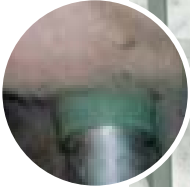


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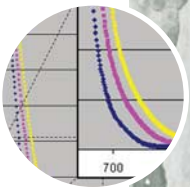
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The Green Liner File

Promoting healthy dairy products and practices.

Did You Buy Liners, or Were You Sold Liners?

I went through a recent issue of one of the major dairy industry publications and took a close look at the advertisements in the entire issue. There were 109 ads placed (not including the classifieds). Of those 109 ads, 47 of them made some sort of claim about the impact of their products. Most of the claims related to some sort of money savings to the dairyman. Of the 47 ads making claims, only 18 of those claims had or appeared to have any type of research to support their claims, most of those were pharmaceuticals. What is the point?

This issue of the Green Liner File is dedicated to determining whether you purchased liners or if you were sold liners. As the customer, we believe

you have the right to know what you are investing in and what expectations you should have. We find that we spend a lot of time explaining away baseless claims made by other liner companies' print ads, not to mention defending made up stories of a route truck driver who is protecting his commission.

Think about the last few items you decided to trial. Were you told what to expect when you began using the product? Did you get specific answers to specific questions on performance? Did you get a follow up evaluation of the product? Did the product perform to your expectations?

The next time you hear a claim on a product...better udder health, more milk, improves SCC's, more cow comfort...ask where the data is to go with the claim.. If the salesman cannot provide the answers, ask him to get it for you. End the "try this and see what you think" cycle that so many companies use. Make sure you are buying and not being sold.

Sincerely,

President, Lauren AgriSystems

Lauren
AgriSystems
ltd.
Perfecting Parlors With Polymer Products



All Liners Are Not Created Equal

That probably isn't a surprise to you. You've seen more than a few come and go over the years. With over 200 choices, how do you know which ones are real and which ones are designed like fishing lures, to catch the fisherman...not the fish?

Silicone vs Silicone

There are a number of companies in the market touting the well known benefits of silicone liners. Silicone is the best material to keep clean and consistent over the life of a liner. The disturbing part of these advertisements is their claims. There are liners that advertise 6,000 to 8,000 milking cycles and state that this will save you money. When you talk to their salesmen you will regularly get stories of getting up to 10,000 or even 12,000 cycles from these liners. What they don't tell you is how they will perform. At Lauren AgriSystems, we designed our liner with the perfect balance of longevity and performance. We strongly believe that the longevity offered by some of these products is designed into the product at the expense of actual milking performance. We think the more important aspect when considering a liner is how it will perform, not how long you will be stuck with them when they don't.

Round vs Square vs Triangle vs Tri-Circle®

Shape matters! More and more dairymen and professionals in the industry are coming to the realization that multi-sided liners do a better job of reducing teat end pressure than round liners. Excessive teat end pressure (along with other factors) is a major contributor to the severe hyperkeratosis we see in a lot of herds. When you hear "Better Teat Ends", make sure you see what evidence is behind the claim. Also, make sure the collapse force (or touch point) of your liner

and your vacuum level are set properly.

Long A & D Phases

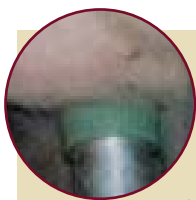
This is one of our favorites. Products that provide faster A & C phases give longer B & D phases. This is a true statement. Once again we need to ask the question, so what? Research done in France showed that faster C phases may not be the best for the cow. Research done this past spring at the Lauren Dairy tested Lauren Liners as well as a popular round barrel liner. This research proved that as the C phase gets faster, milking performance starts to degrade. The key to understanding this situation is in understanding that these phases are measured by monitoring vacuum, not liner wall movement or position.

There are many products in the industry today that claim fast A & C phases with no proof at all that this is better for the cows. In many cases, these ads can explain why the C phase is faster (bigger ports, less air space in the shell...). They all talk about the effect on pulsation, few (if any at all) talk about the impact on the cow.

This liner is a drop in...

