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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

Associate Professor

UNIVERSITY OF GEORGIA EXTENSION

Graduate Student Presents Research at National Mastitis Council Annual Meeting

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Earlier this year graduate student, Jenna Williamson, had the opportunity to attend the 61st National Mastitis Council (NMC) Annual Meeting held in San Diego, CA. The NMC is an international organization aimed at promoting mastitis control and enhancing milk quality (https://www.nmconline.org/about-nmc/). Last year, Jenna was selected to be a NMC Scholar. As a NMC Scholar, her travel was covered to attend this conference where leaders in the field of mastitis, mammary health, and milk quality converge. Jenna also presented a part of her graduate research funded by the ***Southeast Dairy Check-off Program*** entitled "*Association of Pre-treatment Somatic Cell Counts with Bacteriological Cure*" in the Technology Transfer Session.

The Annual Meeting also provided Jenna with a tremendous knowledge-building opportunity to attend several short courses. She honed her skills in herd and cow data assessment to detect risks, causes, etc. of mastitis and also explored methods to promote dairy employee motivation. The general session was composed of a wide range of topics being researched in the field of mastitis across the world. Some of the new and/or growing areas include, but are not limited to:

- Consumer expectations of the dairy industry
- Mammary health and mastitis in automated milking systems
- Genetic influences in mastitis responses/susceptibility
- Implementation and impact of selective dry cow therapy
- Association of mastitis with gut and mammary/milk microbiome

Lastly, the Annual Meeting provided an excellent venue for networking with individuals working in the dairy arena, especially the mammary health and mastitis field. In addition to university professionals, she also had the opportunity to interact with dairy producers, veterinarians, and industry professionals from all over the world.

Jenna is working on completing several manuscripts, in addition to her thesis, and will defend in the coming months to earn her M.S. degree, after which she plans to continue to work in the field and dairy and animal health. We hope this is not the last you hear of her working towards enhancing mammary health and milk quality, especially in Georgia and the Southeast.

Georgia Dairy Dawg and Youth Updates

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Dairy Dawgs on the Moove

Six delegates representing the University of Georgia Dairy Science Club attended the Southern American Dairy Science Association meetings in Blacksburg, VA on February 24th – 26th. The group this year had the opportunity to network, compete, and visit dairies in the area.

Photo. *UGA ADSA-SAD delegation with graduate student Sarah Johnson*

The delegation represented UGA well and came home with many regional accolades to include:

- 1st place website
- 2nd place Quiz Bowl Team
- 3rd place Scrapbook

In addition, two hardworking students also competed in paper competitions. Will Strickland competed in the Dairy Production category with a presentation titled "Improving cow cooling with methodologies used in other animal industries" for which he won first place. Renee Hutton presented in the Dairy Foods category with her talk titled "The legalization of raw milk sales: a method to aid in the safety of unpasteurized dairy products" for which she brought home second

place.

Congratulations Dairy Dawgs and please visit their website (https://ugadsc.wixsite.com/ugadsc) and/or Facebook page (https://www.facebook.com/ugadairyscienceclub/) for pictures and additional updates. Also a huge thank you to Sarah Johnson, a graduate student in the ADS department, for supervising the group while Dr. Bohlen was at State Livestock Show in Perry!

A photoshop takeover of the VT football field

Upcoming Youth Events

There are numerous exciting youth events coming up so do not miss out! Please be on the lookout for additional information through your local extension offices as well as the Georgia Dairy Youth Facebook page (https://www.facebook.com/GA4Hdairyyouthprograms/).

<u>State 4-H Dairy Judging Contest</u>

April 8th at the UGA Teaching Dairy

Registrations due by noon on March 25th

<u>State 4-H Dairy Quiz Bowl Contest</u>

May 20th in Athens, GA

<u>Southeast Dairy Youth Retreat</u>

Dates are not announced but tentatively scheduled for July in Clemson, SC

All youth interested in agriculture and/or the dairy industry are strongly encouraged to attend this tremendous networking and educational opportunity. More information to come as details are released from South Carolina.

