

Darilife

NEWSLETTER

DARITECH
Cows • Land • Passion

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Volume 3 - Issue 1

Dedicated to Livestock and Manure Handling in the Pacific Northwest

We welcome you to our winter newsletter and wish you all a happy and prosperous 2009. With many northwest dairies looking to replace increasingly scarce sawdust and shavings, this issue is to focus primarily on bedding. We are pleased to feature Joe Harrison and Larry Fox, of Washington State University, as our guest columnists to help you better understand how to manage your bedding.

In our summer issue, we featured our first 6-32 BeddingMaster designed for up to 800 cows. We're now pleased to feature our 8-40 BeddingMaster installation capable of making bedding for up to 2,000 cows or more. Bedding with compost can be a cost effective way to recycle your solids, and the manure slurry is easy on equipment.

Many of you will find the long history of sand as the "gold standard" of bedding to be the most attractive option for your dairy. Whether you want to recover your sand for reuse or will be land applying, we have effective methods of handling your sand laden manure. As you'll see inside, our separation systems are custom designed to fit your dairy and meet your goals.

Whether you have already made the switch from shavings, or are looking at your options, we hope you will find some useful information inside. And don't forget to check out our new contest on page 7. Prizes will be given to the first ten correct answers!



IN THIS ISSUE

Guest Column

We would like to thank Larry Fox and Joe Harrison for their great article concerning the best method to managing bedding. Read all about mastitis pathogens and how they affect your bedding on **page 2**.

Bedding Vreugdenhil Farms

Read all about how Vreugdenhil Farms is saving money on bedding by recycling their sand on **page 6**.



Employee Profile

In this issue we feature Dennis Hobbs in our Employee Profile. Find out more about Dennis and his passion for DariTech on **page 3**.



Also in this issue:

- Find out what's hot this season and what the thing is to buy.....pg 3
- Look for DariTech installations in your neck of the woods!.....pg 4
- Read up on DariTech's Livestock Line-up.....pg 5
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Managing your bedding

What Mastitis Pathogens Look for When Bedding Down for the Night:

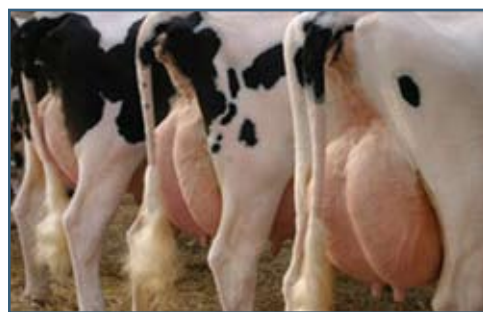
All choices come with their consequences, on the one hand, a dairy manager wants his/her cows to utilize free stalls, lie comfortably and ruminate. However, the more a cow lies on bedding, the more her udder will be exposed to mastitis pathogens. Thus bedding management is critical in the control of mastitis. What are the issues that affect bacterial growth in bedding?

Bacteria need moisture, nutrients, and the proper temperature for growth. The more cows use bedding, any bedding type, the more likely urine and fecal matter mix into the bedding and increase the moisture content. The objective is to keep bedding dry, and that can be done effectively with covered housing, and by frequent removal and replacement with fresh bedding.

How much bedding should be removed and how often? Of course the answer to this question is primarily based on humidity, type of bedding, and housing system. In stall based housing system, the last third of the stall should receive the most attention with frequent removal of the bedding at this end of the stall. Organic matter bedding (shavings, sawdust, straw, almond hulls, newspaper....etc.), will absorb and retain moisture. The more finely chopped the material, the more likely it will hold moisture. Sawdust and chopped straw will retain more moisture than shavings and long straw. There is nothing wrong with using smaller particle organic bedding, just realize it will get wetter more quickly and will need replacement more frequently. Inorganic bedding does not retain moisture as well. Sand makes an ideal source of bedding, it is inorganic, and cows seem to find it a comfortable surface to lie on. However, sand has difficulties with respect to handling and waste systems. Mattresses are mostly, if not entirely, made of inorganic material. Yet hock abrasions and other leg injuries can result from use of this type of bedding system.

Nutrient content of bedding is increased in manure laden bedding. The way to control nutrient availability is to employ frequent bedding removal and replacement with clean fresh bedding. Inorganic bedding is essentially devoid of nutrients and has an advantage over organic bedding for dairy cows.

Most dairy managers think of ambient temperature as the primary factor associated with bacterial growth in bedding. Cases of environmental mastitis seem to be highest in the summer in many areas. In some areas summers are very hot and dry, but the spring is the time of most moisture and thus becomes a critical time of environmental mastitis outbreaks. But in the Pacific Northwest during the colder times of the year, cows experience outbreaks of environmental mastitis. It has been hypothesized that the warmth the cows add to the bedding, and the warmth the bacteria add to the bedding as they grow and multiply, is quite sufficient to support pathogen growth. Also, cows may utilize stalls more when the climate turns for the worst. The astute dairy manager will readily realize the times of the year when his/her dairy is most susceptible to outbreaks of environmental mastitis and take added precautions such as frequent bedding removal and replacement. In summary, frequent removal and replacement is the best method to manage bedding.



