

# **Mecadox<sup>®</sup>**

(Carbadox)



***Improves pig performance  
in a wide range of health and  
growing conditions***

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## The Mecadox Advantage

Over the years, **Mecadox** medicated feed additive has proven to be a cost-effective management tool for improving pig performance in a wide range of health and management situations.

Numerous studies have documented that **Mecadox** use improves rate and efficiency of pig growth regardless of health status, genetic capacity for lean growth, animal density, facility type or pig management practices.

### Improve pig performance, even in limited space conditions.

When animal flow schedules get pressured or during the last weeks in the nursery, pig space can be limited.

**Mecadox** helps maintain pig performance in these situations.

### Effect of **Mecadox** in Nursery Pigs Reared in Limited or Adequate Floor Space

		<b>Mecadox, g/ton</b>			
Day 0 to 28	Pen space	0	50	Unit change	Percentage change
ADG (lb/day) <sup>a</sup>	Limited	0.597	0.771	0.174	29%
	Adequate	0.659	0.846	0.187	28%
F/G ratio	Limited	2.232	1.984	- 0.248	-11%
	Adequate	2.119	1.873	- 0.246	-11%
ADFI (lb/day)	Limited	1.350	1.531	0.181	13%
	Adequate	1.403	1.586	0.183	13%

<sup>a</sup>**Mecadox** effect significant at P<.05.

Adapted by B.R. Gramm and R.D. Nimmo from Yen, J.T. and W.G. Pond. 1987.

*Effect of Dietary Supplementation with Vitamin C or Carbadox on Weanling Pigs Subjected to Crowding Stress.*  
Journal of Animal Science. 64:1672-1681

## SUMMARY

After 28 days, the crowded pigs (allowed only 1.4 sq ft/pig) fed **Mecadox** were approximately 5.0 lb heavier and had a 10% better feed conversion than non-medicated pigs. With pigs allowed ample floor space (2.7 sq ft/pig), **Mecadox** use resulted in similar performance improvements.

The results of this study show that **Mecadox** is vital to maintaining performance during the late nursery period when average daily gain (ADG) is greater and feeder and pig space is limited. This is especially important when you consider that the accelerated lean growth that takes place in the nursery cannot be recovered later in life.

## Extended Feeding of *Mecadox* pays.

A 42-day withdrawal allows *Mecadox* to be used as a growth management tool beyond the nursery. Wean-to-finish research concludes pigs fed *Mecadox* step-down diets, all the way to 180 lb\*, showed substantial improvement in growth rate and feed utilization versus non-medicated pigs.

### *Mecadox* Benefits in Wean-To-Finish Buildings

Day 0 to 128	Non-Medicated	<i>Mecadox</i> , 50/25/10 <sup>a</sup>	Unit change <sup>b</sup>	<i>Mecadox</i> , 50/50/25 <sup>a</sup>	Unit change <sup>b</sup>
ADG (lb/day)	1.278	1.335	+ 0.057	1.357	+ 0.079
F/G ratio	2.285	2.272	- 0.013	2.236	- 0.049

<sup>a</sup>Dietary *Mecadox* level in g/ton

<sup>b</sup>*Mecadox* treatment versus non-medicated; differences in ADG and F/G were statistically significant (P<.05).

\**Mecadox* must be withdrawn from rations 42 days before slaughter

Adapted by B.R. Gramm and R.D. Nimmo from Hoover, T.C. 2000.

*Comparison of Mecadox vs. Tylan in Step-Down Feeding Programs from Weaning to Market.*

Pfizer Animal Health Technical Bulletin MX00100002.

## SUMMARY

Bottom line, *Mecadox* can help you market more pork. Pigs were 7.3 lb heavier on the *Mecadox* 50/25/10 program and 10.1 lb heavier on the *Mecadox* 50/50/25 program.

### Improve performance in pigs with high lean growth potential.

Most pigs have a high genetic capacity for lean growth. *Mecadox* is an effective growth-enhancing agent, which can help improve the growth of your high lean gain pigs.

Improved feed efficiency allows pigs to make more efficient use of some of the most costly components of their diet - amino acid sources like soybean meal and synthetic lysine and threonine. Using *Mecadox* helps pigs make better use of nutrients resulting in faster gains and better feed conversion.



Researchers at Iowa State University found *Mecadox* provided significant improvement (F/G & ADG) in pigs with high genetic capacity for lean tissue growth.

