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GEORGIA DAIRYFAX

Dear Dairy Producers:

The enclosed information was prepared by the University of Georgia Animal and Dairy Science faculty in Dairy Extension, Research & Teaching. We trust this information will be helpful to dairy farmers and dairy related businesses for continued improvement of the Georgia Dairy Industry.

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Sincerely,

Sha Tao

Sha Tao, Assistant Professor

UGA extension

Welcome Drs. Todd Callaway, Caitlin Foley, and Valerie Ryman

Three new faculty recently joined the Department of Animal and Dairy Science at UGA. They have expertise in ruminant nutrition, health and management and will provide tremendous value to our research, teaching and extension programs.

Dr. Todd Callaway, 75% research, 25% teaching

Dr. Todd Callaway is a ruminant microbiologist who grew up on a small horse, dairy, and beef farm and received his B.S. and M.S. degrees from the University of Georgia in Animal and Dairy Science in 1993 and 1996, respectively. He then went on to receive his Ph.D. degree in Microbiology from Cornell University in 1999. Dr. Callaway's research in graduate school focused on how the bacteria in the rumen of cattle could adapt and become resistant to ionophores, and how ionophore usage could be enhanced or replaced using non-antibiotic approaches.

Following graduate school, Dr. Callaway joined the Agricultural Research Service of the USDA (USDA-ARS) in 2000 and served as a research microbiologist in the Food and Feed Safety Research Unit at the Southern Plains Agricultural Research Center, in College Station, Texas. There his research mission was to reduce food-borne pathogens such as Salmonella and E. coli O157:H7 in animals prior to slaughter. As part of his research focus, Dr. Callaway focused on the intestinal microbiome and the impacts of diet on the microbial population and host susceptibility to pathogen colonization. His research has been supported by the: National Cattlemen's Beef Association, National Dairy Board, National Pork Board, U.S. Poultry and Egg Foundation, and numerous companies from around the world. In 2016, Dr. Callaway served as the Acting and subsequently became the National Program Leader for Food Safety for USDA-ARS, with a portfolio of research that included: On-Farm Food Safety, Antimicrobial Resistance, and Microbiome research.

During his research career, Dr. Callaway has published more than 200 refereed journal articles, more than 25 book chapters, and 2 books entitled "Direct Fed Microbials" and "On-Farm Strategies to Control Foodborne Pathogens". Dr. Callaway received the American Society of Animal Science Early Career Research Award and the USDA/ARS Early Career Scientist of the Year Awards in 2007. Dr. Callaway has chaired numerous scientific meetings and research panels. Todd is excited to begin again working with the producers of Georgia to understand their specific needs and how manipulation of the ruminal microbes can improve profitability on the farm. His research at UGA is going to focus on the role of the ruminal microbes in the nutrition of cattle, and how the complex environment of the cattle gastrointestinal tract can impact food safety.

Dr. Caitlin Foley, 100% teaching

Dr. Foley grew up in the Hudson Valley region of NY where she raised several species of animals and participated in various 4-H activities including equine, rabbit, and poultry projects. She attended SUNY Cobleskill and Cornell University for undergraduate study and became very interested in dairy science. Upon completion of her bachelor's degree, she attended Virginia Tech and conducted research involving the development of an immunocontraceptive vaccine in dairy cattle.

Upon completion of her master's degree, Dr. Foley gained experience in both the dairy

nutrition and genetics/reproduction industries in the northeast and southeast regions. She then returned to academia to pursue a doctoral program at Penn State, where she conducted research involving veterinarian perspectives of antibiotic resistance, and assisted with the teaching of courses in the Animal Science department.

Dr. Foley joined the department of Animal and Dairy Science at UGA in 2017 with a 100% Teaching appointment. She places great value on experiential learning and believes that hands-on laboratory activities and student research are vital components to formal instruction.

While Dr. Foley does not currently have Extension or Research appointments, she incorporates various aspects of experimental design, data collection and analysis, and presentation of results into many of the courses that she teaches. She also plans to work with the Dairy Science Club and provide leadership to those involved in the various intercollegiate dairy events, and looks forward to assisting other faculty with dairy youth activities including judging, quiz bowl, and showmanship.

Dr. Valerie Ryman, 75% extension, 25% teaching

Dr. Valerie Ryman is originally from South Carolina where she received her B.S. degree at Clemson University. She was actively involved in the Clemson University Dairy Science Club (CUDSC), served as Vice President of the CUDSC during her senior year, and showed dairy heifers with the CUDSC at various local and state dairy shows.

Dr. Ryman then received her M.S. degree from the University of Georgia under the direction of Dr. Steve Nickerson. Her research focused on evaluating the immunostimulating effects of a commercial feed supplement in dairy heifers vaccinated with a Staphylococcus aureus bacterin. Following that, Dr. Ryman received her Ph.D. from Michigan State University under the direction of Dr. Lorraine Sordillo. Dr. Ryman's research centered on investigating the effects of oxidized fatty acids on mammary endothelial barrier integrity. Her work utilized a S. uberis mastitis disease model. She identified that oxidized linoleic acid derivatives, the most predominant fatty acid in the dairy cow's diet, induced endothelial cell death potentially contributing to a disruption in the blood-milk barrier.

During her education and training, she had numerous opportunities to interact with various members of the dairy community where she found her passion. Her personal mission is to combine training in applied and basic dairy science with proficiency in science communication to provide research-based knowledge through public service and extension outreach. With her expertise in mammary health, milk quality, and mastitis she hopes to continue providing educational opportunities and services to the Georgia dairy community, including county extension agents. Dr. Ryman will be working on extension articles and public press pieces among others, as well as striving to establish seminars and workshops to best meet the needs of the Georgia dairy industry.

Lastly, she looks forward to working with young people throughout Georgia as well college students at UGA as they prepare for a future in the animal and dairy science industry. She is honored to join the Animal and Dairy Science Department at UGA and will continue to build strong relationships with the dairy producers, county extension agents, and others throughout the state.

Dairy Dawgs on the Moove

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Dairy Challenge – March 30th – April 1st

This year's National Dairy Challenge was held in Visalia, CA and Dairy Dawgs could not have been more excited to be sending a team! Comprised of Kayla Alward, Sarah Jane Thomsen, Nathan Webb and Mary Wright, these students had been preparing for more than a year for this event. The previous year, all of these students attended the National Dairy Challenge Academy to gain as much knowledge as possible about evaluating a dairy farming operation. Coupled with classroom knowledge the dawgs were excited to be going with Dr. Bohlen to the West coast to experience dairy farming on a whole new level!

Everyone headed to the airport on Wednesday evening, March 29th, for a late night flight out to Los Angeles, and then for the 2-hour drive to Visalia where the event would be taking place. Thursday was the day for a farm tour for students from other areas of the country to have an opportunity to break down what dairy farming in Visalia is like before the actual contest. Airosa Dairy hosted upwards of 300 students for the morning and early afternoon. They gave a fantastic tour, which included various stations set up by Dairy Challenge to give students some insight on a particular aspect of dairying. One of these included nutrition. As you can imagine, the forages and climate in California differs greatly from Georgia, so stations like these were crucial for the team to get an idea of what a ration in that area of the country could and should look like. This goes the same for all other aspect of the dairy including reproduction, milk management and mastitis.

After catching a glimpse of a typical farm in California, it was back to the hotel for some education seminars including Silage Safety, and information about the ARPAS exam followed by a wonderful "Taste of California" dinner. It was after dinner that the real work began. The teams were given all relevant farm data including access to their computer records keeping system (in this case DairyComp 305), financial information, a farm map, farm statistics the farms goals for the future. With this in hand, the UGA team spent the next 2 hours scouring the information, looking for strengths and weaknesses, drawing a conclusion, and formulating a plan for when they would get a chance to be on the farm the next day. They immediately picked out some opportunities and then began planning where they thought these sources of opportunity arose from on the farm, so that they may make sure to spend time visiting that area on the farm. They had to plan their time wisely since they would only have 3 hours to scour the farm for details that would lend information for their SWOT (strengths, weaknesses, opportunities, threats) analysis that they would give. The evening was finished with a well thought out plan for the next day and their eyes on winning the competition!

