

## It's Spring Cleaning Time Again! #16

David R. Bray

Now is the time to prepare for the long hot summer:

1. **Clean** out high organic matter dirt (MUD) in pastures and lots and add new dirt, especially in calving areas.
2. **Clean** your barn cooling fans now and whenever they look dirty. Dirty fan shields can reduce fan efficiency by 50%. 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.
3. **Make** sure your sprinklers, foggers, etc, work. It was a cold winter and many pipes froze and/or broke. 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. You need timers to control sprinklers at night, so they only run when cows are eating and standing at the feed line. Running sprinklers when cows are in the stalls will waste great volumes of water and raise the humidity in the barn.
4. **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 ATOs work. Believe it or not, dealers do sell new pulsators.
5. **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.
6. **Check** every cow in the herd for blind quarters. Band the cow's legs so they are not milked. This will lower your SCC and SPC. Consider drying off or killing these quarters.
7. **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. Several short wash cycles are more efficient and use less water.
8. **Check** the pipeline and bulk tank chemical concentrations. If you change brands or suppliers, they may need to be checked. With new LPC concerns, this is important.

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. If they are by a dusty area, concrete the area to keep the dust off the condensers.
10. **Mow** and spray careless weeds in all pastures; calves, heifers, dry cows.
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 third to half of your free stalls at least 10 to 12" deep and add new sand. Keep your stalls bedded every 4 to 5 days and groomed daily.
13. **Clean** out cooling ponds. Pump out the water, clean out the sludge and spread it someplace where the cows do not have access to it.
14. **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 clean out the ponds once or twice during the summer.
15. **Keep** a stiff upper lip. If you made it through last year, you can make it through this year.
16. **Clean** out your mind, go visit other dairies. Some of them are doing amazing things and others are not. You can get new ideas or be glad you don't own some of them.

Contact Dave Bray at [drbray@ufl.edu](mailto:drbray@ufl.edu) or call (352) 392-5594 ext. 226 for more spring cleaning advice.

## Effects of Different 'Combo' Inoculants on the Quality of Bermudagrass Haylage

Gbola Adesogan, Oscar Queiroz, Kathy Arriola, Juan-Jose Romero, Evandro Muniz, Joseph Hamie, Miguel Zarate, and Jan Kivipelto

Few previous studies have examined if inoculant application can improve the quality of bermudagrass haylage or silage. To our knowledge, no previous study has examined how the fermentation and quality of bermudagrass haylage is affected by the newer 'combo' inoculants sold by different companies. Older inoculants targeted either only the front phase of silage production (by increasing acidification during fermentation in the silo) or the back phase (by improving bunk life during feedout). Combo inoculants have bacteria that target both the front and back phases of silage production. This project aimed to compare effects of four

inoculants from two companies on the fermentation, aerobic stability, and quality of Tifton 85 bermudagrass haylage that had been ensiled in round bales.

A 4-week regrowth of Tifton 85 bermudagrass was harvested and treated with nothing (Control) or Buchneri 500 inoculant (B500, containing *Lactobacillus buchneri* and *Pediococcus pentosaceus*) or Biotal Plus II inoculant (BP11, containing *Pediococcus pentosaceus* and *Propionibacteria freudenreichii*) or Silage inoculant II (SI, containing *Lactobacillus plantarum* and *Pediococcus Pentosaceus*) or SiloKing inoculant (SK, containing *Lactobacillus plantarum*, *Enterococcus faecium*, and *Pediococcus pentosaceus*). The first three inoculants are from Lallemand Animal Nutrition and the last one is from Agri-King. One of the main purposes of adding inoculants is to rapidly reduce the pH to about 4 to prevent the growth of spoilage organisms.

In this trial, the rate of pH decrease during storage was greatest for B500, followed by BP11 and SI but SK and the control had similar rates. No difference was found among treatments in fiber (NDF) digestibility or shrinkage (DM losses). All inoculant treatments reduced protein degradation (measured by ammonia release) except SI. Inoculants B500 and SI had lower mold counts than other treatments. Inoculants B500, BP11, SI, and SK improved bunk life by 195%, 161%, 162%, and 75%, respectively compared to the Control.

We concluded that the inoculants had different effects on the fermentation of bermudagrass haylage. All inoculants improved the aerobic stability of bermudagrass haylage but some were more effective than others.

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used the data to obtain estimates of the heritability of rectal temperature.

Heritability is an estimate of how much animals vary from each other because of differences in genetics. The heritability of rectal temperature was found to be 0.21, which means that 21% of the variation between cows in rectal temperature was due to differences in genes between the cows. By comparison, the heritability of milk yield was 0.36 and the heritability of productive life was 0.16. The heritability of rectal temperature is high enough that you could expect to improve resistance to heat stress by selecting for rectal temperature in the summer. It is also likely that the bovine gene chip currently available for genetic testing of cattle could be used to speed up the rate of progress in selection for rectal temperature.

