Proceedings 2017 Florida Ruminant Nutrition Symposium Now Online

The proceedings of the 28th Florida Nutrition Symposium are now online at http://dairy.ifas.ufl.edu/rns. The Symposium was held in Gainesville, FL, on February 6-8, 2017, and attracted over 250 attendees, mostly from the allied dairy and beef feed industries.

Proceedings 2017 Florida Dairy Production Conference Now Online

The 53rd Florida Dairy Production Conference was held in Gainesville, FL, on April 20, 2017. The Conference attracted over 150 attendees from all aspects of the Florida dairy industry. The proceedings are now available at http://dairy.ifas.ufl.edu/dpc/.

YouTube UF Dairy Extension Channel

The UF Dairy Extension Channel on YouTube brings you the latest video updates regarding research and extension programs carried out by the dairy faculty at the College of Veterinary Medicine and Department of Animal Sciences at the University of Florida/IFAS. Currently the Channel hosts the presentations made at the 2016 and 2017 Florida Dairy Production Conferences. The Channel is hosted by Dr. Ricardo Chebel, rchebel@ufl.edu. Visit the Channel at https://goo.gl/7YBXAh.

DHIA DairyMetrics Report for Florida Herds

Albert De Vries

The table shows results for Florida dairy herds participating in DHIA. These data were calculated by the DairyMetrics benchmark system on May 11, 2017, and are for Florida farms with Holstein herds, and with at least 100 cows. DairyMetrics is a service of DRMS in Raleigh, NC, online at www.drms.org.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Min.</th>
<th>Avg.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Cows-All Lact</td>
<td>174</td>
<td>1,272</td>
<td>4,753</td>
</tr>
<tr>
<td>Days in Milk</td>
<td>154</td>
<td>180</td>
<td>210</td>
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<tr>
<td>Age of 1st Lact Cows</td>
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<td>24.8</td>
<td>32</td>
</tr>
<tr>
<td>Cows Left Herd-All Lact %</td>
<td>16</td>
<td>40</td>
<td>75</td>
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<tr>
<td>Rolling Milk</td>
<td>11,556</td>
<td>21,848</td>
<td>29,124</td>
</tr>
<tr>
<td>Daily Fat %</td>
<td>3.2</td>
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<tr>
<td>Daily Protein %</td>
<td>2.8</td>
<td>3.0</td>
<td>3.3</td>
</tr>
<tr>
<td>SCC Actual</td>
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<td>220</td>
<td>361</td>
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<tr>
<td>Preg Rate-Year Ave</td>
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<td>17</td>
<td>32</td>
</tr>
<tr>
<td>Actual Calving Interval</td>
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<td>13.5</td>
<td>15.2</td>
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<tr>
<td>Voluntary Waiting Period(VWP)</td>
<td>45</td>
<td>60</td>
<td>90</td>
</tr>
<tr>
<td>Con Rate for Past 12M-1st Serv</td>
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<td>48</td>
<td>99</td>
</tr>
<tr>
<td>Heats Observed for Year %</td>
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<td>50</td>
<td>82</td>
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<tr>
<td>Net Merit $ for 1st Lact Cows</td>
<td>-473</td>
<td>132</td>
<td>444</td>
</tr>
</tbody>
</table>

To learn more about DHIA in Florida and Georgia, contact Southeast DHIA.

Southeast DHIA recently announced the hiring of Mr. Brian Winters as its General Manager. Brian Winters remains also employed by DHI Cooperative, Inc., located in Columbus, Ohio. You can reach him at: Email brian.winters@dhicoop.com, phone 614-545-0460 ext. 12, or cell phone 614-560-9689. Southeast DHIA maintains an office in the Department of Animal Sciences at the University of Florida in Gainesville, FL.
1600 Visitors at the 4th Family Day at the Dairy Farm

Albert De Vries

The UF/IFAS Dairy Unit held its fourth Open House for the general public on Saturday April 1, 2017. The Open House is advertised as Family Day at the Dairy Farm and attracted 1600 visitors. The event was again organized by the Department of Animal Sciences, the staff of the UF Dairy Unit, and Florida Dairy Farmers Inc.