The next morning, the students traveled to the contest farm where they first had an opportunity to listen to the owner introduce the farm, and then have a Q & A session. This session must be highly strategic. Too specific of a question and you'll let other teams know what you found when you analyzed the data (therefore giving them a clue on what to look for if they

hadn't already figured it out) but at the same time, this is the only opportunity the students have to ask the owner any questions they may have about the farm and/or the data. After the Q & A, the students had about 2 and half hours to explore the farm and search for answers to their questions. This farm was particularly large, which is even more so why a plan of action was needed. At the end of the time, the students gathered back on the bus to travel back to the hotel and begin making their presentation.

Now was crunch time. The team had approximately 5 hours to compile all of their information into a presentation that laid out the strengths, weaknesses, opportunities and threats for this farm, all while providing hard numbers to back up their suggestions and claims. While this may sound like an easy task, it's quite the feat considering the amount of data from the farm that is being analyzed. The room was tense but productive and everyone was glad when the presentation was finished and time was up. The rest of the evening was spent de-stressing and networking with people from the industry, other colleges and other students while playing some trivia games. At the end of the night, the team briefly reconvened to go over the presentation, before hitting the hay.

Saturday was the big day of presentations. The team had most of the morning to prepare before their afternoon presentation. The students gave a wonderful presentation that was well prepared and hit the time right on the mark. The judges evaluated, asked questions, and then deliberated their rankings after all groups had presented.

At the conclusion of the banquet that evening, the placings were announced for each bracket. The competition was very stiff and the dawgs did not place in their bracket. The winning teams were Kansas State University in 2nd and University of Minnesota in 1st. While the dairy dawgs didn't place 1st or 2nd, they were commended by their judges for a fantastic presentation. The dawgs gained invaluable knowledge, contacts, and a wonderful experience!!

NORTH AMERICAN INTERCOLLEGIATE Dairy Challenge™ Tomorrow's Dairy Leaders

Image: *2017 National Dairy Challenge Team*

L-R: Dr. Jillian Bohlen, Nathan Webb, Kayla Alward, Sarah Jane Thomsen, Mary Wright

National ADSA – June 24th – 27th

Where in the world were the Dairy Dawgs this summer?? All over the country! This made it particularly challenging for the students to come together to attend the National ADSA meeting in Pittsburgh, PA. Kayla Alward was interning on Mason Dixon Dairy Farms in Gettysburg, PA, working on reproduction and herd health. Mary Wright was also in PA in Bucks County, working with the local extension to organize shows and teach animal science camps, and also working on her home farm where she raises replacement heifers. Yet another student, Taylor Strickland interned in Arizona with dairy veterinarians focusing on reproduction and large animal care. Nathan Webb had the opportunity to stay in Georgia to intern at Barrington Dairy Farm with a focus on nutritional aspects. And finally, Lily Masa was holding down the fort right here in Athens, GA working at the UGA Teaching Dairy.

But with the dedication and desire for these students to be a part of ADSA, they all arrived in Pittsburgh on Friday evening to rest up before the competitions began. Saturday was spent meeting other students and getting a behind the scenes look at the Pittsburgh Zoo and Aquarium. After this, they went back to the hotel to prepare for Quiz Bowl the next day. Quiz Bowl took up most of the day, with the Dawgs working hard to show their knowledge in the hopes of winning. They made it to 4th place, beating out Louisiana State University, Iowa State, University of Florida, Cornell and Washington State!! The top 3 schools were Virginia Tech, Penn State and Cal Poly.

On Monday, the students were up bright and early with some preparing for presentations. Mary Wright gave a presentation entitled "Evaluating the migration toward automated calf feeders on calf performance" in the Dairy Production category, while Kayla Alward gave a presentation entitled "The potential impact of a novel canned latte on the North American dairy products market". After listening to other students' talks as well as leaders from the dairy industry, they were able to attend a round table luncheon which featured members of different divisions of the dairy industry who engaged with students about what they do and potential jobs in their field. One of the highlights of the trip came that evening when the entire ADSA student group went on a Riverboat Cruise featuring dinner, dancing, and a whole lot of fun! It was a fantastic way to wrap up the trip before our final day.

Tuesday was the day everyone had been waiting for; the announcement of the winners. And we are pleased to say that the Dairy Dawgs represented well!! The students made countless connections within the industry and gained a wealth of information while on the trip, all while having fun. Way to go Dairy Dawgs!!

4th place Quiz Bowl in the Nation

3rd place Outstanding Chapter in the Nation

2nd place Scrapbook in the Nation

Mary Wright placed 4th for her presentation in Dairy Production entitled "Evaluating the migration toward automated calf feeders on calf performance"

Mary Wright was elected to serve as the National 2nd Vice President for the Student Affiliate Division of ADSA

Kayla Alward won 1st place for her presentation in Dairy Foods entitled "The potential impact of a novel canned latte on the North American dairy products market" making her the 1st student to ever win in all 3 categories.

Kayla Alward was named the National Outstanding Dairy Student and was awarded the Genevieve Christen Distinguished Undergraduate Award and was the outgoing 1st Vice President for the Student Affiliate Division of ADSA

Dr. Bohlen will serve as the 3rd year National Advisor to the student organization

Image: *UGA Dairy Science Student Delegation to National ADSA-SAD*

L-R: Kayla Alward, Taylor Strickland, Lily Masa, Mary Wright, Dr. Jillian Bohlen, Nathan Webb

Herd it Through the Bovine

Youth Corner

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Georgia Dairy Youth at National Competitions

Georgia dairy youth are going to have a busy fall striking out for the national stage! Please encourage these young people on their very exciting dairy journeys ahead!!!

National 4-H Dairy Conference

- Conference held October 1st – 4th at World Dairy Expo (Madison, WI)
- Representing Georgia
  - **Neely McCommons**
    - **Oconee County**
  - **Lawton Harris**
    - **Jasper County**
  - **Karmen Holbert**
    - **Floyd County**

National Dairy Judging Contest

- Contest on October 2nd at World Dairy Expo (Madison, WI)
- Representing Georgia
  - **Gordon County**

National Dairy Quiz Bowl Competition

- Contest on November 3rd – 4th in Louisville, KY
- Representing Georgia
  - **Oconee County**

Good Luck to All of those Exhibiting at the GA National Fair

Georgia National Fair Junior Commercial Dairy Heifer Show

- Entry deadline is September 1st
- Weigh in on October 7th and Show Day on October 8th
- Dress a Cow Contest on October 7th at 4:00 PM – Get your outfits ready!

Georgia National Fair Junior and Open Shows

- Showing October 13th, 14th, and 15th

The prevalence of flies carrying *Salmonella* in Georgia dairy farms

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Fly control is an important and integrated component in dairy farm management. Fly is nuisance for both human and animals. In dairy farms, large population of flies alters animal behavior and results in stress. More importantly, uncontrolled flies can cause reduced milk production, increased disease incidences, and impaired growth of dairy cattle. Further, fly can be a vector for disease-causing pathogens, such as *E. coli*, *Salmonella etc*. Thus, it is important to understand the prevalence of fly population carrying pathogens to better manage fly control programs. Data collected from different locations in the world reveal distinct prevalence of pathogen-carrying flies between and within farms, suggesting variations caused by geographical location, climate, and management of a farm. To understand the prevalence of pathogen-carrying flies in GA dairies, a survey was performed in the summer of 2016.