Our team also found that there was no genetic correlation between rectal temperature and milk yield but that cows that were genetically more likely to have low temperatures in the summer were also slightly more likely to have genes that improved somatic cell counts, productive life, daughter pregnancy rate and net merit. What this means is you can select for rectal temperature without selecting for low milk yield and can expect some slight improvement in genetic merit for health and reproduction traits.

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## Resistance to Heat Stress is Under Genetic Control

Peter Hansen

One of the major factors limiting optimal production and profitability in Florida is heat stress. During the summer, cows experience declines in milk yield of 15-20% and reductions in conception rate to values as low as 10%.

Recent research supported by the Southeast Milk Inc. Dairy Checkoff Program indicates that a cow's ability to regulate its body temperature and prevent the negative effects of heat stress on cow function is determined in part by its genetics. What that means is it should be possible to select cows genetically that are more resistant to the effects of heat stress.



**Southeast Milk, Inc.  
Dairy Check-Off**

Serdal Dikmen, a visiting scientist from Uludag University in Turkey, conducted the research on three dairies in north Central Florida. During the months of June – September, Dikmen measured rectal temperatures of lactating Holstein cows housed in free stall barns between the hours of 3:00 and 5:00 PM, when body temperature is highest. Over the course of 2 years, he recorded values from 1695 cows that were sired by 509 different bulls. Working with John Cole of the USDA Animal Improvement Laboratory and myself, he

## UF Dairy Science Club Hosted Southern ADSA Student Affiliate Division Meeting

Mary Sowerby

What do you get when you congregate over one hundred dairy club members from ten southeastern universities at the University of Florida in Gainesville on a beautiful late February weekend? Answer: Competitive dairy quiz bowl, research paper presentations, and club chapter competitions; informative tours; fun times; and lots of new friends.

One hundred two dairy club members and their advisors from ten southeastern universities met in Gainesville, FL, February 24-26, 2011, to participate in the Annual Meeting of the Southern Branch of the American Dairy Science Association - Student Affiliate Division (Southern ADSA-SAD). Members of the University of Florida Dairy Science Club hosted, with Candy Munz chairwoman of the event.

Participating universities included: Clemson, Louisiana State, Mississippi State, North Carolina State, Southern Illinois, Florida, Georgia, Kentucky, Virginia Tech and West Virginia.

University of Florida students started things off Thursday evening by climbing into the vans of visiting universities to guide a campus tour which concluded with dinner, personality “true color” tests, and a cow building contest held at the UF Horse Teaching Unit. On Friday, the undergraduate paper and activity symposium presentations were given, followed by the Dairy Quiz Bowl contest. A visit to the Florida Museum of Natural History, featuring a History of Florida Cattle exhibit, capped the day, followed by dinner and Minute-to-Win-It competitions.

Tours of Southpoint grazing dairy, North Florida Holsteins, and the University of Florida Dairy Unit kept students busy on Saturday. The meeting climaxed at the evening Awards Banquet where Virginia Tech was awarded Outstanding Student Chapter and victor of the Dairy Quiz Bowl, Jake Anderson from LSU was named Outstanding Student Affiliate Member, and his advisor, Cathy Williams was named Outstanding Club Advisor.

Many thanks to Ron St. John, Charlie Smith, Pete Hetherington and the Southpoint crew for opening the eyes of many students to the concept of intensive rotational grazing; to Don Bennink, David Temple and all at North Florida Holsteins for showcasing ways to keep cows comfortable in confinement through Florida heat and humidity; and to Jay Lemmermen, Eric Diepersloot and all at the IFAS Dairy Unit for the opportunity to show off UF’s research and teaching dairy farm.

Contact Mary Sowerby at [meso@ufl.edu](mailto:meso@ufl.edu). Mary Sowerby is the advisor of the UF Dairy Club and an advisor of the national ADSA Student Affiliate Division.



## Hospital Barn Procedures

David R. Bray

The hospital herd can be milked in a separate parlor on some dairies or in the main parlor on other dairies. The choice is yours. Being in the hospital herd is stressful enough: new roommates, new place to eat and drink and guess what, and usually a new way to be milked.

**The Parlor.** We have devised milking schemes to milk clean dry udders to get the milking units on the cows about one minute from the start of stimulation to get maximum milk out. This allows the cows to get back to their stalls within a 1 hour time limit.

