



2026 APPROVED LIST OF INGREDIENTS AND FODDER FOR FEED MILLS IN NIGERIA.

NIAS/RA/LAFI-2026

CLAS S	ING REDI ENT S	Moisture%(max)	Crude Protein%(min)	Energy ME(Kcal/Kg)(min)	Ether Extract(Oil)%(max)	Crude Fiber %(max)	Lysine %(min)	Methionine %(min)	Threonine %(min)	Tryptophan %(min)	Calcium % (max)	Phosphorus %(Available)	QUA LITY INDE X
ENERGY SOURCES	Maize (White)	12	8	3200	4	3	0.24	0.15	0.28	0.06	0.02	0.27	
	Maize (Yellow)	12	7.5	3200	4	3	0.25	0.15	0.32	0.06	0.02	0.27	
	Guinea Corn (White)	10	8	3100	3	5	0.21	0.16		0.1	0.04	0.32	
	Guinea Corn (Yellow)	10	8	3100	3	5	0.21	0.16		0.1	0.04	0.32	
	Millet	12	11	2700	4	8	0.4	0.18			0.02	0.1	
	Whole soft Wheat	12	12	3000	2	10	0.31	0.19	0.32	0.13	0.05	0.4	
	Wheat Flour	12	11	3000	1.5	1	0.26	0.18	0.3	0.12	-	-	
	Cassava Chips/Flour	11	2.5	3000	0.5	3.5	0.07	0.02			0.2	0.03	
	Cassava Grits (Unpeel	12	5	2800	0.5	5	0.07	0.03			0.2	0.03	
	Cassava Starch	10	2	2800	1	2							
	*Dried Cassava Peel meal	10	4.2	1900	1.5	7	0.1	0.04	0.08	0.22	0.04		
	Refined Soya Oil	1	-	8200	97	-	-				-	-	

	Fish Oil	1	-	7800	97	-	-	-	-	-	-	-	
	Crude soya oil	-	-	8370	-	-	-	-	-	-	-	-	Peroxide value = 21.38 Meq/per
	Palm Oil	-	-	7710	-	-	-	-	-	-	-	-	Peroxide value = 8.35 Meq/peroxide/kg
	Molasses	40	3	2343	0.1	-	-	-	-	-	0.8	0.08	

NB: For \*Dried Cassava Peel meal- HQCP is recommended

<b>PLANT SOURCE PROTEIN</b>													
	*Groundnut Cake	10	38	2400	6	9	1.14	0.38	0.93	0.34	0.2	0.2	
	**Groundnut Meal	10	40	2340	1.5	8	1.2	0.4	0.1	0.42	0.2	0.2	
	Full fat Soya	10	38	3060	15	8	2.37	0.52	1.5	0.5	0.2	0.5	****Sol . KOH between 75-85%, Urease Index (0.05
	Soya bean Meal	10	45	2500	1.5	7	2.8	0.6	1.76	0.61	0.2	0.6	****Sol . KOH between 75-85%, Urease Index (0.05

	Soya bean Cake	10	42	2700	8	8	2.5	0.55		0.54	0.2	0.6	1.56	****Sol . KOH between 75-85%, Urease Index 60.05
--	----------------	----	----	------	---	---	-----	------	--	------	-----	-----	------	--

\* Groundnut Cake: Please note that this is mechanically pressed without shells

\*\*Groundnut Meal: Please note that this is solvent extracted without shells

All Soya products (meal/Full fat) must conform with the value stated above

For cook test of Soya bean products: If soya sample is between 75% and

NIAS/RA/LAFI-2026

CLAS S	ING REDI ENT S	Moisture%(max)	Crude Protein%(min)	Energy ME(Kcal/Kg)(min)	Ether Extract(Oil)%(max)	Crude Fiber %(max)	Lysine %(min)	Methionine %(min)	Threonine %(min)	Trytophan %(min)	Calcium % max	Phosphorus %(Available)	QUA LITY INDE X
PLAN T SOURCE	Brewer s' Yeast	7	30	2420	1	3	3.4	0.7			0.1	0.46	
	Cottonseed Meal (Delinted, Decorticated and Solvent Extract)	9	35	2146	2	10	1.15	0.4			0.25	0.3	
	Cotton Seed Cake (Mechanically pressed)	9	25	2146	5	25	1	0.3	3.13	1.04	0.15	1.1	