The study determined the prevalence of *Salmonella* carried by flies captured from 28 dairy farms in Georgia (Figure 1). At least 50 flies were captured in each farm using a sticky tape, and *Salmonella* was isolated and identified from collected flies. In total, *Salmonella* was isolated from 185 out of the 1,650 (11%) captured flies. Among the 28 farms surveyed in the study, flies captured from 22 farms (79%) carried *Salmonella* (Figure 2). The prevalence of *Salmonella*-carrying flies on individual farms ranged from 0 to 78%. The top three incidences of *Salmonella* in flies were 78%, 52%, and 30%. Clearly, there are large variations between farms on the prevalence of fly-borne *Salmonella*, suggesting the hygiene conditions and management between farms may influence the fly population that carries disease-causing bacteria. For those farms with high prevalence of *Salmonella*-carrying flies, it would be interesting to further investigate if there is a high incidence of disease caused by *Salmonella*. This information is not available in this study, but deserves a further investigation.

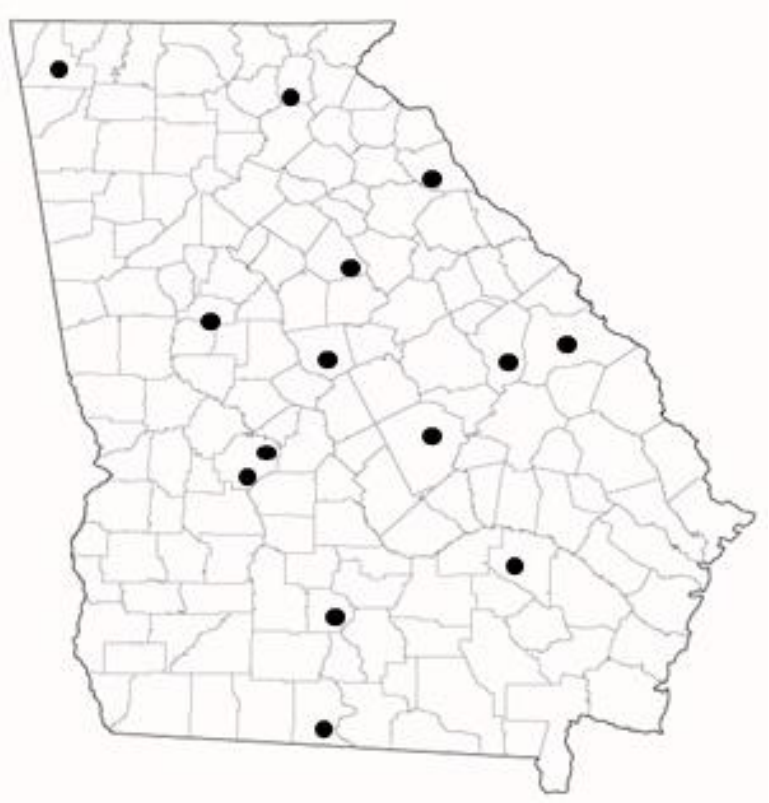

Figure 1. *Geographical locations of the 28 dairy farms sampled in Georgia, 2016.*

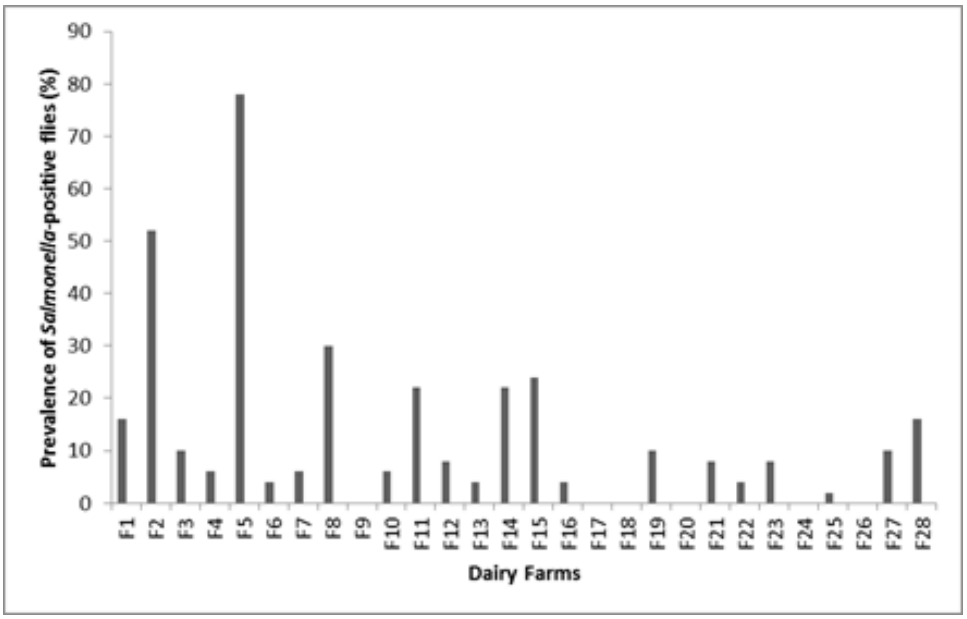

Figure 2. *Prevalence of Salmonella-positive flies among the 50 flies captured on each farm.*

How lame is your farm's efficiency?

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The term "efficiency" has been used extensively in the dairy industry as producers seek to monitor many facets of their operations in the face of tumultuous economic climates and ever-changing markets. From a dairy farm perspective, technical efficiency measures the tangible output from a given set of inputs. While various parameters such as milk production, feed costs, reproduction, and facilities have been assessed and benchmarks generated and continually updated to reflect optimal goals, perhaps vital factors have been overlooked as measures of technical efficiency– lameness and animal welfare.

As a result of research conducted in recent years pertaining to animal welfare and economic performance in dairy production systems, lameness has been defined as a "gait abnormality in the cow" and has been identified as an indicator of welfare due to its common association with pain, poor body condition, and reduced fertility (Barnes et al., 2011). While researchers have agreed that an increase in lameness can negatively affect cow health, production parameters, and ultimately cow profitability; few studies have investigated the relationships between lameness, on-farm resource use, and overall farm efficiency.

A team of Scottish researchers conducted a study (Barnes et al., 2011) assessing resource use and lameness scores from a sample of British dairy operations. This was done in an effort to determine whether lame cows affected overall farm efficiency. Data from the study showed several noteworthy trends. Results indicated that farms with low lameness rates (< 10% of the herd) had higher levels of technical efficiency, thus showing a positive relationship between a farm's ability to improve lameness management and resource usage. This finding provides a benchmark for dairy producers as they should strive to reduce herd lameness to < 10% in order to benefit from more efficient overall resource usage.

Another finding from the study suggested that dairy producers should adopt a whole-farm approach when assessing lameness and technical efficiency rather than relying on a few efficiency indicators. When individual inputs were assessed, a slightly contradictory finding emerged. Data indicated that low lameness farms were inefficient with regard to stocking density and labor. The low lameness farms tended to have lower stocking densities allowing more space per cow, as well as more labor needed to manage and monitor lameness in the herd. However, these inefficiencies did not significantly affect the overall efficiency of the farms as the reduced lameness in the herd was accompanied by more influential inputs and outputs. These included increased milk production, lower feeding inputs, decreased veterinary costs, decreased replacement costs, and milk loss per day (Barnes et al., 2011).

So what does this mean for dairy producers and industry stakeholders? As a first step to increasing technical efficiency, dairy producers should commit to continually monitoring their specific inputs and outputs. Producers should then follow the recommendations of Barnes et al. (2011) and create and implement lameness management strategies. While effective lameness scoring does involve training and practice, it is relatively easy to accomplish using a four or five-

point rating scale, and the results can have lasting benefits. However, consistency is a key to success. As with other subjective scoring systems, producers should seek to minimize error by having one employee score all cows or by taking the average scores of two employees. Additionally, cows should be scored at the same time and frequency, for example scoring lactating cows as they exit the milking parlor during afternoon milking. Once a baseline herd lameness level is determined, producers can then implement interventions to address lameness issues and look forward to the benefits of improved cow health and increased farm efficiency.

It is imperative for modern dairy producers to monitor their operations in order to optimize efficiency, profitability, herd health, and food safety in the dynamic agriculture industry. Using various analytical measures and benchmarks to evaluate farm efficiency is a major step to informing policymakers of producer and societal needs, as well as ensuring the future of profitable dairy production systems. The findings of Barnes et al. (2011) should stimulate further studies and encourage producers to evaluate animal welfare and lameness management strategies in addition to their ever-changing lists of inputs and outputs.