**The hospital herd production** (no matter where the cows are housed). Everything changes when the hospital herd is milking. We must break the line so no antibiotic or bad milk gets into the tank. Wash the walls and the floors a little bit. Since the hospital herd often is far away and those lame cows don’t move fast, we go out a little early to start the cattle drive to the parlor. They stand all bunched for an hour while finishing the herd cows. We then break the line, get the hospital list to see who is in the parlor and find the supervisor who leads the production. With the cows finally in the parlor, the milking begins. A guy in a clean cap and shirt and pants enters the parlor with a clipboard, followed by some guy with dirtier clothes, followed by an exhausted guy who already

milked a shift. They start with the first cow. Mr. Clean looks at his clipboard. The second guy looks at the cow and squirts a little milk out of each quarter and third guy squirts more milk. They all talk about how the cow is and what will be done. The same thing is done to the next cow. This procedure may take about an hour before the units are hung on this side. They move to side two where the same thing is done again. We now have hung a machine on a sick cow with no stimulation, so she is not going to milk out because this does not resemble her milking routine. Now they go back to these cows and do treatments.

**Proper mastitis treatment procedures** (If you can’t be good at least be sanitary).

1. Everyone who touches an udder wears gloves that are sanitized between each cow and dried with a clean towel. If milk samples are taken, label the bottle with the necessary information.
2. Wash and dry the udders and teats and pre-strip them.
3. Sanitize the teats to be sampled. Sanitize the teats away from you first with alcohol pads. Allow alcohol to dry because alcohol kills by drying, so a big globe of alcohol on the teat is not good.
4. Open the bottle, then sample the teats closest to you so not to get your arms on clean sanitized teats.
5. Squirt milk in the bottle and close the bottle immediately. Sample other teats if needed on that cow.
6. Keep samples in a cooler and covered to keep the bottle clean before and after sampling.
7. Contaminates are airborne, even mycoplasma, so turn off fans while sampling if it’s breezy in the pit.

Treatment procedures:

1. Sanitize and dry gloved hands.
2. Clean teats to be treated as in above.
3. Use partial insertion tips if possible.
4. Massage drug in the udder.
5. Dip teats after done.
6. Write down what was done to each cow and record when the cow’s milk will be safe to go in the tank.

Other concerns:

1. Are you following treatment instructions?
2. Treating at proper intervals: 12 hours or 24 hours?
3. Use correct doses.
4. If exceeding label directions. Are you sure you have the proper withdrawal time?
5. Has your veterinarian been consulted about your treatment choices and procedures? They should be advising you on treatment choices and procedures, not the head milker or some guy who writes articles in magazines.

**Results.** Lame cows get lamer because of standing on concrete for two hours. The mastitis cows are not milked out because they had no let-down. These cows have to return to their part time home and lay down because they are exhausted, hot and miserable. They don’t eat and then get digestive problems. DO YOU KNOW WHAT YOUR HOSPITAL HERD ROUTINE IS?

Contact Dave Bray at [drbray@ufl.edu](mailto:drbray@ufl.edu) or call (352) 392-5594 ext. 226 for more on hospital barn procedures.

## Florida Students Participated in the 10<sup>th</sup> North American Intercollegiate Dairy Challenge

Albert De Vries and Mary Sowerby

The UF Dairy Challenge team won a silver placing in the Tenth Annual North American Intercollegiate Dairy Challenge (NAIDC) held March 31 – April 2 in Hickory, N.C. The event was co-hosted by North Carolina State University and Virginia Tech, with 30 teams from the United States and two teams from Canada competing. The team from UF consisted of Kara Alexander, Lauren Ellison, Stephanie Kirchman and Amanda Reeg. Mary Sowerby and Albert De Vries coached the team.

NAIDC is an innovative two-day competition for students representing dairy science programs at North American universities. It enables students to apply theory and learning to a real-world dairy, while working as part of a four-person team. In its 10 year history, NAIDC has helped train over 3000 students through the national contest and four regional contests conducted annually.

Day One of NAIDC began with each team receiving information about a working dairy, including production and farm management data. After an in-person inspection of one of four designated dairies, participants interviewed the herd managers. Then, each team developed a farm analysis and presentation materials, including recommendations for nutrition, reproduction, milking procedures, animal health, housing and financial management.

Day Two was presentation day. Team members presented recommendations and then fielded questions from a panel of judges. These official judges included dairy producers and industry experts in dairy finances, reproduction, nutrition and animal health. Presentations were evaluated, based on the analysis and recommendations. The evening concluded with a reception and awards banquet.

The UF students said they enjoyed the event and that they learned a great deal about dairy farm evaluation, presenting, and the interactions with students from other schools and sponsors.

The North American Intercollegiate Dairy Challenge was established as a management contest to incorporate all phases of a specific dairy business. It strives to incorporate a higher-learning atmosphere with practical application to help prepare students for careers in the dairy industry. Supported financially through generous donations by agribusinesses and coordinated by a volunteer board of directors, the first NAIDC was held in April 2002. Dairy Production Systems, High Springs, FL, is a platinum sponsor of the NAIDC.

