

FLORIDA STUDENTS PARTICIPATED IN THE FIFTH NORTH AMERICAN INTERCOLLEGIATE DAIRY CHALLENGE

Albert de Vries

A team of UF students participated in the 5th North American Intercollegiate Dairy Challenge (NAIDC) in Twin Falls, ID, on March 31 and April 1, 2006. This year's contest was hosted by Washington State University and the University of Idaho. The NAIDC was established by universities and the allied industry to challenge students in recall of basic dairy management principles and their practical application, while testing organizational, time management, data analysis, public speaking, leadership and teamwork skills.

The event attracted 27 teams from leading dairy science programs in the United States and Canada. The UF team consisted of Angela Robinson, John Legg, Emma Ivarsson, and Heather Yerby. Coach was Albert de Vries.

Day One of the NAIDC began with each team receiving information about one of the 3 participating dairy farms. After an in-person inspection, the students 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 to a panel of judges from the allied dairy industry and then fielded questions from the judges. Presentations were evaluated, based on the analysis and recommendations. The evening concluded with a reception and awards banquet. The Florida team did fine and obtained a silver award.

In addition to the competition, the UF team visited the Jerome cheese plant, several dry-lot and freestall dairy farms, and a calf raising operation in the area. We were impressed with the size and growth of the Idaho dairy industry.

The NAIDC gives students and sponsors plenty of opportunity to interact and many students are recruited for internships or jobs. Experiences from the NAIDC are used to improve the UF undergraduate dairy program to help prepare our students as well as we can for a career in the dairy industry or elsewhere.

Generous support from many agribusinesses makes the Dairy Challenge possible. Southeast Milk, Inc., supported the Florida team by a milk check-off grant to help with travel costs. Thank you for your support!

In 2007, the national Dairy Challenge will be held March 30 and 31 in Sioux Falls, SD. A Southern Regional Dairy Challenge is planned for November 20-21, 2006 in Virginia.

NORTH AMERICAN INTERCOLLEGIATE
Dairy Challenge
TOMORROW'S DAIRY LEADERS

The format of the Regional Dairy Challenges is similar to that of the national competition, but the focus is more on learning and practice.



For more information about the Dairy Challenge, contact Albert de Vries, (352) 392-7563, devries@ufl.edu, or go to www.dairychallenge.org.

The 2006 University of Florida Dairy Challenge team. Standing: Albert de Vries, Angela Robinson, and Heather Yerby. Sitting: Emma Ivarsson and John Legg.

IT'S SPRING CLEANING TIME AGAIN! # 12

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 some place 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 ATOs 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. Dip the dogs to keep the fleas out of your pick-up truck and your bed.
13. Keep a smile on your face. People will wonder what you are up to.

Contact Dave Bray at bray@animal.ufl.edu or call (352) 262-6586.

43rd FLORIDA DAIRY PRODUCTION CONFERENCE

The 43rd annual Florida Dairy Production Conference will be held at the UF Hotel and Conference Center in Gainesville, Florida, on Tuesday, May 2, 2006. Program:

Tuesday, May 2, 2006

AM

9:00 **Registration**

Presiding – *Russ Giesy*, UF/IFAS Dairy Extension

9:45 **Welcome** – *Dr. Glen Hembry*

10:00 **The South CAN Rise Again** – *Jim Dickrell*, Editor, Dairy Today, Monticello, MN

10:45 **Genetics for the Future Southeast Dairy Industry** – *Marjorie Faust*, Director of External Research, ABS Global, Inc., DeForest, WI

11:30 **Supply of Milk to Southeast Markets** – *Calvin Covington*, CEO, Southeast Milk, Inc., Belleview, FL

12:00 **Luncheon**

Presiding – *Charlie Staples*, UF/IFAS Animal Sciences

1:15 **Using RFID for Dairy Cattle Management** – *Dan Webb*, Professor, Department of Animal Sciences, University of Florida, Gainesville, FL

1:45 **Economic Considerations of Sexed Semen on Your Dairy** – *Michael Overton*, Associate Professor, College of Veterinary Medicine, The University of Georgia, Athens, GA

2:30 **Ranking Dairy Cows for Optimal Breeding Decisions** – *Albert de Vries*, Assistant Professor, Department of Animal Sciences, University of

