Respiratory Solutions

SWINE RESPIRATORY DISEASE

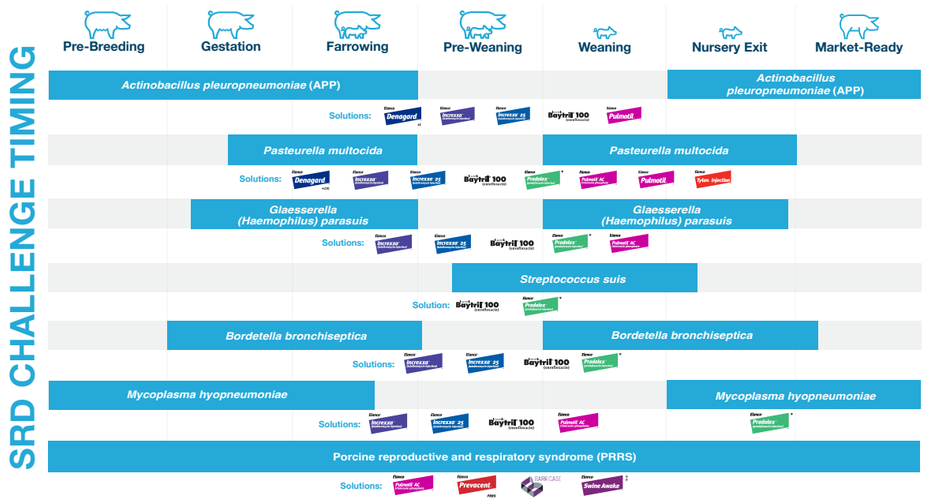
Having a strong health protocol involves planning ahead and being prepared for challenges. Swine respiratory disease (SRD) is the number one cause of nursery death[1] and is endemic in many herds worldwide.[2] There is no one-size-fits-all treatment option. It is a combination of many considerations: the prevalence of the pathogen, an evaluation of its susceptibility and herd-specific goals. With a well-thought-out strategy, you can stop the spread or even get completely ahead before SRD starts expressing clinically.

Getting ahead of a challenge and making sure you're choosing the right treatment solution is critical. Use every resource at your disposal to get the Full Value out of every pig. Elanco offers vaccine, injectable, feed, and water-soluble solutions for industry-critical respiratory challenges.

PRODUCTS		Elanco Pradalex (pradofloxacin injection)	Bayer Baytril 100 (enrofloxacin)	Elanco Increxxa 25 (tulathromycin injection)	Elanco Increxxa (tulathromycin injection)	Elanco Tylan Injection
KEY MESSAGES		Quick. Dual action. Convenient.	Quick. Reliable. Effective.	Proven. Rapid.* Backed.	Proven. Rapid.* Backed.	Effective. Multi-disease. Control.
ACTIVE INGREDIENT		pradofloxacin	enrofloxacin	tulathromycin	tulathromycin	tylosin
PATHOGEN	**INDICATION**					
Actinobacillus pleuropneumoniae (APP)	Control		●	●	●	
	Treat		●	●	●	
Pasteurella multocida	Control		●	●	●	
	Treat	●	●	●	●	●
Glaesserella parasuis (Haemophilus parasuis)	Control		●			
	Treat	●	●	●	●	
Streptococcus suis	Control		●			
	Treat	●	●			
Bordetella bronchiseptica	Control		●			
	Treat	●	●	●	●	
Mycoplasma hyopneumoniae (M. hyo)	Control		●	●	●	
	Treat	●	●	●	●	
Porcine reproductive and respiratory syndrome virus (PRRSv)	Control					
	Treat					
Immune Support						
DOSAGE		1.7 mL / 100 lbs	3.4 mL / 100 lbs	1 mL / 22 lbs	1 mL / 88 lbs	1 mL / 12.5 lbs (50 mg) 1 mL / 25 lbs (100 mg)
MEAT WITHDRAWAL (days)		2	5	5	5	14

*Clinical relevance unknown **Only for *Mycoplasma hyopneumoniae* in the presence of PRRS.