National 4-H Dairy Conference

October in Madison, WI

Held in conjunction with World Dairy Expo

This event is for youth with a sincere interest in the dairy industry as indicated by participation in dairy youth events. Annually a delegation of 3-4 youth is selected based on application materials that demonstrate activities in 4-H, the dairy industry, and leadership. Please watch for these applications to come out sometime in late June to early July. Selected delegates receive an expense paid trip to participate in the conference.

2022 Commercial Dairy Heifer Project

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Since its inception, the Commercial Dairy Heifer Project has represented a unique opportunity for youth in the state of Georgia to get experience the dairy industry while developing skills that will last a lifetime. The 2021/2022 show season boasted not only tremendous participation from youth across the state but represented a program that was full of high quality young people with outstanding project heifers.

2022 UGA Dairy Science Club Commercial Dairy Heifer Show

The University of Georgia Dairy Science Club did not realize how much it missed the UGA Commercial Dairy Heifer Show until those trailers started pulling into the arena. A lot of work for the club, this show is THE activity they look forward to every year. They take pride in the work they put on but also appreciate the opportunity to provide the experience to young people.

Photo: *2022 UGA Dairy Science Club Commercial Dairy Heifer Show Committee*

Friday, February 11th, were 181 heifers with 164 young people at the halter. The turnout this year was tremendous and the quality of kids and heifers did not disappoint. As weigh in came to a close, the barn was a bustle with final show day preparations to include washing, clipping, and topline standing!

In the midst of it all, just over 60 youth made their way to the arena for a practice Dairy Judging Contest. Many thanks to Alyssa Rauton, a busy, first year veterinary school student and dairy enthusiast for pulling this opportunity together.

Top Five Judging Contest:

	Contestant
1st	Christian Page
2nd	Olivia Vanderwalt
3rd	Maggie Harper
4th	Abby Joyner
5th	Erin Rivers

Following the judging contest, the barn was welcomed to the Exhibitor's Dinner. Sponsored in part by the Georgia Dairy Youth Foundation and highlighting brisket from the UGA Meat's Lab, this dinner is a time for youth, parents, teachers, and agents to fellowship. Following the dinner, the UGA Dairy Science Club hosted an education program in which Mr. Kirk Butcher discussed and performed the tips and tricks to correctly fitting a heifer. This was a wonderful opportunity for these young people to learn how to improve their skills in preparing the animal for the show ring. A tremendous thank you goes out to Mr. Butcher for again leading this experience!

Photo: *Mr. Kirk Butcher demonstrating the inner workings of creating a great topline.*

Bright and early the next morning, Saturday February 12th, Showmanship began in the two rings. Ring one hosted grades 4th – 8th with judge Elizabeth Menard. Elizabeth hails from Vermont and began her show career at five years old. Elizabeth just concluded a successful collegiate judging team career at Virginia Tech where in 2021, she was high individual at the Big E dairy cattle judging contest in 2021, on the winning team at the All-American Dairy Show, and on the second-place team at the National Dairy Cattle Judging Contest in Madison, WI while being third high individual. Ring 2 welcomed grades 9th-12th with judge Sarah Thomas. Sarah is a North Carolina Native that also began her show career at five years old. She graduated from Virginia Tech in 2021 where she was on the 2018 Virginia Tech judging team. As part of this team, Sarah was high individual as well as on the top placing team for the All-American Dairy Show and on the second-place team at the National Dairy Cattle Judging Contest in Madison, WI. What a tremendous set of judges the youth had before them and likewise what a talented group of show men and women that the judges set out to place.

First Place Showmanship Winners:

Grade	Showmanship Winner	County
4th & 5th	Camden Huff	Oglethorpe Co. 4-H
6th	Jessie Prickett	Hall Co. 4-H
7th	Christopher Nunnally	White FFA
8th	Luke Huff	Oglethorpe FFA
9th	Caleb Jones	Lee FFA
10th	Avery Allen	Houston FFA
11th	Kiley Padgett	Hall Co. 4-H
12th	Torrie Reed	Gilmer FFA

The Junior Showmanship Champion (grades 4th-8th) was Luke Huff while the Senior Showmanship Champion (grades 9th-12th) was Torrie Reed.

