

Dairy Extension Agenda

- **55th Florida Dairy Production Conference**,
Wednesday September 18, 2019. 9 AM – 5 PM.
Location: Straughn IFAS Extension Professional
Development Center, 2142 Shealy Drive,
Gainesville, FL 32608. Program and registration at
<https://bit.ly/2HHsDxL>



Summer Youth Dairy Competitions Results

Chris DeCubellis

This year Florida youth did great at the National Guernsey Convention 2019 in Eau Claire, Wisconsin! In the Junior Video Contest, Seth Greaves of Suwannee County won 1st place. In the Intermediate Video Contest Makenzie Greaves of Suwannee County won 1st place. In the Intermediate Folding Display Contest, Cole Verano of Okeechobee County won 1st Place. In the Senior Folding Display Contest, Michael Fioretto of Manatee County won 3rd place. In the Junior Essay Contest, Seth Greaves of Suwannee County won 2nd place, and Rebecca Holcomb of Hillsborough County won 1st place. In the Intermediate Essay Contest, Makenzie Greaves of Suwannee County won 3rd place, and Austin Holcomb of Hillsborough County won 1st place. In the Senior Essay Contest, Michael Fioretto of Manatee County won 2nd place, and Hunter Fioretto of Manatee County won 1st place. In the Junior Prepared Public Speaking Contest, Rebecca Holcomb of Hillsborough County won 3rd place, and Lilly Larson of Okeechobee County won 1st place. In the Senior

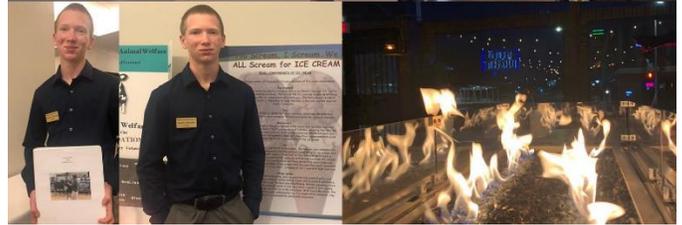
Prepared Public Speaking Contest, Cady McGehee of Okeechobee County won 3rd place. In the Junior Extemporaneous Public Speaking Contest, Seth Greaves of Suwannee County won 3rd place, Lilly Larson of Okeechobee County won 2nd place, and Rebecca Holcomb of Hillsborough County won 1st place. In the Intermediate Extemporaneous Public Speaking Contest, Makenzie Greaves of Suwannee County won 3rd place. In the Senior Extemporaneous Public Speaking Contest, Michael Fioretto of Manatee County won 3rd place, and Cady McGehee of Okeechobee County won 2nd place. In the Junior Dairy Quiz Bowl Contest, the Florida team of Austin Holcomb, Rebecca Holcomb, Lilly Larson and Seth Greaves came in 3rd place. In the Senior Dairy Quiz Bowl Contest, the Florida team of Michael Fioretto, Cady McGehee, Cole Verano, and Makenzie Greaves came in 2nd place. We are very proud of Hunter Fioretto and Cady McGehee for both winning the Turley college scholarship.

Our youth also did great at the Ayrshire/Brown Swiss Convention:

- 1st Place Junior Jeopardy - Jenna Larson
- 2nd Place Junior Jeopardy - Logan Shoop
- 1st Place Junior Quizbowl Team - Jenna Larson, Logan Shoop, Johanna Heijkoop, Aubrey Clay
- 1st Place Photography - Logan Shoop, Aubrey Clay, Colton Shoop
- 1st Place Display - Jenna Larson, Josh Larson, Johanna Heijkoop
- 1st Place Video Contest - Jenna Larson

At the Holstein Convention, we had two youth participate in Jeopardy. Florida had one Distinguished Junior Member, Austin Holcomb, and a junior semifinalist, Cady McGehee. Austin also placed third in the intermediate division folding display contest.

For more information, contact Chris DeCubellis, 4-H State Specialized Agent, Dairy/Animal Science, cdecube@ufl.edu or (352) 846-4444



Summer youth dairy competition pictures contributed by Chris DeCubellis.

Charles R. Staples 1951 - 2019

Our friend, mentor and colleague, Charles R. Staples, age 68 passed away on Saturday, June 29, 2019 after a long battle with cancer. He was born April 7, 1951, in Greeley, CO to the late Raymond and Elise Staples. In 1973 Charlie was married to Debbie



Montgomery in Alamogordo, NM and earned his Bachelor and Master's degree from New Mexico State University. Charlie went on to pursue his PhD from the University of Illinois.