*Larry Fox and Joe Harrison
Department of Animal Science
Washington State University
In appreciation for this column, DariTech has
made a donation to the Washington State 4H
Foundation in support of dairy projects.*

Employee Profile: Dennis Hobbs

Dennis Hobbs started his fourth year in the manure industry this last October. Starting out as an entry level service technician, Dennis is now the head service technician at our Sunnyside shop.

Dennis was born and raised in Toppenish, WA. From there he moved to Grandview, WA and from there to Zillah, WA, where he now resides. Though Dennis did not grow up on a farm, he spent a lot of time as a young kid at the Toppenish rodeo grounds. His grandparents were in the Sheriff posse and his granddad was a blacksmith. His other grandparents had a fruit farm.

In his spare time, Dennis enjoys spending time with his horses and taking out his jeep to play in the mud! When asked why he came to work for DariTech, Dennis said, "I wanted a more challenging and rewarding job. I'm working to be the best I can be in my field of work, a goal that I'm always striving for."

Thank you, Dennis, for all of your hard work and dedicated

service. Your positive attitude, enthusiasm and sense of humor make you a joy to have here at DariTech. We're proud to have you on the team!



What's Hot?

Featuring the BeddingMaster 8-40

What's Hot? Bedding is, that's what. Rising costs and limited availability of sawdust and shavings has brought bedding issues front and center. At DariTech, nothing is hotter than our BeddingMaster. First introduced to you last summer with our 6-32 installation on Faber Dairy, the BeddingMasters are going out the door as fast as we can build them.

Right next door in Sumas, Art VanderWaal is the proud owner of a new 8-40. Equipped with an EYS 600HD screw press

separator, Art's BeddingMaster has been making quality bedding since November. The days of writing checks for shavings are now behind him.



The most recent BeddingMaster installation is in Mt. Vernon on the De Boer Dairy. With its EYS 800HD for increased capacity, Sid ought to be bedding his cows by the time you read this. With a new BeddingMaster being built every month, there's sure to be one in your neighborhood soon.

Give us a call to see how your dairy can be a part of the bedding Heatwave!

Manure Installations

Silver Stream Jerseys - Tillamook, OR

New free stall barn featuring Houle scrapers using LFS control panel for better cow sensing and safer operation.



Art Vanderwaal - Everson, WA

Art Vanderwaal started his new BeddingMaster 840, and is bedding over 1200 animals.



Surprise Creek Colony - Stanford, MT

Installation of new EYS SP600 separator and conveyor system to help with their manure management plan.



Livestock Line-up

Countryside Dairy - Ferndale, WA

Mike Schoneveld installs DariTech lock-ups along with rubber matting in the feed lanes.



Silver Stream Jerseys - Tillamook, OR

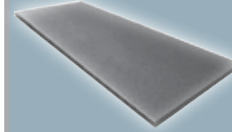
Shannon Lourenzo installs DariTech loops and lock-ups in his new free stall barn.



DariTech Animal Handling Equipment:



- **Calf Hutches**
 - Durable
 - Easy to clean
 - Blocks UV rays



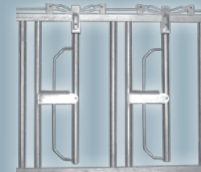
- **Stall Mattresses**
 - Reduce sawdust usage with Mayo Mats.



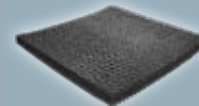
- **Tip Tanks**
 - Stainless Steel
 - Cleaner water means more milk



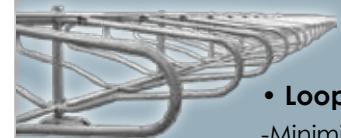
- **Cow-Brush**
 - Auto-reversing
 - Fractional 220v horsepower



- **Lock-Ups**
 - Heavy duty, hot-dipped galvanized



- **Rubber matting**
 - Cowlanes & holding pens.



- **Loop Stalls**
 - Minimizes interference in the lunge space



- **Fans**
 - Cooling & ventilation.

Bedding Vreugdenhil Farms

With this issue's focus on bedding, our featured installation is Vreugdenhil Farms' new sand lane. With the rising costs of shavings, the writing was on the wall. Cornie and Marty had to find another way to bed their cows. Faced with the choice of moving into either compost or sand, they turned to DariTech to help evaluate their options. Once they decided on sand, the design work proceeded.

We all know that sand has always been the gold standard for bedding. The challenge has been the increased handling costs associated with getting it out of the dairy. When considering a retrofit to an existing dairy, the infrastructure already in place needs to be examined. Does the dairy scrape or flush? Is the underground piping suitable for sand bedding? Can existing separation equipment be used with sand laden manure? Will the elevations at the dairy work for efficient transfer of manure?

The Vreugdenhils goal was to recycle as much of the sand as could practically be separated and sufficiently washed for reuse in the beds. By recovering the sand, they would eliminate the costs of continual replacement. In addition, without sand, the remaining manure is easier on equipment, and agitation for emptying the lagoon becomes much more efficient.

