



# PorkFACTS™

AN UPDATE OF RECENT SWINE RESEARCH

## Economic Analysis of Feeding BMD® to Grow/Finish Pigs When Marketed at a Fixed Target Weight

### ► SUMMARY

An economic analysis was performed to evaluate the financial impact of feeding BMD® at 30 g/ton to grow/finish pigs. The analysis determined the BMD financial benefit for different feed costs and market prices for hogs. Results of the economic analysis model, with pigs marketed at a fixed target weight, demonstrated that an investment in BMD generates significant financial returns that are amplified as the cost of feed rises, regardless of prices for market hogs. The net financial benefits for BMD under the conditions of the model ranged from \$1.039 to \$2.019 per head, representing a return-on-investment range of 3:1 to 5:1.

### ► RATIONALE

- Fluctuations in production costs and market prices are a normal part of swine production and frequently provide economic opportunity for profit-savvy producers. However, drastic or unexpected upward swings in feed costs and/or reductions of market prices can force a reevaluation of management practices, prompting new strategies that will help sustain profitability under adverse conditions.
- Failure to evaluate the financial implications of ‘routine’ management in the face of volatile economic realities can often determine the difference between profit and loss.
- Supplementation of swine diets with appropriate antimicrobial agents has been shown to consistently improve the growth performance and feed efficiency of pigs.
- BMD® (bacitracin methylene disalicylate), when fed to pigs continuously at a level of 30 g/ton of feed, is the unique, versatile feed medication approved for increased rate of weight gain and improved feed efficiency, without any requirement for a withdrawal period prior to slaughter.

**The higher the feed cost and regardless of market hog price, the greater the financial return from BMD.**

## ▶ RATIONALE (CONT.)

- BMD promotes a healthy intestinal tract in pigs, which helps enhance absorption of nutrients from the feed while allowing beneficial bacteria to thrive, maintaining the normal gut flora without concerns about resistance. Furthermore, the granular BMD formulation provides uniform dispersion, increased stability, reduced carryover, and less dust and fines.
- An economic analysis was performed to evaluate the financial impact of feeding BMD at 30 g/ton to grow/finish pigs. The analysis determined the BMD financial benefit for different feed costs and market prices for hogs, illustrating the value BMD can help deliver under various economic/production conditions.

## ▶ MODEL DESIGN

- A summary of 85 field studies demonstrated that BMD, on average, increased average daily gain (ADG) 4% and improved feed efficiency (FE, feed/gain) 3.3%.
- These average responses were used as inputs for BMD in the economic analysis model.
- The grow/finish feeding scenario used in the model evaluated pigs from 50 lb body weight until a fixed target market weight of 270 lb (220 lb of gain).
- The analysis computed BMD benefits over a wide range of production and market conditions (feed costs ranging from \$100 to \$200 per ton, and market prices for finish hogs ranging from \$15 to \$65 per cwt).
- Parameters and/or calculated assumptions used in the economic analysis model are summarized in Table 1.

**The economic analysis model evaluated BMD under a wide range of feed costs and market hog prices.**

**TABLE 1.** Parameters and/or calculated assumptions employed in BMD economic analysis model (pigs reared to a fixed target weight).

Starting weight (lb)	50
Ending weight (lb)	270
Control ADG (lb)	1.70
BMD ADG response	4.0%
BMD ADG (lb)	1.77
Control FE (feed/gain)	2.70
BMD FE response	3.3%
BMD FE (feed/gain)	2.61
BMD cost/ton (30 g/ton)	\$1.70
BMD cost/pig (30 g/ton)	\$0.49
Facility cost/head/day	\$0.11
Feed cost/ton (range)	\$100-\$200
Market price/cwt (range)	\$15-\$65

## ▶ RESULTS

- Because BMD improved FE by 9 points according to model assumptions (2.61), the amount of feed required for 220 lb of gain decreased by 19.6 lb per head.
- Similarly, the improved ADG in BMD pigs (0.07 lb) reduced the days-to-market by 5.0 days.

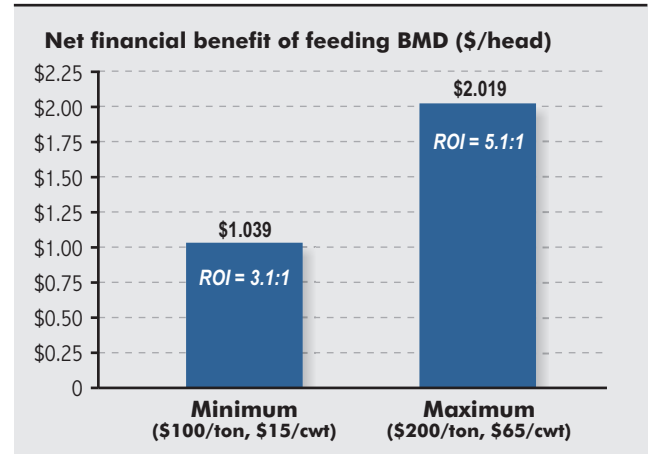
## ▶ RESULTS (CONT.)