References

Barnes, A. P., Rutherford, K. M. D., Langford, F. M., and Haskell, M. J. (2011). The effect of lameness prevalence on technical efficiency at the dairy farm level: An adjusted data envelopment analysis approach. *Journal of Dairy Science, 94*(1). 5449-5457.

Is antibiotic therapy a gamble? Improve your odds for curing a mastitic quarter!

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Lane O. Ely, Professor Emeritus

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Trying to successfully treat a case of clinical or subclinical mastitis with mastitis tubes is oftentimes a crap shoot, as cure rates are typically 50% or less. So, how can you improve your odds of effecting a cure against the common staphs and streps that cause the majority of mastitis?

An ongoing study at the UGA Teaching Dairy suggests that it is all about the SCC. For the past 10 years, we have been conducting a research trial to determine what lactating cow antibiotic products and how long they are infused result in the greatest cure rates for the common causes of mastitis. The 5 lactating cow products that we have been evaluating are Hetacin-K, ToDAY, Amoximast, Spectramast LC, and Pirsue, and we have been comparing 2 treatment times: 1) following label instructions (short duration) and 2) extended therapy (long duration). Extended therapy consists of one intramammary infusion at each of 6 consecutive milkings, for a total of 6 infusions. Of course, this treatment must be carried out within the context of a valid veterinarian-client-patient relationship (VCPR).

A subset of the data, which included 30 lactating cows, was recently summarized and presented at the CAES Undergraduate Research Symposium by our undergraduate intern Gabby Resnick. Results showed that overall cure rate across all 5 products and 2 treatment times for all types of mastitis was 41.2%. The highest cure rate was observed with Today (80.0%) followed by Spectramast LC (44.4%), Pirsue (40.0%), Hetacin K (33.3%), and Amoximast (16.6%). No differences in cure rates were observed across antibiotic treatments between short duration (42.1% cure) and long duration (40.0%) therapies. Across treatment products and treatment times, cure rates were highest for the coagulase-negative staphs (85.7%), followed by the streptococci (36.4%), and *Staph. aureus* (25.0%).

What was very revealing was that infected quarters that actually cured as a result of antibiotic therapy had relatively low SCC at the time that antibiotic therapy was initiated. On the other hand, infected quarters having very high initial SCC were in fact treatment failures. For example, the average SCC at the time of treatment in any infected quarter destined to cure after therapy was 587,000/ml, whereas the average SCC of quarters destined to fail at time of treatment was 2,994,000/ml (Figure 1).

Looking at individual bacterial infections (Figure 2), average SCC at the time of treatment in quarters infected with the coagulase-negative staphs that were destined to cure after therapy was 343,000/ml, and the mean of those destined to fail was 949,000/ml. The average SCC at the time of treatment in quarters infected with *Staph. aureus* that were destined to cure after therapy was 661,000/ml, and the mean of those destined to fail was 3,350,000/ml. The average SCC at the time of treatment in quarters infected with streptococci that were destined to cure after therapy was 880,000/ml, and the mean of those destined to fail was 2,676,000/ml.

From a practical standpoint, the most important finding of this trial to date is that infected quarters that cured had lower SCC (587,000/ml) vs. those that failed (2,994,000/ml). Although results are preliminary. We believe that dairy farmers may be able to use these bench marks when deciding if an infected quarter should be treated. For example, if the SCC is 500,000 ± 200/ml, then the chances for a cure are good, but if the SCC is 3,000,000 ± 1,000,000, then the chances are poor, and treatment would not be advised.

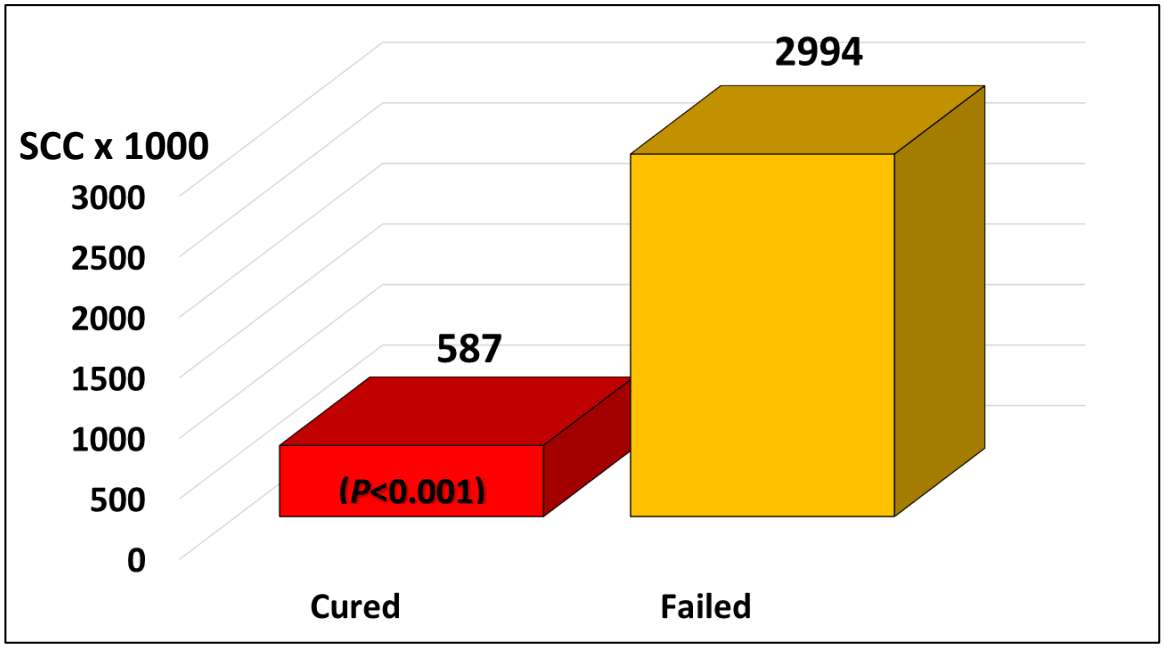

Figure 1. *SCC (in 1000s) of infected quarters at the time of treatment that cured or failed after therapy.*

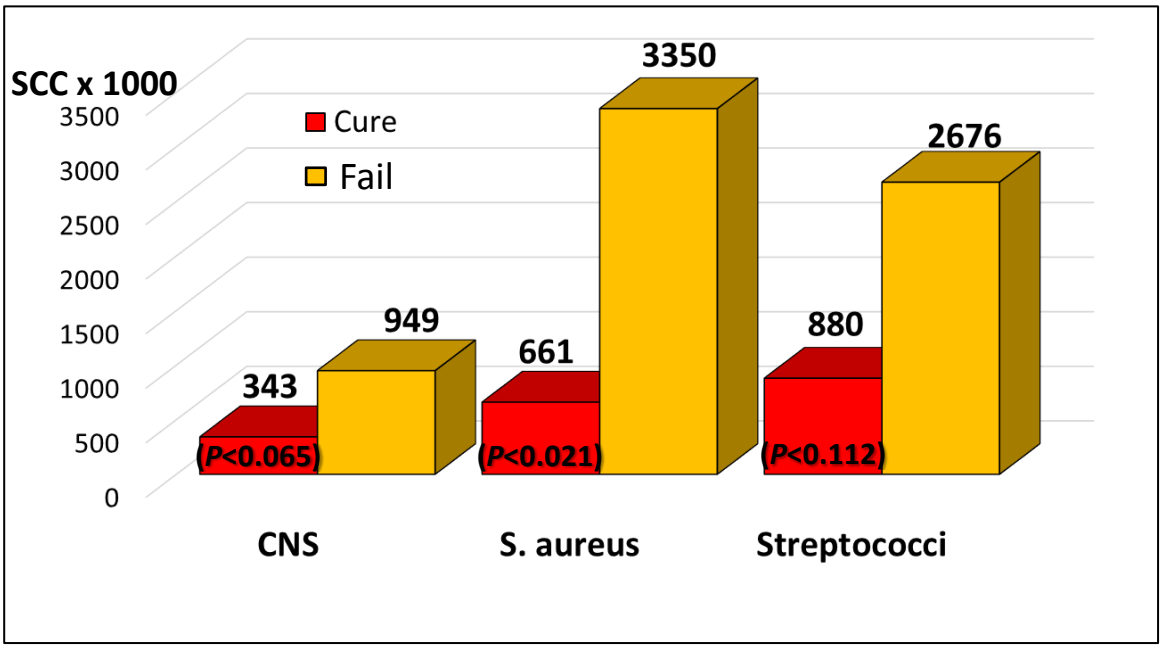

Figure 2. *SCC (in 1000s) of infected quarters at the time of treatment that cured or failed after therapy for each bacterial species studied.*

I keep hearing about using probiotics in my cows. What are they?