	Roselle Seed Cake (Zobo)	12	26	2500	6	17	1.6	0.45			0.45	
	Sunflower Cake	10	45.4	2320	2.9	12.2	1	0.5			0.37	0.16
	Corn Gluten	10	60	3500	5	2.5	1	1.5	0.3		0.02	0.18
	Wheat Gluten	10	71	3852	6	-	1.39	1.3			-	-

**ANIMAL SOURCE PROT**

	Fishmeal (72%)	8	72	2900	9	1	4.8	1.5	0.6		6 max	3 max
	Fishmeal (65%)	8	65	2860	7	1	4.5	1.5	0.6		8 max	5 max
	Local Fish Meal	8	45	2700	7	2	3.3	1.1	0.4		10 max	7 max
	Blood Meal (Spray-dried)*	8	80	2900	1	1	7.5	1.1	1		0.28	0.22

\*\*Please note that Blood Meal is for Fish Feed only

CLASSES	INGREDIENTS	Moisture%(max)	Crude Protein%(min)	Energy ME(Kcal/Kg)(min)	Ether Extract(Oil)%(max)	Crude Fiber %(max)	Lysine %(min)	Methionine %(min)	Threonine %(min)	Tryptophan %(min)	Calcium % (max)	Phosphorus %(Available)	QUALITY INDEX
ANIMAL SOURCE PROTEIN CONT	Hydrolysed Feather Meal	10	80	2460	7	2	1.74	0.54	3.69	0.53	0.35	0.25	

	Poultry Offal Meal (POM)	10	57	3160	13	1	3.8	1.75	2.34	0.72	4.1	2.42	
--	--------------------------	----	----	------	----	---	-----	------	------	------	-----	------	--

<b>AGRO</b>	Maize Offal	10	11	2500	3	12	0.4	0.18	0.36	0.07	0.01	0.09		
<b>INDUS TRIAL</b>	Sorghum Offal	10	9	2700	5	6	0.25	0.18			0.01	0.09		
<b>BY- PRODUCTS</b>	Wheat Offal	11	15	1870	2	8.5	0.51	0.2	0.5	0.21	0.1	0.3		
	Palm Kernel Meal (PKM)	10	15	2175	3	15	0.64	0.39			0.21	0.16		
	Palm Kernel Cake(PKC).	10	12	2450	8	15	0.64	0.39			0.21	0.16		
	Rice Bran.	8	14	3068	24.5	10.5	0	0	0	0	0.15	0.159		
	Rice Husk	10	3	1200	1	28	-	-			-	-		
	Deoiled Rice bran	12	16.5	1400	2	12.5	0.6	0.3			0.07	0.18		
	Broken Rice	12	7.4	3275	4.6	0.8								
	Corn Cobs	11	2.3	528	1.5	35	-	-			0.11	0.3		
	Cassava sifting	13	2	1800	1	20	0.17	0.01	0.14	0.04	-	-		
	Cocoa Bean Shell	11.00	14.60	2308	2.80	15.60	0.69	0.14			0.56	0.18	0.34	0.4

CLAS S	ING REDI ENT S	Moisture%(max)	Crude Protein%(min)	Lysine %(min)	Methionine %(min)	Valine %(min)	Calcium %	Phosphorus %(Available)	QUA LITY INDE X
MICRO	L Lysine			94					
INGRED IENTS	Lysine HCL	1	75	78					
	Lysine SO <sub>4</sub>	1	55	54.5					
	Liquid lysine		50	50					
	Methio nine	1	60		100				
	L- Methio nine				100				
	DL- Methio nine		58.1		99				
	Liquid Methio nine	12			88				
	Methio nine Hydrox yl Analog ue (MHA)	1	39		84			12	
	Threoni ne	1	73.5						
	Tryptop han	1				98.5			
	Isoleuci ne	1	66.75						
	Valine	1	74.75				98		

CLAS S	ING REDI ENT S	Moisture%(max)	Calci um %	Phosphorus %(Available)	QUA LITY INDE X
MACRO	Bone Meal		35	15	