We all want this to be true, but it never is. Whether it is pulsation, vacuum, take off settings or prep, each liner has specific settings that they work best at. There are liners that can accommodate a wider range of settings than others, but this is usually at the expense of liner performance.

To make sure you know what you are buying, ask about the specific phases of your pulsation and how that will work with the liner being presented. Ask what will happen to your milking performance and cow health. If you can't get answers to these questions, you need to be asking someone else.



Squawks

Recognizing a squawk in a milking parlor is not a difficult task. It is often the loudest noise coming from the parlor. The alarming fact about squawks is that they are only a fraction of the total number of liner slips that take place. Squawks are the audible result of liner slips. A liner slip is the result of sudden air admission between a liner's mouth-piece and a teat. Only an estimated 1/3 of slips are audible.

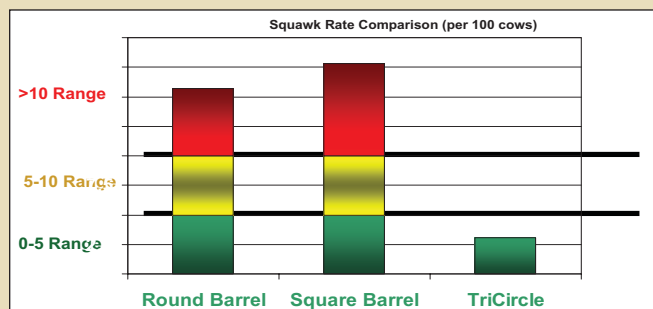
This means there is a lot more going on than you are aware of. Liner slips are attributed to liner design, vacuum level, cluster alignment, liner condition or some combination of these.

Recent trials at Lauren Dairy provided the opportunity to collect a count of squawking occurrences for different liners. The three liners studied were: Lauren Tri-Circle® Silicone Liner, an

organic rubber round barreled liner, and an organic rubber square barreled liner. Each liner was set up to run at the manufacturer's suggested vacuum specifications. When an audible squawk was heard, the cluster was identified and recorded. Only one count per cluster was recorded, so if more than one liner on a cluster was squawking it was only counted as one. Also, a squawk was not counted if it started right after the unit was attached. Due to the possibility of poor unit alignment, the milker was allowed to go back and realign the unit and a squawk was not counted. A squawk

was counted, however, if it continued immediately following the readjustment or restarted sometime during the milking. The data was collected from approximately 195 Holsteins for each liner.

Examining the data from the perspective of





Dairy Spotlight: Legacy Farms

Legacy Farms, in operation since February 17, 2004, is owned by the Bouma's, a family with a history in the dairy business dating back to the 1900's in the Netherlands. With two double forty parallel parlors under one roof, Legacy Farms milks 5000 cows three times per day at capacity. Previously running at "industry standard" vacuum & after settling on a square liner, machine drop-offs & liner squawks remained a concern. In an attempt to improve the efficiency of the parlor & reduce the distraction of the milkers, the parlors were converted from 5/8" to 3/4" silicone hose & Lauren Liners were installed. With the recommended increase in the vacuum to 14.2", machine drop-offs & liner squawks became a non-issue, increasing efficiency & hugely boosting milker attitude. With changes in the milking routine to increase the time from prep to attachment to ~2 minutes, letdown & milk flow have greatly improved. An added benefit has been the longevity of the liners, necessitating fewer change-outs. Now 3 months since installation, there have been no detrimental effects on teat health & SCC has dropped by 100,000.

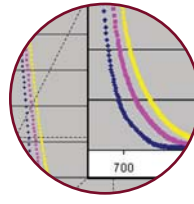


Three generations of the Bouma family pictured at their facility in Plainview, Texas.

squawks per 100 cow milkings shows the round barreled liner, and the square barreled liner both above 15.5 instances. The Tri-Circle[®] Liner was well below both of these showing only 3.1 squawks per 100 cow milkings. This data is telling us that we can expect to have a squawk rate greater than 15.5% using either the round or square barreled liners, and a squawk rate of approximately 3% with the Tri-Circle[®] Liner.

