



Premix, Base Mix and Starter Diet Recommendations for Swine

Table of Contents

Premix Recommendations	2
Base Mix Recommendations	3
SEW and Transition Diet Recommendations .	4 & 5
Phase 1 Diet Recommendations	6 & 7
Recommendations for Optimal Starter Diet Use ..	8

K-State Vitamin Premix.

Guaranteed Per Pound of Premix				
			Source	
Vitamin A	2,000,000	USP Units	A	650
Vitamin D ₃	300,000	USP Units	D ₃	400
Vitamin E	8,000	Int Units	E	50%
Vitamin K (Menadione)	800	mg	MPB ^a	100%
Vitamin B ₁₂	8	mg	B ₁₂	600
Riboflavin	1,800	mg	Riboflavin	95%
Pantothenic acid	6,000	mg	d-Cal Pan	100%
Niacin	10,000	mg	Niacin	99.5%

^aInstead of MPB, several suppliers use MSBC (another excellent source of menadione).

Feeding rates for this premix:	Sow and starter diets:	5 lb/ton
	Grower diets:	3 lb/ton
	Finisher diets:	2.5 lb/ton

K-State Trace Mineral Premix.

Guaranteed Per Pound of Premix				
			Source	
Zinc	50	g	Zn oxide or sulfate	
Iron	50	g	Ferrous sulfate	
Manganese	12	g	Mn oxide or sulfate	
Copper	5	g	Cu sulfate	
Iodine	90	mg	Ca Iodate or EDDI	
Selenium	90	mg	Na selenite	

Feeding rates for this premix:	Sow, starter and grower diets:	3 lb/ton
	Finisher diets:	2 lb/ton

K-State Sow Add Pack.

Guaranteed Per Pound of Premix				
			Source	
Choline	100,000	mg	Choline Cl	60%
Biotin	40	mg	Biotin	
Folic acid	300	mg	Folic acid	
Pyridoxine	2,750	mg	Pyridoxine HCl	

Feeding rates for this premix:	Sow diets:	5 lb/ton
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Recommendations for K-State Swine Base Mixes^a.

Item	Units	Guaranteed nutrient levels per pound of base mix				Source
		Starter ^b	Developer ^c	Grower-Finisher	Sow	
Vitamin A	USP	133,000	106,000	100,000	100,000	A 650
Vitamin D ₃	USP	20,000	16,000	15,000	15,000	D ₃ 400
Vitamin E	IU	530	425	400	400	E 50%
Vitamin K (Menadione)	mg	53	42	40	40	MPB 100% ^d
Vitamin B ₁₂	mg	0.53	0.42	0.40	0.40	B ₁₂ 600
Riboflavin	mg	120	95	90	90	Riboflavin 95%
Pantothenic acid	mg	400	320	300	300	d-Cal Pan 100%
Niacin	mg	660	530	500	500	Niacin 99.5%
Choline	mg	1,980	1,600	—	5,000	Choline Cl 60%
Biotin	mg	—	—	—	2	Biotin
Folic acid	mg	—	—	—	15	Folic acid
Pyridoxine	mg	—	—	—	137	Pyridoxine HCl
Zinc	mg	2,000	2,000	2,000	1,500	Zn sulfate or oxide
Iron	mg	2,000	2,000	2,000	1,500	Ferrous sulfate
Manganese	mg	480	480	480	360	Mn oxide or sulfate
Copper	mg	200	200	200	150	Cu sulfate
Iodine	mg	3.6	3.6	3.6	2.7	Ca Iodate or EDDI
Selenium	mg	3.6	3.6	3.6	2.7	Na selenite
Calcium	%	18	19.6	19.4	16.5	Limestone, Dical or Monocal Phosphate
Phosphorus	%	9.6	10	7	9	Dical or Monocal Phos
Lysine	%	3.14	3.14	3.93	—	Lysine HCl
Methionine	%	2.0	—	—	—	DL-Methionine
Salt	%	9.3	9.3	14	10	NaCl
Feeding rate	lb/ton	75	75	60/50	100	—
Bag size ^e	lb/bag	50	50	50	50	—

^a These base mixes, when used at their recommended inclusion rate, will provide approximately the same vitamin and mineral levels as the K-State vitamin and trace mineral premixes.