	Oyster Shell		35		
	Periwinkle Shell		32		
	Limestone		35		
	***Dicalcium Phosphate		22	18	
	***Monocalcium		16	22	
	Salt(NaCl)	5			98.5% (min) Purity

\*\*\*Manufacturers to provide a brief write-up on process of production stating difference from rock phosphate . and Importers of Phosphate requires clearance from NSA office due to security risk attached to the product

**VITAMINS AND MICRO-MINERALS**

	SOURCE	POTENCY (MIN)
<b>VITAMINS</b>		
Vitamin A	Vitamin A 500	500,000 IU/g
	Vitamin A 1000	1000000 IU/g
	Vitamin AD <sub>3</sub> 500/1000	500,000 IU/g of Vit A;
		100,000 IU/g of VitD <sub>3</sub>

<b>ADDITIVES</b>	
1	Anti-mould
2	Emulsifier
3	Mycotoxin decontaminants
4	Acidifiers
5	Prebiotics

	Vitamin AD <sub>3</sub> 1000/200	1,000,000,000 IU/g of Vit A; 200,000 IU/g of VitD <sub>3</sub>
Vitamin D	Vitamin D <sub>3</sub>	500,000 IU/g
	Vitamin AD <sub>3</sub>	500,000 IU/g of Vit A; 100,000 IU/g of VitD <sub>3</sub>
	Vitamin AD <sub>3</sub>	1,000,000,000 IU/g of Vit A; 200,000 IU/g of VitD <sub>3</sub>
Vitamin E	Vitamin E 50	500 IU/g

6	Probiotics
7	Synbiotics
8	Carophyll
9	Lucantin
10	Formic Acid
11	Butyric Acid
12	Propionic Acid
13	Acetic Acid

Vitamin K	Vitamin K <sub>3</sub>	44%
Vitamin B <sub>2</sub> (Riboflavin)	Vitamin B <sub>2</sub>	80%
Vitamin B <sub>12</sub>	Vitamin B <sub>12</sub>	1%
Vitamin B <sub>6</sub> Pyridoxine HCl	Vitamin B <sub>6</sub>	100%
Niacin (Vit. B <sub>3</sub> )	Niacin (Vit. B <sub>3</sub> )	100%
	Nicotinamide	100%
Folic Acid	Folic Acid	45%
		80%
Pantothenic Acid	Calcium Pantothenate	80%
		98%
Biotin	Biotin	2% & 10%
Thiamine (Vit B <sub>1</sub> )	Thiamine	98%
Vitamin	Ascorbic Acid (Aqua)	35%

14	Butylated Hydroxy Anisole (BHT)
15	Butylated Hydroxy Acetate (BHA)
16	Enzymes

C	Ascorbic Acid (Coated)	98-100
Choline	Choline Chloride	50% - 70%
	Liquid choline	60%-75%
	Silica carrier	50%
	Corncob carrier	60%
Iodine	Potassium iodate	59%, 68%
	Calcium iodate	62%
Copper	Copper Sulphate*****	25%
	Organic Copper*****	
Manganese	Manganese Oxide	57%
	Manganese Sulphate	31%
	Organic Manganese*******	
	Zinc Oxide	72%

Zinc	Zinc Sulphate	35%
	Organic Zinc****	
Iron	Ferrous Carbonate	36%
	Ferrous Sulphate	30%
Selenium	Sodium Selenite	3%,45%
	Organic Selenium*****	
Cobalt		5%,20%

## B. FODDER

NIAS/RA/LAFI-2026

CL ASS	GR ASS											
		Megathyrus maximums cv BRS Zuri (Zuri Guinea grass)	Megathyrus maximums cv (Mombasa Guinea Grass)	Megathyrus maximums cv (Tanzania Guinea Grass)	Megathyrus maximums cv (Agrosavia Sabanera)	Urochloa brizantha cv BRS paiagua (Paiagua palisade grass)	Urochloa brizantha cv marandu (Marandu Grass)	Urochloa brizantha cv Xaraes (Xaraes Grass)	Urochloa decumbens cv Basilisk (Basilisk signal grass)	Urochloa mulato II (Miulato II Grass)		

