kcal/kg)	2850-2950		

- Should have a shelf life of at least 4 weeks
- Should be palatable to layer breeder chicken
- Should not contain any molds/ deleterious compounds
- Total aflatoxin content should be less than 20 ppb
- Should be supplied in small crumble form

11. Layer Breeder Developer Feed (Crumbles)

	Parameter	Layer Breeder Developer	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	15.5-16.5		
	Crude Fat % (max)	7.0		
	Crude Fiber % (max)	7.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	2.0		
Amino Acids				
	Lysine %	0.72-0.75		
	Methionine	0.34-0.36		
	Methionine & Cysteine %	0.60-0.62		
	Tryptophan%	0.17-0.2		
Mineral				
	Calcium % (min)	0.85-0.95		
	Total Phosphorous % (min)	0.75		
	Available Phosphorus % (min)	0.45		
Energy				
	Metabolisable energy (kcal/kg)	2700-2750		

- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to Layer breeder developer poultry
- Should be provided in crumble form
- Total aflatoxin content should be less than 20 ppb

12. Layer Breeder Feed (Pellet)

	Parameter	Layer Breeder Layer	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	17.5-18.5		
	Crude Fat % (max)	7.0		
	Crude Fiber % (max)	7.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	2.0		
Amino Acids				
	Lysine %	0.80-0.82		
	Methionine	0.38-0.40		
	Methionine & Cysteine %	0.65-0.70		
	Tryptophan%	0.20-0.22		
Mineral				
	Calcium % (min)	3.25		
	Total Phosphorous % (min)	0.8		
	Available Phosphorus % (min)	0.45		
Energy				
	Metabolisable energy (kcal/kg)	2750-2850		

- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to Layer breeder poultry
- Should be provided in pelleted form
- Total aflatoxin content should be less than 20 ppb

	Parameter	Layer Breeder Layer	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein %	18.5-21.0		
	Crude Fat % (max)	7.0		
	Crude Fiber % (max)	7.0		
	Moisture % (max)	12.0		
	Acid Insoluble Ash (sand) % (max)	4.0		
Amino Acids				
	Lysine %	0.80-0.82		
	Methionine	0.38-0.40		
	Methionine & Cysteine %	0.65-0.70		
	Tryptophan%	0.20-0.22		
Mineral				
	Calcium % (min)	3.25		
	Total Phosphorous % (min)	0.8		
	Available Phosphorus % (min)	0.45		
Energy				
	Metabolisable energy (kcal/kg)	2850-3000		

- Should have a shelf life of at least 4 weeks
- Should not contain any molds/ deleterious compounds
- Should be palatable to Broiler Starter Chicken
- Should be provided in pelleted form
- Total aflatoxin content should be less than 20 ppb

14. Broiler Finisher Feed

	Parameter	Broiler finisher	Bidders Responds (yes/no)	If "NO" comments
Nutrients				
	Crude protein % (min)	18 - 19		
	Crude Fat % (max)	7.0		
	Crude Fiber % (max)	7.0		
	Moisture % (max)	13		
	Ash % (max)	7.0		
	Acid Insoluble Ash (sand) % (max)	3.0		
Amino Acids				
	Lysine %	1.0		
	Methionine	0.40 - 0.45		
	Methionine & Cysteine %	0.8		
	Tryptophan%	0.17		
Mineral				
	Calcium % (min)	0.95		
	Total Phosphorous % (min)	0.6		
	Available Phosphorus % (min)	0.4		
Energy				
	Metabolisable energy (kcal/kg)	2950 - 3100		

Should have a shelf life of at least 4 weeks

Should not contain any molds/ deleterious compounds

Should be palatable to Broiler Finisher chicken

Should be provided in pelleted form

Total aflatoxin content should be less than 20 ppb

15. Mineral Mixture for Dairy cattle

Composition per kg

	Nutrient	level	Bidders Responds (yes/no)	If "NO" comments
General composition	Moisture (g) (max)	100		
	Ash (g) (min)	850		
	Acid Insoluble Ash (sand) (g) (max)	50		
Mineral Composition	Calcium (g)	180 – 250		
	Phosphorus (g) (min)	70		
	Magnesium (g)	10 – 15		
	Sodium (g)	120 – 160		
	Sulphur (g)	15 – 20		
	Copper (g)	1.0 – 1.5		
	Zinc (g)	6.0		
	Cobalt (mg)	25		
	Selenium (mg)	100		

Mineral mixtures should be

- Prepared with high quality mineral salts with biologically available forms
- Free from toxic elements
- Palatable
- Free-flowing without caking
- Should have a shelf life of at least 8 weeks

16. Mineral Mixture for Stud Bull

Mineral mixture for sand bulls

Item	Amount (in kg)
Moisture (Max)	100 g
Ash (Min)	350 g
Ca	220 g
P (Min)	80.0 g
Na (Min)	5.0 g
K	8.0 g
Mg	14.2 g
S	15.0 g
Fe	0.5 g
Cu	0.5 g
Mn	0.4 g
I	2.5 mg
Co	20 mg
Zn*	5.0 g
Se**	15 mg

*A minimum of 1.5 g must be from an organic source

**Must be from an organic source