Photo: *Luke Huff, Junior Showmanship Champion, with judge Elizabeth Menard*

Photo: *Torrie Reed, Senior Showmanship Champion, with judge Sarah Thomas*

The show rolled right into weight classes with the conclusion of showmanship. Judges switched sides and Sarah Thomas judged the lightweight classes (191-477 pounds) while Elizabeth Menard judged the heavyweight classes (480-820 pounds).

First Place Weight Class Winners:

Class	Weight	Heifer #	Showman	County
1	274	0072	Preston Shelton	Morgan Co. 4-H
2	285	0080	J. Price Hall	Franklin Co. 4-H
3	314	0031	Abigail Ullom	Coweta Co. 4-H
4	334	9986	Abby Hulsey	North Hall FFA
5	357	4478	Camden Huff	Oglethorpe Co. 4-H
6	381	9742	Joanna Kimbrell	Habersham FFA
7	416	9655	Will Cantrel	Gilmer FFA
8	445	9320	Kenady Pickett	Houston FFA
9	456	9841	Addie Pierce	Winder-Barrow FFA
10	476	9956	Abigail Ullom	Coweta Co. 4-H
11	485	7719	Jack Keener	Gilmer FFA
12	508	9900	Cara Henderson	White FFA
13	522	9607	Holt Sapp	Burke Co. 4-H
14	534	5345	Camden Huff	Oglethorpe Co. 4-H
15	560	9873	Kiley Padgett	Hall Co. 4-H
16	564	9989	Bella Grier	North Hall FFA
17	582	9741	Sarah Kimbrell	Habersham FFA
18	624	7741	Octavia Bushey	Gilmer FFA
19	632	9764	Justin Buchner	Houston FFA
20	722	9767	Caleb Williams	Houston FFA

In the lightweight ring, Grand Champion was awarded to heifer 4478 exhibited by Camden Huff while the Reserve Grand Champion was heifer 9655 exhibited by Will Cantrel.

Photo: *Camden Huff with Lightweight Grand Champion heifer and judge Sarah Thomas.*

In the heavyweight ring, heifer 7719 exhibited by Jack Keener was named Grand Champion while heifer 9767 exhibited by Caleb Williams was named Reserve Grand.

Photo: *Jack Keener with Heavyweight Grand Champion heifer and judge Elizabeth Menard.*

The UGA Dairy Science Club would like to thank all of our financial supporters that contributed to another great year and made this possible for all of these young people. Platinum sponsors of the show ($500) were Southern Swiss Dairy, LLC, Dairy Alliance, Athens Seed Co. and Georgia Dairy Youth Foundation. Gold sponsors ($250) this year included Hall County Soil and Water Conservation, Oglethorpe Feed and Hardware Supply, White County Farmers Exchange, Doug Smith Contracting, Parker Systems, and Smith Ironworks. THANK YOU as this show would not be possible for all of these young people without you! Please visit the UGA Dairy Science Club Facebook page for a link to view and download show photos.

2022 State Commercial Dairy Heifer Show

This year was an important year as it represented the 25th year since the program's inception. A visionary project of Dr. Larry Guthrie and Dr. Mark McCann, this program has impacted countless lives of young people throughout the state of Georgia. This year's show though larger than the first, which had 73 exhibitors and 82 heifers, carries forward the tradition of impacting young people through dairy cattle.

Heifers for the State Commercial Dairy Heifer Show in Perry, GA weighed in on February 23rd with 237 heifers crossing the scales and 201 young people proudly at the halter. Showmanship was a daylong event that began bright and early on February 24th. Serving as judge for both showmanship and weight classes was Nate Oleniacz of Pennsylvania. Nate was on the Penn State Dairy Judging Team in 2011 where he placed 3rd high individual at World Dairy Expo. Since that time, he has judged many national showmanship classes as well as type classes in Pennsylvania and Maryland. Employed by Cargill, Nate has worked with numerous Holstein and Jersey show strings.