**Nutritional  
Composition**

Dry matter %	92.35	92.48	92.54	92.58	91.63	92.49	92.62	92.59	92.57	92.46
Ash %	11.39	11.70	11.97	11.41	12.06	11.16	11.00	10.47	10.52	11.54
Crude Protein %	9.90	10.40	11.25	10.87	11.19	11.06	11.81	11.16	11.73	13.29
Ether Extract %	0.74	0.79	0.61	0.39	0.83	1.00	1.35	1.10	1.38	1.75
Crude Fibre %	19.45	20.01	19.03	19.13	18.15	19.20	19.05	19.62	18.77	17.50
Neutral Detergent Fibre %	69.50	69.55	67.74	69.72	65.60	67.30	66.26	67.27	65.13	61.79
Acid Detergent Fibre %	43.70	43.76	43.00	43.88	41.13	40.44	38.78	38.57	36.94	34.62
Acid Detergent Lignin %	3.48	3.31	3.46	3.68	3.12	3.06	2.93	2.50	2.49	2.07
Metabolizable Energy (MJ/Kg DM)	7.67	7.64	7.69	7.63	7.90	7.84	7.86	7.90	8.01	8.18

<b>Essential Amino Acid Profile</b>	In Vitro Organic Matter Digestibility (IVOMD) %	53.27	53.74	53.95	53.45	55.74	54.99	55.30	55.57	56.02	57.66
	Histidine	0.05	0.05	0.11	0.08	0.08	0.10	0.14	0.14	0.15	0.17
	Threonine	0.20	0.19	0.25	0.23	0.26	0.29	0.31	0.28	0.35	0.42
	Valine	0.40	0.41	0.48	0.47	0.52	0.50	0.54	0.49	0.55	0.63
	Methionine	0.12	0.11	0.15	0.14	0.17	0.15	0.16	0.14	0.16	0.19
	Lysine	0.12	0.08	0.21	0.09	0.17	0.10	0.22	0.10	0.15	0.25
	Tryptophan	0.06	0.07	0.10	0.09	0.10	0.09	0.11	0.08	0.10	0.13
	Isoleucine	0.27	0.26	0.34	0.30	0.38	0.32	0.35	0.28	0.35	0.45
	Leucine	0.50	0.51	0.61	0.58	0.63	0.69	0.78	0.70	0.82	0.90
	Phenylalanine	0.40	0.41	0.49	0.43	0.44	0.47	0.47	0.43	0.49	0.58
<b>Non-essential Amino Acid</b>	Aspartic acid	0.75	0.78	0.92	0.90	1.02	0.81	0.88	0.68	0.83	1.03
	Serine	0.31	0.33	0.37	0.41	0.37	0.36	0.35	0.33	0.36	0.43
	Glutamine	1.42	1.60	1.68	1.65	0.91	1.87	1.58	1.74	1.88	2.15
	Glycine	0.78	0.75	0.83	0.84	0.86	0.79	0.81	0.77	0.83	0.93
	Arginine	0.45	0.46	0.56	0.62	0.60	0.48	0.52	0.37	0.37	0.47
	Alanine	0.45	0.43	0.51	0.50	0.55	0.53	0.61	0.58	0.63	0.69
	Proline	0.60	0.60	0.66	0.72	0.53	0.74	0.67	0.73	0.79	0.84

**Minerals**

Cystine	0.21	0.23	0.23	0.26	0.22	0.26	0.26	0.27	0.28	0.28
Trypsin	0.35	0.35	0.40	0.39	0.38	0.42	0.40	0.38	0.44	0.53
Sodium %	1.39	1.08	1.39	1.63	1.44	1.23	1.09	0.99	1.25	1.45
Potassium %	15.64	16.33	16.08	16.78	11.52	15.37	13.93	15.08	14.77	15.68
Magnesium %	3.25	3.04	3.56	3.74	3.52	3.59	3.31	3.07	3.65	4.06
Calcium %	2.84	2.33	3.26	3.58	3.47	3.30	3.11	2.51	3.59	4.25
Manganese %	0.03	0.02	0.03	0.05	0.06	0.02	0.02	0.01	0.02	0.03
Ferric %	0.27	0.22	0.35	0.34	0.66	0.31	0.50	0.24	0.33	0.40
Copper (ppm)	0.99	0.95	1.07	0.99	0.17	2.06	2.61	1.66	2.38	2.39
Zinc (ppm)	10.59	8.12	10.75	11.76	14.29	11.94	11.98	10.60	13.84	16.04
Phosphorous %	2.11	1.78	2.24	2.23	1.60	2.39	2.22	2.52	2.79	3.19

