

Southern Regional ADSA Gives UF Students a Chance to Learn and Excel

Mary Sowerby

At 4:30pm, Wednesday, February 25, a conference call was convened of Southeastern University Dairy Club advisors. A major snowstorm was predicted (indeed had already begun) essentially between Atlanta and the Tennessee/Kentucky state line north-south and Texas to the Atlantic Ocean east-west. The question was: Should we cancel the Southern Regional American Dairy Science Association (ADSA) Student Affiliate Division meeting scheduled to begin the next evening in Lexington, Kentucky or should all schools planning to participate make the choice to come or not, based on their own travel circumstances?

The advisors decided not to cancel. North Carolina State University made the decision to leave that night to get ahead of the storm. Louisiana State and University of Florida decided to leave a couple hours later than scheduled the next morning, in hopes the road crews would have the interstates clear by the time they arrived in snow country. The strategy worked. Clemson University unfortunately had school canceled that Thursday, forcing them to stay in South Carolina.

But everyone else, all the previously mentioned universities plus the University of Kentucky, West Virginia University and Virginia Tech showed up and had a great time with fun, food, and get-acquainted games Thursday night. The University of Florida Dairy Science Club was represented by Kenia Walker, Laura Rodriguez, Sloane Garcia, Jonathan Smith, Alexandra Lemus, Kelly Flanagan, and advisor Mary Sowerby.

Friday morning, the paper presentations began and University of Florida students shined: Sloane Garcia placed second in the Dairy Foods Division and Alexandra Lemus won the Dairy Production division. That afternoon, the UF Dairy Quiz Bowl team of Jonathan Smith, Kenia Walker, Kelly Flanagan and Laura Rodriguez were not in the winner's circle (the Virginia Tech team won), but did win experience and knowledge.

Alexandra Lemus shared information about the UF Dairy Science Club's annual Dairy Daze event in the Activity Symposium. At Dairy Daze, about 300 first graders come to the UF Dairy Farm in Hague and learn how cows are milked, fed and housed. Plus they have the opportunity to pet calves, make butter and take home goody bags supplied by Florida Dairy Farmers.

Friday was farm tour day. First stop was Eddie Gibson's Dairy where Kentucky's first robotic milker was struggling to stay warm enough to effectively milk their cows. The owner went through some extraordinary methods to keep the milking system warm in the freezing weather. Their cows were contentedly being milked while we were there. From there, we went to an excellent bedded-pack barn operation at Klingerfus Dairy. The primarily sawdust bedding was working really well in colder conditions. The last stop was at Buffalo Trace in Frankfort, Kentucky, where we toured their bourbon distillery. Interesting fact: there are more barrels of bourbon than people in Kentucky.

Because the UF group missed the UK Dairy facility tour the first evening, we did a self-guided tour of their university farm late that afternoon. We were impressed by all the precision technology ear-tagged, neck-chained and leg-banded on their cattle.

Following the Saturday night awards banquet, the UF crew headed south. Spring break began that day so the students were anxious to get homeward – and leave the cold weather. When the students first saw snow north of Atlanta, they were really excited. In fact, we stopped to build a snowman and play in the snow briefly at Red Top Mountain State Park. Alas, by the following day, the appeal of snow had vanished as the realization sunk in that there is only snow with cold temperatures. Amazing the life lessons students learn on trips like this!



With snow on the ground, UF participants at the Southern Regional ADSA meeting in Lexington, KY, surround the Buffalo Trace Distillery mascot. From left to right are: Alexandra Lemus, Jonathan Smith, Mary Sowerby (advisor), Kenia Walker, Laura Rodriguez and Kelly Flanagan. Not pictured is Sloane Garcia.

Dr. Francisco Peñagaricano Joins UF Animal Sciences in the Area of Statistical and Quantitative Genetics and Genomics

Dr. Francisco Peñagaricano joined the Department of Animal Sciences in February, 2015, as Assistant Professor in the area of statistical and quantitative genetics and genomics. His major duties are to develop and conduct research and extension programs in animal genomics and related subject areas that ultimately benefit the dairy and livestock industries in Florida and elsewhere.