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Over the past half century, the dairy industry has seen an unprecedented consolidation, with the average herd size increasing while the total number of farms has decreased. Concentrating cows on large farms has worked to increase total production efficiency, and has allowed us to focus on producing more milk, more efficiently. To meet this goal, dairy cattle are often fed "Direct-Fed Microbials" or DFM, which can alter the microbial population of the rumen and gut of cattle.

The rumen of cows contains a very complex ecosystem that is composed of more than 3000 species of bacteria, fungi, protozoa, and viruses. The rumen microbes use a vast number of biochemical pathways which enable cattle to utilize low quality feedstuffs, such as cellulose contained in grasses. The ability to utilize cellulose for energy via microbial fermentation allowed ruminant animals to occupy environments without direct competition and spread around the world. However, because the fermentation process is inefficient, the ruminant animal has a relatively low feed efficiency relative to monogastric animals such as pigs and poultry. Despite this limitation, the microbial population of the gut of cattle is critical to production and animal health. So, for many years people have tried to improve or "perfect" the rumen microbial population to increase efficiency, but to also reduce the variation between efficiency of individual animals. Many of these attempts can be classified as "probiotic" and generally these seek to make a change in the ruminal microbial population that improves animal performance or make the animals "healthier". More recently these probiotic types of approaches have been utilized to improve the safety of meat and dairy products by reducing foodborne pathogenic bacterial populations in the live animal.

What are Probiotics in cattle?

Probiotics advertised on TV are generally live cultures of bacteria that improve some aspect of well-being or "regularity". When these products are used in animal feeds they are called "Direct-Fed Microbials" (DFM) and are included in rations to enhance animal growth or performance, improve animal health, or decrease pathogenic bacterial populations. Typically, DFM are bacteria, fungi, or yeast that are fed to an animal (or human) daily that modify the gut microbial population and has a positive impact on the host. Some DFM function instead by providing nutrients (prebiotics) to specific members of the microbial population. Prebiotics are carbohydrates or proteins (such as fructo-oligosaccharides; FOS) that are indigestible by the host but can be fermented only by the microbes of the gut. Prebiotics can be considered a "colonic food" because they provide nutrients to members of the microbial population that are not available to the host. This provides an advantage for some bacteria to be able to win the competition for nutrients in the gut. Recent years have seen these two approaches coupled together as "synbiotics", where a specific microorganism is fed to the animal along with a nutrient that is specific to the microbe, providing it a competitive advantage in the gut

ecosystem. Unfortunately, the expensive nature of prebiotics and ability of the ruminal microbial population to degrade so many compounds have limited prebiotic/synbiotic methods from being broadly used in dairy cattle.

Most DFM used in dairy cattle are in the "traditional probiotic" category, and can be either a live product, a heat-treated (killed) product, or one made from the end-products of growth, and are typically composed of either a single species or mixtures of lactic acid producing bacteria or yeasts. Normally DFM are microorganisms such as bacteria, fungi, or yeast, and are "Generally Recognized as Safe" and do not have to come from cattle or even a farm environment. Often these organisms are selected from a culture collection simply because "they are easy to grow" rather than for any special characteristics these organisms possess. As a result, there are thousands of DFM products that have been marketed for use in all species of animals, and these products have had a mixed track record of success, primarily since we simply did not understand the functional nature of the complex ruminal microbial population.

In the dairy industry, yeast and fungal products are the most common sources of DFM and are fed as live or dead products, which may or may not contain end-products of their growth (which can provide important nutrients to the animal and microbial population). Cultures of *Saccharomyces cerevisiae*, *Aspergillus oryzae*, and *Aspergillus niger* are the most common yeast utilized in dairy rations, whereas the most commonly used probiotic bacterial strains include *Bifidobacterium*, *Propionibacterium*, *Enterococcus*, *Streptococcus*, and *Lactobacillus*. There have been successful products using these organisms, but as we learn more from each product we have begun to understand why some DFM work and others do not.

While the focus of most DFM feeding in dairy cattle has been to improve feed efficiency and dairy profitability; more recent studies have shown that DFM feeding can also impact food safety and animal health. Nearly 1 out of 3 Americans are sickened each year by foodborne pathogenic bacteria; and the five most common foodborne pathogenic bacteria costs the U.S. economy more than $40 billion yearly. Because the rumen and gastrointestinal tract of cattle is such an ideal microbial habitat, it is not surprising that foodborne pathogenic bacteria can be found in the gut of dairy cattle, and many of the organisms do not affect the health of cattle directly, meaning they are not easily detected. Therefore, several new DFM have been developed that specifically target bacteria that represent a threat to food safety. Other DFM have been shown to stimulate the activity of the host animal's immune system, making the animal more resistant to illnesses encountered on the farm. Thus, some DFM can simultaneously reduce bacteria that may impact animal and human health.

As someone who has studied the function of the gut of cattle for my entire career, it is incredibly exciting to see DFM "come of age" as a method to harness the power of the microbial population of the gut to benefit producers. While some DFM have been rightly described as "magic foo-foo dust", there are an increasing number with consistently positive results which are supported by field data to support their inclusion in dairy rations. This makes it difficult to recommend that a producer use product X instead of product Y because there are so many variables that we do not understand that are farm- or region-specific. As we learn more about how the gut microbial population works, we will understand more about how DFM affect cattle, and how we can ultimately design a microbial population that increases production efficiency. In future articles, we will discuss how probiotics are thought to work in dairy cattle, and what to look for from them for your farm.

Processing the recovery and decline of income

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The word "recovery" is constantly in the news as our economy tries to come out of a downturn, recession or depression or tries to define if the economy has fallen into a depression and when will recovery occur. The dairy industry, with its price swings, has the economists trying to predict depression or the recovery or to declare the recovery has arrived.

The dictionary defines "recovery" as: 1) a recovering, 2) coming back to a normal condition, and 3) getting back something that was lost, taken away or stolen. An example is the stock market. If the stock market DOW JONES average is at 20500 and there is a loss of 2000 points, the pundits are worrying about is a depression will occur. When the DOW returns to 20500 it is said the stock market has recovered. In the dairy industry we often look at milk prices. If the price of milk is $20.00/cwt and falls to $15.00/cwt, when the price has returned to $20.00/cwt it is stated the industry has recovered.

This is very easy to calculate but also is a very simplistic view. How well the industry is doing is more complicated than just milk price. Costs are critical component of success.

Another value is net farm income. This takes into account not only milk prices but also expenses and both are usually changing at the same time.

In Table 1, net farm income/cwt for the years 1995 – 2015 is shown. These values have come from a variety of sources and are average values so individual farms or regions have varied greatly from these values.

The first observation is that for the 21 years the net farm income was positive in 16 of the years or 76.2% of the time. That is a pretty good record and why many have found the dairy industry to be a good option.

The second observation is that for the first 10 years the variation was much smaller than the last 5 years. This is the point that many have made in trying to improve the ability of the dairy manager to make decisions.

Looking at this table, the question arises "what is the accumulated total for net farm income over the years?" If there was a mythical dairy farm that made the average net farm income/cwt every year, was stable, not growing or getting smaller, not only were its bills paid but maintenance and replacement equipment was purchased, what would its accumulated net farm income be? The net farm income would be banked and could only be drawn out to balance a negative net farm income value to zero out for that year.

