Technical Bulletin

Information from Phibro Technical Services

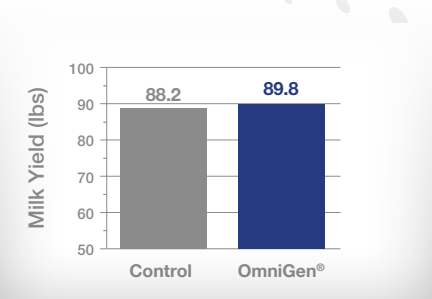
Economic Impacts of Feeding OmniGen® to Multiparous Holstein Dairy Cows

Background

A recent economic analysis conducted by researchers at the University of Florida indicates feeding dairy cows OmniGen* can result in a **2.5:1 return on investment**† (ROI), due to increased milk production, better health and improved reproductive performance (Casarotto et al., 2020b)‡. The study that was evaluated was conducted on a large, commercial dairy operation using nearly 1,400 multiparous Holstein cows fed 56 g of OmniGen or a placebo from dry-off through approximately 150 days in milk.

Cows fed OmniGen produced 1.6 lbs more milk each day, relative to cows fed the control diet (Figure 1). Similar improvements in milk production by cows fed OmniGen have been seen in previous research (Brandão et al., 2016; Fabris et al., 2017; Nickerson et al., 2019), as well as in Phibro's Immunity Challenge Summary (Chapman et al., 2020).

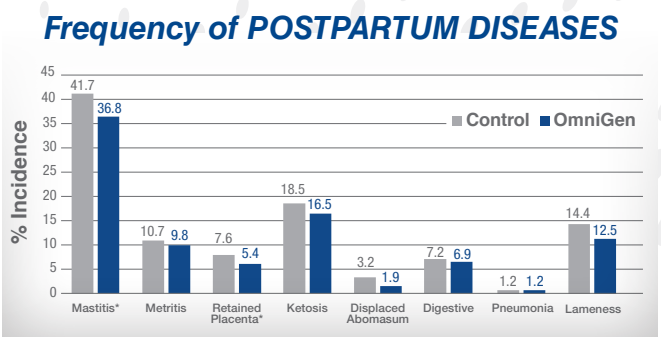
Figure 1.



Adapted from Casarotto et al., 2020a.

Cows fed OmniGen tended to have lower ($P < 0.10$) incidence of clinical mastitis and retained placenta (Figure 2). All other postpartum diseases shown on this graph were numerically reduced in cows fed OmniGen. Cows fed OmniGen also spent fewer ($P < 0.01$) days in the hospital pen under antibiotic treatment relative to cows fed the control diet (6.02 ± 0.09 d vs. 6.56 ± 0.01 d, respectively).

Figure 2.

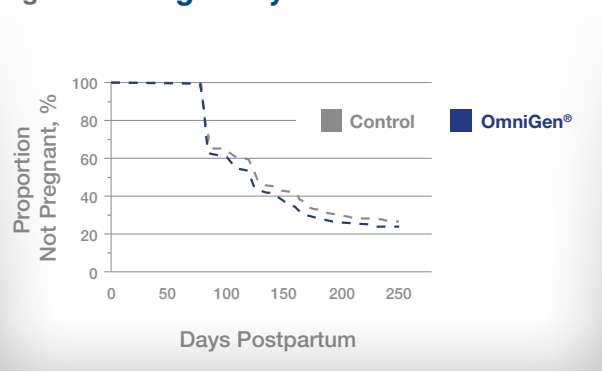


**P < 0.10*

Adapted from Casarotto et al., 2020a.

The pregnancy survival curve shown in Figure 3 shows the percentage of cows that were not pregnant during the 230 days after calving. The graph reflects an improvement in the percentage of cows confirmed pregnant after first artificial insemination (32.6% compared to 28.1%, respectively, $P > 0.10$), leading to a reduction in percentage of cows not pregnant when fed OmniGen, through the end of the trial. Feeding OmniGen was also associated with a 10-day reduction ($P < 0.05$) in days open compared to feeding the control diet (139 vs. 149 ± 3.44 d, respectively).