First Place Showmanship Winners:

Grade	Showmanship Winner	County
4th	Camden Huff	Oglethorpe Co. 4-H
5th	Grayson Newberry	Rutland Middle FFA
6th	Abigail Ullom	Coweta Co. 4-H
7th	Jersey Miller	Rutland Middle FFA
8th	Kory West	Rutland Middle FFA
9th	Caleb Jones	Lee Co. High FFA
10th	Samantha Stephens	Putnam Co. FFA
11th	Caleb Williams	Houston Co. FFA
12th	Octavia Bushey	Gilmer Co. FFA

Taking the top placing 4-H members in 6th-12th grades, the judge named the Master 4-H Showman as Colton Swartz of Coweta Co. 4-H (11th grade). Following this the judge then evaluated the top placing FFA member from 6th-12th grades to name Caleb Williams (11th grade) as Supreme FFA Showman.

Weight Classes were up the next day with heifers weighing 250-812 pounds.

Division Placings:

Division 1 (250-368 pounds)

Class	Weight	Heifer Number	Showman	County
Champion	356	4478	Camden Huff	Oglethorpe Co. 4-H
Reserve	327	9178	Kaitlynn Whitten	Rutland High FFA

Division 2 (370-483 pounds)

Class	Weight	Heifer Number	Showman	County
Champion	449	9320	Kenady Pickett	Houston Co. FFA
Reserve	380	9177	McKenzie Jones	Rutland High FFA

Division 3 (485-576 pounds)

Class	Weight	Heifer Number	Showman	County
Champion	504	5345	Camden Huff	Oglethorpe Co. 4-H
Reserve	564	9284	Samantha Stephens	Putnam Co. FFA

Division 4 (578-820 pounds)

Class	Weight	Heifer Number	Showman	County
Champion	752	5346	Luke Huff	Oglethorpe Co. FFA
Reserve	618	7741	Octavia Bushey	Gilmer Co. FFA

The Overall Top Five for the Show:

	Weight	Heifer Number	Showman	County
Champion	504	5345	Camden Huff	Oglethorpe Co. 4-H
Reserve	752	5346	Luke Huff	Oglethorpe Co. FFA
3rd	564	9284	Samantha Stephens	Putnam Co. FFA
4th	618	7741	Octavia Bushey	Gilmer Co. FFA
5th	449	9320	Kenady Pickett	Rutland Middle FFA

The Overall Top Five County Groups:

	County
Champion	Gilmer Co.
Reserve	Rutland High FFA
3rd	Burke Co.
4th	Coweta Co.
5th	Lee Co.

Congratulations to everyone that completed another great year as part of the Commercial Dairy Heifer Project!

The Asian Longhorned Tick: What is it and why are we concerned?

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The Asian longhorned tick, scientific name *Haemaphysalis longicornis*, is native to East and Central Asia and is an important carrier of many disease-causing agents in humans and animals. First detected as an invasive species in the United States in 2010, the USDA officially confirmed its arrival to America in 2017. Since then, the Asian longhorned ticks have been found on people, pets, livestock, and wildlife, including whitetail deer. According to the USDA (see Figure 1), as of 01/24/2022, the tick now has a range from Georgia to Rhode Island, and as far west as Missouri (USDA, 2021). The Georgia Department of Agriculture has officially confirmed the presence of the Asian longhorned tick from an affected cow as a result of a tick surveillance submission in Pickens County, GA. The investigation of the tick's current distribution in Georgia is ongoing (GVMA, 2021).

