

## HAPPY HALLOWEEN OR HALLOWEEN HORRORS?

David R. Bray

This is the nice time of the year in Florida. The heat and humidity of the summer season are reduced, there is less rain (except we could probably use more), it's time to start thinking about getting cows pregnant, lowering your somatic cell counts, and getting harder thicker soles on your cows because your floors should be drier now because sprinkler usage will be much less.

Happy Halloween is when you went through the summer with fewer deaths, less mastitis, good foot health and even getting some cows bred along with keeping milk production higher than previous summers and having a high milk price. Those of you who had the good luck, also already had good management practices in place.

While this was a dry summer, it was still hot. August was the hottest August in history but most of you did very well. The hurricanes of past years caused millions of dollars of improvements in the dairy industry; new free stall barns, great stalls, recycled clean sand bedding, new cow cooling features and a bunch of young smart hardworking dairymen to keep the dairy industry moving ahead. Many of the older dairies have improved their facilities also and kept management on top of the situation.

Happy Halloween hints from those of you that:

1. Had your cow cooling system ready before summer.
2. Had your milking procedures in place to milk clean dry udders and detected clinical mastitis, culled your chronic cows before summer.
3. Had you calving areas clean and new dirt in place, cleaned and replaced it with new dirt in mud holes in pastures.
4. Removed the old wet material in the back of your free stalls, and added new sand, had plenty of clean sand for bedding cows all summer.
5. Pasteurized pot milk for calves to keep the mycoplasma out of your calves.
6. Adjusted your sprinkler timers to prevent excess water usage and keep drier feet.

Halloween Horrors usually will occur when you did not do the handy hints above and your cow deaths were high, mastitis was high and cell counts were high along

with it, milk production was low, you didn't get many cows bred and the summer sucked.

How to prevent from becoming a Thanksgiving Turkey:

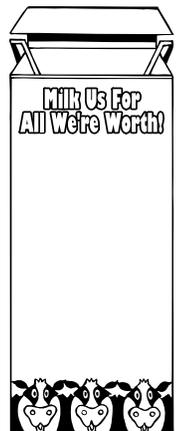
1. While it's dry, clean out your mud holes in calving areas and add new dirt.
2. If you have free stall barns, clean out the back of the stalls, repair broken loops.
3. Review your training procedures with your employees if desired. It's also a good time to change procedures on a dairy, milking procedures or changing to another teat dip. Barrier dips are probably not needed this time of year. Things work better in cooler weather.
4. Change breeding schemes, there is always a new "timed A.I." protocol to try.
5. Buy a new refrigerator to store all the hormones needed for # 4 above.
6. Buy a new semen thawing device. If yours is old, at least check the temperature.
7. Go through the herd and band all blind quarters.
8. Mow the weeds in the pastures.
9. Buy a new shotgun.
10. Buy your wife a nice fall bouquet.

Contact Dave Bray at <mailto:drbray@ufl.edu> or call (352) 392-5594.

## A PROFITABLE QUICK REMINDER

Kermit Bachman

At \$20/cwt, a cow only has to produce 15 pounds per day to justify milking her when the difference in her cost per day in the dry lot and milking herd is \$3.00. If the difference is \$2.00 per day, 10 pounds per day will recover the \$2.00 cost associated with keeping her in the milk herd [10lb milk x 20 cents/lb= \$2.00]. Manage your cows for a 40 to 45 day dry period and continue to milk a cow until her milk yield drops below that needed to recover the cost of her being in the milk herd or parlor pressure pushes her out in favor of a more profitable cow.



