

Using Paylean® in Show Pig Diets

® ractopamine hydrochloride premix by Elanco Animal Health a Division of Eli Lilly and Company

Paylean® is a swine feed premix containing ractopamine hydrochloride, which directs nutrients to increase the amount of quality meat in high value cuts and improves production efficiency. Paylean® acts primarily by increasing the synthesis of muscle protein; thereby resulting in leaner swine carcasses containing more muscling and less fat. Paylean® was approved by the FDA in December 1999 for use as a swine feed ingredient. Therefore, the interest in using Paylean® is quite high for exhibition pigs at all levels of competition. However, the exhibitor will need to know the advantages and disadvantages of using Paylean®, its use as it relates to PQA Plus and/or FSQA, and the economic effectiveness.

Paylean® premix is a Type A Medicated Article that has an activity level of 9 grams of ractopamine hydrochloride per pound of premix. The premix is available in a 25-pound package costing approximately \$25.00 per pound. Paylean® inclusion of 4.5 grams may be used for limited improvement in average daily gain (ADG), improved feed efficiency (FE), and increased carcass leanness (CL). The inclusion level of 9 grams will give the maximum benefit for ADG, FE, and CL. (See the specimen label for details) Paylean® may not be fed to swine weighing less than 150 lb. The inclusion of Paylean® into the diet is recommended for the last 45 – 90 lbs. of gain in a market pig. When Paylean® is included, the diet should contain 16.0% crude protein, 0.3% higher lysine level and 10% more calcium and phosphorus than the basal diet normally fed. (See table 1 - Example Rations) Inclusion levels of Paylean® premix of 0.5 or 1 lb. per ton of the complete finishing diet would give inclusion levels of 4.5 and 9.0 grams per ton respectfully. There is no withdrawal period for Paylean® prior to slaughter. Paylean® is not approved for feeding to breeding swine.

Good structural soundness of pigs fed Paylean® is critical to avoid problems due to faster growth, lower feed intake and greater muscle mass. When selecting your show pigs, make sure you evaluate the genetics and skeletal structure. Also remember, that if Paylean® is taken out of the diet before the show or marketing, growth performance is altered and fat deposition occurs rapidly. For best results, Paylean® should be fed to obtain the last 45 to 90 lbs. of gain.

Paylean® Advantages:

- Paylean® improves the growth performance and increases leanness in carcasses of pigs of widely varying genotypes. However, the most effective improvements may be in the leaner genotypes.
- An increased carcass yield of approximately 1.3 percent may be evident. However, at most swine shows the carcass yield is usually standardized at 74 per cent. Unless the actual carcass yield is used, the Paylean® yield advantage may not be of any significant value. But in a derby show where the index is based on an economic carcass matrix index; an advantage might be present for feeding Paylean®.
- The fat-free per cent lean value may be increased up to 1.3 percentage points by feeding Paylean®. In swine carcass shows the increased loin muscle area (LMA), a

decrease in backfat (BF), and the overall reduction of the fat content of the pig will all contribute to an increase in per cent lean.

- Paylean® will increase carcass weights by up to 10.6 pounds. If the swine show is using a standard 74 % yield with the liveweight to determine the carcass weight, an advantage may not be present for using Paylean®. If the actual carcass weight is used rather than a calculated carcass weight then a direct advantage may be seen.
- Paylean® delivers up to 20.6 percent increased average daily gain (ADG) and up to 15.2% in improved feed efficiency (FE). Because the present formula to calculate the lean gain index in swine derby shows places a significant value on ADG, a Paylean® advantage may be noted in derby shows. Also a feed savings may be realized due to the improvement in ADG and FE but it may be offset by the increased cost of a higher protein diet and the cost of Paylean®.
- According to Elanco Animal Health, Paylean® does not affect the muscle quality factors of color, firmness, and marbling. Also, belly thickness is not affected. Therefore, Paylean® should not affect carcass shows that use muscle quality factors.
- Paylean® fed pigs may exhibit more visual leanness qualities in the live on-foot competition of swine shows.
- Because of the increased ADG, the days to reach market weight would be reduced; therefore, a slight reduction in the manure volume may be observed.

Paylean® Disadvantages:

- Paylean® pigs must be handled and transported to minimize stress. Paylean® produces a leaner, heavier muscled pig that may be more susceptible to the stress of transport, handling, and show ring activities associated with a hog show. Stressed pigs fed Paylean® may mimic the characteristics of the stress gene syndrome.
- Because Paylean® is a leanness enhancer it is necessary to fortify the finishing diet to higher crude protein, lysine, and calcium and phosphorus levels. Therefore the cost of the diet during the Paylean® phase will be significantly increased. A carcass premium for the pig must be obtained to offset the increased dietary cost.
- Depending upon the swine show carcass evaluation methods, not all of the enhanced attributes associated with the feeding of Paylean® will contribute to a higher carcass ranking.

Paylean® Medication Types

- Because Paylean® is a Type A medicated feed additive, proper procedures for inclusion in the finishing diet must be strictly adhered.
- A Type B and Type C medicated feed additive can be manufactured from the Type A product. A Type B allows for a higher inclusion rate in the diet and a Type C will allow for daily “top-dressing” of the show pig’s diet.

- Paylean® inclusion levels in the finishing diet must be done according to the label. A level of 9 grams per ton in the finishing diet is the maximum inclusion level. **BE RESPONSIBLE** - anything over 9 grams is illegal and it is not cost effective. Any additional amount of Paylean® fed above the 9 gram level will not cause additional improvement to the pig. There is no approved extra-label use of Paylean®.
- USDA, as well as commercial labs, have the ability to analyze feed, urine, and tissues for the presence of ractopamine hydrochloride (Paylean®).