CL ASS	GR ASS	Urochloa ruzizien sis cv Ruzizien sis	Urochloa cayana	Urochloa sabia	Pennisetum purpureum (BRS Capiacum)	<i>Panicum maximum</i> Jacq	Purple Napier grass ( <i>Pennisetum purpureum</i> 'Prince')	Elephant grass ( <i>Pennisetum purpureum</i> )	
		Dry matter %	92.40	92.42	92.39	92.93	91.92	93.88	93.32
		Ash %	12.14	11.52	12.25	9.21	11.32	12.94	11.84

**Nutritional  
Composition**

Crude Protein %	11.70	14.04	14.21	8.12	10.38	9.36	12.27
Ether Extract %	1.48	2.21	2.06	3.40	1.27	2.99	0.63
Crude Fibre %	19.06	16.96	17.09	17.69	18.61	20.29	18.59
Neutral Detergent Fibre %	65.09	63.14	62.91	66.55	66.67	67.10	69.85
Acid Detergent Fibre %	39.00	35.83	36.71	38.25	40.35	44.18	40.44
Acid Detergent Lignin %	2.90	2.21	2.41	4.09	3.43	4.52	2.96
Metabolizable Energy (MJ/Kg DM)	7.84	8.05	7.98	7.41	7.92	7.27	7.8

	In Vitro Organic Matter Digestibility (IVOMD) %	55.50	57.06	56.64	51.00	53.85	49.47	54.68
<b>Essential Amino Acid Profile</b>	Histidine	0.12	0.24	0.24	0.15	0.12	0.18	0.14
	Threonine	0.32	0.53	0.55	0.27	0.26	0.28	0.3
	Valine	0.56	0.80	0.80	0.49	0.41	0.38	0.53
	Methionine	0.16	0.26	0.25	0.18	0.21	0.17	0.17
	Lysine	0.23	0.53	0.53	0.19	0.15	0.14	0.11
	Tryptophan	0.10	0.17	0.17	0.04	0.06	0.02	0.1
	Isoleucine	0.38	0.65	0.65	0.35	0.26	0.19	0.38
	Leucine	0.78	1.24	1.18	0.76	0.54	0.48	0.71
<b>Non-essential Amino Acid</b>	Phenylalanine	0.48	0.66	0.66	0.39	0.44	0.36	0.55
	Aspartic acid	0.90	1.36	1.30	0.81	0.75	0.61	0.89
	Serine	0.37	0.51	0.51	0.35	0.33	0.20	0.41
	Glutamic acid	1.68	1.39	1.38	0.93	1.21	0.82	2.3
	Glycine	0.85	0.86	0.81	0.82	0.75	0.59	0.85
	Arginine	0.47	0.66	0.69	0.42	0.83	0.65	0.55
	Alanine	0.59	0.81	0.78	0.63	0.51	0.55	0.53
	Proline	0.74	0.71	0.69	0.76	0.44	0.36	0.75
	Cystine	0.26	0.27	0.25	0.20	0.19	0.20	0.25
	Tyrosine	0.42	0.57	0.55	0.34	0.34	0.29	0.43
	Sodium	1.20	1.24	1.33	2.47	1.15	0.97	1.81
	Potassium	16.02	10.14	10.48	11.28	14.12	12.38	18.50
<b>Minerals</b>	Magnesium	3.39	3.53	3.19	2.12	1.74	1.25	3.01
	Calcium	2.99	3.57	3.26	1.32	1.34	1.97	1.18
	Manganese	0.03	0.03	0.03	0.09	0.07	0.03	0.05
	Ferric%	0.40	0.40	0.25	0.35	0.23	0.48	0.16
	Copper	1.86	2.66	3.06	1.69	0.23	2.86	2.1
	Zinc (ppm)	10.41	15.47	16.20	21.75	17.66	20.16	19.3
Phosphorus	2.32	1.74	1.88	3.04	1.18	1.11	3.53	