## UPCOMING DAIRY MEETINGS

- The 2007 Convention of the **Dairy Cattle Reproduction Council** (DCRC) is planned for **November 2-3, 2007** in Denver, CO. The Council consists of a wide array of dairy industry professionals — researchers and consultants, practitioners and producers — engaged in a collaborative effort to take cattle reproduction technology to the next level. The 2007 program is found on <http://www.dcrcouncil.org/DCRC2007/> and includes many topics relevant for Florida dairy producers. For more information, contact W.W. Thatcher at [thatcher@ufl.edu](mailto:thatcher@ufl.edu).
- A **Master Hoof Care Technician Program** English course is planned for **November 28 – December 1, 2007**. For further information about the program, please visit <http://lacs.vetmed.ufl.edu/MasterHoofCare/> or contact: Dr. Jan K. Shearer, (Dairy Extension Veterinarian) or Leslie Shearer (Veterinary Extension Dairy Program Coordinator) at (352) 392-2212, 1 ext. 4112 or by e-mail at [jks@ufl.edu](mailto:jks@ufl.edu).
- The **34<sup>th</sup> Southern Dairy Conference** is planned for **January 30-31, 2008**, in Atlanta, GA. The Southern Dairy Conference focuses on milk marketing issues in the South.
- The **4<sup>th</sup> Florida and Georgia Dairy Road Show** is tentatively scheduled for **March 4-7, 2008**. Locations are probably Okeechobee, Mayo, Madison or Eaton (GA) and Tifton (GA). Goal is again to bring practical information about dairy reproduction, feeding management, cow comfort, facilities, and health. For more information, contact Brent Broaddus ([broaddus@ufl.edu](mailto:broaddus@ufl.edu), (813) 744-5519 ext 132), Albert De Vries ([devries@ufl.edu](mailto:devries@ufl.edu), (352) 392-5594), or John Bernard ([jbernard@uga.edu](mailto:jbernard@uga.edu), (229) 391-6856).
- The **45<sup>th</sup> 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. For more information, contact Albert De Vries, [devries@ufl.edu](mailto:devries@ufl.edu), (352) 392-5594.

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### SOUTHEAST DAIRY MANAGEMENT CONFERENCE

The 2007 Southeast Dairy Herd Management Conference will be held at the Georgia Farm Bureau Building in Macon, GA (1620 Bass Road, Exit 172 off I-75) on Tuesday, **November 6** and **Wednesday November 7**. Advanced registration is not required. Program:

Tuesday, November 6 (1:00 pm)

- Trends in Dairy Production for Southeast DHIA Herds - Dr. Dan Webb - University of Florida
- Estrous Synchronization and Timed AI- How Much Does It Cost Per Pregnancy? - Dr. Steve Washburn - North Carolina State University
- Health and Milk Production Responses To Water Soluble Vitamins - Dr. William Weiss - Ohio State University
- Optimizing Use of Forage and Non forage Fiber Sources When Corn is Expensive - Dr. Rick Grant - W. H. Miner Agricultural Research Institute
- Defining a Metabolic Shift that Accompanies the Onset of Heat Stress in Dairy Cattle - Dr. Robert Rhoads, Jr., - University of Arizona
- Rethinking Nutritional Management during the Dry Period and Transition - Dr. James Drackley - University of Illinois

Wednesday, November 7 (9:00 am)

- Observations of Seasonal Pastured Based Dairy Production - Dr. Steve Washburn - North Carolina State University
- Enhanced Early Nutrition for Milk-fed Calves: What Can We Expect? - Dr. James Drackley - University of Illinois
- Using Diet Formulation to Reduce Manure and Manure Nutrient Excretion by Dairy Cows - Dr. William Weiss-Ohio State University
- Effect of Heat Stress on Rumen Health and Post Absorptive Metabolism in Dairy Cattle - Dr. Robert Rhoads, Jr. - University of Arizona
- Cows Under Pressure: Recent Research on Stocking Density, Cow Behavior and Productivity - Dr. Rick Grant- W. H. Miner Agricultural Research Institute
- Let there be light: Photoperiod Management of Dairy Cattle - Dr. Geoff Dahl - University of Florida

For Conference information or requests for brochures contact Dr. Lane O. Ely, University of Georgia, (706) 542-9107), or email [laneely@uga.edu](mailto:laneely@uga.edu)

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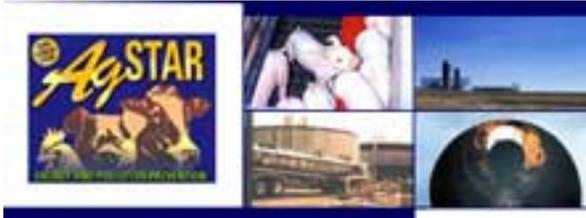
### MANURE BIOENERGY

**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](http://www.epa.gov/agstar).

The AgSTAR Program will hold its annual two-day conference at the Sacramento Convention Center, in Sacramento, California, on **November 27-28, 2007**. This conference is recommended for livestock producers and others 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.