Francisco is originally from Uruguay where he received two B.S degrees, one in Biology and another in Biochemistry, and also a M.S. degree in Animal Science, all from Universidad de la República. During his M.S. in Uruguay,



Francisco investigated the incidence of pigmented fibres in sheep wool using generalized linear models and also microarray-based gene expression analysis. After that, Francisco continued his graduate studies at the University of Wisconsin-Madison where he gained a M.S. in Statistics and a Ph.D. in Animal Science. His doctoral research focused

on the genetic analysis of complex traits in livestock species, including bull fertility and early embryonic development in dairy cattle, integrating different quantitative genomic approaches.

Dr. Peñagaricano is broadly interested in statistical and quantitative genetics and genomics. His research program focuses on the development and application of statistical and computational methods for the analysis of phenotypic and molecular data in livestock species. Francisco is particularly interested in the genetic and genomic analysis of relevant traits that affect animal productivity and welfare in dairy cattle, with special emphasis on fertility and health traits. The goals of this research include the identification and characterization of genomic regions, and preferably genes and pathways, affecting these relevant traits and also the prediction of genetic values and phenotypes combining pedigree and molecular data. Additionally, Francisco is also interested in understand the genetic mechanisms underlying fetal developmental programming in livestock species and how maternal nutrition during pregnancy can alter the epigenome of the offspring, which in turn could have important implications in terms of postnatal growth, production, health and reproduction performance.

Moreover, Dr. Peñagaricano plans to conduct an extension program focused on educating dairy and livestock producers and allied industries about practical and economically important aspects of genetic and genomic evaluation and selection, including the transfer of new research findings. Contact Francisco Peñagaricano at fpenagaricano@ufl.edu.

New Dairy Enterprise Budgets for Georgia and Florida

Albert De Vries, Mary Sowerby, Curt Lacy

Three new dairy enterprise budgets are now available at <http://dairy.ifas.ufl.edu/various>. These spreadsheet budgets allow users to enter detailed data on various dairy areas such as milk production, forage production, feeding, revenues and costs and the spreadsheets will summarize and calculate the user's inputs into many financial measures such as farm profitability. The three spreadsheets have different default values, depending on the type of farm the budget is intended for: 1) a grazing dairy farm, 2) a hybrid grazing/conventional dairy farm, or 3) a purely conventional dairy farm. Three videos that introduce the spreadsheets can also be viewed at <http://dairy.ifas.ufl.edu/various>.

The budgets were developed by Drs. Curt Lacy, John Bernard, and Gene Perry at the University of Georgia. Partial funding for the development of these budgets was provided by a grant from Southern SARE, Project LS11-243, *Improving the Welfare of Southeastern Dairy Families Through the Adoption of Sustainable Production Systems*. This grant was a collaborative effort between the University of Georgia, University of Florida, and Fort Valley State University. We have referred to this project as the Southeast Sustainable Dairy Farms Project.



For more information about the project, or the dairy enterprise budgets for Florida, contact Mary Sowerby, meso@ufl.edu, or Albert De Vries, devries@ufl.edu

Recordings of Dairy Genomics Workshops Now Online

In December 2014, four traveling workshops were conducted for a dairy producer audience showing how genomics and genomic testing on the farm may increase fertility and profitability. One stop was in Okeechobee, FL. These workshops were held as part of a USDA grant between Washington State University, the University of Florida, Idaho State University and the University of Missouri.

The recorded presentations can now be seen and heard at <http://goo.gl/leO0fi>:

- Improving Fertility of Dairy Cattle, by T. Spencer
- Improving Fertility of Dairy Cattle Using Translation Genomics, by P. Hansen
- Genomic Selection for Improved Fertility of Dairy Cows with Emphasis on Cyclicity and Pregnancy, by J. Santos
- Genetic Selection and Reproductive Efficiency in Dairy Cattle, by P. Pinedo
- Dairy Genomics Case Study, by D. Erf
- Using Genomics to Increase Profitability on the Dairy: A Case Study, by E. Zegarra
- Economics of Genomics, by K. Kaniyamattam
- Economics of Genomics, by A. De Vries

The project is ongoing. For more information, contact Albert De Vries, devries@ufl.edu

Smaller Florida Dairy Farms Tend to Be More Seasonal in Milk Production

Albert De Vries and Fernanda C. Ferreira

In the Winter 2015 issue of this newsletter, we reported that larger dairy farms in Florida tended to have lower bulk tank SCC (<http://dairy.ifas.ufl.edu/dairyupdate>). We also showed that almost all farms had greater bulk tank SCC in the summer than in the winter. On average, smaller farms were not necessarily more seasonal in their bulk tank SCC, however. In this article we report how herd size and seasonality of the farm's milk production are related in Florida.