CL ASS	LE GU ME S		Desmo dium intortu m (Greenl eaf)	Desmo dium uncinat um (Silverl eaf)	Lablab purpure us	Stylosa nthes hamata cv verano	Stylosa nthes scabra	SOYA TGX 1951- 3F	Cajanus cajan	Ewe ogbo (Parque tina nigresc ens)	Mucuna pruriens	Centroc ema pascuor um	Ground nut ha
<b>Nutri onal Compo sition</b>	Dry matter %		92.64	92.70	92.13	91.63	92.14	91.07	95.61	94.91	92.56	91.99	93.20
	Ash %		7.61	7.65	10.74	10.32	10.05	10.63	2.80	5.95	5.94	9.54	7.41
	Crude Protein %		17.81	18.20	17.75	15.59	15.29	12.06	21.87	19.90	16.98	14.40	10.65
	Ether Extract %		1.61	5.94	3.12	6.78	3.42	2.18	9.88	0.09	1.63	2.22	N/A
	Crude Fibre %		18.64	16.55	20.76	13.64	17.93	23.19	6.94	21.21	24.14	16.97	N/A
	Neutral Deterge nt Fibre %		51.19	55.28	49.08	47.50	51.16	42.67	54.07	45.27	58.00	47.62	50.53
	Acid Deterge nt Fibre %		32.83	37.10	34.80	35.13	38.44	26.49	31.09	33.34	39.87	33.75	48.29
	Acid Deterge nt Lignin %		8.01	9.32	6.34	7.11	8.01	5.44	12.84	10.60	10.52	6.85	16.12

Essential Amino Acid Profile	Metabolizable Energy (MJ/Kg DM)	7.35	7.08	8.14	7.99	7.76	8.70	6.86	9.91	7.13	8.07	5.03
	In Vitro Organic Matter Digestibility (IVOMD) %	52.89	50.03	58.12	56.27	54.39	59.48	44.05	58.76	48.34	56.41	36.98
	Histidine	0.37	0.33	0.36	0.28	0.35	0.16	0.50	0.62	0.43	0.22	0.19
	Threonine	0.56	0.56	0.78	0.62	0.65	0.72	0.80	1.26	0.64	0.53	0.02
	Valine	0.89	0.86	0.95	0.77	0.81	0.76	1.11	1.11	0.94	0.72	0.28
	Methionine	0.20	0.17	28.00	0.21	0.19	0.23	0.21	0.33	0.23	0.20	0.05
	Lysine	0.76	0.71	1.03	0.93	0.96	0.74	1.09	1.82	0.94	0.78	0.06
	Tryptophan	0.18	0.17	0.20	0.17	0.17	0.15	0.15	0.21	0.16	0.16	0.01
	Isoleucine	0.67	0.66	0.82	0.70	0.69	0.80	0.96	1.24	0.78	0.64	0.15
	Leucine	1.37	1.32	1.33	1.15	1.16	1.50	2.39	2.44	1.52	1.03	0.87
	Phenylalanine	0.95	0.86	0.87	0.79	0.86	0.60	0.93	1.32	0.87	0.76	0.27
	Aspartic acid	1.63	1.49	1.99	1.87	1.86	1.33	1.42	3.05	1.90	1.83	0.40
	Serine	0.72	0.72	0.82	0.74	0.78	0.44	0.60	1.22	0.70	0.61	0.14
	Non-essential Amino Acid	Glutamine	1.40	1.46	1.36	1.23	1.32	1.21	0.09	2.25	1.25	0.65
Glycine	1.24	1.23	1.18	1.23	1.25	0.83	1.22	1.60	1.45	0.98	0.90	
Arginine	0.89	0.78	1.00	0.93	1.08	0.33	0.03	1.09	1.14	0.94	0.37	
Alanine	1.01	0.95	0.99	0.83	0.81	0.81	1.29	1.10	0.87	0.77	0.52	
Proline	0.74	0.80	0.78	0.70	0.72	0.96	0.82	1.26	0.90	0.40	0.78	
Cystine	0.15	0.14	0.22	0.18	0.19	0.14	0.07	0.18	0.14	0.14	0.05	