For the 21 years (Table 1) the accumulated net farm income is a very positive number as one might expect by having 75% of the years with positive numbers. If the mythical farm started 15 years, 10 years or 5 years ago, it would still have a positive number for net farm income. Starting 5 years ago compared to 10 years ago, the value is positive and larger. This points out the

importance of when farming was started but also the wider swings that have occurred in the last 10years.

This example shows how important timing may be and how in the long term the results can be cumulative. But this is not how a dairy farm today is operated. Expansion, new facilities, equipment and new family members to the operation means the net farm income has not been saved over the years.

The lesson from this should be that "saving for a rainy day" or using some profits to be prepared for the down turns will be successful in the long run. It takes very good financial records and planning to keep ahead of the game.

Table 1. *Net Farm Income/cwt and Cumulative Totals*

Year	Net farm income per cwt	Cumulative NFI total 21 years	Cumulative NFI total 15 years	Cumulative NFI total 10 years	Cumulative NFI total 5 years
1995	-$0.62	-$0.62			
1996	$1.73	$1.11			
1997	$0.20	$1.31			
1998	$1.98	$3.29			
1999	$2.80	$6.09			
2000	$1.08	$7.17	$1.08		
2001	$2.25	$9.42	$3.33		
2002	-$0.21	$9.21	$3.12		
2003	-$0.61	$8.60	$2.51		
2004	$1.58	$10.18	$4.09		
2005	$0.53	$10.71	$4.62	$0.53	
2006	$0.80	$11.51	$5.42	$1.33	
2007	$3.58	$15.09	$9.00	$4.91	
2008	$0.94	$16.03	$9.94	$5.85	
2009	-$6.23	$9.80	$3.71	-$0.38	
2010	$2.98	$12.78	$6.69	$2.60	$2.98
2011	$3.24	$16.02	$9.93	$5.84	$6.22
2012	$1.80	$17.82	$11.73	$7.64	$8.02
2013	$2.38	$20.20	$14.11	$10.02	$10.40
2014	$4.85	$25.05	$18.96	$14.87	$15.25
2015	-$1.92	$23.13	$17.04	$12.95	$13.32

Important Dates

2017-2018

Georgia National Fair

- October 5-15, 2017
- 401 Larry Walker Parkway, Perry, GA
- http://www.gnfa.com/

Sunbelt Agriculture Expo

- October 17-19, 2017
- 290-G Harper Boulevard, Moultrie, GA 31788-2157
- http://sunbeltexpo.com/

Georgia Dairy Conference

- January 15-17, 2018
- Savannah Marriott Riverfront, 100 General McIntosh Boulevard, Savannah, GA 31401
- http://www.gadairyconference.com/

2018 UGA Spring Dairy Show

- April 7th, 2018

Top GA DHIA By Test Day Milk Production – June, 2017										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% Days in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
DAVE CLARK*	Morgan	H	6/5/2017	1167	89	96.5	4	3.45	30216	1115
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	6/16/2017	439	87	95.4	3.6	2.96	32012	1126
J.EVERETT WILLIAMS*	Morgan	X	6/5/2017	2060	87	89.1			28363	
A & J DAIRY*	Wilkes	H	6/8/2017	404	92	86.5			27680	
DANNY BELL*	Morgan	H	6/7/2017	292	91	85.9	3.9	2.92	28107	1100
SCOTT GLOVER	Hall	H	6/16/2017	229	89	84.5	3.6	2.54	26697	997
COASTAL PLAIN EXP STATION*	Tift	H	6/15/2017	289	90	84.5	3.7	2.77	24552	951
EBERLY FAMILY FARM*	Burke	H	6/27/2017	863	89	82.5	3.5	2.37	27007	974
DOUG CHAMBERS	Jones	H	5/19/2017	405	89	82.1	3.5	2.57	25127	879
IRVIN R YODER	Macon	H	5/30/2017	254	91	80	3.4	2.65	24886	919
TROY YODER	Macon	H	5/31/2017	271	88	80	3.9	2.71	24809	990
AMERICAN DAIRYCO-GEORGIA,LLC.*	Mitchell	H	6/1/2017	3788	90	78.9	4	2.8	24635	911
R & D DAIRY*	Lamar	H	6/23/2017	335	89	77.8	3.7	2.62	24370	937
SOUTHERN SANDS FARM	Butts	H	5/31/2017	75	86	76.6	3.7	2.73	23605	831
LARRY MOODY	Ware	H	6/14/2017	1082	88	76.2	3.5	2.34	23582	
HICKORY HEAD DAIRY*	Brooks	H	5/25/2017	2267	87	75.8	4.3	2.96	22642	812
B&S DAIRY*	Wilcox	H	6/13/2017	766	90	74.6	3.5	2.36	25860	929
UNIV OF GA DAIRY FARM	Clarke	H	6/20/2017	106	86	73.6	3.6	2.58	21451	777
KENT HERMAN	Putnam	H	6/20/2017	126	88	71.7	3.7	2.52	22695	868
OCMULGEE DAIRY	Houston	H	6/24/2017	330	87	70.7	3.3	2.03	22465	785

[1]Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).

Top GA DHIA By Test Day Fat Production – June 2017										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	Cows	% Days in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
DAVE CLARK*	Morgan	H	6/5/2017	1167	89	96.5	4	3.45	30216	1115
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	6/16/2017	439	87	95.4	3.6	2.96	32012	1126
HICKORY HEAD DAIRY*	Brooks	H	6/5/2017	2267	87	75.8	4.3	2.96	22642	812
DANNY BELL*	Morgan	H	6/8/2017	292	91	85.9	3.9	2.92	28107	1100
AMERICAN DAIRYCO-GEORGIA,LLC.*	Mitchell	H	6/7/2017	3788	90	78.9	4	2.8	24635	911
COASTAL PLAIN EXP STATION*	Tift	H	6/16/2017	289	90	84.5	3.7	2.77	24552	951
SOUTHERN SANDS FARM	Butts	H	6/15/2017	75	86	76.6	3.7	2.73	23605	831
TROY YODER	Macon	H	6/27/2017	271	88	80	3.9	2.71	24809	990
IRVIN R YODER	Macon	H	5/19/2017	254	91	80	3.4	2.65	24886	919
R & D DAIRY*	Lamar	H	5/30/2017	335	89	77.8	3.7	2.62	24370	937
UNIV OF GA DAIRY FARM	Clarke	H	5/31/2017	106	86	73.6	3.6	2.58	21451	777
DOUG CHAMBERS	Jones	H	6/1/2017	405	89	82.1	3.5	2.57	25127	879
SCOTT GLOVER	Hall	H	6/23/2017	229	89	84.5	3.6	2.54	26697	997
JOHN WESTSTEYN*	Pierce	X	5/31/2017	1120	90	68.5	4	2.53	20474	756
KENT HERMAN	Putnam	H	6/14/2017	126	88	71.7	3.7	2.52	22695	868
TWIN OAKS FARM	Jefferson	H	5/25/2017	90	89	65.2	3.8	2.47	20695	788
CHARLES STEWART	Greene	X	6/13/2017	109	87	64.6	4	2.47	19731	758
MARTIN DAIRY L. L. P.	Hart	H	6/20/2017	326	90	70.4	3.9	2.42	23909	925
SOUTHERN ROSE FARMS	Lee	H	6/20/2017	105	82	64	4	2.37	19502	758
GODBEE FARMS*	Jenkins	X	6/24/2017	136		55.9	4.9	2.37		

