

ImmuCell

Scientifically-Proven Products ♦ Improved Productivity ♦ Increased Profits

Case Study: Optimization of Milk Revenues Through the Improved Management of Subclinical Mastitis

Michael F. Brigham

President and CEO

December 2011

Forward-Looking Statement Disclaimer

The following presentation and the associated White Paper printed in the Conference Documentation Book contain certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995.

Factors that could cause the Company's future results to differ materially from those described in the forward-looking statements, together with other risk factors, are detailed from time to time in filings we make with the Securities and Exchange Commission, including our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q.

Forward-looking statements are based on our current information and expectations. Actual results may differ materially due to various factors, including those risks.

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Strategy: *Strengthening the core business while investing in a novel and revolutionary product opportunity*

- ◆ Primary focus is on enteric health and mastitis; heavy dairy emphasis with a growing presence in the beef market
- ◆ 29 employees
- ◆ Competent in regulatory environment
- ◆ USDA approved production facility
- ◆ Listed on NASDAQ (ICCC) since 1987



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ImmuCell Management Team

Michael F. Brigham - President & CEO, Director

**Dr. Joseph H. Crabb - VP, CSO, & Chairman of the Board
of Directors**

Bobbi Jo Kunde - Director of Sales & Marketing

Dr. John W. Zinkgraf - Director of Product Development

James E. Hall - Director of Quality

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- ◆ **David S. Cunningham**
- ◆ **William H. Maxwell, M.D.**
- ◆ **Linda Rhodes, V.M.D., Ph.D.**
- ◆ **Jonathan E. Rothschild**
- ◆ **David S. Tomsche, D.V.M**

Highly technical and entrepreneurial team with an average of 35 years experience in the human health, animal health, and finance fields.



USDA approved scours preventative

#1 selling oral scours product
for calves

More than 11 million calves
treated since 1991

First Defense
Technology *inside*



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Wipe Out[®] Dairy Wipes



Wipe Out combines pre-dipping and wiping into one simple step using the natural antimicrobial, Nisin



ImmuCell has first hand production scale experience with Nisin



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Steve Jobs set a standard for innovation in the “wired” industry. With Mast Out, we bring innovation to the animal health industry.

Job’s believed it was not the duty of the customer to know what they want. He did not base Apple’s product development on market research. Instead, he challenged his development team to develop products they would use themselves.



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Giving Customers What They Want...

... fortunately, things are a little easier for us

- Dairy producers are very aware of the nearly \$ 2.0 bln in losses sustained by the industry each year due to subclinical and clinical mastitis infections
- **Mast Out**[®] was developed as an intramammary infusion with an ideal product profile, one we would want to use in our own dairies:
 - Indicated for treatment of Subclinical Mastitis
 - Effectiveness comparable to traditional anti-infectives
 - *No milk discard or meat withhold*

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How Our Industry Would Be Different...

...with an alternative to traditional antibiotics for subclinical mastitis control

Improved animal welfare - *no longer ignoring a problem*

- Infected subclinical cows are treated before they become chronic
- Reduced culling to bring down BTSCC
- Fewer clinical breaks with routine subclinical treatment

Improved milk quality

- Longer shelf life for fluid milk
- Significantly better yields and flavor for cheese production

Producers are more profitable

- Sell more milk
 - Less diversion of milk from high somatic cell cows out of the bulk tank
 - Improved production due to lower disease pressure
- Increased milk quality premiums
- Market cows regardless of treatment status

Reduces dependence on traditional antibiotics

- Reduced use of third-generation cephalosporins and other beta lactams
- No risk of antibiotic residues in the bulk tank

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How Our Industry Will Be Different...

...new farm level regulations expected in 2012

- According to the Agricultural Marketing Service of the US Department of Agriculture new requirements forcing compliance with 400,000 SCC EU standards at the farm level will be effective in 2012.