Florida, Gainesville, FL

3:00 **Refreshment Break**

3:30 **How to Optimize Corn Silage Quality in Florida** – *Adegbola Adesogan*, Associate Professor, Department of Animal Sciences, University of Florida, Gainesville, FL

4:00 **Future of Milk Production in Florida** Producer Panel, Participants: *L.E. “Red” Larson, David Sumrall, Ed Henderson, Joe Wright*. Moderator: *Jim Dickrell*

5:00 **Adjourn**

Wednesday, May 3, 2006

AM

9:00 **PCDART Workshop** – *Dan Webb*, Professor, Department of Animal Sciences, University of Florida, Gainesville, FL

12:00 **Adjourn**

Registration. Registration for the Dairy Production Conference includes the program, one copy of the proceedings, refreshment breaks, and the luncheon. The early registration fee is \$65 for fees postmarked on or before **April 21, 2006**. The regular registration fee is \$80 for fees postmarked after April 21, 2006, or at the door. To register, please visit the website <http://dairy.ifas.ufl.edu>.

Advance registration for the PCDART Workshop on Wednesday May 3rd, 2006, is requested since space is limited. Please email dore@animal.ufl.edu or call (352) 392-5592 by April 29th, 2006.

Lodging. A block of rooms is being held at the Hilton for Dairy Production Conference participants. The group rate is \$89 per night plus 9.25% tax. To qualify for this special rate, reservations must be made on or before **April 15, 2006**. Call the Hotel directly at (352) 371-3600 and be sure to mention group code “BCS” to receive the group rate. Guest rooms will be available at the group rate until April 15 or until the block of rooms is filled. The Hilton is located at 1714 SW 34th Street, Gainesville, FL.

For more information, contact Albert de Vries, phone (352) 392-7563, email devries@ufl.edu, or visit <http://dairy.ifas.ufl.edu>.

EFFECT OF HIGH TEMPERATURES, RAINFALL AT HARVEST AND SHORT DELAYS BEFORE SEALING ON THE QUALITY OF CORN SILAGE

A. T. Adesogan and S. C. Kim

This Milk Check-Off funded project was designed to investigate how rainfall during harvesting and high temperatures during storage affect corn silage quality. Since corn forage is often transported for up to 3 hours from custom growers fields to bunkers at dairies, a further objective was to determine how such delayed sealing affects silage quality.



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

Pioneer corn hybrid 31R87RR was grown on four replicated plots and harvested at 35 % DM with (Wet) or without (Dry) application of 2 inches of simulated rainfall from a tanker. Forage samples from each moisture treatment were ensiled immediately in mini silos (Prompt) or after a 3-h delay (Delay). The delay forages were left uncovered in a pile for the 3-hour period. Half of the bags stored in a 105°F incubator (Hot) for 82 d and the other half in a 85°F, air-conditioned room (Cooler).

Wetting increased proteolysis (protein degradation) and produced a more heterolactic, poorer quality fermentation. Storage at the higher temperature produced a higher pH, a poorer, more heterolactic fermentation, more proteolysis and a greater concentration of indigestible, heat-damaged protein. Delaying sealing for 3 h produced similar effects to a short wilting period including reduced dry matter losses, lower pH and better fermentation. The worst silages were those that were wetted and stored at high temperatures because they had the poorest fermentation, greatest pH values and dry matter losses and greatest heat-damaged protein contents. They also had a distinctive dark color and tobacco odor due to the heat-damaged proteins.

This study shows that high ensiling temperatures and simulated-rainfall had detrimental effects on the fermentation process and silage quality, but delayed silo sealing for 3 h did not. The beneficial effects of delayed sealing in this study should not be confused with effects of longer delay periods (> 15 h) which tend to render inoculant treatment ineffective, reduce fermentation quality and enhance spoilage. Corn silage producers in hot, humid regions need to adhere strictly to excellent silage making practices to overcome the adverse effects of rainfall at harvest and high temperatures during storage on corn silage production in such areas. This study also implies that corn silage quality is not decreased by hauling the harvested forage for distances lasting up to 3-h before ensiling.

For more information, contact Dr. Adegbola Adesogan by email at adesogan@animal.ufl.edu, or (352) 392-7527.