[1]***Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).***

Top GA DHIA By Test Day Milk Production – July 2017										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test date	[1]Cows	% Days in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
DAVE CLARK*	Morgan	H	7/3/2017	1178	89	97.1	4	3.48	30307	1133
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	7/19/2017	449	87	95.1	3.8	3.08	31748	1124
DANNY BELL*	Morgan	H	7/6/2017	289	92	91.5	3.8	3.07	28268	1108
J.EVERETT WILLIAMS*	Morgan	X	6/23/2017	2060	87	89.1			28363	
SCOTT GLOVER	Hall	H	7/20/2017	228	89	84.7	3.6	2.54	26485	990
DOUG CHAMBERS	Jones	H	6/29/2017	416	89	82.7	3.3	2.4	25256	885
EBERLY FAMILY FARM*	Burke	H	6/26/2017	863	89	82.5	3.5	2.37	27007	974
A & J DAIRY*	Wilkes	H	7/21/2017	413	92	80.8			27619	
TROY YODER	Macon	H	6/27/2017	271	88	80	3.9	2.71	24809	990
R & D DAIRY*	Lamar	H	7/11/2017	331	89	77.8	3.6	2.55	24103	936
COASTAL PLAIN EXP STATION*	Tift	H	7/17/2017	290	90	77.5	3.7	2.49	24836	957
AMERICAN DAIRYCO-GEORGIA,LLC.*	Mitchell	H	7/5/2017	3794	90	76.6	4	2.71	24739	920
B&S DAIRY*	Wilcox	H	6/29/2017	766	90	74.6	3.5	2.36	25860	929
HICKORY HEAD DAIRY*	Brooks	H	7/3/2017	2169	87	74	4.5	3.06	22649	824
LARRY MOODY	Ware	H	7/28/2017	1057	88	72	3.5	2.22	23766	
OCMULGEE DAIRY	Houston	H	6/26/2017	330	87	70.7	3.3	2.03	22465	785
SOUTHERN SANDS FARM	Butts	H	7/21/2017	78	86	70.4	3.6	2.33	23964	847
BUD BUTCHER*	Coweta	H	6/9/2017	290	90	70.1	3.5	2.3	20127	731
UNIV OF GA DAIRY FARM	Clarke	H	6/30/2017	104	86	69.7	3.6	2.44	21690	786
RUFUS YODER JR	Macon	H	6/21/2017	141	90	68.6	3.2	1.99	22438	783

[1]*Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).*

Top GA DHIA By Test Day Fat Production - July 2017										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% Days in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
DAVE CLARK*	Morgan	H	7/3/2017	1178	89	97.1	4	3.48	30307	1133
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	7/19/2017	449	87	95.1	3.8	3.08	31748	1124
DANNY BELL*	Morgan	H	7/6/2017	289	92	91.5	3.8	3.07	28268	1108
HICKORY HEAD DAIRY*	Brooks	H	7/3/2017	2169	87	74	4.5	3.06	22649	824
TROY YODER	Macon	H	6/27/2017	271	88	80	3.9	2.71	24809	990
AMERICAN DAIRYCO-GEORGIA,LLC.*	Mitchell	H	7/5/2017	3794	90	76.6	4	2.71	24739	920
R & D DAIRY*	Lamar	H	7/11/2017	331	89	77.8	3.6	2.55	24103	936
SCOTT GLOVER	Hall	H	7/20/2017	228	89	84.7	3.6	2.54	26485	990
COASTAL PLAIN EXP STATION*	Tift	H	7/17/2017	290	90	77.5	3.7	2.49	24836	957
UNIV OF GA DAIRY FARM	Clarke	H	6/30/2017	104	86	69.7	3.6	2.44	21690	786
WALNUT BRANCH FARM	Washington	H	6/29/2017	352	90	65.9	3.8	2.43	20521	779
DOUG CHAMBERS	Jones	H	6/29/2017	416	89	82.7	3.3	2.4	25256	885
EBERLY FAMILY FARM*	Burke	H	6/26/2017	863	89	82.5	3.5	2.37	27007	974
SOUTHERN ROSE FARMS	Lee	H	6/20/2017	105	82	64	4	2.37	19502	758
GODBEE FARMS*	Jenkins	X	6/24/2017	136		55.9	4.9	2.37		
B&S DAIRY*	Wilcox	H	6/29/2017	766	90	74.6	3.5	2.36	25860	929
SOUTHERN SANDS FARM	Butts	H	7/21/2017	78	86	70.4	3.6	2.33	23964	847
TWIN OAKS FARM	Jefferson	H	6/30/2017	87	89	59.5	4	2.31	20698	789
BUD BUTCHER*	Coweta	H	6/9/2017	290	90	70.1	3.5	2.3	20127	731
WILLIAMS DAIRY	Taliaferro	H	6/19/2017	145	89	66.9	3.7	2.29	21754	806

[1]Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).

UGA extension

Top GA DHIA By Test Day Milk Production – August 2017										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% Days in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	7/19/2017	449	87	95.1	3.8	3.08	31748	1124
DAVE CLARK*	Morgan	H	7/31/2017	1183	89	94.9	4.2	3.58	30406	1152
DANNY BELL*	Morgan	H	8/3/2017	291	92	93	3.9	3.11	28467	1117
J.EVERETT WILLIAMS*	Morgan	X	8/21/2017	1986	87	90.9			28335	
SCOTT GLOVER	Hall	H	7/20/2017	228	89	84.7	3.6	2.54	26485	990
A & J DAIRY*	Wilkes	H	8/23/2017	402	92	83.5			27675	
TROY YODER	Macon	H	8/12/2017	271	89	80.9	4	2.61	25078	1004
B&S DAIRY*	Wilcox	H	7/31/2017	752	90	80	3.6	2.45	25839	932
EBERLY FAMILY FARM*	Burke	H	8/28/2017	853	88	79.6	3.6	2.45	26725	963
DOUG CHAMBERS	Jones	H	8/24/2017	418	89	78.2	3.3	2.18	25476	891
R & D DAIRY*	Lamar	H	8/29/2017	344	89	75.3	3.9	2.52	23906	937
HICKORY HEAD DAIRY*	Brooks	H	8/1/2017	2185	87	72.9	4.7	2.98	22667	839
COASTAL PLAIN EXP STATION*	Tift	H	8/16/2017	293	90	72.3	3.4	2.19	24884	948
LARRY MOODY	Ware	H	7/28/2017	1057	88	72	3.5	2.22	23766	
BUD BUTCHER	Coweta	H	8/7/2017	317	90	71.7	3.4	2.27	20936	760
AMERICAN DAIRYCO-GEORGIA,LLC.*	Mitchell	H	8/2/2017	3902	90	71.1	3.5	2.23	24756	923
SOUTHERN SANDS FARM	Butts	H	7/21/2017	78	86	70.4	3.6	2.33	23964	847
OCMULGEE DAIRY	Houston	H	8/30/2017	323	86	69.1	3.4	1.89	22503	794
IRVIN R YODER	Macon	H	8/14/2017	225	92	66	3.7	2.17	25200	929
HORST CREST FARMS	Jenkins	H	7/26/2017	174	84	65.3	3.7	2.06	20282	758

[1]Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).

Top GA DHIA By Test Day Fat Production –August 2017										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% Days in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
DAVE CLARK*	Morgan	H	7/31/2017	1183	89	94.9	4.2	3.58	30406	1152
DANNY BELL*	Morgan	H	8/3/2017	291	92	93	3.9	3.11	28467	1117
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	7/19/2017	449	87	95.1	3.8	3.08	31748	1124
HICKORY HEAD DAIRY*	Brooks	H	8/1/2017	2185	87	72.9	4.7	2.98	22667	839
TROY YODER	Macon	H	8/12/2017	271	89	80.9	4	2.61	25078	1004
SCOTT GLOVER	Hall	H	7/20/2017	228	89	84.7	3.6	2.54	26485	990
R & D DAIRY*	Lamar	H	8/29/2017	344	89	75.3	3.9	2.52	23906	937
B&S DAIRY*	Wilcox	H	7/31/2017	752	90	80	3.6	2.45	25839	932
EBERLY FAMILY FARM*	Burke	H	8/28/2017	853	88	79.6	3.6	2.45	26725	963
SOUTHERN SANDS FARM	Butts	H	7/21/2017	78	86	70.4	3.6	2.33	23964	847
WALNUT BRANCH FARM	Washington	H	8/5/2017	324	90	61.1	3.9	2.28	20630	782
BUD BUTCHER	Coweta	H	8/7/2017	317	90	71.7	3.4	2.27	20936	760
JOHN WESTSTEYN*	Pierce	X	7/29/2017	1115	90	62.2	4	2.24	20816	780
AMERICAN DAIRYCO-GEORGIA,LLC.*	Mitchell	H	8/2/2017	3902	90	71.1	3.5	2.23	24756	923
LARRY MOODY	Ware	H	7/28/2017	1057	88	72	3.5	2.22	23766	
COASTAL PLAIN EXP STATION*	Tift	H	8/16/2017	293	90	72.3	3.4	2.19	24884	948
UNIV OF GA DAIRY FARM	Clarke	H	8/1/2017	102	87	61.3	3.8	2.18	21952	796
DOUG CHAMBERS	Jones	H	8/24/2017	418	89	78.2	3.3	2.18	25476	891
IRVIN R YODER	Macon	H	8/14/2017	225	92	66	3.7	2.17	25200	929
CHARLES STEWART	Greene	X	8/8/2017	100	85	62.9	4.1	2.06	19400	756

[1]Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).