Robert N. Fountain II

President and CEO

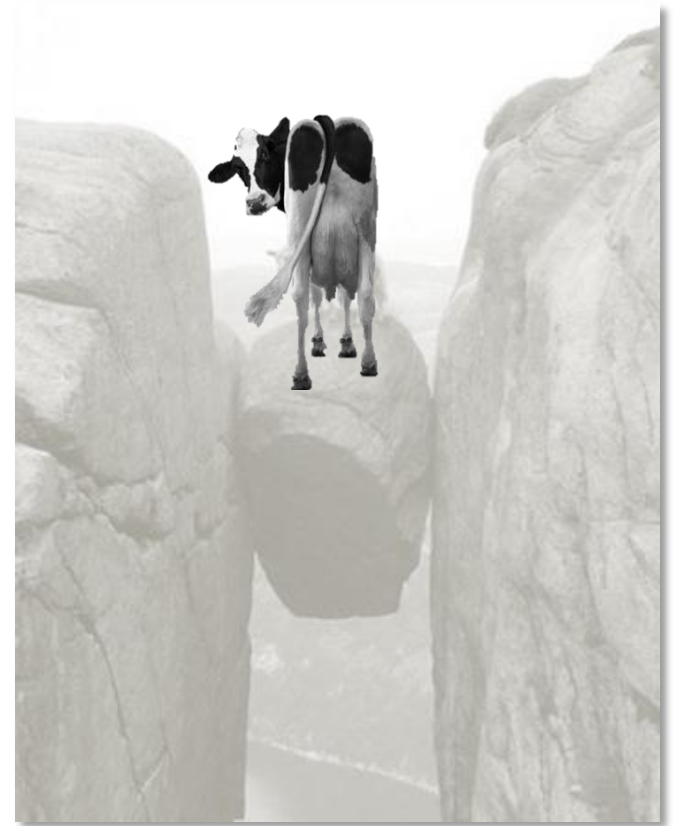
Fountain Agricounsel, LLC

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Economic Dilemma Solved

In the past, treating subclinical mastitis put producers between an economic rock and a hard place: *“Would the long-term economic benefits of curing Subclinical disease be offset by the short-term cost of discarded milk?”*

Mast Out creates a new paradigm for dairy producers ... the option to routinely treat subclinical mastitis *“without crying over spilt milk”*



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Mast Out Utilizes Novel Technology

- ◆ Active ingredient = pharmaceutical grade Nisin
 - Naturally occurring substance
 - Broad spectrum bacteriocin
 - Antimicrobial commonly used as a food preservative
 - GRAS status for food preservation application
- ◆ Patented and proprietary manufacturing technology
 - Unique advantage: ImmuCell has the ability to produce pharmaceutical- grade API; this purity level assures mastitis treatment will not cause teat inflammation

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Mast Out has been evaluated in 5 major research trials