This year's conference will feature technical, policy and financial presentations, poster sessions, networking opportunities, exhibits of the latest technologies and services. For the latest agenda, hotel information and to register online, visit the AgSTAR Conference web page at: <http://www.epa.gov/agstar/conference07.html>. You can also register by calling (781) 674-7374. Registration for the conference is free of charge. However, there is a meals fee of \$125.

There will also be a field trip to two local dairy farms with operating digesters on Wednesday, November 28, from 12:00 noon – 6:30 PM. Roundtrip bus transportation from the conference hotel will be provided. There is no additional fee to participate in the tour. A box lunch is available for \$15.

For questions or issues about manure bioenergy, contact: Dr. Ann C. Wilkie at [acwilkie@ufl.edu](mailto:acwilkie@ufl.edu) or (352) 392-8699. *Ann Wilkie is in the Department of Soil and Water Science.*

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## **CERTAIN SUPPLEMENTAL FIBER-DIGESTING ENZYMES CAN IMPROVE MILK PRODUCTION**

**A.T. Adesogan, C.R. Staples, S.C. Kim & K. Arriola**

We recently completed a study that aimed to examine the effects of enzyme application on milk production of cows fed diets with different forage to concentrate ratios. We tested a novel enzyme preparation from Dyadic International, Jupiter, FL. In addition to cellulase and xylanase enzymes, which are present in most commercial preparations of fiber-degrading enzymes, the Dyadic product contained an enzyme called ferulic acid esterase, which breaks down the less digestible fiber parts of the plant. Our objectives were to determine if the enzyme would improve milk production from cows fed high or low concentrate diets, respectively. Starting at 21 days in milk, 60 Holstein cows were fed diets consisting of alfalfa hay, corn silage,

and concentrates for 63 days. The four treatments were as follows: a low concentrate diet (33% of TMR, dry matter (DM) basis) fed with or without enzyme supplementation or a high concentrate diet (48% of TMR, DM basis) fed with or without enzyme supplementation. In each treatment, the enzymes were added to the TMR just prior to feeding.

Cows fed the high concentrate diets ate 7.5 lb/day more feed, produced 5.6 lb/day more milk, and 0.09 lb/day more milk protein but were less efficient at utilizing feed for milk production than cows fed the low concentrate diets. Although the rumens of cows fed the high concentrate diet were more acidic, subacute acidosis was not apparent.

Cows fed enzymes were better at digesting the DM and fiber in the feed they ate. Enzyme effects on milk production differed with the level of concentrate supplementation. Cows fed the high concentrate diet produced 6.6 lb/day more milk when the enzyme was fed and they tended to be more efficient in converting feed to milk, enzyme addition increased milk production. Cows fed the low concentrate diet also benefited from enzyme addition by improving the efficiency of milk production, although milk production was not improved.

Interestingly, cows fed the low concentrate diet supplemented with the enzyme consumed less feed but produced as much milk as cows fed the high concentrate diet without enzyme supplementation. Therefore adding the enzyme to the low concentrate diet made it as effective as the high concentrate diet without enzyme addition at supporting milk production. An added benefit was that ruminal pH was higher (less acidic) in cows fed the low concentrate enzyme-supplemented diet versus the high concentrate diet alone. This suggests that the enzyme could be used to reduce the amount of concentrate in the diet and still maintain milk production by dairy cows. Enzyme addition increased daily milk income over feed costs for the low and high concentrate diets by \$0.81 and \$0.90, respectively. Note that these costs were calculated without including the cost of the enzyme.

These results contradict those from our previous SMI Check-Off funded project, which showed that supplementation with a different enzyme did not improve milk production in cows fed total mixed rations based on bahiagrass. We will be conducting further research trials to understand those factors most affecting enzyme action so that recommendations that are more definitive can be made on the use of enzymes in dairy cow diets. Producers should only use fiber-digesting enzymes that have been proven effective in independent research trials.