## Growth Response to *Mecadox* in Pigs with a High Genetic Capacity for Lean Tissue Growth

Item	Genetic Capacity	<i>Mecadox</i> , g/ton <sup>a</sup>		Unit change
		0	50	
13 to 75 lb BW ADG, lb <sup>b</sup>	High	1.16	1.34	+ 0.18
	Low	1.23	1.26	+ 0.03
F/G ratio <sup>c</sup>	High	1.85	1.69	- 0.16
	Low	1.98	1.92	- 0.06
13 to 250 lb BW ADG, lb	High	1.68	1.77	+ 0.09
	Low	1.61	1.6	- 0.01
F/G ratio <sup>d</sup>	High	2.92	2.78	- 0.14
	Low	3.16	3.18	+ 0.02
Tenth rib, in <sup>e</sup> (Backfat)	High	1.08	0.96	- 0.12
	Low	1.42	1.56	+ 0.14
Loin eye, in <sup>e</sup>	High	5.19	5.70	+ 0.51
	Low	4.63	4.37	- 0.26
Muscle, (%) <sup>e</sup>	High	54.4	56.2	+ 1.8
	Low	45.9	45.6	- 0.3
Fat, (%) <sup>e</sup>	High	29.1	27	- 2.1
	Low	37.1	38.5	+ 1.4

<sup>a</sup> *Mecadox* fed from 13 to 75 lb. body weight

<sup>b</sup> Genotype x *Mecadox* effect, (P<.01)

<sup>c</sup> Genotype x *Mecadox* effect, (P <.13)

<sup>d</sup> Genotype x *Mecadox* effect at 250 lb significant (P<.16)

<sup>e</sup> Genotype x *Mecadox* effect at 250 lb significant (P<.09)

Adapted by B.R. Gramm and R.D. Nimmo from Stahly, T.S., N.H. Williams and S.G. Swenson. 1996.  
*Growth Response to Carbadox in Pigs with a High or Low Genetic Capacity for Lean Tissue Growth.*  
 Iowa State University Swine Research Report ASL-R1368.

## SUMMARY

High lean gain pigs fed *Mecadox* to 75 lb reached market weight (250 lb) in 7.2 fewer days, required 33.2 lb less feed and had an absolute improvement in carcass muscle content of 1.8%. The economic implications are less feed use per pig and fewer days to market.



## Improve performance under respiratory disease challenges.

Every swine producer faces respiratory disease challenges at some point. While **Mecadox** does not specifically treat respiratory disease, research conducted by Iowa State University has shown that pigs challenged by respiratory pathogens (*Mycoplasma hyopneumonia*, APP and PRRSV) and fed **Mecadox** demonstrated better feed efficiency and better ADG than similarly challenged, non-medicated pigs.

### Impact of **Mecadox** on Pigs Challenged With Respiratory Disease

12 to 250 lb BW	Immune System Activation	Mecadox, g/ton <sup>a</sup>		Unit change
		0	50	
ADG, lb <sup>a</sup>	High	1.51	1.62	+ 0.11
	Low	1.86	1.89	+ 0.03
F/G ratio, <sup>a,b,c</sup>	High	3.12	2.90	- 0.22
	Low	2.75	2.67	- 0.08
Tenth rib, <sup>ab</sup>	High	1.34	1.21	- 0.13
	Low	1.14	1.07	- 0.07
Loin Eye, in <sup>2</sup> <sup>a,b,c</sup>	High	5.06	5.55	+ 0.49
	Low	5.96	6.12	+ 0.16
Muscle (%), <sup>a,b,c</sup>	High	51.9	54.2	+ 2.3
	Low	56.0	57.6	+ 1.6
Fat (%), <sup>a,b</sup>	High	32.6	30.2	- 2.4
	Low	29.1	27.0	- 2.1

<sup>a</sup>Mecadox effect at 250 lb significant (P<.05), <sup>b</sup> Mecadox effect (P<.05),

<sup>c</sup>IS x Mecadox effect (P<.15)

Adapted by B.R. Gramm and R.D. Nimmo from Stahly, T.S., N.H. Williams and D.R. Zimmerman. 1994. *Impact of Carbadox on Rate and Efficiency of Lean Tissue Accretion in Pigs With a Low or High Level of Immune System Activation*. Iowa State University Swine Research Report ASL-R1162.

## SUMMARY

In this trial, **Mecadox** was fed from 12 to 75 lb at 0 or 50 g per ton. All pigs were fed the same non-medicated ration from 75 to 250 lb bodyweight. At slaughter, the pigs possessed positive titers for *Actinobacillus pleuropneumoniae*, *Mycoplasma hyopneumonia* as well as porcine reproductive and respiratory syndrome (PRRS). **Mecadox** fed to 75 lb bodyweight improved rate, efficiency and composition of growth (reduced fat % and increased muscle %) when measured at 250 lb bodyweight.

# Effective Enteric Disease Control

Enteric diseases pose costly threats to the swine industry through poor growth, death loss and medication expense. **Mecadox** in pig diets offers effective control of enteric pathogens including *Salmonella choleraesuis*, a cause of salmonellosis, and *Brachyspira hyodysenteriae*, a cause of swine dysentery. The following studies show how **Mecadox** maintains growth in pigs facing enteric disease challenges.

## Enteric Challenge Study<sup>1</sup>

	Mecadox, g/ton		
Day 0 to 21	0	50	Unit change
ADG (lb/day) <sup>a</sup>	0.814	1.10	+ 0.29
F/G ratio	2.97	2.60	- 0.37
ADFI (lb) <sup>a</sup>	2.42	2.86	+ 0.44

<sup>a</sup>**Mecadox** effect significant at (P<.05).

<sup>1</sup>Adapted by B.R. Gramm and R.D. Nimmo from Winkelman, N.L. and P.A. Hawkins. 1996. *Evaluation of Carbadox and Neomycin-Oxytetracycline for Control of Proliferative Enteropathy (Ileitis) in Swine*. IPVS Proceedings. p. 278.