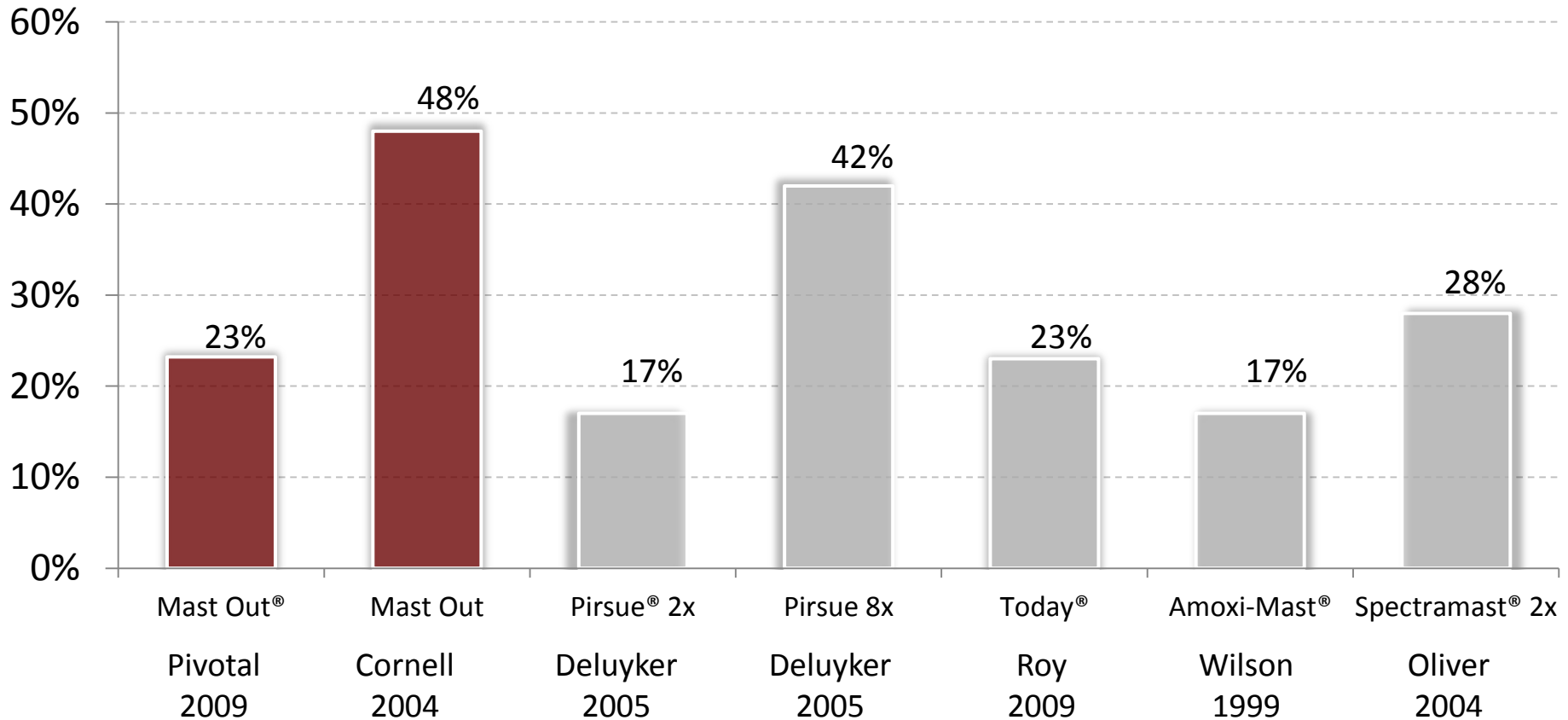
- 2 laboratory-based challenge/treatment studies in cows
- 2 non-pivotal field trials
- 1 pivotal FDA sanctioned study



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Clinical Trial Results

Cures as a Result of Treatment



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Pirsue® and Spectramast® are registered trademarks of Pfizer Animal Health
Today® is a registered trademark of Boehringer-Ingelheim Vetmedica
Amoxi-Mast® is a registered trademark of Intervet Animal Health

Mast Out was statistically “highly significant” compared to the placebo in the treatment of subclinical mastitis; anticipated claims include:

- *Streptococcus agalactiae*
- *Streptococcus uberis*
- *Streptococcus dysgalactiae*
- *Coagulase-negative Staphylococcus*
- *Enterococcus faecium*



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- Clinical studies have also consistently demonstrated significant reductions in milk Somatic Cell Counts
- Producers can expect a reduction of 27% in SCC for treated cows with starting SCC between LS4 and LS7
- Reduced SCC values are associated with improved milk quality scores, higher premiums for fluid milk, and better cheese yields and flavor