When settling sand, the best way to be sure you get it all is to first collect it without regard to the amount of manure solids that stay behind. We know that sand settles out in deltas in the first portion of a sand lane, much as it would on a beach. In a properly designed system, the manure solids can be washed away to the pit, leaving only clean sand. As with any dairy operation, simplicity is key, and the objective is accomplishing both separating and washing in one step.

With all of the above in mind, DariTech set out to design a sand separation system for Vreugdenhil Farms using a sand lane between the dairy and the reception pit. The existing flush system at the dairy was ideal for collection, as the flushed manure is carried through a tunnel to the sand lane. The tunnel is well suited for the task, as it is large enough to handle the volume, yet small enough to create the velocity required to move the sand laden manure. Further, the flush system provides all of the rinse water necessary to "wash" the sand, and carry the manure solids to the reception pit.

Moving to the back of the system, we took a look at solids separation, with an eye towards suitability with sand laden manure. As effective as the sand lane would be, we must assume that some sand will get through, and want to be sure we don't add avoidable separator maintenance costs. While DariTech's DT-360 is designed for sand laden manure, the existing side hill slope screen with stacking conveyor has gotten the job done for the Vreugdenhils for years. There was no requirement to make any changes there.

With the existing infrastructure well suited for sand bedding, most of what remained to be done was the design and construction of a sand lane between the dairy and the reception pit. DariTech designed a U-shaped lane with the proper slope and length to accomplish the twin goals of sand separation and washing in one step. Once the sand has collected in sufficient quantity, it can be scooped, stacked, and allowed to drain before reuse.

With some careful thought and a little work, Vreugdenhil Farms has been able to convert to sand bedding by using existing equipment. By recycling their sand, they've eliminated costly bedding bills with little additional maintenance costs, helping to improve their bottom line. DariTech is proud to have been a part of this project, and if you're thinking of changing the way you handle bedding, we invite you to call us to help you evaluate your options.





Cow Poop Dave © 2008 DariTech Inc.

Karl: Uh, Dave, we could have just pulled the hose?!

Barnyard Humor

Have you heard the story about the man that was helping one of his cows give birth?

When he noticed his 4-year-old son standing wide-eyed at the fence, soaking in the whole event the man thought, "Great... how am I going to explain all this to the mind of a 4 year old? I guess I'll just let him ask, and then I'll answer."

After everything was over, the man walked back to the barn with his son to clean up. After a long suspense, the man's curiosity overcame him. "Well son, do you have any questions?" He asked.

"Just one," said the young son, still deep in thought. "How fast was that calf going when it hit that cow?"

DariTech Contest

Contest not available online.

- Find the **correct** answer in the newsletter and be one of the first 10 to contact Jewel and receive a free Starbucks gift card!
- P: 360-354-6900 F: 360-354-7522 E: jewel@daritech.com

Used Equipment

SEPARATORS

- 6 FAN PSS2 780 Screw Press Separator.
- 3 FAN PSS 520 Screw Press Separator.
- 3 US Farms Side Hill Separators.
- 2 AG PRO Side Hill Separators.
- 1 BAUER Screw Press Separator.

PUMPS

- VAUGHN 8FT Electric Pump.
- DODA PTO AFI 35 Irrigation Pump.
- 5HP TSURUMI Submersible Pump.
- DODA PTO AFI 27 Irrigation Pump.

AGITATORS

- 2 ELECTRIC Pit Agitators.

Quality Manure Handling



Acurain irrigation reels

Diesel manure and irrigation pumps



Tankers

Injection Systems



SLURRYSTORE



Slurrystore tanks

DariLife

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DariTech Inc.

Lynden, WA

8540 Benson Rd.

Lynden, WA 98264



Lynden, WA

Service: (360) 354-6900

Fax: (360) 354-7522

8540 Benson Rd.

Lynden, WA 98264

Karl Wight

Sales

(360) 815-5296

karl@daritech.com

Dave DeWaard

(360) 815-5295

dave@daritech.com

Sunnyside, WA

Service: (509) 839-3100

Fax: (509) 837-6188

120 Warehouse Ave.

Sunnyside, WA 98944

Bryan Van Beek

Sales

(360) 410-1310

bryan@daritech.com

Dennis Hobbs

Service

(509) 391-0030

dennis@daritech.com

Rickreall, OR

Service: (503) 831-0409

Fax: (503) 831-0410

9525 Rickreall Rd.

Rickreall, OR 97371

Zach Tresch

Sales

(503) 991-6512

zach@daritech.com

Andy Ward

Service

(503) 991-6336

andy@daritech.com

Product Line Card

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Houle
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Electric Drive W/VFD
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Doda
NUHN Tankers

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PVC Piping
Irrigation Risers
Electric Water Pumps
Specialty Fittings
Diesel Water Pumps
P.T.O Water Pumps

LIVESTOCK HANDLING

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Lock-Ups
Loop Stalls
Calf Hutches
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Stall Mattresses
Plastic Paneling