First held in 2013, Family Day at the Dairy Farm was designed to be educational and fun for children and adults alike. Visitors could watch cows being milked, tour barn facilities, pet calves, make butter and learn how UF/IFAS dairy research and Extension help the state’s dairy farmers produce better milk at lower cost, while keeping their herds comfortable, happy and healthy, and protecting the environment.

How Much Milk Does it Take to Make Up for a Decrease in Butterfat Percent?

Albert De Vries

Recently the UF Dairy Unit changed its ration for lactating cows. The result was a decrease in butterfat. One of the reasons for the change in ration was that the cows would make more milk, which would compensate for the loss in butterfat. The question we asked is, how much more milk should a cow produce to make up for the loss in butterfat and still generate the same milk income (or milk income over feed cost) per day.

Figure 1 shows the bulk tank butterfat percent at the UF Dairy Unit from January 1, to May 14, 2017. Average butterfat in this period was 3.53% with a minimum of 3.28% and a maximum of 3.85%. Butterfat dropped noticeably in February 2017.

Milk produced at the UF Dairy Unit is sold through Southeast Milk, Inc. in the Florida Federal Milk Marketing Order. This means that milk is priced on pounds of skim milk (milk without fat), and pounds of fat. (There are also some other premiums and dues not related to the price of skim and butterfat. These factors have negligible effects on the analysis presented here).
To find the extra amount of whole milk that needs to be produced to make up for a decrease in butterfat percent, we need to know the ratio of the prices of skim milk and butterfat. Figure 2 shows uniform prices at Hillsborough County (Tampa, FL) from January 2016 to April 2017, as reported by the Milk Market Administrator. Skim milk price varied between $9.95 and $14.25 per cwt and butterfat varied between $2.12 and $2.68 per pound. The red line is the relative value (ratio) of 1 pound of butterfat compared to 1 pound of skim milk. For the same 16 months, butterfat was worth on average 20.65 times the price of skim milk per pound. The minimum was 15.82 and the maximum was 26.02. There were clearly large differences between the ratio of the prices of butterfat and skim milk over time.

Figure 3 shows how much milk yield per cow per day needs to change in order to have the same daily milk sales as a 75 pound cow with 3.5% butterfat. The three lines are three ratios of butterfat vs. skim milk price per pound. For example, when butterfat is $2.10 per pound and skim milk is $0.10 per pound, the ratio is 21. The 75 pound per cow at 3.5% butterfat will have milk sales of $12.75 per day. If such a cow produced 3.2% butterfat, milk yield needs to increase by 2.74 pounds to 77.74 pounds to still have $12.75 in milk sales. The change in milk is greatest when butterfat is expensive compared to skim milk. The lines in figure 3 do not change much at other levels of milk yield. For example, for an 85 pound cow at 3.5% butterfat, a change to 3.2% butterfat results in 3.11 pounds more milk (85 + 3.11 = 88.11) to generate the same milk sales.

Looking back at figure 1 and using the 75 pound cow at 3.5% fat with a price ratio of 21 as the reference, the herd average milk yield would need to increase by 2 pounds per cow per day when butterfat was at its lowest at 3.28% in early March 2017, to generate that same milk sales per cow.
of the month. Figure 3 does not include this penalty for butterfat less than 3.25%.

A change in milk yield to obtain the same milk sales is not the only factor that matters. The cost of the ration also plays an important role. The cost of the ration depends on how much cows eat and the price per pound of dry matter.

According to guidelines in Nutrient Requirements of Dairy cattle: Seventh Revised Edition (NRC, 2001), dry matter intake depends on fat-corrected milk, body weight and days in milk. This means that cows that produce less milk but with higher butterfat, yet have the same daily milk sales, eat a little more dry matter.

