

IT'S SPRING CLEANING TIME AGAIN! # 13**David R. Bray**

Now is the time to prepare for the long hot summer. I'm going to repeat this thing until you do these tasks

1. Clean out high organic matter dirt (MUD) in lots and add new dirt, especially in calving areas.
2. Clean out cooling ponds – pump out the water, and clean out the sludge and spread it someplace where the cows do not have access to it.
3. Let ponds sit dry for the sun to work on the bacteria. Mycoplasma and other nasty stuff live in ponds. You must clean them out at least once a year if you continuously add water to the pond. If you *DO NOT* continuously add water, you need to sample the ponds for Mycoplasma and pump and clean out the ponds once or twice during the summer.
4. Clean your fans. Dirty fan shields can reduce fan efficiency by 50%. You can purchase and install twice as many fans if you wish not to clean them. If cows are in the barn or holding area, run fans 24 hours a day. This not only moves air to cool cows, it also helps to remove moisture and dry the place out.
5. Make sure your sprinklers, foggers, etc, work. It was a cold winter; many pipes froze and/or broke, and dirty nozzles don't add much water. Check timers for the proper time for adding water. Constant water is not as efficient as intermittent sprinkling and saves water. Set your sprinkler thermostat at 75 degrees F or lower during the hot season. Sprinklers need to run at night because cows get hotter at night than daytime on those hot nights. To repeat the above message, you need timers to control sprinklers or you will waste great volumes of water.
6. Clean and rebuild your pulsators. Wash out and change the filters on your vacuum controller (unless you have a variable speed drive). Make sure all ATO's work.
7. Replace all milk hoses, wash hoses, pulsator hoses and jetter cup holders. Replace all rubber hoses that may be in the milk house that may add water to the pipeline and /or bulk tank wash. These hoses harbor Pseudomonas and Coliforms and can raise your bacteria count. If rubber hoses are used to wash udders, change them also.
8. Replace all of your floor mounted cow wash sprinkler nozzles once a year. Spring is a good time to do this. They not only clean cows, they cool cows also.
9. Clean your condenser fins on your milk coolers. Dirty fans cut down cooling and efficiency and you get warmer milk at higher electric costs.
10. Mow and spray careless weeds in pastures.
11. Cull your chronic mastitis cows now. It will lower your cell count and your help is sick of treating them.
12. Clean out the back half of your free stalls at least 10-12" deep and add new sand.
13. Keep a smile on your face. People will wonder what you are up to.

To learn more about spring cleaning, contact Dave Bray at drbray@ufl.edu or call (352) 392-5594.

DAIRY BREEDING SURVEY SUMMARY**Mary Sowerby**

A Breeding Methods Survey was given to all dairy producers attending the December 11, 2007 SMI Board Meeting. Many thanks to the producers who returned their surveys. Following is a summary of information returned:

- 18 herds from Florida responded; one herd each from the Panhandle and Central FL; 8 herds each from North and South FL.
 - Average # cows/herd = 2017 (range 350 to 8700 from 18 herds).
 - Average # heifers/herd (raised by owner or someone else for owner) = 1597 (range 175 to 8000 from 12 herds).
 - Of the herds reporting both cow and heifer numbers, there was an average of 66% number of heifers to number of cows.
- Of the 18 herds from Florida who responded, 15 were breeding by AI currently.
 - 11 herds bred year around.
 - Most of those breeding seasonally avoided calving during the summer months.

- 7 herds bred their cows only during natural heats. The rest used some form of synchronization.
- 10 herds reported winter and summer cow conception rates. They averaged 32.4% in the winter (range 24 to 45%); 16.5 % in the summer (range <10 to 25%).
- 3 herds tried gender-biased semen on cows. Reported results:
 - Conception rate of 35% in winter with a 65% female calf crop from Accelerated semen.
 - 2 herds used Select sexed (90% female crop) semen; 1 reported 15-20% conception rate; neither had calves born yet from this gender-biased semen.
- 13 herds reported breeding heifers by AI; 6 have used gender-biased semen. 6 herds reported breeding heifers only on natural heat; 4 synchronized; 1 herd used both methods.
- Conception rates of heifers using regular semen averaged 63.5%.
- 4 herds reported conception rates for both conventional and gender-biased semen:

	Conventional	Gender-biased
(Select)	70%	40%
(Select)	60%	45%
(Select)	85%	70%
(Accelerated)	65%	60%
- 3 herds reported calf crop sex percentages from gender-biased semen of: 90 and 95% heifers using Select semen; 65% heifers using Accelerated semen.