	Elanco Pulmotil AC (tilmicosin phosphate)	Elanco Pulmotil	Elanco Prevacent PRRS	BARRICADE	Elanco Swine Awake	Elanco Denagard LC	Elanco Denagard +CTC
	Quick. Effective. Easy.	Quick. Flexible. Effective.	Safe. Smooth. Effective.	Complement. Customize. Protect.	Awaken. Support. Improve.	Dependable. Effective. Treatment.	
	tilmicosin phosphate	tilmicosin	MLV	killed autogenous	dried *Bacillus licheniformis*, dried *Lactobacillus casei* fermentation product and citric acid	tiamulin hydrogen fumarate	
		●					
						●	
	●	●					
							●
	●						
	●						
			●	●			
	●**						
					●		
200 mg / liter	181-363 g / ton	1 mL intramuscularly	1 - 2 mL intranasally	1 pk / day / 1,200 pigs	1 L / day / 1,786 pigs	35 g / ton	
7	7	21	21		3	2	



Early response matters; however, the correct response matters as well. Utilize your veterinarian and technical consultants to make the right decision for your herd.

‡Swine Awake is not intended to treat SRD or PRRS
*Not for use in nursing piglets or animals intended for breeding

ECONOMIC IMPLICATIONS OF SRD

Diseases are costly on their own — but what about when you compound multiple challenges? The additive cost of pathogen combinations can grow rapidly. This economic impact is calculated based on a number of factors, including an increase in mortality, culls and tailenders (MCT) and a reduction in average daily gain (ADG). The impact of multiple challenges is also exponential — combined challenges can double or triple the economic impact on your bottom line.[3]

ADDITIVE COST OF PATHOGENS[1]

M. hyo	$0.63
PRRS	$5.57
SIV	$3.23
PRRS and *M. hyo*	$9.69
PRRS and SIV	$10.41
SIV and *M. hyo*	$10.12

ADDITIVE PRODUCTION IMPACTS OF PATHOGENS[1]

	Difference from baseline in %MCT	Difference from baseline in ADG
M. hyo	2.15%	0.04
PRRS	1.68%	-0.11
SIV	1.87%	-0.04
PRRS and *M. hyo*	5.43% **M**P	-0.04*M*P
PRRS and SIV	4.34% **S**P	-0.1**S
SIV and *M. hyo*	3.46% **M*S	-0.18**S

*M,P,S = combinations vs. M/P/S; $P < 0.1$ **M,P,S = combinations vs. M/P/S; $P < 0.05$

Contact your Elanco representative to find the right solutions for your operation. Learn more at farmanimal.elanco.com/us/swine.

The labels contain complete use information, including cautions and warnings. Always read, understand and follow the labels and use directions.

PULMOTIL AC INDICATIONS:

- For the control of swine respiratory disease associated with *Pasteurella multocida and Haemophilus parasuis.*
- For the control of swine respiratory disease associated with *Mycoplasma hyopneumoniae* in the presence of porcine reproductive and respiratory syndrome virus (PRRSv) in groups of swine in buildings where a respiratory disease outbreak is diagnosed.

DOSAGE AND ADMINISTRATION:

- Must be diluted before administration to animals.
- Include in the drinking water to provide a concentration of 200 mg tilmicosin per liter (200 ppm).
- One 960 mL bottle is sufficient to medicate 1200 liters (320 gallons) of drinking water for pigs.
- The medicated water should be administered for (5) five consecutive days.
- Use within 24 hours of mixing with water.
- Do not use rusty containers for medicated water as they may affect product integrity.
- When using a water medicating pump with a 1:128 inclusion rate, add 1 bottle (960 mL) of Pulmotil AC per 2.5 gallons of stock solution.

IMPORTANT SAFETY INFORMATION:

Before using this product, it is important to read the entire product insert, including the boxed human warning.