## Salmonella Challenge Study<sup>2</sup>

	Mecadox, g/ton		
Day 0 to 21	0	50	Unit change
ADG (lb/day)	0.534	0.723	+ 0.189
F/G ratio	3.20	2.85	- 0.35

<sup>2</sup>Adapted by B.R. Gramm and R.D. Nimmo from Olson, L.D., et al. 1977. *Comparison of Furazolidone and Carbadox in the Feed for Treatment of Salmonella choleraesuis in Swine*. Am J Vet Res. Vol. 38, 10:1471-1477.

No statistical differences reported for the data presented.

## SUMMARY

While **Mecadox** is not labeled for treatment of ileitis, pigs challenged with ileitis and fed rations including **Mecadox** were 9.7 lb heavier and had 11% better feed conversion than non-medicated pigs. This study provides strong support that **Mecadox** improves growth performance in pigs challenged with ileitis.

In the presence of clinical salmonellosis, pigs fed diets including **Mecadox** averaged 7.9 lb more gain on 10.9% less feed per pound of gain throughout the study period. Morbidity and mortality rates caused by bacterial enteritis (*Salmonella choleraesuis*) were also significantly reduced with **Mecadox** use.



## Example *Mecadox* Programs for Respiratory and Enteric Disease Control and Growth Enhancement

Nursery Diets			
Ration 1	Ration 2 <sup>1</sup>	Ration 3	Ration 4
<i>Mecadox</i> 50 g/ton	<i>Mecadox</i> 25 g/ton <i>Terramycin</i> ® 10 mg/lb body weight for 7 to 14 days	<i>Mecadox</i> 50 g/ton	<i>Mecadox</i> 50 g/ton

Grow/Finish Diets			
Ration 1 <sup>1</sup>	Ration 2 <sup>1</sup>	Ration 3	Ration 4 <sup>2</sup>
<i>Mecadox</i> 25 g/ton <i>Terramycin</i> ® 10 mg/lb body weight for 7 to 14 days	<i>Mecadox</i> 25 g/ton	<i>Terramycin</i> 10 mg/lb body weight for 7 to 14 days	<i>Mecadox</i> 25 or 10 g/ton

Cost-effective control of respiratory and enteric diseases while providing growth enhancement.

<sup>1</sup>Additional 7 to 14-day pulse dosing of *Terramycin* can be used in herds encountering severe respiratory challenges anytime to market weight. PRRS positive pigs challenged with secondary respiratory infections should be pulsed 2 to 3 times.

<sup>2</sup>Feed *Mecadox* up to 180 lb bodyweight (withdraw 42 days prior to slaughter)

Animal	Drug	Dosage Level	Indications
Swine	<i>Mecadox</i> (carbadox)	10 - 25 g/ton (0.0011 - 0.00275%)	For increased rate of weight gain and improvement of feed efficiency.
	<i>Mecadox</i> (carbadox)	50 g/ton (0.0055%)	For control of swine dysentery (vibronic dysentery, bloody scours or hemorrhagic dysentery); control of bacterial swine enteritis (salmonellosis or necrotic enteritis caused by <i>Salmonella choleraesuis</i> ); for increased rate of weight gain and improvement of feed efficiency.

FDA Status: Feed mill license required if the source of carbadox contains more than 2.5 g/lb. (0.55%). Regulation §558.115

WARNING STATEMENT REQUIRED: Do not feed to swine within 42 days before slaughter.

CAUTION: Do not use in feeds containing bentonite. Not for use in pregnant swine or swine intended for breeding purposes

Animal	Drug	Dosage Level	Indications
Swine	<i>Mecadox</i> (carbadox) and <i>Terramycin</i> (oxytetracycline)	10 - 25 g/ton  10 mg/lb bodyweight	For treatment of bacterial enteritis caused by <i>Escherichia coli</i> and <i>Salmonella choleraesuis</i> susceptible to oxytetracycline. For treatment of bacterial pneumonia caused by <i>Pasteurella multocida</i> susceptible to oxytetracycline. For increased rate of weight gain and improved feed efficiency.

FDA Status: Feed mill license required if the source of carbadox contains more than 2.5 g/lb. (0.55%). Regulation §558.115

WARNING STATEMENT REQUIRED: Do not feed to swine within 42 days before slaughter. Not for use in pregnant swine or swine intended for breeding purposes.

LIMITATIONS FOR USE: Feed continuously for 7 to 14 days.

Talk to your veterinarian or animal health supplier today to discover the cost-effective advantages of adding *Mecadox* to your pig diets.

# Discover The *Mecadox* Advantage

- Improved pig performance in a wide range of health and growing conditions
  - Presence of enteric disease challenges
  - High-health or low-health status
  - SEW or conventional nursery management
  - Crowded or adequate floor space
  - High-lean genetic potential
  - Wean-to-finish buildings
  - New or used facilities
- Effective control of enteric pathogens
- Promotes growth while it fights disease
- Can be used in nursery, grower and early finisher diets
- Multiple approved dosages and combinations