Observations: improving the overall conception rate in Florida would be of major benefit to all dairy producers for providing adequate herd replacements. AI representatives report many producers are currently buying gender-biased semen for more female offspring. The limited data above would indicate the calves resulting from gender-biased semen are coming in the female to male ratios the bull studs are advertising. Lower conception rates (and therefore greater time to calving), higher priced semen, and often lower genetic value of the bulls available with gender-biased semen, are all factors which need to be considered in the equation for using gender-biased semen.

Mary Sowerby is a UF Regional Dairy Extension Educator based in Live Oak, FL. Reach her by email, meso@ufl.edu, or call (386) 362-2771.

FLORIDA STUDENTS COMPETE AT SEVENTH NORTH AMERICAN INTERCOLLEGIATE DAIRY CHALLENGE

Albert De Vries

Four University of Florida students interested in dairy science participated in the 7th North American Intercollegiate

Dairy Challenge (NAIDC), held April 4-5, in the Madison, Wisconsin area. Hosted by the University of Wisconsin-Madison, the event attracted a record number of 32 teams (128 students) from the United States and Canada, challenging them to put their textbook and practical knowledge to the ultimate test – analyzing dairies. The contest started with a walk-through at the dairies, followed by the opportunity to ask questions of the owners and analyze farm-specific data. Student teams used this information to develop management recommendations, and then presented their management recommendations to the herd owners and a panel of five dairy industry judges. An awards banquet completed the two-day event.

The Florida team, consisting of Diane Tearney, Hamilton Bishop, Adam Lichti and Judd Sims, received a Gold award for their efforts. Earlier, the team had practiced at DPS-Branford.



The Florida participants at the 7th North American Intercollegiate Dairy Challenge in Madison, WI. From left, Judd Sims, Diane Tearney, Hamilton Bishop, Adam Lichti, and Albert De Vries (coach)

Supported financially through generous donations by industry and coordinated by a volunteer board of directors, the first NAIDC was held in April 2002. In 2009, the NAIDC will be held March 29-30, in Syracuse, NY. The third Southern Regional Dairy Challenge is planned for November 20-22, 2008 in Statesville, NC. For more information about NAIDC, log on to www.dairychallenge.org or contact Albert De Vries, devries@ufl.edu, (352) 505-8081.

MR. SANDMAN (RECYCLED)

David R. Bray

In my quest to improve my knowledge of the Dairy Industry, I went to the Sand Solution Conference in Wisconsin the week before Thanksgiving. This trip might have been more pleasant in the summer.

I was interested in what happens in the area of recycled sand and mastitis, and different ways of sand separation. Sand was separated from the manure by big screws on the dairy we visited and many neat innovations are being used to clean sand and the water used to separate the sand from the manure. This

equipment looks expensive and has to be protected from freezing. Our long flush lanes make sand separating much easier.

What I did learn was, you need coarse sand to separate sand from manure with big screws. They prefer concrete sand, ASTM C33, because it has a large particle size which is needed for the big screws to pick up the sand out of the water. This is also the choice for bedding because smaller sand particles pack tighter together and don't drain well and increase the bacterial levels of the bedding. The reason for the coarse sand being preferred for mastitis reduction is coarse sand does not pack like fine sand. Our Florida sand is very fine and packs and doesn't drain. Many people have done bacteria loads in sand bedding, including us, and the results are all about the same.

Why do we bed with sand?