Again use our 75 pound cow at 3.5% butterfat as the reference with a butterfat to skim price ratio of 21. If we set body weight at 1400 pounds, average days in milk at 150, and feed cost at $0.13 per pound of dry matter, then milk sales is $12.75 per day, dry matter intake is 52.38 pounds, feed cost is $6.81 per day, and income over feed cost is $5.94 per day. To maintain the same income over feed cost of $5.94 for various levels of butterfat, the necessary change in milk yield is only approximately half from when feed cost is not considered. Cows that produce a lower butterfat percent, but produce the same amount of milk, also eat less and therefore do not have to make that much extra milk to compensate for the lower butterfat percent. For example, if the cow produced 3.2% butterfat, dry matter intake would decrease by 0.23 pounds. The same income over feed cost is reached with an increase of only 1.90 pounds of milk (44%). Compare this to the increase of 2.74 pounds of milk when changes in dry matter intake are not considered. Therefore, if we believe the NRC predictions on dry matter intake, the increase in milk yield needed for the same income over feed cost is about 0.6 pounds per 0.1 unit of butterfat (say 3.5% to 3.4%). Talk with your nutritionist about how rations affect butterfat, milk yield, and health.

The change in ration at the UF Dairy Unit was also motivated by being able to feed a cheaper ration per pound of dry matter intake. Feeding a cheaper ration may be a good decision, but keep in mind that the best metric is income over feed cost per cow per day, not feed cost per cwt milk. Marginal milk is always quite valuable as it take about 0.41 pounds of dry matter to make 1 more pound of milk.

For more information, contact Albert de Vries at devries@ufl.edu or (352) 392 5594 ext. 227.

**Southeast Milk Dairy Check-Off Projects Funded in 2017**

The Southeast Milk Dairy Check-Off committee met in Gainesville, FL, on April 18 and 19, 2017, and decided to fund the following projects:

- Chris Holcomb-**Florida Youth Programs**-$36,000
- Jillian Bohlen-**Georgia Youth Programs**-$18,250
- Owen Rae-**MCO Veterinary Student Scholarship**-$1000
- Peter Hansen-**Seasonal Variation in Rectal Temperature, Fertility and Milk Yield for Cows Housed in Tunnel Ventilation Barns**-$9000
- Peter Hansen-**Building Capacity of Use of Genomics to Advance Dairy Science Research**-$11,125
- Jillian Bohlen-**Evaluating Anti-Mullerian Hormone as a Reproductive Tool in Lactating Dairy Cows**-$15,400
- Emily Miller-Cushon-**Forage Feeding for Group-Housed Dairy Calves: Impacts on Performance and Behavior**-$9,536
- Corwin Nelson-**Effects of Calcitriol Treatment on Resolution of Mastitis in Dairy Cows**-$25,750
- Cheryl Mackowiak-**Improving Nitrogen Fertilizer use Efficiency for Cool-Season Forage Production on Southern Dairies**-$26,410
- Albert De Vries-**Added Value of Calf Growth, Health, and Genetics Measures to Predict Lifetime Performance Including Profitability**-$8,000
- Jose Dubeux-**Developing Black Oat Varieties for Florida Dairies**-$21,971
- Francisco Penagaricano-**Identification of Casual Variants Underlying Sire Conception Rate**-$36,000

The Southeast Milk Dairy Check-Off was established by Southeast Milk, Inc. in 1987, and is now also supported by other participating co-ops. Funds are collected through a $0.01 contribution per 100 pounds of milk sold by coop members. Proposals may be submitted by the faculty members at the University of Florida, the University of Georgia, Clemson University, and Auburn University and may address any area of the dairy industry. The Dairy Check-Off committee sets priorities for research and education projects every year to steer the focus of the proposals. Results of these projects are reported at the annual Florida Dairy Production Conference and elsewhere.
2017 North American Intercollegiate Dairy Challenge

Mary Sowerby

I could tell you eight students from the University of Florida (four members of the University of Florida Dairy Challenge team, one member of an aggregate team comprised of four students from four different universities, and three Dairy Challenge Academy participants) all flew from Orlando to Fresno, California with me on Wednesday, March 29 to begin an experience they had all worked long and hard for to attend: the 2017 North American Intercollegiate Dairy Challenge and Academy.