<b>Minerals</b>	Trypsin	0.50	0.48	0.63	0.52	0.53	0.63	0.49	1.04	0.45	0.46	0.29
	Sodium %	2.74	2.78	1.72	1.78	1.55	2.42	3.41	2.00	2.54	1.38	
	Potassium %	6.51	9.21	9.00	10.21	9.77	2.53	3.66	13.87	5.46	5.91	
	Magnesium %	3.33	3.09	3.67	4.89	4.02	5.83	6.71	6.00	3.83	3.92	
	Calcium %	4.79	4.47	7.41	7.78	7.76	10.34	10.67	13.41	6.52	6.82	
	Manganese %	0.11	0.11	0.07	0.12	0.11	0.06	0.07		0.15	0.04	
	Ferric %	1.24	1.00	1.42	1.22	1.16	1.50	1.57	1.44	0.79	1.29	
	Copper (ppm)	5.31	5.24	4.76	2.54	2.08	3.31	10.43	5.59	3	3.51	
	Zinc (ppm)	10.21	12.48	18.09	17.65	11.87	29.03	21.65	17.61	17	11.26	
	Phosphorous %	2.57	3.25	1.51	1.61	1.07	2.93	6.14	1.26	2.78	0.74	

**NIAS/RA/LAFI-2026**

CLASS	BROUSE		Terminalia catappa	Leucaena leucocephala	Gliricidia sepium	Moringa oleifera
		Dry matter %	92.38	92.46	92.32	94.69
		Ash %	9.45	9.34	8.07	9.31
		Crude Protein %	21.42	25.05	18.94	23.38

**Nutritional Composition**

Ether Extract %	4.85	7.67	7.28	5.30
Crude Fibre %	18.20	14.27	7.59	1.60
Neutral Detergent Fibre %	34.08	32.13	39.50	46.87
Acid Detergent Fibre %	29.56	22.36	22.91	26.88
Acid Detergent Lignin %	5.71	7.98	7.97	5.77
Metabolizable Energy (MJ/Kg DM)	7.79	8.28	7.94	7.79
In Vitro Organic Matter Digestibility (IVOMD) %	56.36	60.54	55.37	54.34
Histidine	0.19	0.36	0.48	0.35

<b>Essential Amino Acid Profile</b>	Threonine	0.40	0.69	0.78	0.88
	Valine	0.62	1.00	1.00	1.27
	Methionine	0.01	0.24	0.34	0.46
	Lysine	0.30	0.76	1.24	1.19
	Tryptophan	0.18	0.23	0.21	0.22
	Isoleucine	0.39	0.71	0.94	1.16
	Leucine	1.07	1.30	1.80	2.27
	Phenylalanine	0.97	1.17	0.95	0.91
	Aspartic acid	1.66	1.99	2.00	1.32
	Serine	0.55	0.80	0.62	0.56
<b>Non-essential Amino Acid</b>	Glutamine	0.20	1.48	1.52	1.11
	Glycine	0.46	1.15	1.31	1.46
	Arginine	0.64	1.12	0.48	0.33
	Alanine	0.60	1.11	1.21	1.47
	Proline	0.08	0.59	0.83	1.23
	Cystine	0.07	0.15	0.20	0.16
	Tyrosine	0.50	0.67	0.62	0.85
	Sodium %	0.13	2.47	3.68	3.45
	Potassium %	7.55	2.35	7.87	7.94
	Magnesium %	6.65	5.22	4.96	8.87

<b>Minerals</b>	Calcium%	16.46	9.65	7.78	15.54
	Manganese%	0.05	0.03	0.14	79.19
	Ferric %	1.00	1.28	1.41	1.57
	Copper (ppm)	2.27	7.20	9.97	5.66
	Zinc (ppm)	8.39	16.91	26.38	12.97
	Phosphorous%	1.27	3.35	3.94	5.36

**Units**

1. The units for our ruminant traits are % for all on a Dry
2. For all Amino acids are % (Gms/100Gms) as is DM basis
3. For all Fatty acids are milligrams (Mg/100Gms) as is DM
4. All macro/micro minerals are in percentage except PPM (