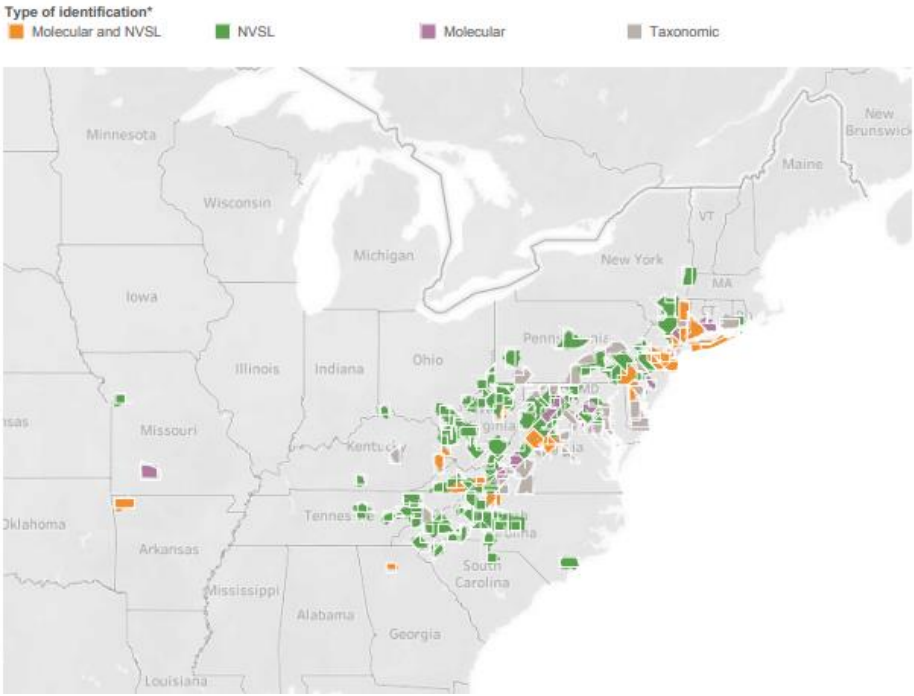

Figure 1. *Current location of the Asian longhorned tick. NVSL is the National Veterinary Services Laboratory. Image credit to USDA.*

The Asian longhorned tick is light brown in color, typically less than five millimeters in size when unfed (nymphs are the size of a poppy seed), and have no significant distinguishing characteristics. A female following a blood meal is approximately the size of a pea (CDC, 2021). What makes this tick unique among other species of ticks, is its ability to reproduce through sexual

and parthenogenic (asexual) reproduction. Basically, the female tick is able to produce viable eggs and offspring without mating with a male (Tian and Kaufman, 2019).

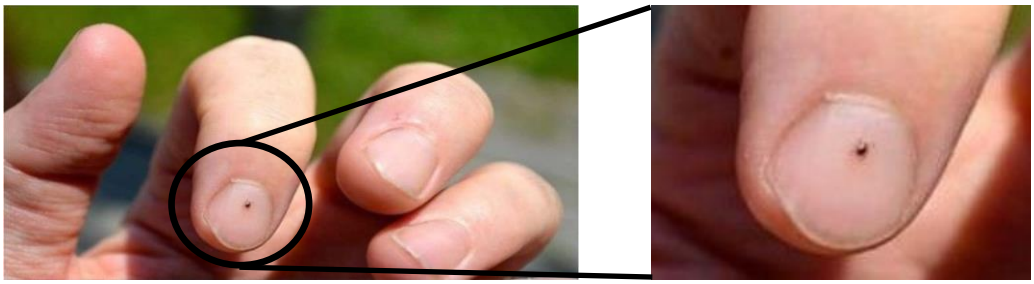

Figure 2. *Asian longhorned tick on the fingernail of an adult human. Image credit to Michael Greenwood and USDA.*

Figure 3. *Size of the nymph and adult female tick. Image credit to the CDC.*

The life cycle of the tick involves four stages (see Figure 4 below). After developing in the egg for 25 days, the new larvae hatch and immediately seek out a host for a blood meal. After three to nine days, the larvae fall off the host and molt (develop) into a nymph. The newly developed nymph will find another host and consume a blood meal for an additional three to eight days. The nymph will then fall off the host and develop into an adult over the next 17 days. Following a blood meal, the adult female tick can lay up to 2,000 eggs over a two-to-three-week period of time (Tian and Kaufman, 2019).