I could tell you there were 34 collegiate teams of four students each from universities all across the United States and Canada, plus two aggregate teams who competed in the Dairy Challenge. Each team evaluated one of four host dairy farms on their facilities, labor relations, milking parlor procedures, nutrition, manure management, cow comfort, calf raising, farm finances, herd health – you get it – all aspects of the farm and then prepared a 20-minute presentation covering the farm’s strengths, weaknesses, and most importantly, striving to give economically viable solutions to improve the farm and the owner’s financial situation.

I could tell you Cornell University and SUNY Cobleskill were first and second place, respectively, in the group of nine schools who evaluated the same dairy as the University of Florida and we were in the group of “other participants” with Purdue University, University of Alberta, University of West Virginia and others. There were also 88 students from across North America who participated in the Dairy Challenge Academy. They, too, evaluated a farm, but on teams with members from several other schools and two industry mentors.

But I’d rather tell you about the four young women on the UF team, the aggregate team member and the three who attended Dairy Challenge Academy:

**Catalina Mejia** is originally from Columbia, South America and moved with her family to Miami after starting veterinary school right out of high school in Columbia (that is the norm in Columbia). Still desiring to become a veterinarian, Catalina first attended Miami-Dade College and attained her Associate’s degree before transferring to UF two years ago. Wishing to broaden her animal experience, she joined the UF Dairy Science Club and took Dr. Albert De Vries’ Biology and Management of Dairy Cattle course in the spring of 2016. Long story short, this young lady has done a phenomenal job as the President of the UF Dairy Science Club the past year, while working on undergraduate research in Dr. Jimena Laporta’s lactation laboratory, attending Dairy Challenge practices, and working part-time at Panera Bread. Catalina just graduated from UF and will be attending the U.S. Dairy Education and Training Consortium in Clovis, New Mexico this summer. From there she heads to Pittsburgh, PA, to attend the American Dairy Science Association (ADSA) Student Affiliate Division annual meeting to present her original research and be a member of the UF Dairy Quiz Bowl team. This fall she will be applying to veterinary schools.

**Staci Breske**, from Winter Park, had the most prior dairy experience of anyone in my Dairy Farm Evaluation class last fall. She had already taken Dr. De Vries’ Biology and Management of Dairy Cattle class and attended the U.S. Dairy Consortium last summer. She was charged up about anything to do with dairy. She too joined the UF Dairy Science Club and will be on the UF Dairy Quiz Bowl team in Pittsburgh. Staci just graduated from UF and will be starting veterinary school at UF this fall with plans to become a bovine veterinarian.

**Ruth Ann Galatowitsch** from Orlando and **Mackenzie Spies** from Jacksonville, both walked into my Dairy Farm Evaluation class past fall looking for laboratory class credits with no prior dairy experience and walked out with a love of the dairy cattle industry. They both became active members of the UF Dairy Science Club and did very well at the Southern Regional Dairy Challenge last fall. Mackenzie just graduated from UF and plans to apply for vet school this fall. Ruth Ann is scheduled to graduate in December and is off to the U.S. Dairy Consortium this summer, plus attending ADSA. She wants to become a dairy farmer.

**Sara Knollinger** from New Smyrna Beach, would have been our fifth Dairy Challenge team member, but we could only have four on the UF team. So she chose to become an aggregate team member. Sara plans to become a ruminant nutritionist. She has also done well on the UF Livestock Judging team last fall. She has taken every possible opportunity to learn more about the dairy industry and will be attending the U.S. Dairy
Ruth Ann Galatowitsch: Prior to attending Dairy Challenge I had little to no experience with dairying. Growing up in Orlando, there just wasn’t much opportunity to learn about the dairy industry or even agriculture. I’ve always had a love and passion for animals and was told my entire life that I should be a veterinarian. After my first year at the University of Florida as an Animal Science major I quickly realized that I didn’t want to be a vet. I found a passion in agriculture but had no idea what I wanted to do after graduation. I took a few dairy classes at UF and became interested in the dairy industry. Through one of these classes I learned about Dairy Challenge.