^b **Starter base mix to be included in Phase 2 starter diet (15 to 25 lb) with 200 lb/ton edible grade, spray-dried whey, 50 lb/ton spray-dried blood meal, an antibiotic, and 5 lb/ton zinc oxide. Base mix to be included in Phase 3 starter diet (25 to 50 lb) with an antibiotic.**

^c This base mix is designed to be used for developing gilts and boars from 50 to 250 lb.

^d Instead of MPB, several suppliers use MSBC (another excellent source of menadione).

^e These base mixes can be provided in bulk or bagged form.

K-State SEW and Transition Diets (Table 1 of 2).

Complete list of ingredients and levels for SEW Diet and Transition Diet:

Ingredient	SEW Diet		Transition Diet	
	Percent	lb/ton	Percent	lb/ton
Edible-grade spray-dried whey	25.0	500	20.0	400
Edible-grade lactose	5.0	100	—	—
Spray-dried animal plasma	6.7	134	2.5	50
Spray-dried blood meal	1.65	33	2.5	50
Select menhaden fish meal	6.0	120	2.5	50
Corn	33.25	665	39.75	795
Soybean meal, 46.5% protein	12.8	256	23.25	465
Soybean oil or choice white grease	6.0	120	5.0	100
Monocalcium phosphate (21% P)	.75	15	1.3	26
Limestone (38% Ca)	.45	9	.725	14.5
L-Lysine HCl	.15	3	.15	3
DL-Methionine	.15	3	.125	2.5
Salt	.2	4	.3	6
Medication ^a	1.0	20	1.0	20
Remainder will be:				
- vitamins and trace minerals*	.9	18	.9	18.0
Total	100.0	2000	100.0	2000.0

* After vitamins and trace minerals are added, any remaining portion of the diet should be filled with corn to achieve 100%.

All vitamins and trace mineral levels are listed on the following page.

^a Producer should specify which medication is desired in the SEW and Transition diets.

The SEW diet should be pelleted in 1/8 or 5/32" pellets.

The Transition diet should be pelleted in 1/8, 3/32 or 5/32" pellets.

The SEW diet should be fed to early weaned pigs (<21 days) from weaning to 11 lb. The Transition diet should be fed from 11 to 15 lb for pigs that were fed the SEW diet from weaning to 11 lb.

Diet must be provided in 50-lb bags.

K-State SEW and Transition Diets (Table 2 of 2).

The diets must meet ingredient recommendations listed on the preceding page.

Total levels and sources of vitamin and trace minerals that must be **added per ton of complete diet are listed below:**

Nutrient	Amount added per ton		Source	
Vitamin A	10,000,000	USP Units	A	650
Vitamin D ₃	1,500,000	USP Units	D ₃	400
Vitamin E	40,000	Int Units	E	50%
Vitamin K (Menadione)	4,000	mg	MPB ^a	100%
Vitamin B ₁₂	40	mg	B ₁₂	600
Riboflavin	9,000	mg	Riboflavin	95%
Pantothenic acid	30,000	mg	Cal Pan	100%
Niacin	50,000	mg	Niacin	99.5%
Choline	150,000	mg	Choline Cl	60%
Pyridoxine	3,000	mg	Pyridoxine	HCl
Zinc	2700	g	Zn oxide ^b	
Iron	150	g	Ferrous sulfate	
Manganese	36	g	Mn Oxide or sulfate	
Copper	15	g	Cu sulfate	
Iodine	270	mg	Ca Iodate	
Selenium	270	mg	Na selenite	

^a Instead of MPB, several suppliers use MSBC (another excellent source of menadione).

^b **Zinc source MUST be zinc oxide.**

Ingredient quality is imperative for this diet. Therefore, the following guidelines should be followed as sources for the major ingredients listed for the SEW and Transition Diets.

Ingredient	Source
Extra-grade, edible-grade spray-dried whey	Land O'Lakes or equivalent
Select menhaden fish meal	Zapata Proteins or equivalent
Spray-dried animal plasma	Merrick's, American Proteins, DuCoa or equivalent
Spray-dried blood meal	California Spray Dry, American Proteins or equivalent

K-State Phase 1 Starter Diet—Zinc Oxide (Table 1 of 2).