- BMD financial benefits for various feed costs and market hog prices are summarized in Table 2 (last page of this document).
- Using the extremes analyzed in the model, the minimal BMD return over unmedicated controls was \$1.039 per head (lowest feed cost of \$100/ton, lowest market price of \$15/cwt), representing a return on investment (ROI) of 3.1:1 (Figure 1).
- The maximal BMD return over unmedicated controls was \$2.019 per head (highest feed cost of \$200/ton, highest market price of \$65/cwt), representing a ROI of 5.1:1 (Figure 1).
- Under the model scenario of marketing pigs at a specific target weight, the market price of hogs did not impact BMD value (because all pigs put on the same amount of gain). Only feed cost impacted the degree of BMD financial benefits, with higher feed costs amplifying the economic returns from feeding BMD.

**The economic benefit from using BMD ranged from \$1.04-\$2.02 per head.**

**BMD delivers excellent value under various economic conditions.**

- The benefits of BMD illustrated in this model are conservative because other positive financial outcomes impacted by BMD were not included, such as reductions in ending-weight variation.
- Other model factors that would further amplify BMD benefits (despite per-pig increases in the cost of BMD) include higher per-head facility costs (fewer days needed by BMD pigs to reach market weight), decreasing starting weight and/or increasing ending weight (allows more time to provide returns, saving both days and feed), and increasing the base FE ratio (elevates BMD advantage, especially for high-cost feed as more feed is saved). Additionally, decreasing the base ADG used in the model also would improve BMD returns (more days saved, reducing per-head facility costs).



**FIGURE 1:** Net financial benefit of feeding BMD to grow/finish pigs; model extremes based on feed cost (\$100-\$200/ton) and market price of hogs (\$15-\$65/cwt).

## ▶ CONCLUSIONS

Results of this economic analysis model (with pigs marketed at a fixed target weight) demonstrate that an investment in BMD generates significant financial returns as the cost of feed rises, regardless of prices for market hogs.

**TABLE 2.** Net economic benefit per head from feeding BMD, at various feed costs and market prices.

Feed cost (\$/ton)	Price for market hogs					
	\$15.00	\$25.00	\$35.00	\$45.00	\$55.00	\$65.00
\$100.00	\$1.039	\$1.039	\$1.039	\$1.039	\$1.039	\$1.039
\$105.00	\$1.088	\$1.088	\$1.088	\$1.088	\$1.088	\$1.088
\$110.00	\$1.137	\$1.137	\$1.137	\$1.137	\$1.137	\$1.137
\$115.00	\$1.186	\$1.186	\$1.186	\$1.186	\$1.186	\$1.186
\$120.00	\$1.235	\$1.235	\$1.235	\$1.235	\$1.235	\$1.235
\$125.00	\$1.284	\$1.284	\$1.284	\$1.284	\$1.284	\$1.284
\$130.00	\$1.333	\$1.333	\$1.333	\$1.333	\$1.333	\$1.333
\$135.00	\$1.382	\$1.382	\$1.382	\$1.382	\$1.382	\$1.382
\$140.00	\$1.431	\$1.431	\$1.431	\$1.431	\$1.431	\$1.431
\$145.00	\$1.480	\$1.480	\$1.480	\$1.480	\$1.480	\$1.480
\$150.00	\$1.529	\$1.529	\$1.529	\$1.529	\$1.529	\$1.529
\$155.00	\$1.578	\$1.578	\$1.578	\$1.578	\$1.578	\$1.578
\$160.00	\$1.627	\$1.627	\$1.627	\$1.627	\$1.627	\$1.627
\$165.00	\$1.676	\$1.676	\$1.676	\$1.676	\$1.676	\$1.676
\$170.00	\$1.725	\$1.725	\$1.725	\$1.725	\$1.725	\$1.725
\$175.00	\$1.774	\$1.774	\$1.774	\$1.774	\$1.774	\$1.774
\$180.00	\$1.823	\$1.823	\$1.823	\$1.823	\$1.823	\$1.823
\$185.00	\$1.872	\$1.872	\$1.872	\$1.872	\$1.872	\$1.872
\$190.00	\$1.921	\$1.921	\$1.921	\$1.921	\$1.921	\$1.921
\$195.00	\$1.970	\$1.970	\$1.970	\$1.970	\$1.970	\$1.970
\$200.00	\$2.019	\$2.019	\$2.019	\$2.019	\$2.019	\$2.019