I attended Southern Regional Dairy Challenge in the Fall of 2016. This experience exposed me to various aspects of the dairy industry and I was able to see the things I had learned in class in action. I met new people, made amazing friendships and found a new passion for the dairy industry. After this experience, I knew I wanted to continue learning about the dairy industry and one day be a part of it. I became more involved with the Dairy Science Club at UF and had more opportunities to interact with professionals in the industry. I also had the opportunity to attend the North American Intercollegiate Dairy Challenge in the Spring of 2017 which exposed me to the industry on a larger scale. I learned even more about different dairy operations around the country and saw a different side of the dairy industry in California.

Overall the Dairy Challenge program has been a major stepping stool for me and has given me many opportunities within the dairy industry to further my education and my newfound passion. It has also given me the tools to help me educate my friends and family about the dairy industry. These days, dairies aren’t always viewed in the best light and it’s important to educate people on what really goes on in the industry. I believe that the Dairy Challenge program is a great way to spread the truth about the dairy industry and all the great things that come out of it.

Sara Knollinger: Attending the North American Intercollegiate Dairy Challenge in Visalia, California, was a very beneficial and a rewarding experience. I plan to pursue a career in ruminant nutrition and participating in Dairy Challenge allowed me to gain practical experience within the industry. Visiting the dairies gave me real world experience consulting, something I will do

Consortium and ADSA (also on the Quiz Bowl team) this summer. She just graduated and will be going to graduate school at the University of Illinois, learning more about dairy nutrition this fall.

And then there are the three UF Dairy Challenge Academy attendees: Brittnay Davidson from Melbourne, Shaylynn Kolwyck from Live Oak, and Gloria Rodriguez from Miami. They all did a super job in the Academy training activity in California and hope to be members of the UF Dairy Challenge team next year. Brittnay’s interning on a dairy farm in New York this summer. Shaylynn is home helping care for the family’s exotic animals currently (she actually has a dairy farm near her home, but no experience on it), before heading to Africa on a summer study abroad program, then returning to UF this fall. Gloria is working at the UF vet school which she hopes to attend in another year and was recently elected UF Dairy Science Club President.

These students would not have had such tremendous opportunities to grow and love the dairy industry without the support of dairy producers through Dairy Check-Off funding and opening the doors of their farms for practices and their mouths to share their knowledge and how their farms are run. Thank you! We also really appreciate James Umphrey from ABS Global who has helped the UF Dairy Science Club raise money by teaching AI classes sponsored by the Club. We especially appreciate the four dairies who have allowed AI Schools to be held on their premises: North Florida Holsteins, American Dairyco, Alliance Dairies, and Shenandoah Dairy. In addition, numerous industry people have given up their time to come speak to the Dairy Science Club, Dairy Farm Evaluation Class and Dairy Challenge team members or have allowed students to shadow them on the job. Thanks, thanks, thanks. Finally, many thanks to Ed Silba who coordinated a Mock Dairy Challenge at American Dairyco-Branford. The farm and industry judges, Keith Shiver, Chris Yohn, Ed Silba, John Gilliland and Joshua Churchwell all made many comments which really helped the students.

For everyone’s efforts, there are at least eight very strong supporters of the dairy industry and others coming on, which would not have happened otherwise. Please enjoy the following comments made by the students ...
in the future. Also, during my time in California I enjoyed meeting with the sponsors and gaining insight on their daily lives in the industry.

Learning about the dairy industry is an eye opening experience no matter what your background is. It is important for future generations to experience life in the industry and the hard work put behind dairy farming. All students, wherever they end up in the agricultural industry, will remember their time spent at Dairy Challenge. The education gained behind the experience is the most valuable. Carrying the knowledge gain to their schools and friends will benefit the dairy industry through awareness and passion.

Thank you for allowing us to visit your dairies and shadow and learn from you.

Gloria Rodriguez: For the second year running, I am proud to have participated in the North American Intercollegiate Dairy Challenge Academy. This is a wonderful experience for students of all kinds, especially for those of us with no dairy background. A popular saying about farm life goes something like this: “If you’re not born into it, you marry into it”. But the Academy--and other opportunities like it--breaks down the stigma normally surrounding “outsiders” like me. At no point during my stay in Visalia did I ever feel as though I had less to contribute simply because of my background. I come from South Florida, where there is no space to pursue livestock. I raised a market steer in an 8x8’ stall and had to drive feed bags 20 at a time from Okeechobee. With that reality, I never imagined a future in large animal production was actually feasible.

