

2020 Corn & Sorghum Silages Trials and Field Day

The Universities of Florida and Georgia have organized corn and sorghum silage variety trials for over a decade. The spring trial results are typically shown during a spring field day. Results for the summer planting of the UF/IFAS 2020 corn and sorghum silage hybrid trials, as well as results from previous years and other material can be found at <https://animal.ifas.ufl.edu/extension/courses/csfd/>

The annual Corn Silage and Forage field day was cancelled for the public in 2020 due to the Covid-19 pandemic. However, the organizers produced a video showcasing the results:

<https://youtu.be/4MsipOW8l0I>

There were over 70 hybrids of corn and sorghum in 2020, many planted both seasons. Thank you to all of our industry partners for making this possible. A field day for 2021 has not been announced. The UF Forage team maintains a Facebook page with forage news:

<https://www.facebook.com/UFForageTeam>

The Corn and Sorghum Silages Trials and Field Day are a collaborator between the UF/IFAS departments of Animal Sciences and Agronomy.

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U of Florida Hosted Virtual Southern Regional Dairy Challenge

Dairy Challenge had to adapt the annual (2020) Southern regional contests to ensure the safety of our students, coaches, judges, and volunteers. Ultimately, the decision was made to move the 15th annual Southern Regional contest to a virtual format. Fifty-five students from 13 colleges participated in the 2020 revolutionary event. Rather than the traditional 3-day format, this year's Southern Regional Dairy Challenge was held over the course of a month. Farm data was distributed on September 22, followed by 3 weeks of virtual training sessions for students, farm manager interviews, and team preparation. Students uploaded pre-recorded presentations October 19th and rounded out the 2020 contest with a virtual sponsor career fair, team question and answer sessions with the judges, and an awards ceremony on October 22nd. The events were coordinated by the Southern Region Dairy Challenge planning committee.

Traditionally, students at the Southern Regional Contest are placed into composite teams to encourage networking with other students. This year for safety and simplicity, the teams more closely resembled the National Contest and consisted of 3 to 6 students from the same university, with the exception of 2 composite teams. As always, students competed for awards based on their dairy farm analysis and appropriate solutions. Their farm presentations were evaluated by a panel of judges, including dairy producers, veterinarians, finance specialists and seasoned agribusiness personnel.

The one-month virtual event began on September 22 with a contest welcome, instructions, data distribution, and breakout sessions where team members were introduced to their mentors. The opening session was held live



via Zoom and included a team ice-breaker event so that students were still able to interact with each other. This session and all others were recorded for students to watch later if they were unable to attend live.



The combined UF-LSU team consisted of Cash Rice (UF), Emma Brown (LSU, left) and Morgan Mills (UF)

The next 3 weeks of the contest included a variety of educational training seminars for students, including the following topics:

- Dairy Records by Kas Ingawa (DRMS)
- Farm Financials by Alex White (Virginia Tech)
- Reproduction by Melanie Herman (Select Sires)
- Nutrition and Feed Management by Jeff Elliot (Balchem)
- How to Use a Partial Budget by Bradley Mills (Zoetis)
- Milking and Udder Health by John Laster (Dairy Diagnostic Lab Services)



Students interviewed University of Florida dairy farm manager Eric Williams round-robin style virtually on October 6, 2020 (Zoom screen shot). The identity of the host farm was kept confidential until after the contest.

Students met either in-person or virtually with their coaches and mentors over the next 3 weeks to assess farm data and develop a team presentation with recommendations for nutrition, reproduction, milking procedures, animal health, cow comfort, and labor and financial management. Pre-recorded team presentations were due October 19th, and over the next 3 days, judges met to review and score team presentations. On October 22, students attended a virtual sponsor career fair, which included representatives from ABS Global, Agri-King, Alta Genetics, Cargill, Dairy Records Management Systems, Farm Credit, GENEX, PEAK, Select Sires, and VAS. Additionally, each team had a designated time slot for questions and answers with their judging panel, followed by the judges' presentation and an awards ceremony.

Dairy Challenge events involve the entire dairy community. The University of Florida Dairy Unit (2020 host farm) graciously invited students in for analysis and in exchange, received a wealth of ideas from students and judges. This event would not have been possible without Drs. Albert De Vries and Izabella Toledo of the University of Florida, Kas Ingawa (Southern Region Dairy Challenge Chair), Molly Kelley (Executive Director NAIDC) the Southern Region planning committee, team mentors, volunteers, and all of the gracious sponsors.