It has been suggested that 5-10 squawks per 100 cow milkings is an acceptable number (Mein and Reid, 1996). This study demonstrates that a number lower than that is clearly obtainable by combining the correct vacuum with a liner designed to reduce slipping. Simply turning up your vacuum will not necessarily reduce squawks, and could have adverse effects on your cow if the liner is not designed for that vacuum level. An important point is...if you want to reduce squawks, use a product that is designed with that intent.

Mein, G. and D.A. Reid. 1996 Milking-time tests and guidelines for milking units. Pages 235-244 in Proceedings 35th Annual Meeting, National Mastitis Council, Madison, WI.



How Technical Can a Liner Be?

Unfortunately this is one of the easiest questions to ask and a hard one to answer. They certainly aren't as complicated as brain surgery, and it is easier to understand liners than tax law. However, you should not underestimate how the fine details can impact liner performance.

For now, let's talk about liners and pulsation, specifically the D phase of pulsation. The D phase is when the liner is considered closed. Many people in the industry call this the massage phase. The D phase is necessary to relieve congestion in the teat (caused by exposure to vacuum) that can restrict milk flow. Not enough D phase can cause congestion to form in the teats, cause blue teats and cause damage to the cow. Most experts and standards agree that an adequate D phase is 150 ms minimum and many recommend 200 ms minimum.

Let's go back to a point that we reinforce at Lauren. When pulsation is measured, the device is measuring vacuum and air flow, not the actual movement of the liner. The equipment required to measure actual liner wall movement is much more expensive and not readily available in the market. Therefore, we do not believe it is accurate to look at the D and B phases and the ratio alone when determining the best system settings for milking.

When we talk about the massage phase of the liner, we take factors other than the pulsation and ratio readings into consideration. Vacuum level, liner touch point and other system settings can affect the actual massage of the teat. We believe that the massage phase of pulsation begins when enough pressure is applied to the teat to stop milk flow. There are numerous depictions of the milking/pulsation cycle that show that the milk stops flowing from the teat during the C phase, not the D phase. If this is the case (and we agree that it is), then placing a minimum on the D phase is not exactly correct. Our research shows that a faster C phase can negatively impact peak milk flow. We also know that too much D phase can reduce the amount of time milk flows from the teat during each cycle making it harder on the cow to harvest the milk.

To find the best setting for a milking system, Lauren AgriSystems believes that the C and D phases need to be evaluated together. Adjusting each of these phases individually can control the liner movement and improve performance on your dairy. Still not sure? Contact us or your closest Lauren AgriSystems dealer so that we can demonstrate how to make these phases work for you.

Show Updates and Future Schedule:

Wrap-up: 2007 World Dairy Expo

www.worlddairyexpo.com

The 2007 World Dairy Expo was a big success this past October in Madison, Wisconsin. We were among 65,000 visitors and 675 exhibiting companies. Visitors from all over the world stopped in to talk silicone liners with us. Once again it is amazing how much and how far the word has traveled about the Tri-Circle[®] Silicone Liner. The move to the Exhibition Hall was exciting and provided a great opportunity to showcase our products. Thank you to all the visitors that stopped by and we look forward to seeing everyone again next year!

Keystone Farm Show

Jan 8-10, York, PA

Booths W327 & W328 in Building #3

www.keystonefarmshow.com

NMC 47th Annual Meeting

Jan 20-23, New Orleans, LA

Poster Presentation

www.nmconline.org

World Ag Expo

Feb 12-14, Tulare, CA

Dairy Technology Center Booths

7310, 7311, 7410, 7411

www.farmshow.org

New York Farm Show

Feb 21-23, Syracuse, NY

Horticulture Building (#3) Booth E9

www.newyorkfarmshow.com

New Additions:

We would like to welcome four new dealers to the ever growing Lauren AgriSystems family:

Midwest Livestock Systems

Pine Island, Minnesota

507-356-6349

Fuller's Milker Center

Lancaster, Wisconsin

608-723-4634

Tri-County Dairy Services

Janesville, Wisconsin

608-757-2697

Dairy Farm Services

Fowler, Michigan

989-593-4121

We look forward to continued success with the help of our new dealers!