Milk production volume is seasonal in Florida. For 2013, USDA reported a low of 163 million pounds in September for the Florida Federal Milk Marketing Order. This is 72% of the 227 million pounds of milk produced in March 2013, the highest month of that year. The seasonality of milk production in the state is not ideal for milk marketing. In the winter, surplus milk may be exported out of state while in the summer milk is brought in.

Some Florida farms produce a more evenly amount of milk throughout the year while others are very seasonal. The more seasonal herds make more milk during the winter than during the late summer and early fall. We wondered how herd size was related to the seasonality of a farm's milk production in Florida.

For our study, we used the monthly volumes of milk shipped of 100 Florida dairy farms in 2013. These farms were all members of either Southeast Milk, Inc., or Premier Milk, Inc., both milk marketing cooperatives. We adjusted the monthly milk shipped for the number of days in the month.

The average farm shipped 19 million pounds in 2013. The smallest farm shipped less than 1 million pounds and the largest farm more than 120 million pounds.

To measure the magnitude of seasonality of milk shipped, we first calculated the average volume per month for each farm. Then we divided the milk volume in each of the 12 months in 2013 by the farm's average monthly volume of milk shipped. The results are in **figure 1**. We see in figure 1 that in the winter and spring months most of the farms produce more than their monthly average (most farms >100%), and in the summer and fall months most of the farms produce less than their monthly average (<100%).

The month with the most milk shipped was April, where Florida farms on average produced 17% more than their annual monthly averages. The lowest month was September where farms on average produced 20% less than their annual monthly averages. The 100 farms produced 178 million lbs. in April and 134 lbs. in September 2013.

Next we calculated for each farm the total production for the generally 3 highest months (March, April, May), and the total production for the generally 3 lowest months (August, September, October). We then divided the total production in Aug-Sep-Oct by the total production in Mar-Apr-May to obtain the "lowest-to-highest" ratio, our measure of seasonality. For example, a farm with a lowest-to-highest ratio of 80% produces 20% less milk in Aug-Sep-Oct than in Mar-Apr-May.

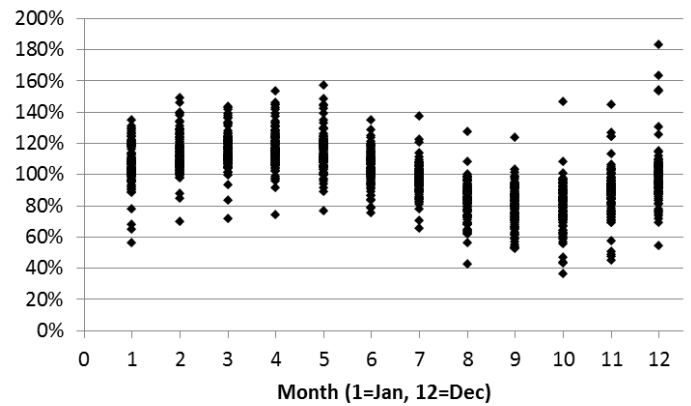


Figure 1. Distribution of seasonality of milk volume across months and herds. For each farm, we divided the farm's milk volume in a calendar month by the farm's average monthly milk volume. Months <100% imply that the farm shipped less than the farm's average annual monthly volume. In total, 100 farms x 12 months = 1200 data points are plotted.

Figure 2 shows the lowest-to-highest ratios for the 100 farms sorted by annual milk volume. As expected, we found that 96 of the 100 farms produced less milk in Aug-Sep-Oct than in Mar-Apr-May. The average farm produced 28% less milk in Aug-Sep-Oct than in Mar-Apr-May, for an average lowest-to-highest ratio of 72%.

The trend line through the 100 points shows that farms that shipped more milk had typically greater lowest-to-highest ratios. That means that on average, smaller farms were more seasonal in the amount of milk shipped throughout the year.