MANURE MANAGEMENT – AgSTAR PROGRAM

Ann C. Wilkie

The AgSTAR Program is a voluntary effort jointly sponsored by the U.S. Environmental Protection Agency (EPA), the U.S. Department of Agriculture, and the U.S. Department of Energy. The program encourages the use of methane recovery (biogas) technologies at confined animal feeding operations (CAFOs) that manage manure as liquids or slurries. These technologies produce energy and reduce methane emissions while achieving other environmental benefits. For additional information about the AgSTAR Program, visit the website at: www.epa.gov/agstar.

The AgSTAR Program will sponsor a two-day conference on the status and potential of anaerobic digestion of animal wastes in Madison, Wisconsin, on **April 25-26, 2006**. The conference will focus on the role that anaerobic digestion can play with respect to reduction of the air and water quality impacts of animal wastes, elements required for project planning to insure operational and financial success, and



system operation and maintenance issues. This conference is recommended for anyone interested or involved in the design, financing, operation, or regulatory oversight of animal waste management systems or in the development of alternative sources of energy. For an updated agenda with speaker names, visit www.epa.gov/agstar/conference06.html.

The conference will include sessions on project planning, centralized systems, state public utility regulations, operation and maintenance issues, performance evaluation, green power, available alternatives, and resources available from the AgSTAR program. Registration for the conference is free of charge. You may register online at: <https://www2.ergweb.com/projects/conferences/agstarreg/register06.asp> or by calling (781) 674-7374.

There will also be a field trip to two dairy farms with operating digesters near Madison, on Wednesday, April 26 from 12:00 noon to 6:30 PM. Roundtrip bus transportation from the conference hotel will be provided. There is no additional fee to participate in the tour.

For questions or issues about manure management, contact Ann Wilkie. Dr. Ann Wilkie is in the Department of Soil and Water Science, University of Florida. She can be reached by e-mail at acwilkie@ufl.edu, or call her at (352) 392-8699.

EFFECT OF DOUBLING THE RATE OF INOCULANT APPLICATION, OR APPLYING MOLASSES ON THE QUALITY OF CORN SILAGE

A. T. Adesogan and M. Huisden

This Milk Check-Off funded project was designed to determine whether doubling the rate of applying two inoculants can improve silage quality. This is because some producers have been advised to double inoculant application rates to overcome the adverse effects of climate on silage fermentation in Florida.

Since the concentration of sugars which are key fermentation substrates is low in some corn hybrids, a second objective was to determine if addition of sugars from molasses at ensiling would improve silage quality.

Monsanto corn hybrid Dekalb 69-70 was harvested at 40% DM and ensiled for 135 days in mini-silos after treatment with nothing (Control), molasses (3% DM), Lallemands' Buchneri 500 inoculant or Pioneer's 11C33 inoculant. Both of these inoculants are special 'combo' inoculants because unlike most others they contain some bacteria for improving the fermentation as well as *Lactobacillus buchneri* for reducing aerobic spoilage. The inoculants were applied at the normal rate and at double the normal rate.

The main benefit of molasses application was that it tended to reduce protein degradation. However this benefit was outweighed by greater yeast counts and hence poorer aerobic stability in molasses-treated silages. Therefore applying molasses at the tested level or higher levels is discouraged because these practices will likely increase yeast growth and spoilage.

Silages treated with the combo inoculants had lower dry matter losses and lower yeast counts than untreated silages. They were also more stable than untreated or molasses-treated



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

silages. However, doubling the rate of inoculant application did not improve the fermentation or aerobic stability compared to using the normal rate. This study therefore indicates that combo inoculants can be used to improve silage quality and aerobic stability. However, the study disproves suggestions that doubling inoculant application rates will improve their efficacy in Florida. Producers should be strongly discouraged from embracing this practice because it is expensive and ineffective. Producers should always be cautious when choosing inoculants; only use those with a proven research record that have at least 100,000 colony forming units (cfu) of live bacteria per gram or 90 billion live bacteria per ton.

For more information, contact Dr. Adegbola Adesogan by email at adesogan@animal.ufl.edu, or (352) 392-7527.

CORN SILAGE / FORAGES FIELD DAY: THURSDAY, MAY 25, 2006

The 2006 Corn Silage / Forage Field Day will be held at the UF/IFAS Plant Science and Education Unit, Citra, Florida, on Thursday May 25. The Field Day includes presentations on forages, forage management, and feed quality, as well as, exhibits and field demonstrations. For more information, contact Jerry Wasdin, wasdin@animal.ufl.edu, phone (352) 392-1120, or visit the UF/IFAS Dairy Extension website at <http://dairy.ifas.ufl.edu>.