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Reducing Treatment Cost

x Treatment
 Milk withhold

Treatment	Treatment Regimen (days)									Treatment Cost	Dumped Milk Cost	Total Cost
	1	2	3	4	5	6	7	8	9			
Pirsue® 8x	x	x	x	x	x	x	x	x		\$27.00	\$114.00	\$141.00
Pirsue 2x	x	x								\$6.76	\$33.00	\$39.76
Amoxi-Mast®	xx	x								\$6.75	\$48.00	\$54.75

60 pounds production/cow/day

\$20/cwt milk price

“80% of the net producer cost of currently used Subclinical Mastitis treatments are the result of milk discard”

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Pirsue® is a registered trademarks of Pfizer Animal Health
 Amoxi-Mast® is a registered trademark of Merck Animal Health

Case Study – Key Assumptions

- The range of subclinical mastitis prevalence in US dairy herds is broad 15-75%¹
- The cost factors associated with subclinical mastitis include:
 - Possible reduction in quality premiums or price docks
 - 5-12% reduction in milk production²
 - 20% increase in clinical disease³
- Key performance indicators for subclinical mastitis are:
 - 85% cows with somatic cell counts <200,000⁴
 - less than <5% of cows developing new subclinical mastitis infections per month⁴

¹ Merck Vet Manual

²Seegers, of Veterinary Research, 2003

³Steenefeld, Journal of Dairy Research, 2007

⁴Ruegg, Presented at: Congreso Internacional ANEMBE ,Spain,2011

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1,600 hd farm

- Shipping ~3.8M lbs/mo
- BTSCC of 206,000
- 30% SCM prevalence rate
- 7% of cows met treatment criteria on test day
 - Avg SCC of 450,000

Treating subclinical mastitis could result in:

- \$25K increased milk sales
- \$8K increase quality premiums
- \$14K in reduced clinical treatments

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FDA Progress & Timeline

Technical Sections	Information Submitted	Complete Letter Received
Environmental Impact	Feb 2008	Aug 2008
Effectiveness First Submission	Aug 2010	Feb 2011 ¹
Effectiveness Second Submission	4Q 2011 ²	2Q 2012 ²
Human Food Safety:		
Toxicology	Mar 2004	Aug 2004
14C Nisin study in cows	Jan 2008	May 2008
Microbial Food Safety	Oct 2008	Feb 2009
'Gut Flora Studies' First Submission	Oct 2008	Apr 2009 ¹
'Gut Flora Studies' Second Submission	Apr 2009	Oct 2009
Microbial food safety (develop method)		
Marker: Total Ratio & Analytical Method Validation	Feb 2009	May 2009
Pivotal Residue Depletion Study	Nov 2010	May 2011
Target Animal Safety	2Q 2011	4Q 2011 ²

¹ Incomplete letter received

² Anticipated

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Finalization of the CMC Technical Section Is Now Critical Path for the Project

Technical Section	
Chemistry, Manufacturing & Controls	Long-term exclusive supply agreement w/Plas-Pak, Inc. (proprietary syringe)
	Self-sourcing strategy in final stages of development for manufacturing of the API
	Exclusive contract manufacture agreement w/Norbrook Ireland (finished product formulation, sterile-fill, and final packaging)
NADA	Possible 60-90 days after receipt of final Technical Section Complete Letter

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Partnership Opportunity

- ImmuCell is currently in discussions with prospective commercial partners for Mast Out
- Remaining investments relate primarily to manufacturing scale-up and preparations of full scale batches
- Structure of the collaboration relationship will vary based on size of the partner's investment and scope of responsibilities
- Additional information can be found in the detailed disclosures made in our periodic filings with the SEC (including Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q)

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- ◆ Most products have many competitors with very similar features often causing them to be treated as commodities
- ◆ On rare occasions, companies encounter the opportunity to revolutionize some facet of the industry they serve
- ◆ As Mast Out continues to progress through the regulatory process, ImmuCell is pleased to have this opportunity to share the anticipated benefits this revolutionary approach for the management of subclinical mastitis may bring to the global dairy industry



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Thank You

Michael F. Brigham

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