Some results for figure 2: The 52 farms with a lowest-to-highest ratio <72% produced on average only 42% of the milk of the 48 farms with a lowest-to-highest ratio >72% (11,352,374 lbs. vs. 27,249,679 lbs.). Although smaller farms were on average more seasonal, figure 2 also shows the large variation in seasonality for farms of similar sizes.

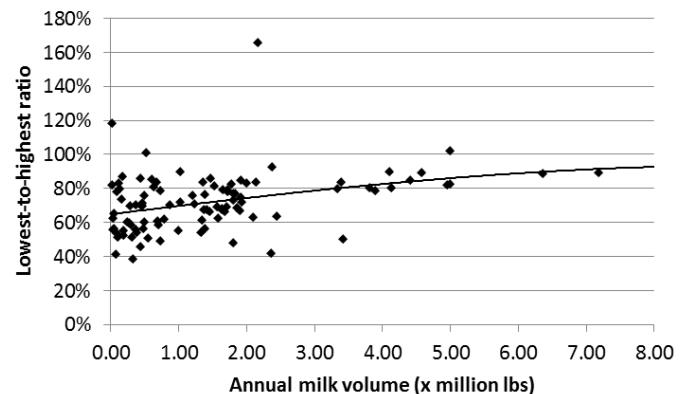


Figure 2. The lowest-to-highest ratios for the 100 Florida farms, sorted by annual volume of milk shipped by these farms. The lowest-to-highest ratio is calculated as the total production in Aug-Sep-Oct by the total production in Mar-Apr-May. For example, a farm with a lowest-to-highest ratio of 80% produces 20% less milk in Aug-Sep-Oct than in Mar-Apr-May. On average, smaller farms were more seasonal than larger farms.

In the Winter 2015 issue of this newsletter, we reported an increase in the bulk tank SCC in the summer months for almost all Florida farms. Yet, many farms also produce less milk in the summer. In a future article we'll combine both observations to calculate the average SCC in all pooled Florida milk. For more information, contact Albert De Vries at devries@ufl.edu

Dairy Extension Agenda

- Wednesday **April 29**, 2015. 51st Florida Dairy Production Conference. Info: <http://dairy.ifas.ufl.edu/dpc/info.shtml>
- **May 13 - 15**, 2015. 64th Annual Florida Beef Cattle Short Course. Location: 2142 Shealy Drive, Gainesville, Florida. Info: http://animal.ifas.ufl.edu/beef_extension/bcsc/2015/short.shtml
- Thursday **June 18**, 2015. UGA/UF Corn Silage and Field Day. Location: UGA Tifton Campus Conference Center. Contact Dr. John Bernard, jbernard@uga.edu Info: <http://www.caes.uga.edu/campus/tifton/events/>

Prediction of the Future Florida Mailbox Price and Future All Milk and Feed Prices: April 2015 - March 2016

Month	Predicted FL mailbox price (\$/cwt milk)	2014 Farm bill formulas	
		Predicted All-Milk price (\$/cwt milk)	Predicted feed cost (\$/cwt milk)
Apr-15	18.50	16.25	8.30
May-15	19.04	16.77	8.24
Jun-15	19.13	16.85	8.26
Jul-15	20.90	17.34	8.29
Aug-15	21.30	17.74	8.30
Sep-15	21.55	17.98	8.32
Oct-15	21.96	18.69	8.34
Nov-15	21.98	18.70	8.38
Dec-15	21.91	18.62	8.42
Jan-16	20.95	18.31	8.46
Feb-16	21.09	18.41	8.51
Mar-16	21.08	18.39	8.55

Based on futures prices of April 20, 2015.

The Predicted All-Milk price and the predicted feed cost have been added to the table since the Fall 2014 issue of Dairy Update (see <http://dairy.ifas.ufl.edu/dairyupdate>). These predictions are based on the formulas in the 2014 Farm Bill.

Daily updated Florida mailbox price predictions are found at http://future.aae.wisc.edu/predicted_mailbox/?state=Florida
Feed costs are found at <http://future.aae.wisc.edu/tab/costs.html#94>.
Contact Albert De Vries at devries@ufl.edu

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