Economic Effectiveness of Paylean®

- The economic effectiveness of feeding Paylean® will vary for each producer's situation. The genotype of the pigs, the inclusion level of Paylean®, and the number of days Paylean® is included in the finishing diet will all have a direct bearing as to the economic effectiveness of feeding Paylean® to show pigs.
- Therefore, the decision to make use of Paylean® in your show pig diet needs to be carefully studied. A wide use of the product is evident in the swine show ring and carcass contests. However, not all show pigs displaying a high lean potential will need to be enhanced with Paylean®. If you do decide to use Paylean®, remember to be a responsible user according to PQA Plus and/or FSQA guidelines.

Table 1 > Example Rations - (Phase 190 to 240 pounds, @ 9 grams of Paylean®/ton)

Ingredient	Basal Ration, lbs		Paylean® Ration, lbs
Normal Corn	1708.75		1542.75
Soybean Meal - 48 %	250		410
Lysine, Synthetic	0		2.00
Dicalcium Phosphate	12		13
Limestone	18		20
Salt	7		7
Life Cycle GF TM Premix	2.25		2.25
Life Cycle ADEK Premix	1.25		1.25
Life Cycle GF B-Vit. Premix	.75		.75
Paylean®, Elanco Animal Health	0		1.0
Total Pounds	2000		2000
Crude Protein, %	12.8		16.0
Lysine, %	0.60		0.90
Calcium, %	0.53		0.59
Available Phosphorus, %	0.17		0.19

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Revised: 2 / 22 / 07*

ELANCO* AF0602-25B

For Use in Finishing
Swine Feeds Only

Paylean® 9

Ractopamine
Hydrochloride

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**Net Weight 25 lbs
(11.34 kg)**

Type A Medicated Article

Do not feed undiluted.

Active Drug Ingredient: ractopamine hydrochloride - 9 g per lb (20 g per kg)

Important: Must be thoroughly mixed into feeds before use. Follow label directions.

Indication: For increased rate of weight gain, improved feed efficiency and increased carcass leanness in finishing swine, weighing not less than 150 lbs, fed a complete ration containing at least 16% crude protein for the last 45 to 90 lbs of gain prior to slaughter.

**Appropriate Concentration of Ractopamine in Type C
Medicated Feed**

4.5 to 9.0 g/ton*
(5 to 10 ppm)

* No increased benefit has been shown when ractopamine concentrations in the diet are greater than 4.5 g/ton (5 ppm).

Inert Ingredients: Ground corncobs.

Variable	Last 45 lbs of body weight gain		Last 90 lbs of body weight gain	
	4.5 g/ton ractopamine	9.0 g/ton ractopamine	4.5 g/ton ractopamine	9.0 g/ton ractopamine
Carcass Fat	↓ ^a	↓ ^a	↓	↓
10th Rib Backfat (3/4 location)	NC	NC	NC	↓
Last Rib Backfat (midline)	NC	NC	NC	NC
Loin Eye Area (10th Rib)	↑ ^a	↑	↑	↑
Rate of Lean Gain	↑	↑	↑	↑
Efficiency of Lean Gain	↑	↑	↑	↑
Dressing Percentage	NC	↑	↑	↑

NC= No Change, ↑ = increased, ↓ = decreased,

^a Improvement was observed only in pigs weighing less than 250 lbs.

Mixing Directions: Thoroughly mix Paylean 9 Type A Medicated Article into one ton of appropriate feed ingredients according to the table below to obtain the proper concentration in the Type B Medicated Feed (maximum 4920 g/ton).

The following table gives examples of how some Type B Medicated Feed concentrations can be prepared:

Pounds of Paylean 9 To Add Per Ton To Make a Type B Medicated Feed	Resulting Ractopamine Concentration in Type B Medicated Feed	
	grams/ton	grams/pound
100	900	0.45
200	1,800	0.90
300	2,700	1.35
400	3,600	1.80

Thoroughly mix Paylean 9 Type A Medicated Article into one ton of complete swine feed according to the table below to obtain the proper concentration in the Type C Medicated Feed. Prepare an intermediate pre-blend of the premix prior to mixing in a complete feed. Thoroughly mix the required amount in a convenient quantity of feed ingredients, then add to the remaining feed ingredients to make a ton of complete feed.

Pounds of Paylean 9 To Add Per Ton of Type C Medicated Feed	Resulting Ractopamine Concentration in Type C Medicated Feed
0.5	4.5 grams/ton (5 ppm)
1.0	9 grams/ton (10 ppm)

Feeding Directions: Feed continuously as the sole ration to finishing swine weighing not less than 150 lbs for the last 45 to 90 lbs (group average) of weight gain prior to slaughter.

CAUTION: Ractopamine may increase the number of injured and/or fatigued pigs during marketing.

Not for use in breeding swine.

WARNING: The active ingredient in Paylean, ractopamine hydrochloride, is a beta-adrenergic agonist. Individuals with cardiovascular disease should exercise special caution to avoid exposure. Not for use in humans. Keep out of the reach of children. The Paylean 9 formulation (Type A Medicated Article) poses a low dust potential under usual conditions of handling and mixing. When mixing and handling Paylean, use protective clothing, impervious gloves, protective eye wear, and a NIOSH-approved dust mask. Operators should wash thoroughly with soap and water after handling. If accidental eye contact occurs, immediately rinse eyes thoroughly with water. If irritation persists, seek medical attention. The material safety data sheet contains more detailed occupational safety information. To report adverse effects, access medical information, or obtain additional product information, call 1-800-428-4441.

Store at room temperature. Avoid Moisture.

Expiration Date and Lot Number are printed on the bag. Not to be used after the expiry date.

Manufactured for: **Elanco Animal Health**
A Division of Eli Lilly and Company
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Paylean® 9



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YM9083DEAMM (V03-03-2006)

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