UF Dairy Science students have been participating in the annual NAIDC events since 2002. Teams have traveled to events in Michigan, Pennsylvania, Wisconsin, Idaho, California and now North Carolina. UF was also a founding school when the Southern Regional Dairy Challenge was created in 2006, a spinoff of the NAIDC event. Southern Regional events are limited to students from schools from the South(east) where aggregate teams focus a bit more on learning than on competition. UF will host the upcoming 6<sup>th</sup> Southern Regional Dairy Challenge in Live Oak, FL, on November 17-19, 2011.

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*The UF team at the 10<sup>th</sup> North American Intercollegiate Dairy Challenge in Hickory, NC. Standing from left: Amanda Reeg, Kara Alexander, Lauren Ellison, and Stephanie Kirchman. Sitting: Albert De Vries and Mary Sowerby, coaches.*

### 2010 DHIA Production Recognition of High Florida Herds\*

Producer	City	Milkings	RHA Milk
WHITE OAK DAIRY	MAYO	3X	25,543
BRANDY BRANCH DAIRY	BALDWIN	3X	23,287
D.P.S. BELL	BELL	3X	22,903
JEFFCO DAIRY	QUITMAN	3X	22,873
LARSON DAIRY #5	OKEECHOBEE	3X	22,856
NORTH FL HOLSTEINS	BELL	3X	22,759
D.P.S. BRANFORD	BRANFORD	3X	22,573
BRIAN MCADAMS	MAYO	3X	22,547
SUWANNEE DAIRY INC	MC ALPIN		22,474
ELJIM DAIRY	GRANDIN		22,351
IFAS DAIRY UNIT	GAINESVILLE		21,901
SHIVER DAIRY	MAYO		21,754
MILK-A-WAY	WEBSTER		21,187
SHENANDOAH DAIRY	LIVE OAK		21,157
ATR DAIRY LLC	MAYO		20,351
WALKER & SONS FARM	MONTICELLO		20,335
T.K. HATTEN DAIRY INC	BROOKSVILLE	3X	20,119

\* Production as of September 30, 2010.

For more Southeast DHI summary statistics, see the appendix of the 2011 Florida Dairy Production Conference proceedings, on-line at <http://dairy.ifas.ufl.edu>.

### 2011 Ruminant Nutrition Symposium Proceedings Online

The 22<sup>nd</sup> Ruminant Nutrition Symposium was held February 1-2, 2011 at the Best Western Gateway Grand in Gainesville. The symposium included 12 speakers and attracted more than 150 participants. The proceedings are now online at <http://dairy.ifas.ufl.edu>.



## 2011 Dairy Production Conference Proceedings Online

The 47<sup>th</sup> Florida Dairy Production Conference was held March 30, 2011 at the Best Western Gateway Grand in Gainesville and attracted 120 participants, among them dairy producers, dairy employees, allied industry representatives, and dairy science students. The Proceedings are now online at the UF Dairy Extension site at <http://dairy.ifas.ufl.edu>. For more information, contact Albert De Vries, [devries@ufl.edu](mailto:devries@ufl.edu), or call (352) 392-5594 ext. 227.



### Prediction of the Future Florida Mailbox Price: May 2011 - April 2012

Albert De Vries

Using the Class III future settle prices of April 8, 2011 and a University of Wisconsin formula based on historical prices for the association between the Class III price and the Florida mailbox price, we predict the Florida mailbox price for May 2011 to April 2012 as follows:

Month	Year	Class III settle price*	Predicted Florida mailbox price
May	2011	17.08	19.85
June	2011	17.34	20.08
July	2011	17.70	21.83
August	2011	17.88	21.99
September	2011	17.95	22.06
October	2011	17.65	21.88
November	2011	17.00	21.30
December	2011	16.88	21.20
January	2012	16.40	20.23
February	2012	16.08	19.95
March	2012	16.01	19.88
April	2012	17.08	18.86

Class III settle price as of April 8, 2011.

For more information, contact Albert De Vries, [devries@ufl.edu](mailto:devries@ufl.edu) or (352) 392-5594 ext 227.

### Dairy Extension Agenda

- The 2011 UFL/UGA **Corn Silage and Forage Field Day** is planned for Thursday June 16, 2011 at the University of Georgia Tifton Campus, Tifton, GA. Contact Jerry Wasdin at [jwas@ufl.edu](mailto:jwas@ufl.edu).
- Monthly **Risk Management Workshops** for dairy producers and others are held in the Lafayette County Extension Office, Mayo, FL. Contact Mary Sowerby at (386) 362-2771 or [meso@ufl.edu](mailto:meso@ufl.edu).

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