WARNING: Exposure to tilmicosin in humans has been associated with chest pain, increased heart rate, dizziness, headache, and nausea. Death has been reported following ingestion or injection of tilmicosin. Avoid direct skin and eye contact. In case of human exposure, call 1-800-722-0987 and consult a physician immediately.

- Wear overalls, impervious gloves and eye protection when mixing and handling the product. Wash hands after handling the product. Wash affected parts if skin contact occurs. If accidental eye contact occurs, immediately rinse thoroughly with water.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

- For use only in swine. Not for injection. Injection of tilmicosin has been shown to be fatal in swine and non-human primates, and may be fatal in horses and goats.
- Swine intended for human consumption must not be slaughtered within 7 days of treatment.
- Always treat the fewest number of animals necessary to control a respiratory disease outbreak. Prescriptions shall not be refilled.
- Concurrent use of Pulmotil AC and another macrolide by any route, or use of another macrolide immediately following this use of Pulmotil AC is not advised.
- Ensure that pigs have continuous access to medicated water during the treatment period. Monitor pigs for signs of water refusal and dehydration while being treated.

Scan me for the complete label

BAYTRIL INDICATIONS:

- For the treatment and control of swine respiratory disease (SRD) associated with *Actinobacillus pleuropneumoniae, Pasteurella multocida, Haemophilus parasuis, Streptococcus suis, Bordetella bronchiseptica, Mycoplasma hyopneumoniae.*
- For the control of colibacillosis in groups or pens of weaned pigs where colibacillosis associated with *Escherichia coli* has been diagnosed.

DOSAGE AND ADMINISTRATION:

- Administer, either by intramuscular or subcutaneous (behind the ear) injection, a single dose of 7.5 mg/kg of body weight (3.4 mL/100 lb). Administered dose volume should not exceed 5 mL per injection site.
- For the control of colibacillosis, administration should be initiated within the first 60 days post-weaning when clinical signs are present in at least 2% of the animals in the group. If no improvement is noted within 48 hours, the diagnosis should be reevaluated.

IMPORTANT SAFETY INFORMATION:

CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian. Federal (USA) law prohibits the extra-label use of this drug in food-producing animals. To assure responsible antimicrobial drug use, enrofloxacin should only be used as a second-line drug for colibacillosis in swine following consideration of other therapeutic options.

- Not for use in humans. Keep out of reach of children.
- Avoid contact with eyes. In case of contact, immediately flush eyes with copious amounts of water for 15 minutes.
- In case of dermal contact, wash skin with soap and water. Consult a physician if irritation persists following ocular or dermal exposures.

Individuals with a history of hypersensitivity to quinolones should avoid this product. In humans, there is a risk of user photosensitization within a few hours after excessive exposure to quinolones. If excessive accidental exposure occurs, avoid direct sunlight.

INCREXXA INDICATIONS:

- Increxxa Injectable Solution is indicated for the treatment of swine respiratory disease (SRD) associated with *Actinobacillus pleuropneumoniae, Pasteurella multocida, Bordetella bronchiseptica, Haemophilus parasuis,* and *Mycoplasma hyopneumoniae*; and for the control of SRD associated with *Actinobacillus pleuropneumoniae, Pasteurella multocida,* and *Mycoplasma hyopneumoniae* in groups of pigs where SRD has been diagnosed.

DIRECTIONS FOR USE:

- Inject intramuscularly as a single dose in the neck at a dosage of 2.5 mg/kg (0.25 mL/22 lb) BW. Do not inject more than 2.5 mL per injection site.