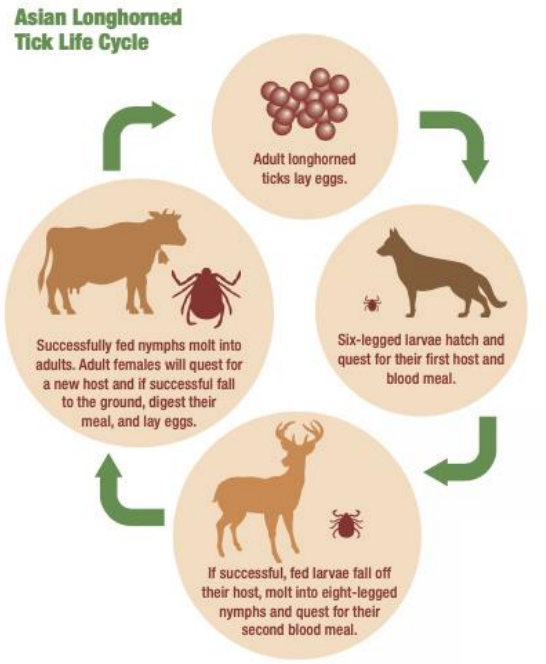

Figure 4. *Life cycle of the Asian longhorned tick. Image credit to the North Central Integrated Pest Management Center, USDA.*

It only takes one female tick to establish a population in a new area (USDA, 2021). According to Tian and Kaufman (2019), the male ticks are much less common in invasive populations. While this is still under investigation in the United States, this is the prevailing theory for the reduced numbers of male ticks in the invasive populations in Australia and New Zealand. Typically, the ticks live in tall grass and weeds but are often found attached or crawling on livestock, wildlife, pets, and humans. With the correct humidity and temperature, ticks can survive for up to a year.

Why is this tick of major concern to the U.S. cattle industry?

Due to the large number of eggs a female tick can lay in a small area, one animal could potentially be the host to hundreds or even thousands of these ticks. This can lead to significant blood loss and anemia in animals, resulting in reduced thriftiness, decreased milk production, decreased meat production in finishing cattle, and potentially death. Additionally, these ticks are competent vectors of *Theileria orientalis* Ikeda genotype, the causative agent of bovine theileriosis in the United States. Additional research is underway to determine if these ticks are capable of spreading other cattle diseases including babesiosis or anaplasmosis.

Theileria orientalis Ikeda is an intracellular protozoan parasite that infects red and white blood cells in cattle (see Figure 5 below). When a tick feeds on a blood meal from an infected animal, the parasite is sucked up into the salivary glands of the tick. The parasite then reproduces within the tick creating a large infective dose of parasite for introduction to a healthy animal. Once a tick bites a naïve animal, the *Theileria* parasite transfers to the healthy animal via the tick's saliva. The parasites infect and reproduce within the cow's white blood cells, ultimately infecting the red blood cells leading to their destruction and clinical signs in the cow (Watts, et al., 2016).

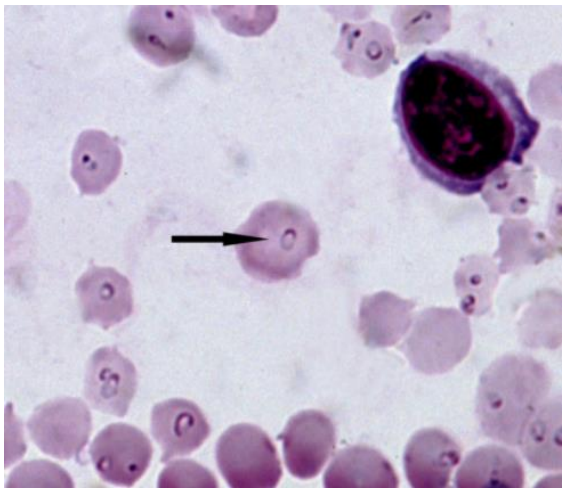

Figure 5. *The arrow indicates the Theileria orientalis parasite in a red blood cell. Image credit to VetEnt.*

The parasite causes severe anemia by destroying the red blood cells, causing weakness, lethargy, exercise intolerance, jaundice, and late-term abortions in cattle. Cattle that survive infection are lifelong carriers of the parasite. While some of the recovered adult cattle may suffer from chronic production problems or stunted growth (in young calves), the majority seem to maintain a host-parasite steady state and are no longer systemically ill (OIE, 2020).