The North American Intercollegiate Dairy Challenge is an innovative event for students in dairy programs at North American post-secondary institutions. Its mission is to develop tomorrow's dairy leaders and enhance progress of the dairy industry, by providing education, communication and networking among students, producers, and agribusiness and university personnel. Over its 18-year national history, Dairy Challenge has helped prepare more than 5,000 students for careers as dairy farm owners and managers, consultants, researchers, veterinarians or other dairy professionals. The next national event be hosted in Green Bay, Wisconsin, April 15-17, 2021. Four regional events are held in late fall and winter; details are at www.dairychallenge.org.

This article is a modified version of the 2020 Southern Region Dairy Challenge press release. More information about Dairy Challenge, contact Albert De Vries at devries@ufl.edu

HOARD'S DAIRYMAN

The National Dairy Farm Magazine



The November 2020 cover of Hoard's Dairyman featured the milking parlor at the UF/IFAS Dairy Unit located in Hague, Florida. Milking technician Casey Lane was the primary milker in the double 12 parlor that morning. Today, the dairy farm milks about 480 cows at 80 pounds fat-corrected milk per cow in twice-a-day milking.

Dairy Club Restores UF Dairy Unit Sign

The UF Dairy Science Club restored the sign at the front entrance at the UF Dairy Unit. Great job Dairy Club!



The Dairy Club has approximately 15 members and enthusiasts. Current president is Cash Rice. Follow the UF Dairy Science club online at:

<https://www.facebook.com/ufdairyscienceclub/>
<https://ufdairyscience.weebly.com/officers.html>



Before



After



Sign at the UF Dairy Unit

Association Between Dry Period Length and Fat, Protein, and Milk Yield in the Next Lactation

Pornpamol Pattamanont and Albert De Vries

The optimal dry period length remains a topic of practical interest and scientific study. Short dry period lengths reduce milk, fat and protein yield in the next lactation, but allow for more milk harvested in the current lactation. Many experimental studies have been conducted with a conventional dry period length of about 60 days, a short dry period length of about 30 days, and sometimes also omit the dry period all together. In such studies, cows are assigned one of just a few different dry period lengths. However, every cow has her own optimal dry period length that maximizes her expected profitability over multiple lactations and is measured in days.

The optimal time to dry a cow off is not easily determined. To help dairy farmers with dry off decisions, we need to predict how much milk, fat and protein the cow makes in the next lactation when the dry period is varied. In a study that was published in the Journal of Dairy Science in January 2021, our objective was to develop predictive models of 305-day mature equivalent milk, fat, and protein yields in the next lactation as continuous functions of the number of days dry (DD) in the current lactation. In this retrospective cohort study with field data, we obtained DHIA milk recording lactation records with the last DD in 2014 or 2015. Cows included had DD from 21 to 100 days. After editing, 1,030,141 records from cows in 7,044 herds remained. The average dry period lengths in these data were 55, 58, and 58 days for lactations 1, 2 and to 3 respectively.

Three parity groups of adjacent (current, next) lactations were constructed. We conducted all analyses by parity group and yield component. We first applied control models to pre-adjust the yields in the subsequent lactation for potentially confounding effects. Control models included the covariates mature equivalent yield, days open,

somatic cell score at 180 d pregnant, daily yield at 180 d pregnant, and a herd-season random effect, all observed in the current lactation. Days dry was not included. Secondly, we modeled residuals from control models with smooth piecewise regression models consisting of a simple linear, quadratic, and another simple linear equation depending on DD (figures 1 to 3). Yield deviations were calculated as differences from predicted mature equivalent yield at 50 DD. Control models reduced the average root mean squared prediction error by approximately 21%.