1. Its inorganic and does not support bacterial growth.
2. Cool in the summer, wicks moisture away from the cows skin.
3. Provides a soft place to lay.
4. Provides a secure surface for a cow to get up and down.

If sand is inorganic why does it have bacteria in it?

1. New sand comes from the ground. There are always bacteria in nature.
2. The cow is organic and has bacteria on her skin. Klebsiella, coliforms, streps and many other bacteria live in the gut and get on the body and are transferred to the sand.
3. Leaking milk may add bacteria but sure supports bacterial growth.
4. Recycled sand is washed with water either flush water or other water and it should have less than 1 % organic matter in it. Klebsiella and all these bad boys are in recycled flush water, that get in the beds due to foot traffic if cows are in the barn during flushing.

What levels of bacterial concentration will increase a cow's chances of getting mastitis?

1. Most people are worried about the environmental bacteria, with the coliforms being the biggest worry. Cows die from the Klebsiella, E. Coil's no matter what type of milking procedures you try. The streps seem to be controlled with a good pre milking sanitation.
2. The old rule of thumb has been that with a coliform count be under 1,000,000 CFUs per ml you should be safe. Our experience has been that we have seen big problems in that range. Wisconsin workers suggest this be 100,000 CFUs per ml.
3. Obviously bacteria multiply faster in warm temperatures. That's why mastitis is higher in the summer or most of the year in the Southeastern US.
4. Recycled sand will have more organic matter (1%) than fresh sand so it will have faster bacterial growth than new sand.
5. For these reasons, in most cases re-bedding every 4 days or twice a week and leveling and fluffing stalls every milking or at least once a day will keep you in the safe range.

When should I remove all material in the back half of the stalls?

1. It should be removed when coliform counts hit 100,000 CFUs per ml, but in the Southeast at least twice a year (in April and October).
2. If you have real fine sand and it packs quicker, you may have to do it sooner.
3. I use a flat sided soil sampler that the side hinges up and you can see the wetness, color and texture for about 8" down. You can compare this to the front of stall. It's pretty obvious, the smell will tell you.
4. A clam shell post-hole digger or a shovel will also do the job.

Overlooking the obvious: In all the years I have taken sand samples I have never written down how to take sand samples. Thanks to Dr. Nigel Cook from the UW Veterinary School for putting this in writing.

Methodology for collection of Bedding Culture Samples:

1. Wear latex gloves.
2. Sample the rear of approximately 10 stalls per pen – grabbing grossly uncontaminated bedding from the location of the udder.
3. Mix in a gallon Ziploc bag, sub-sample and freeze overnight.
4. Always compare used sand with fresh sand samples for a base-line.
5. Ship to the lab on ice.

DHI PEAK MILK

Daniel W. Webb and John Clay

Peak milk production is the highest recorded test day milk production in a cow's first 150 days of the lactation. In PCDART, a cow must be in milk 100 days or more to have a value for peak milk. Early lactation cows have a peak value of 0 until the first test-day after 100 days. By waiting 100 days, only one value will be identified as peak milk. All test days from 7 to 150 days in milk will be used to determine peak. Peak milk production is an indication of how well the cow responded to feeding and management during the dry period, calving and early lactation periods. For first lactation cows, it provides excellent insight into the heifer development program and how well heifers have adjusted to the milking herd. Transition cow management has become a critical challenge for today's dairies. Peak milk and when it occurs affords a realistic indicator of how well the manager handles these cows. Although peak milk production usually occurs prior to day 100, there is a specific optimum day-in-milk when peak milk production should occur for most cows. Since most herds do not record milk weights every day, it is unlikely that peak milk is recorded on the day that milk production actually is the highest. However, by evaluating records for groups of cows, proper analysis is still possible.

Standard Curves

DRMS uses standard lactation curves to identify when a cow should have peaked. More than 1 million lactation records were used in research to determine the standard days-

in milk for peak milk. The standard curves were established for:

- Six seasons: Jan-Feb, Mar-Apr, May-Jun, Jul-Aug, Sep-Oct and Nov-Dec.
- Three ages: first lactation, second lactation and third+ lactations.
- Two breed groups: Ayrshire-Brown Swiss-Holstein and Guernsey-Jersey.

