



The cost of living with *Mycoplasma hyopneumoniae* (Mhp)

Background

Mycoplasma hyopneumoniae is one of the most prevalent and economically significant respiratory pathogens in the swine industry,¹ although current economic impact estimates of Mhp are not well publicized.

Mhp causes enzootic pneumonia (or mycoplasmal pneumonia), a chronic respiratory disease in swine characterized by a chronic, non-productive cough, as well as decreased feed efficiency, reduced average daily gain and increased medication costs.¹

Mhp is rapidly inactivated in the environment and by disinfectants but may survive longer in cold weather.²

Mhp is often present with other pathogens, including porcine reproductive and respiratory syndrome virus (PRRSv), influenza A virus of swine (IAV-S) and other mycoplasmas.²

Impact during finishing period

Pigs of all ages are susceptible, but within a herd, pigs become infected either in the first few weeks of life from the sow or from other pigs after commingling.² A survey of swine production company veterinarians ranked Mhp as the “most significant health challenge” in the finishing phase of production.³

From a production standpoint in finishing,¹ producers can expect Mhp-positive herds to have on average:

- 0.8% increased mortality
- 0.3% increase in underweight market hogs (culls)
- 325 fewer pigs sold per 1,000 sows
- \$1.21 increased medication costs per pig
- 0.08 lbs per day decreased finishing ADG (4.4% loss)
- 0.02 lbs increased feed:gain (0.7% loss)

The three primary economic impacts (medication, ADG and F/G) resulted in \$4.44 less revenue for Mhp-positive pigs (Table 1), or a total cost per sow of \$121.79.

With Mhp-positive market hogs growing slower and less efficiently, Mhp-infected pigs will have 9.2 lbs lighter carcasses and require an additional 6 days to reach a desired 285-lb market weight.¹

Table 1. Performance differences between Mhp-positive and Mhp-negative groups from 2008–2014, based on a 1,000-head sow operation¹

Measure	Mhp-	Mhp+	Difference
Finishing mortality, %	3.0	3.8	0.8
Finishing culls/underweight market hogs, %	1.6	1.9	0.3
Total pigs sold	27,406	27,081	-325
Cost of treatment, \$	2.39	3.60	1.21
Finishing ADG, lbs/day	1.80	1.72	-0.08
F/G	2.73	2.75	0.02
Total cost of Mhp infection			
Per pig marketed, \$			4.44
Per sow, \$			121.79



Calculating the cost of Mhp infections

25 pigs/sow
 x \$2 to \$5/pig¹

 \$50 to \$125/sow each
 year in a Mhp-positive
 uncontrolled herd

Calculating the cost of Mhp infections using industry-wide averages of \$2-5 per pig and 25 pigs-per-sow-per-year, producers could be looking at \$50-\$125 per sow in added costs in a Mhp-positive herd.

Cost of co-infections even greater

These calculations assume pigs were only infected with Mhp, but research has shown that Mhp in combination with other pathogens results in performance losses and costs greater than the additive costs of each pathogen.⁴ For example, the actual costs of PRRSv and Mhp coinfection, at \$9.69 per head, were 1.5X greater than the additive costs of uncomplicated PRRSv and Mhp. Likewise, the additive cost of uncomplicated Mhp and swine influenza was \$3.86 per pig, but the impact of IAV-S and Mhp together was \$10.12 per pig.⁴

Swine production company veterinarians estimated total losses associated with Mhp for all pigs, including affected and unaffected pigs, was \$2.58 for Mhp alone and an additional \$1.21 for Mhp combined with PRRSv, for a combined total of \$3.79 per pig marketed (Table 2), second only to losses associated with PRRSv.³

Another study found that the parameters that account for the greatest benefits were related to the improvement in ADG, savings in antibiotic medication in growing pigs and improvement in feed conversion rate. The benefit of Mhp elimination was \$877,375 per farm per year, or \$7.00 per pig marketed.⁵

Extrapolated out to all pigs raised and marketed in the U.S., the losses associated with Mhp was in the range of \$375 to \$400 million annually.³

Table 2. Summary of estimated economic losses for top health challenges in all stages of production³

Health challenge	Average loss for all pigs, \$/pig marketed			
	Breeding	Nursery	Finishing	Total
PRRSv	4.94	1.23	1.47	7.63
Mhp	0.39	0.19	2.00	2.58
IAV-S	0.50	0.43	1.00	1.94
PRRSv+Mhp	-	-	3.79	3.79

Key takeaways

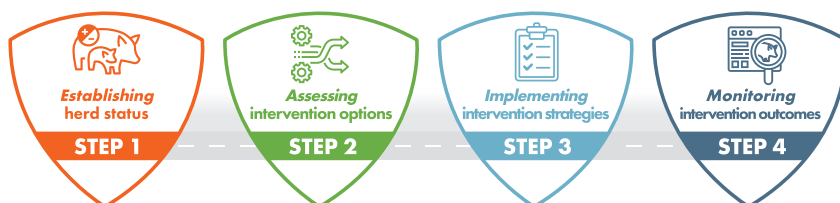
Mycoplasma hyopneumoniae – one of the most prevalent respiratory pathogens in the swine industry – causes chronic respiratory disease and impairs growth performance of affected pigs, particularly in the finisher phase.

Mhp is often present with other pathogens, further limiting growth performance and increasing economic losses.

Recent estimates of Mhp-related costs, including reduced performance and increased use of medication, range from \$4 to \$8 per pig marketed, but those impacts climb to more than \$10 per pig when coinfections with PRRSv or IAV-S are present.

The benefit of eliminating Mhp from a pig production system could be as high as \$877,000 per farm per year through improved production performance measures.⁵

For more information about how to better understand the cost of Mhp on your operation and the Mhp Guardian 4-step program, contact your Zoetis representative or visit zoetispork.com.



¹Yeske, 2016. *Mycoplasma hyopneumoniae* elimination, 2016 AASV Annual Meeting Proceedings, pg. 376-380. https://www.aasv.org/library/swineinfo/item.php?AASV/2016/376_Yeske.pdf

²Pieters, M.G. 2021. Mycoplasma Pneumonia in Pigs. Merck Veterinary Manual. Accessed at <https://www.merckvetmanual.com/respiratory-system/respiratory-diseases-of-pigs/mycoplasma-pneumonia-in-pigs>.

³Holkamp, D. Economic impact of *Mycoplasma hyopneumoniae* on pig farms. Pig333.com. 19 September 2014; accessed July 22, 2022. Accessed at <https://www.pig333.com/print/8936>

⁴Haden, C., T. Painter, T. Fangman, D. Holkamp. 2012. Assessing production parameters and economic impact of swine influenza, PRRS and *Mycoplasma hyopneumoniae* on finishing pigs in a large production system. Proceedings of the 2012 AASV Annual Meeting. p 75-76.

⁵Silva, G.S., P. Yeske, R.B. Morrison, D.C.L. Linhares. 2019. Benefit-cost analysis to estimate the payback time and the economic value of two *Mycoplasma hyopneumoniae* elimination methods in breeding herds. Preventative Veterinary Medicine Vol 168 (<https://doi.org/10.1016/j.prevetmed.2019.04.008>).