In dairy cattle, infection can also result in a subsequent drop in milk production and economic loss to farmers in the form of sick cattle and reproductive losses due to abortions. According to a study of 662 cows from an Australian dairy, cows with confirmed clinical signs of theileriosis showed a statistically significant drop in milk production when compared with cows that either tested positive but showed no clinical signs or those that tested negative (Perera et al., 2014). Movement and stress appear to worsen the clinical signs in symptomatic cattle (Watts et al., 2016). In general, calving, weaning, and commingling of calves and heifers are stressful times, and could exacerbate clinical signs in cattle.

Until 2017, bovine theileriosis was an exotic disease and did not occur in the United States. While the tick vector has existed here since at least 2010, until recently there was no proof they carried *Theileria orientalis* Ikeda. As reported in the Emerging Infectious Diseases in 2019, six cattle from a herd in Albemarle County, Virginia, died from clinical signs consistent with anemia (weakness and malaise). The presumptive diagnosis was anaplasmosis however all cattle tested negative for the disease. Upon further examination, members of the herd suffered from an infestation of the Asian longhorned tick. A seventh cow exhibiting similar symptoms and a tick infestation, tested positive for *Theileria orientalis* Ikeda, proving that the parasite is now present in the United States (Oakes et al., 2019). Of great concern is the possibility that other ticks such as *Rhipicephalus microplus* (Asian blue tick in Southwestern U.S.), *Amblyomma* genus (Lone Star tick), and *Dermacentor variabilis* (American dog tick or wood tick) may be competent carriers of *Theileria orientalis* Ikeda and increase the risk of infection to cattle (Dinkel et al., 2021).

Diagnosis of theileriosis is accomplished through clinical signs, blood smears, PCR, and serological testing. Approved treatment options for infected cattle in the United States are predominantly supportive with removal of the ticks, fluid resuscitation, and the reduction of stressors. Blood transfusion is an option for extremely valuable animals, but is not practical for herds of affected animals.

Prevention includes a combination of integrated pest management and the use of veterinary-approved acaracides and macrocytic lactones to kill the ticks. Visual inspection of animals is very important, specifically if areas of dermatitis (scratching and irritation) or evidence of large infestations of ticks are noted. Pasture and grazing areas should be kept short. Wooded areas and brush should be cleared and kept away from pastures, barns, and feedlots to reduce the availability of tick habitats. Even if mature cows are kept in confinement barns, heifers and dry cows which may have pasture housing risk exposure to this tick and potentially theileriosis. Permethrins are effective against the Asian longhorned ticks and should be used as a repellant and when low numbers of ticks are detected. Macrocytic lactones (ivermectin, moxidectin, etc.) should be reserved for heavy tick infestations and are only effective against ticks that are actively feeding. They will not have any effect against unattached ticks. (Dellinger, 2020)

If you suspect that you have found an Asian longhorned tick, save the tick in rubbing alcohol and a Ziploc bag for submission for identification. Parasite identification is available at the State Diagnostic Laboratory at the University of Georgia College of Veterinary Medicine. If the Asian longhorned tick and *Theileria orientalis* are identified in your operation, it is extremely important to work with your veterinarian for guidelines on internal biosecurity to reduce the risk of spreading the disease within the herd through fomites such as needles, scalpels, and dehorners.