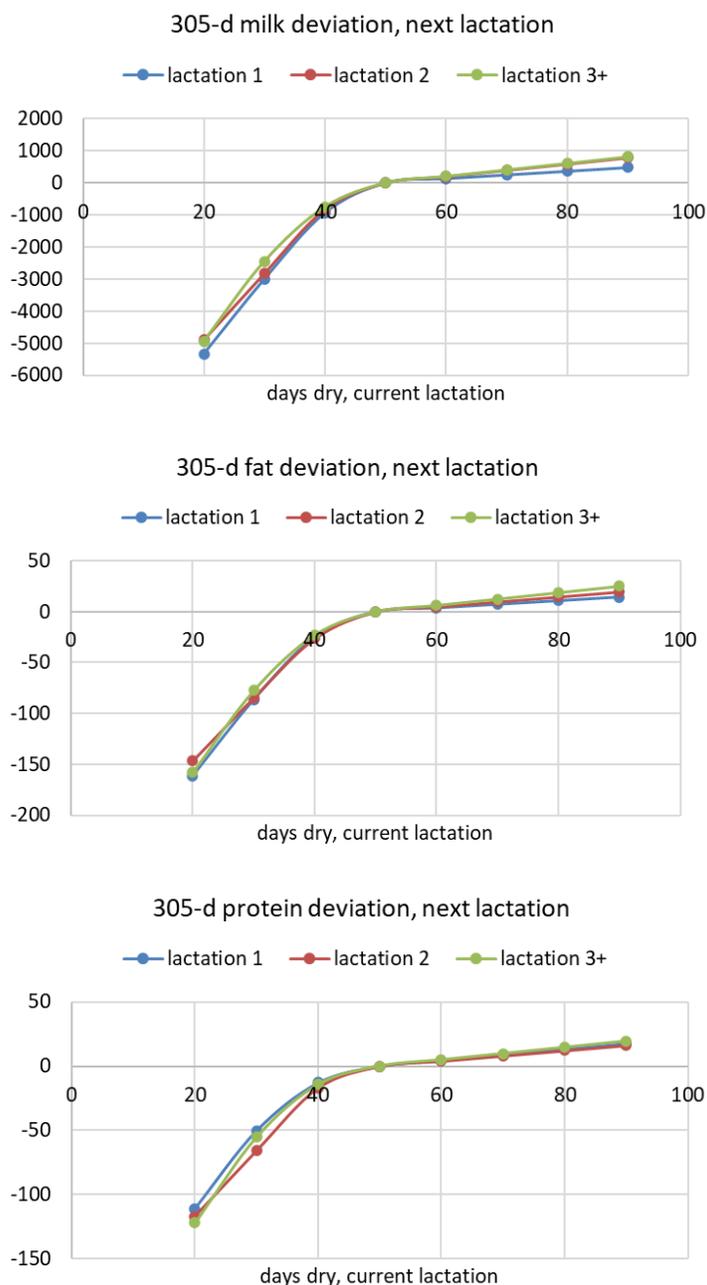


Figure 1 to 3. Changes in milk, fat, and protein yield in the next lactation when the dry period length in the current lactation is varied away from 50 days. Results in pounds.

Yield deviations were increasingly more negative for DD shorter than 50 days, indicating lower yields in the next lactation (figures 1 to 3). For dry period lengths shorter than 50 days, the decrease in 305-day mature equivalent milk yield ranged from 95 to 117 pounds per DD. For mature equivalent fat and protein yields, decreases were between 2.82 to 3.77 pounds per DD, and 2.34 to 3.31 pounds per DD, respectively. Yield deviations often were marginally positive and increasing for dry period lengths greater than 50 days so that the highest yield in the subsequent lactation was predicted for 100 DD. For dry period lengths longer than 50 days, the 305-day mature equivalent milk yield increased at most 9.21 pounds per DD. Patterns in deviations for fat and protein yield were similar to those for milk yield deviations. Predictions from piecewise models and local regressions of published experimental studies were very similar, which supports the chosen functional form of the piecewise models.

We concluded that piecewise models of mature equivalent milk, fat and protein yield deviations as continuous functions of DD fit the observed data well and may be useful for decision support on the optimal dry period length for individual cows. A spreadsheet with the piecewise functions and figures 1 to 3 is at

<https://devries.ifas.ufl.edu/dairyupdate/piecewisemodeldryperiodlength.xlsx>

Reference: P. Pattamanont, M. I. Marcondes, J. S. Clay, A. Bach, and A. De Vries. Piecewise modeling of the associations between dry period length and milk, fat, and protein yield changes in the subsequent lactation. *Journal of Dairy Science* (2021) 104:486–500.

<https://doi.org/10.3168/jds.2020-18363>

Understanding Animal Welfare Through Behavior

A recent post in ANS Research Spotlight featured Emily Miller-Cushon, Assistant Professor of Animal Behavior. Check out her story at <http://blogs.ifas.ufl.edu/animalsciencesdept/2020/10/29/understanding-animal-welfare-through-behavior/>



Emily Miller-Cushon

The story was written by Zoe Bowden. Zoe is an undergraduate academic advisor and communication specialist for the UF/IFAS Department of Animal Sciences.



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