Complete list of ingredients and levels for Phase 1 diet:

Ingredient	Percent	lb/ton
Edible-grade spray-dried whey	20.0	400
Spray-dried animal plasma	5.0	100
Select menhaden fish meal	2.5	50
Spray-dried blood meal	1.65	33
Corn	45.4	908
Soybean meal 46.5% protein	16.0	320
Soybean oil or choice white grease	5.0	100
Monocalcium phosphate (21% P)	1.275	25.5
Limestone (38% Ca)	.75	15
L-Lysine HCl	.15	3
DL-Methionine	.125	2.5
Salt	.25	5
Medication ^a	1.0	20
Remainder will be:		
- vitamins and trace minerals*	.9	18
Total	100.0	2000

* After vitamins and trace minerals are added, any remaining portion of the diet should be filled with corn to achieve 100%.

All vitamins and trace mineral levels are listed on the following page.

^a Producer should specify which medication is desired in the Phase 1 diet.

This diet should be pelleted in ⅛ or ⅝" pellets.

The Phase 1 diet is an option for producers that cannot handle two diets from weaning to 15 lb. The diet is designed to be fed from weaning to 15 lb for pigs weaned at 21 days of age or greater.

Diet must be provided in 50-lb bags.

K-State Phase 1 Starter Diet—Zinc Oxide (Table 2 of 2).

The diet must meet ingredient recommendations listed on the preceding page.

Total levels and sources of vitamin and trace minerals that must be **added per ton of complete diet are listed below:**

Nutrient	Amount added per ton		Source	
Vitamin A	10,000,000	USP Units	A	650
Vitamin D ₃	1,500,000	USP Units	D ₃	400
Vitamin E	40,000	Int Units	E	50%
Vitamin K (Menadione)	4,000	mg	MPB ^a	100%
Vitamin B ₁₂	40	mg	B ₁₂	600
Riboflavin	9,000	mg	Riboflavin	95%
Pantothenic acid	30,000	mg	Cal Pan	100%
Niacin	50,000	mg	Niacin	99.5%
Choline	150,000	mg	Choline Cl	60%
Pyridoxine	3,000	mg	Pyridoxine	HCl
Zinc	2700	g	Zn oxide ^b	
Iron	150	g	Ferrous sulfate	
Manganese	36	g	Mn Oxide or sulfate	
Copper	15	g	Cu sulfate	
Iodine	270	mg	Ca Iodate	
Selenium	270	mg	Na selenite	

^a Instead of MPB, several suppliers use MSBC (another excellent source of menadione).

^b Zinc source MUST be zinc oxide.

Ingredient quality is imperative for this diet. Therefore, the following guidelines should be followed as sources for the major ingredients listed for the Phase 1 Diets.

Ingredient	Source
Extra-grade, edible-grade spray-dried whey	Land O'Lakes or equivalent
Select menhaden fish meal	Zapata Proteins or equivalent
Spray-dried animal plasma	Merrick's, American Proteins, DuCoa or equivalent
Spray-dried blood meal	California Spray Dry, American Proteins or equivalent

Optimal Use of Starter Diets.

Sequence of Phase Feeding Programs for Early and Conventionally Weaned Pigs.

Early Weaning 5- to 21-day weaning		Conventional Weaning (Greater than 21-day weaning)	
5–11 lb	SEW		
11–15 lb	Transition	11–15 lb	Phase 1
15–25 lb	Phase 2	15–25 lb	Phase 2
25–50 lb	Phase 3	25–50 lb	Phase 3

Recommended pounds of each diet that should be fed to each pig (Weaning to 50 lb).

	Weaning Weight, lb								
	8	9	10	11	12	13	14	15	16
SEW	3	2	1.5	1	0.5	0.5	0	0	0
Transition	5	5	5	5	4	3	2	2	2
Phase 2	15	15	15	15	15	15	15	15	15
Phase 3	50	50	50	50	50	50	50	50	50

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