Being given the chance to realistically pursue a career in the dairy industry is one of the many things I love about Dairy Challenge. I’ve done my best to become a vocal and active member of the dairy industry, and I encourage other students to do the same. I can’t wait to return for the next year’s Challenge.

Brittney Davidson: I was born and raised in Melbourne, FL, a city on the east coast near the Kennedy Space Center. We didn’t have programs like FFA and 4-H, nor was I really able to explore the agriculture industry growing up. I had always had an interest in being a veterinarian but when I got to the University of Florida, and took advantage of all the opportunities I was offered, I soon came to love the dairy industry.

I took the Dairy Farm Evaluation class in the Fall of 2016 and learned about the Dairy Challenge competitions at the regional and national level. After my interest grew for the dairy industry and Dairy Challenge, I joined the UF Dairy Science Club. The 8 of us from the University of Florida worked hard to prepare for nationals by attending weekday and weekend trips to dairies and practicing presentations. I read many articles and reviewed things that we had talked about in class to keep up to date on what a dairy should look like, how they should operate different things, or different suggestions to make that have worked for other dairies that we had visited.

In California, I participated in the Dairy Challenge Academy and learned so much and had fun while doing it. I worked with 7 other students from around the U.S. It was a great experience learning to work with so many other people, all which came from different backgrounds and walks of life. I learned a lot from my advisors in my group as we walked the farm and really got to see how California dairies operate.

I also had the opportunity to learn how to calculate some of the financial information for the farms, which is something I struggled with before the trip. All of the information I learned on the trip, the financial information included, will not only be helpful in the future if I am selected for the Dairy Challenge Team next year but in the coming years as I enter my career in the dairy industry.

I believe attending Dairy Challenge as a team or a part of the Academy, is something every student interested in the dairy industry should do. I learned things that I will carry with me for a lifetime. It could very well teach some students that dairy is not the way they want to go in life, but as in my case, it could be the event that allows students to explore an option and fall in love with it.
**Prediction of the Future Florida Mailbox Price and Future All Milk and Feed Prices:**

May 2017 – April 2018

**Table 1. Forecast of the future Florida Mailbox Price and Future All Milk and Feed Prices: May 2017 – April 2018**

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<tr>
<th>Month</th>
<th>Forecast FL mailbox price ($/cwt milk)</th>
<th>Forecast All-Milk price ($/cwt milk)</th>
<th>Forecast feed cost ($/cwt milk)</th>
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<tbody>
<tr>
<td>May-17</td>
<td>18.69</td>
<td>16.50</td>
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<td>Apr-18</td>
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Based on futures prices of May 24, 2017.

The forecast All-Milk price and the forecast feed cost have been added to the table since the Fall 2014 issue of Dairy Update (see [http://dairy.ifas.ufl.edu/dairyupdate](http://dairy.ifas.ufl.edu/dairyupdate)). These forecast are based on the formulas in the 2014 Farm Bill. Daily updated Florida mailbox price forecasts are found at [http://future.aae.wisc.edu/predicted_mailbox/?state=Florida](http://future.aae.wisc.edu/predicted_mailbox/?state=Florida). Feed costs are found at [http://future.aae.wisc.edu/tab/costs.html#94](http://future.aae.wisc.edu/tab/costs.html#94).

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

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**Dairy Extension Agenda**

- **November 12-14, 2017.** Southern Regional Dairy Challenge, Live Oak, FL. The Southern Regional Dairy Challenge allows dairy science students to apply theory and learning to a real-world dairy while working as part of a team. Approximately 60 college students from schools around the Southeast hope to learn and compete how to evaluate a Florida dairy farm and make recommendations. More information, Mary Sowerby, [meso@ufl.edu](mailto:meso@ufl.edu), or Albert De Vries, [devries@ufl.edu](mailto:devries@ufl.edu)

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