Figure 3. ***Pregnancy SURVIVAL CURVE***



Adapted from Casarotto et al., 2020a.

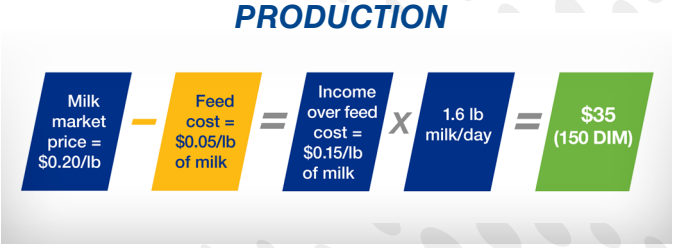
Economic Analysis

The economic analysis of this research was reported by University of Florida researchers at the Annual American Dairy Science Association meeting in June, 2020 (Casarotto et al., 2020b).

There was increased income from greater milk produced by cows fed OmniGen. The milk market price used was $0.20/lb. Subtracting $0.05/lb of milk to cover the cost of feed needed to produce each unit of milk resulted in $0.15/lb income over feed cost. Multiplying the income over feed cost by 1.6 lbs more milk per day for cows fed OmniGen resulted in an increased net milk income of approximately $35 per cow over 150 days.

Figure 4.

PRODUCTION



Adapted from Casarotto et al., 2020b.

The researchers also determined savings associated with reduced occurrence of mastitis, metritis, retained placenta, ketosis, displaced abomasum and lameness in cows fed OmniGen, using published disease costs (Liang et al., 2017). Based on the incidence of diseases in cows fed diets with or without OmniGen and the published costs of these diseases, disease costs were reduced by $14 per cow during the study period for cows receiving OmniGen.

The ten-day reduction in days open for cows fed OmniGen results in a savings of $30/cow, assuming an extra day open costs $3/day, based on the bio-economic model developed at the University of Florida (DeVries et al., 2006).

Figure 5.

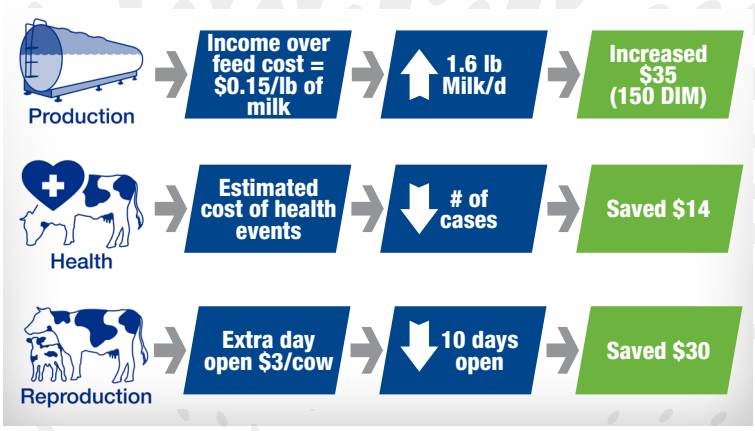
REPRODUCTION

Adapted from Casarotto et al., 2020b.

Combining $35/cow increased income from higher milk production with $14/cow health savings and $30/cow savings from improved reproductive performance results in a $79/cow total benefit when OmniGen was fed. Subtracting the $32/cow cost of feeding OmniGen for 210 days ($0.15/cow/d beginning at dry off through 150 DIM) from the total benefit of $79/cow, led to a net benefit of $47/cow. Dividing the total benefit of $79 by the total cost of OmniGen resulted in a **2.5:1 ROI.**†

Figure 6.

SUMMARY



Adapted from Casarotto et al., 2020b.

The combined benefits of increased milk production, better health and improved reproductive performance in cows fed OmniGen from dry-off to approximately 150 DIM indicate that OmniGen is a cost-effective addition to the herd's feeding program.

References

Available Upon Request

**Study conducted using OmniGen AF.*
†Actual results may vary.
‡Casarotto, L. T. et al., 2020a. Anim. Feed Sci. Technol. 267, September 2020, 114527. Casarotto, L. T. et al., 2020b. J. Dairy Sci. 103 (Suppl. 1):40 . (Abstr.)