Top GA Lows Herds for SCC –TD Average Score – June 2016									
Herd	**County**	**Test Date**	**Br.**	**Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
DAVID ADDIS	Whitfield	6/2/2017	H	38	16983	0.8	33	1.2	68
RONNIE ROBINSON	Spalding	6/8/2017	H	102	15344	1.5	60	1.9	103
IRVIN R YODER	Macon	5/19/2017	H	254	24886	1.6	82	2.1	138
RODGERS' HILLCREST FARMS INC.*	McDuffie	6/16/2017	H	439	32012	1.7	148	2.1	170
SOUTHERN SANDS FARM	Butts	6/15/2017	H	75	23605	1.7	163	2.1	168
UNIV OF GA DAIRY FARM	Clarke	5/31/2017	H	106	21451	1.8	80	2.5	205
KEITH KELLY	Morgan	6/15/2017	X	36		1.8	85		
BERRY COLLEGE DAIRY	Floyd	5/23/2017	J	32	16843	1.8	100	1.9	93
BRENNEMAN FARMS	Macon	6/17/2017	H	42	18828	1.8	107	1.8	186
DANNY BELL*	Morgan	6/8/2017	H	292	28107	1.9	173	1.9	158
COASTAL PLAIN EXP STATION*	Tift	6/16/2017	H	289	24552	1.9	206	2.2	204
ALEX MILLICAN	Walker	6/26/2017	H	101	19089	1.9	213	2.2	228
DAVE CLARK*	Morgan	6/5/2017	H	1167	30216	2	255	1.9	177
EBERLY FAMILY FARM*	Burke	6/26/2017	H	863	27007	2.1	171	2.4	236
BUD BUTCHER*	Coweta	6/9/2017	H	290	20127	2.2	231	3	335
RUFUS YODER JR	Macon	6/21/2017	H	141	22438	2.3	164	2.5	206
ROGERS FARM SERVICES	Tattnall	6/19/2017	H	175	18235	2.3	171	3.1	410
MARTIN DAIRY L. L. P.	Hart	6/20/2017	H	326	23909	2.3	186	2.5	203
KENT HERMAN	Putnam	6/14/2017	H	126	22695	2.3	244	2.6	274
JARRETT EVERETT	Macon	5/21/2017	H	165	14881	2.4	142	3	266

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Top GA Lows Herds for SCC –TD Average Score – July 2017									
Herd	**County**	**Test Date**	**Br.**	**Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
BERRY COLLEGE DAIRY	Floyd	7/25/2017	J	35	16826	1.4	78	1.9	95
RONNIE ROBINSON	Spalding	6/8/2017	H	102	15344	1.5	60	1.9	103
DANNY BELL*	Morgan	7/6/2017	H	289	28268	1.6	136	2	160
KEITH KELLY	Morgan	6/15/2017	X	36		1.8	85		
SCOTT GLOVER	Hall	7/20/2017	H	228	26485	1.8	117	2	127
ALEX MILLICAN	Walker	6/26/2017	H	101	19089	1.9	213	2.2	228
BRENNEMAN FARMS	Macon	7/21/2017	H	42	19082	2	91	1.7	158
DAVE CLARK*	Morgan	7/3/2017	H	1178	30307	2	226	2	183
EBERLY FAMILY FARM*	Burke	6/26/2017	H	863	27007	2.1	171	2.4	236
SOUTHERN SANDS FARM	Butts	7/21/2017	H	78	23964	2.1	273	2.1	175
FRANKS FARM	Burke	7/10/2017	B	175	16886	2.2	117	3	201
JARRETT EVERETT	Macon	7/2/2017	H	152	14937	2.2	134	2.9	254
CECIL DUECK	Jefferson	7/20/2017	H	84	23336	2.2	158	2.9	319
DOUG CHAMBERS	Jones	6/29/2017	H	416	25256	2.2	178	2.7	267
RODGERS' HILLCREST FARMS INC.*	McDuffie	7/19/2017	H	449	31748	2.2	182	2.1	171
WHITEHOUSE FARM	Macon	6/28/2017	H	225		2.2	191	2.6	219
BUD BUTCHER*	Coweta	6/9/2017	H	290	20127	2.2	231	3	335
COASTAL PLAIN EXP STATION*	Tift	7/17/2017	H	290	24836	2.2	233	2.2	205
DANIEL OLIVER	White	7/20/2017	H	85		2.3	164	3	315
RUFUS YODER JR	Macon	6/21/2017	H	141	22438	2.3	164	2.5	206

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Top GA Lows Herds for SCC –TD Average Score – August 2017									
Herd	**County**	**Test Date**	**Br.**	**Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
DAVID ADDIS	Whitfield	8/2/2017	H	38	17230	0.7	22	1.1	50
BERRY COLLEGE DAIRY	Floyd	7/25/2017	J	35	16826	1.4	78	1.9	95
WILLIAMS DAIRY	Taliaferro	8/18/2017	H	141	21990	1.6	126	2.5	195
SCOTT GLOVER	Hall	7/20/2017	H	228	26485	1.8	117	2	127
BRENNEMAN FARMS	Macon	7/21/2017	H	42	19082	2	91	1.7	158
TROY YODER	Macon	8/12/2017	H	271	25078	2	137	2.1	146
DANNY BELL*	Morgan	8/3/2017	H	291	28467	2	184	2	166
DAVE CLARK*	Morgan	7/31/2017	H	1183	30406	2	283	2	194
ALEX MILLICAN	Walker	8/1/2017	H	101	19111	2.1	163	2.2	229
SOUTHERN SANDS FARM	Butts	7/21/2017	H	78	23964	2.1	273	2.1	175
FRANKS FARM	Burke	7/10/2017	B	175	16886	2.2	117	3	201
RODGERS' HILLCREST FARMS INC.*	McDuffie	7/19/2017	H	449	31748	2.2	182	2.1	171
JAMES W MOON	Morgan	8/9/2017	H	133	18861	2.3	145	1.9	143
DANIEL OLIVER	White	7/20/2017	H	85		2.3	164	3	315
EBERLY FAMILY FARM*	Burke	8/28/2017	H	853	26725	2.3	208	2.4	220
MARK E BRENNEMAN	Macon	7/12/2017	H	136	19671	2.3	223	2.3	237
OVERHOLT FARMS	Macon	8/10/2017	H	234	18337	2.3	228	2.6	251
KENT HERMAN	Putnam	8/14/2017	H	124	23187	2.4	215	2.5	241
RUFUS YODER JR	Macon	7/26/2017	H	138	22448	2.4	258	2.4	211
IRVIN R YODER	Macon	8/14/2017	H	225	25200	2.5	217	2.2	147

[1]Minimum herd or permanent string size of 20 cows. Yearly average calculated after 365 days on test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X). Information in this table is compiled from Dairy Records Management Systems Reports (Raleigh, NC).

UGA extension