IMPORTANT SAFETY INFORMATION:

CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

- WARNINGS: FOR USE IN ANIMALS ONLY. NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN. NOT FOR USE IN CHICKENS OR TURKEYS.
- Swine intended for human consumption must not be slaughtered within 5 days from the last treatment.
- The effects of Increxxa on porcine reproductive performance, pregnancy, and lactation have not been determined.
- Intramuscular injection can cause a transient local tissue reaction that may result in trim loss of edible tissue at slaughter.
- Store below 25°C (77°F), with excursions up to 40°C (104°F).
- 100 mL: Use within 2 months of first puncture and puncture a maximum of 67 times. If more than 67 punctures are anticipated, the use of multi-dosing equipment is recommended. When using a draw-off spike or needle with bore diameter larger than 16 gauge, discard any product remaining in the vial immediately after use.
- 250 mL and 500 mL: Use within 2 months of first puncture and puncture a maximum of 100 times. If more than 100 punctures are anticipated, the use of multi-dosing equipment is recommended. When using a draw-off spike or needle with bore diameter larger than 16 gauge, discard any product remaining in the vial immediately after use.

PRADALEX INDICATIONS:

- Pradalex is indicated for the treatment of SRD associated with *Bordetella bronchiseptica, Glaesserella (Haemophilus) parasuis, Pasteurella multocida, Streptococcus suis* and *Mycoplasma hyopneumoniae* in weaned swine intended for slaughter (nursery, growing, and finishing swine, boars intended for slaughter, barrows, gilts intended for slaughter, and sows intended for slaughter). Not for use in swine intended for breeding (boars intended for breeding, replacement gilts and sows intended for breeding) and in nursing piglets.

DOSAGE AND ADMINISTRATION:

Swine: Administer once as an intramuscular injection in the neck at a dosage of 7.5 mg/kg (1.7 mL/100 lb) body weight. Do not inject more than 5 mL per intramuscular injection site.

IMPORTANT SAFETY INFORMATION:

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian. Not for use in humans. Keep out of reach of children. Avoid contact with eyes and skin. Individuals with a history of hypersensitivity to quinolones should avoid this product. Not for use in animals intended for breeding because the effects of Pradalex on swine reproductive performance, pregnancy and lactation have not been determined. Not for use in nursing piglets because safety and effectiveness have not been demonstrated. Quinolones should be used with caution in animals with known or suspected central nervous system (CNS) disorders. Mild to moderate inflammatory changes of the injection site may be seen in swine treated with Pradalex. See package insert for additional safety information.

TYLAN INJECTION INDICATIONS:

- For the treatment of swine arthritis caused by *Mycoplasma hyosynoviae;* swine pneumonia caused by *Pasteurella spp.;* swine erysipelas caused by *Erysipelothrix rhusiopathiae;* swine dysentery associated with *Treponema hyodysenteriae* when followed by the appropriate medication in the drinking water and/or feed.

ADMINISTRATION AND DOSAGE:

- Inject intramuscularly 4 mg per pound of body weight (1 mL per 50 lbs) twice daily. Treatment should be continued 24 hours following remission of disease signs, not to exceed 3 days. Do not inject more than 5 mL per site.

IMPORTANT SAFETY INFORMATION:

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

WARNING: NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN.

- **Adverse reactions, including shock and death may result from overdosage in baby pigs.** Do not attempt injection into pigs weighing less than 25 lbs (0.5 mL) with the common syringe. It is recommended that Tylan 50 Injection be used in pigs weighing less than 25 lbs.
- Do not administer to horses or other equines. Injection of tylosin in equines has been fatal.
- Swine intended for human consumption must not be slaughtered within 14 days of the last use of this drug product.
- If tylosin medicated drinking water is used as a follow-up treatment for swine dysentery, the animal should thereafter receive feed containing 40 to 100 grams of tylosin per ton for 2 weeks to assure depletion of tissue residues.

[1]USDA APHIS Veterinary Services. "Swine 2006, Part 1: References of Swine Health and Management Practices in the United States, 2006." 2007.
[2]Merck & Co. "Respiratory Disease of Pigs: Introduction." The Merck Veterinary Manual. Available at: www.merckvetmanual.com/mvm/htm/bc/121400/htm. Accessed March 31, 2009.
[3]Haden CD, Painter T, Fangman T, Holtkamp D. Assessing production parameters and economic impact of swine influenza , PRRS and *Mycoplasma hyopneumoniae* on finishing pigs in a large production system. American Association of Swine Veterinarians. 2012 April: 75-76.

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