NEW PROCEEDINGS POSTED ON [HTTP://DAIRY.IFAS.UFL.EDU](http://DAIRY.IFAS.UFL.EDU)

Albert de Vries

The proceedings of the 17th Florida Ruminant Nutrition Symposium and the 3rd Florida & Georgia Dairy Road Show are now on-line at the Florida Dairy Extension website (<http://dairy.ifas.ufl.edu>). These events were held in February and March of 2006.

DEPARTMENTAL UPDATE

Albert de Vries

The Department of Animal Sciences might see some significant changes in the near future. Dr. Glen Hembry announced last fall that his last day as Chair will be June 30, 2006. A search and screening committee was formed by IFAS administration to help recruit a new Department Chair. Applications are currently being collected.

Secondly, the research, teaching, and extension programs offered by the Department were recently reviewed by a committee of professors from other land grant universities and a representative from USDA-CSREES. This review was initiated by IFAS administration. The committee's recommendations might lead to changes that will strengthen and focus the Department's programs. It remains unclear if the vacated positions in dairy nutrition extension and dairy youth extension will be filled again. Brent Broaddus currently provides leadership in dairy youth extension.

OPTIMIZATION OF BREEDING AND CULLING DECISIONS IN DAIRY CATTLE

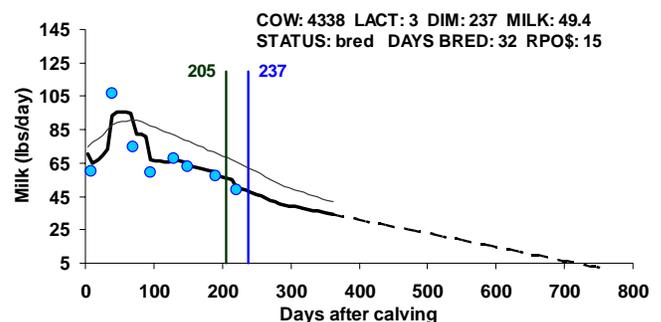
Albert de Vries

A major component of my research program is to help dairy producers make economically optimal breeding and culling decisions. The optimal voluntary waiting period (when to start breeding cows) has received quite some press lately due to the observation that cows are more fertile later in lactation, timed-AI programs are not cheap, and some cows have highly persistent lactation curves. Another question is how long to continue breeding cows that have failed to conceive.

Related to the optimization of breeding decisions is the optimization of culling decisions. The difficulty in making optimal culling decisions lies in combining expected milk yield with chances of pregnancy, age, stage of lactation, and season, among others. Ideally, all cows in the herd are ranked daily based on their future profitability, also called retention pay off (RPO\$).

Accurate cash flow projections for individual cows are essential to answer these questions. A major component of cash flow projections are the prediction of milk yield in the remainder of the current lactation for individual cows. We are currently working with USDA-AIPL to use their Best Prediction method to predict daily milk yield in the remainder of the lactation based on test day data in the lactation in progress. Best Prediction is also used in the calculation of the quarterly sire summaries by USDA-AIPL. Some other essential components of cash flow projections are feed costs, chances of pregnancy, and heifer and milk prices.

The cash flow approach is also going to be used to optimize early dry-off decisions, for example when parlor capacity is limited or when dry cows can be fed relatively cheaply compared to lactating cows. Ideally, we like to answer these questions for individual cows and provide quantitative estimates of the value of the optimal decision, but also provide economic estimates when rules of thumb are used, such as one voluntary waiting period for the whole herd. Eventually dairy producers will have access to user-friendly programs that help them make these optimal decisions. Optimal culling decisions were discussed during the 3rd FL & GA Dairy Road Show (paper at <http://dairy.ifas.ufl.edu/drs>). Optimization of breeding decisions will be discussed at the 43rd Florida Dairy Production Conference to be held on May 2, 2006 (see elsewhere in this newsletter). For more information, email devries@ufl.edu.



Example of test day milk yields and predicted milk yield in the remainder of the lactation by Best Prediction for cow 4338.