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



## REPEATABILITY OF MILK PRODUCTION

Albert De Vries

Repeatability is the concept that what happened in the past is going to happen in the future, given similar conditions. For example, if a cow had an above average lactation yield, is she expected to remain above average in the next lactation? Some traits and events are more repeatable than others. It is documented in the scientific literature that people are not very good at estimating the repeatability of events. We often believe some biological events are highly repeatable, when in fact they are not. For example, when a cow fails to conceive in 3 breedings, we believe there must be something wrong with the cow, even though the herd average conception risk is, say, 30%. Or, in other words, we may believe that the chance she will conceive on the 4<sup>th</sup> breeding is a lot smaller than 30%, when in fact studies show it remains close to 30%. The number of breedings it took to get a cow pregnant in one lactation is not very repeatable. When something is not repeatable, our best estimate for the future is the herd or group average. What happened to the cow in the past does not matter much.

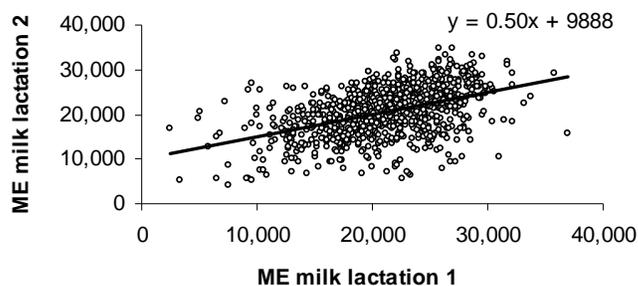
Milk production is more repeatable than the number of breedings for individual cows. Higher producing cows in the past are correctly expected to be higher producing cows in the future. To make milk production between lactations more comparable, it makes sense to first adjust milk production for the age of the cow and some other factors. Mature equivalent (ME) milk is the predicted amount of milk produced in 305 days as if the cow were a mature cow. ME milk is calculated by applying adjustment factors to the actual amount of milk produced in 305 days for every cow in the herd. These factors adjust for days in milk, milking frequency, season of calving, location, and age. Projected 305 day ME milk is database item 013 in PCDART. The ME milk in the previous lactation is database item 227.

It turns out that the repeatability of ME milk production between lactations is about 50%. In the figure, I plotted the ME milk in the first lactation against the ME milk in the second lactation for a random sample of 1% of all cows on DHIA in Florida between 2001 and 2007. On average, if a cow had a higher ME milk in the first lactation, she had a higher ME milk in the second lactation. But this was not necessarily true for all cows as the cloud of observations shows. A repeatability of 50% means that half of extra milk in the first lactation compared to the average is expected in the second lactation. For example, a cow that produced +1000 lbs more than her herd mates in the first lactation is expected to be  $50\% \times 1000 = 500$  lbs better in her second lactation. The repeatability of ME milk between

any two consecutive lactations (e.g. second and third) was also about 50% in the Florida data. Between first and third it was about 37%.

When we have the ME milk from several completed lactations, the expected ME milk in the next lactation can be estimated based on the ME milk yields in all previous lactations using the formula  $[N / (N+1)] \times$  [average herd mate deviation] where N is the number of lactations available on a cow and the average herd mate deviation is based on all previous lactation records of the cow. After one lactation, the repeatability of the average herd mate deviation,  $[N / (N + 1)]$ , is  $1/2 = 50\%$ . We see this in the figure as well. After two lactations, it is  $2/3 = 67\%$  etc. So if a cow had a milk production of +1000 lbs in the first lactation and +600 lbs in the second lactation, then her expected milk production compared to herd mates is  $2/3 \times (+1000 + 600)/2 = 0.67 \times 800 = +536$  lbs. This +536 lbs is a measure of the cow's estimated relative producing ability (ERPA). ERPA milk is PCDART database item 014.

These repeatabilities mean that above average cows for milk yield are expected to be above average in the next lactation, although the difference is regressed downward toward the herd mate average. Similarly, below average cows for milk yield are expected to be below average in the next lactation, but the difference with the average herd mate is expected to be smaller.



Scatter plot of ME milk in the first lactation and ME milk in the second lactation.

## FLORIDA DAIRY EXTENSION SITE RENEWED

The Florida dairy extension website at <http://dairy.ifas.ufl.edu> has received a makeover. The site now follows the SolutionsForYourLife format. SolutionsForYourLife is the brand name for all University of Florida extension programs and websites. The Florida dairy extension website has an archive of dairy newsletters, EDIS factsheets, proceedings of conferences, spreadsheets, news and announcements including a calendar, and relevant links to other websites.