This research purposely used production records from cows not receiving rBST. Examples of standard days-in-milk at peak milk for first lactation Holstein cows are:

- January or February calving month = 70 days
- May or June calving month = 61 days
- September or October calving month = 85 days

The above list indicates that first lactation cows that calve in May or June are expected to peak 24 days sooner than first lactation cows that calve in September or October. This earlier peak milk evidently results from the seasonal effects of heat and humidity stress on cows that calve at the beginning of summer.

PCDART Database Items

PCDART provides three database items to evaluate peak milk production:

- 107 = Peak milk
- 147 = Days in milk at recorded peak
- 148 = Deviation in days in milk at peak (observed minus standard)

Please note that the standard curves were only used to determine the standard days-in-milk at peak. All other values are dependent on the cow's recorded information. Also it should be pointed out that herds with irregular or long test intervals will have less reliable peak milk values.

Examples

PCDART examples below illustrate a beginning analysis of peak milk for three herds with averages for three groupings (lactation 1, lactation 2 and lactations 3+). Peak milk in the first two herds occurred much later than expected - 17 and 26 days later, respectively. However, it seems that the third+ lactation cows in Herd 1 peaked sooner, relative to the first and second lactation cows. An analysis of the individual cow records may provide clues to the reasons. In both herds, the first lactation cows peak later than expected, relative to the older cows. In Herd 3, days-in-milk at peak occurred closer to expected (+3 days). However, the second lactation cows peaked earlier (-9 days) than expected.

002 - PEAK MILK ANALYSIS FOR HERD 1

Peak	Peak	T.D.	Peak	DIM	Lact
Milk	DIM	Ob-St	No.		
86.6	93	+21	1		
109.3	69	+15	2		
122.3	66	+13	3+		

104.5	77	+17	All		



002 - PEAK MILK ANALYSIS FOR HERD 2

Peak	Peak	T.D.	Peak	DIM	Lact
Milk	DIM	Ob-St	No.		
89.3	102	+30	1		
106.3	75	+22	2		
105.0	75	+21	3+		

98.4	87	+26	All		

002 - PEAK MILK ANALYSIS FOR HERD 3

Peak	Peak	T.D.	Peak	DIM	Lact
Milk	DIM	Ob-St	No.		
69.8	74	+3	1		
79.5	46	-9	2		
84.7	60	+9	3+		

79.0	60	+3	All		

While these examples may be different in every herd, this method can be useful to evaluating your herd.

John Clay is director at DRMS in Raleigh, NC. Contact Dan Webb at (352) 392-5592, or dwwebb@ufl.edu.



UPCOMING DAIRY MEETINGS

- The **45th Florida Dairy Production Conference** is scheduled for Tuesday **April 29, 2008**. Location will again be the Hilton University of Florida Conference Center in Gainesville, FL. Contact Albert De Vries, devries@ufl.edu, (352) 392-5594, for more information.
- New this year is an **Open House at the Dairy Research Center** in Alachua on Wednesday morning **April 30, 2008**. Come and see what is going on at the DRU. Contact Albert De Vries, devries@ufl.edu, (352) 392-5594, for more information.
- UF/UGA **Corn Silage and Forage Field Day** is planned for Thursday **May 29, 2008** at the Plant Science Research and Education Unit, Citra, FL. Program: visit www.animal.ufl.edu, click on Department Calendar. For additional information contact Jerry Wasdin, (352) 392-1120 or jwas@ufl.edu.
- The annual Florida **Dairy Business Conference** is planned for Monday **September 8, 2008**. Location will be the Marion County Extension Office in Ocala. For more information, contact Russ Giesy, giesyr@ufl.edu, (352) 793-2728 (office).

For registration information, agendas and other meeting details, visit the Florida Dairy Extension site at <http://dairy.ifas.ufl.edu> or contact Albert De Vries, devries@ufl.edu, (352) 505-8081.