

NIH SPECIFICATION
Open Formula Laboratory Swine Diet (NIH-98)

Ingredients

<u>Ingredient Name</u>	<u>Amount (% by Wt.)</u>
Corn, Yellow grain	46.65
Wheat Middlings	24.00
Soybean Meal 47.5%	13.50
Oats, grain- 10	8.00
Molasses, Cane	2.50
Limestone	1.25
Dicalcium Phos.	1.85
Soy Oil	1.00
NaCl	0.35
NIH-80 Pig Vit. Mix 5-6-96	0.25
NIH-80 Pig Min. Mix 5-6-96	0.25
Calcium Propionate	0.10
Choline-CL-70%	0.10
DL-Methionine 99	0.10
L Lysine 98.5%	<u>0.10</u>
	100.00

Vitamin Fortification Per Ton (2,000 lbs.) of Finished Product

<u>Vitamin</u>	<u>Amount</u>	<u>Source</u>
A	4,994,000 IU	Stabilized Vitamin A palmitate or acetate
D ₃	408,600 IU	D activated animal sterol
K	1.123 g	Menadione activity
E	64.0 g	dl alpha-tocopheryl acetate
Folic Acid	5.6 g	
Niacin	4.8 g	
Pantothenic Acid	10.3 g	d-Calcium pantothenate
Pyridoxine	5.5 g	Pyridoxine hydrochloride
Riboflavin	7.0 g	
supplement		
Thiamin	2.7 g	Thiamin mono nitrate
B ₁₂	68,100.0 mcg	
supplement		
Biotin	136.2 mcg	

Mineral Fortification Per Ton (2,000 lbs.) of Finished Product

<u>Mineral</u>	<u>Amount</u>	<u>Source</u>
Magnesium	545.0 g	Magnesium oxide
Manganese	42.7 g	Manganese oxide
Selenium	0.2 g	Sodium selenite
Cobalt	0.2 g	Cobalt carbonate
Copper	9.1 g	Copper sulfate

Iron	145.3 g	Iron sulfate
Zinc	81.7 g	Zinc oxide
Iodine	0.8 g	Potassium iodate

These concentrations of vitamins and minerals shall be added to the ration via two separate (vitamin and mineral) premixes. The final formulation may be adjusted so the total amount of ingredients will equal 100%. In the case of the mineral fortification, the actual amount of each element required is specified. Therefore, the contractor shall adjust the amount of each compound used in the premix according to its mineral concentration.

Nutrient Standards

Micro Analysis - The total calculated concentration of nutrients in the ration from ingredients and from the fortifications at the time of manufacture should be as follows:

Crude protein	%	Minimum	14.0
Crude fat	%	Minimum	4.0
Crude fiber	%	Maximum	6.0

Amino Acids (% of total diet)

	Minimum
Arginine	0.80
Lysine	0.55
Methionine	0.25
Cystine	0.18
Tryptophan	0.17
Glycine	0.50
Histidine	0.30
Leucine	1.00
Isoleucine	0.60
Phenylalanine	0.50
Tyrosine	0.43
Threonine	0.48
Valine	0.65

Minerals

Calcium	%	Minimum	0.95
Phosphorous	%	"	0.70
Potassium	%	"	0.70
Sodium	%	"	0.18
Magnesium	%	"	0.25
Iron	PPM	"	220.00
Zinc	PPM	"	125.00
Manganese	PPM	"	80.00
Copper	PPM	"	15.00
Cobalt	PPM	"	0.55

Iodine	PPM	"	0.90
Selenium	PPM	"	0.45

Vitamins

Vitamin K	PPM	"	0.60
Vitamin A	IU/g	"	5.50
Vitamin D	IU/g	"	0.90
Alpha-tocopherol	PPM	"	90.00
Thiamin	PPM	"	9.00
Riboflavin	PPM	"	8.00
Niacin	PPM	"	30.00
Pantothenic Acid	PPM	"	18.00
Choline	PPM	"	1400.00
Pyridoxine	PPM	"	9.00
Folic Acid	PPM	"	5.00
Biotin	PPM	"	.20
Vitamin B ₁₂	mcg/kg	"	70.00

*TRUE VITAMIN A ACTIVITY BY HPLC METHOD