Dr. Staples was a professor in Dairy Science at the University of Florida for the past 34.5 years and recently retired on May 15, 2019. He taught both undergraduate and graduate level nutrition courses. His research focused on the effects of dietary nutrients on production and reproductive performance of lactating dairy cows and on improving forage utilization by dairy animals. Based upon his research, Dr. Staples was the recipient of the American Feed Industry Association Award and the Nutrition Professionals Applied Dairy Nutrition Award from the American Dairy Science Association (ADSA) and a University of Florida Research Foundation Professorship. In 2017, Dr. Staples was recognized as a Fellow of ADSA for his distinguished service to the dairy industry over 20 years or more. Dr. Staples also served as interim Chair of the Department of Animal Sciences in the second half of 2018 until his health forced him to step down from this role.

Charlie is survived by his wife, Debbie and his two adult daughters, Charity Kurzman and Spring Staples-Hogan. He was a devoted husband and father, a mentor to his students, a Civil War history buff, a devout Christian and a ruling Elder at Christ Community Church in Gainesville, FL. He loved to play games. In lieu of flowers, his family has asked for donations to be made to an organization close to his heart, Christ Community Church, 1603 SW 122nd St, Gainesville, FL 32607.

(Excerpts taken from the obituary published in the Gainesville Sun from July 3 to July 4, 2019)

Developing Genomic Tools for Improving Feed Efficiency

Francisco Peñagaricano and José Eduardo Santos

Feed represents more than 50% of the total production costs. Hence, improving the efficiency with which dairy cows convert feed into milk has a large economic value. At the same level of production, cows with reduced feed intake requirements are more profitable. Why some cows need less feed than others of similar body weight and milk production? Probably because they digest feed better, they spend less energy on unproductive activities, and/or they have a more efficient metabolism. It has been suggested that the US dairy industry could save \$540 million per year with no loss in milk production by breeding for cows that are more feed efficient. Residual feed intake (RFI), the difference between actual intake and intake predicted based on body weight and production level, has been proposed as a selection criterion for improving feed efficiency. Research has shown that the top 20% of cows for RFI (low RFI values), compared to the bottom 20% (high RFI values), need 6% less feed to produce the same amount of milk. Interestingly, the selection for lower RFI, i.e., improved feed efficiency, has the potential to not only reduce feed costs, but also reduce significant sources of greenhouse gas emissions, such as enteric methane and manure.

The major challenge is to collect enough feed intake data on enough cows in order to have accurate genetic evaluations. Measuring feed intake on individual cows on commercial farms is infeasible because of group housing, costs and labor constraints. The advent of genomics in the last decade has facilitated the selection for traits that are critically important, but too difficult or expensive to measure on the entire population, such as feed intake. Recently, the Council on Dairy Cattle Breeding (CDCB) and the Foundation for Food and Agriculture Research (FFAR) funded a research grant for \$2 million aimed to improve dairy cow feed efficiency through genomics and genetic selection. Genomics is a very attractive approach for improving feed efficiency because feed intake phenotypes can be collected for a relatively small number of lactating cows with genotype data, and this reference population can then be used to predict genomic breeding values for the entire population, including young selection candidates. This

project is a multi-institutional effort involving geneticists and nutritionists from Michigan State University, University of Wisconsin, Iowa State University, USDA Animal Genomics Improvement Laboratory, and the **University of Florida**.

Our plan is to measure feed efficiency in about 4,000 dairy cows on research facilities where it is possible to precisely determine individual cow feed intake, body weight, body condition score, and milk energy output. In addition, we will use new sensor technologies to monitor dairy cows' body temperature, feeding behavior, and physical activity, along with milk spectral data. These sensor data may be combined with direct observations of feed intake to increase the accuracy of genomic evaluations. Finally, we will determine whether genomic predictions of feed efficiency can be used to decrease methane emissions from dairy cattle.

This research project will help to develop reliable genomic breeding values for feed efficiency. Indeed, CDCB plans to start providing genomic evaluations for residual feed intake in 2020 and incorporate this novel trait into the Lifetime Net Merit and other CDCB economic selection indexes. Therefore, in the near future, US dairy farmers will be able to significantly reduce their expenses by selecting cows with high feed efficiency, namely cows that produce the same or more milk while consuming less feed. Importantly, the genetic improvement of environmental sustainability traits, such as feed efficiency and methane emission, is very relevant given the increasing concerns of society about the environmental impacts of dairy farming.

For more information, contact Dr. Francisco Peñagaricano at fpenagaricano@ufl.edu or call (352) 294-6988. Francisco Peñagaricano is Assistant Professor of Dairy Cattle Genetics and Genomics in the Department of Animal Sciences at the University of Florida.



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There is no Florida Mailbox price forecast in this issue of Dairy Update. The website that provides the data (<https://dairy.aae.wisc.edu>) was not accessible when this issue was finalized.