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Image credit:

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Forage Quality Affects Milk Production and Feed Cost

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The cost of milk production is rising as corn and soybean prices continue to increase. As such, producers should be examining all aspects of their feeding program to control feed cost. Some measures that can be implemented to reduce or control feed cost include minimizing shrinkage, frequent forage sampling and rebalancing rations, and making sure feeders understand the impact of rising feed cost and are follow established protocols. If cows are not grouped according to nutritional requirements (age, milk yield, reproductive status. etc.), now would be a good time to evaluate the potential saving this could have for your herd.

Forage quality impacts the amount and type of supplemented feed required to meet the nutrient requirements for producing milk. To evaluate the effect of forage quality on feed cost and production, data were obtained for corn silage and winter annual forages submitted to Cumberland Valley Analytical Services from the Southeastern US during the period of January 1, 2000 through March 7, 2022. Winter annuals included triticale, oats, and wheat forages with dry matter concentrations (DM) between 35 to 50%. These data were then separated into high (≤ 40% NDF) or low (> 40% NDF) starch samples for corn silage and low (≤55% NDF) or high (> 55% NDF) fiber for winter annuals based on the average NDF concentration of all samples. This effectively provided a high- and low-quality forage analyses for both forages.

Average composition of the two forage qualities for corn silage and winter annual silage are summarized in Table 1. The high-starch corn silage had lower concentrations of ADF, NDF, and lignin and higher NDF digestibility and starch providing more energy as indicated by the net energy of lactation concentration (NE_l) compared with the low-starch corn silage. It was not possible to determine if any of the low-starch corn silage resulted from a second harvest, but that is one possibility for the lower starch concentration. Additional reasons for the low-starch corn silage include corn was produced on dry land, a low grain yielding variety was planted, or drought stress occurred during grain filling. The low-fiber winter annual silage had lower concentrations of ADF and NDF but higher concentrations of crude protein (CP), water soluble carbohydrate (WSC, sugar), and fat compared with the high-fiber winter annual silage. The NDF in the low-fiber winter annual silage was 5% units more digestible than the high-fiber winter annual resulting in higher NE_l concentrations. The low-fiber winter annual silage would most likely have been harvested at an earlier stage of maturity resulting in these differences.

A ration was formulated using the high-starch corn silage and low-fiber winter annual silage to meet the requirements of a 56-month-old 1,450 lb Holstein cow, 90 days in milk, producing 85 lbs milk with 3.75% fat and 3.10% true protein. Additional rations were then formulated using different forage combinations with or without adjustments to meet energy and protein requirements. The resulting rations are presented in Table 2. In general, minor changes were required when high-starch corn silage was fed but more ground corn was required to maintain milk yield when the low-starch corn silage was used. The changes in the ration required to maintain milk yield were greatest when the high-fiber winter annual silage was fed with the low-starch corn silage.

The software used for formulating the rations is based on the Cornell Net Protein and Carbohydrate Model and also predicts the yield of milk based on metabolizable energy (ME) and protein (MP) in the diet and components based on nutrient composition and expected fermentation.

The expected milk yield and composition for each ration are presented in Table 3. Milk yield declined when the high-fiber winter annual replaced the low-fiber winter annual on the high-starch ration, but milk fat yield increased slightly minimizing the effect on income over feed cost (IOFC). Adjusting this ration for the lower metabolizable protein maintained the higher milk fat yield while restoring milk yield resulting in an increase in IOFC.

When the low-starch corn silage was used in the rations, milk yield declined around 4 lb/d, but milk fat percentage and yield were higher. The change in IOFC was -0.026 and -0.055/cow/d when low or high-fiber winter annual silage was fed with the low-starch corn silage, respectively. Adjusting the rations to increase metabolizable energy and protein increase milk yield to 85 lb/d, but milk fat was lower primarily due to the greater amount of ground corn fed. These changes also changed IOFC by -$0.38 and -$0.079, respectively. The difference in IOFC per 100 cows per month was also calculated compared with the high-starch corn silage, low-fiber winter annual silage diet. These values illustrate the potential impact forage quality and adjusting rations can have on returns.

Ideally, forages would be targeted to specific groups of animals according to quality to optimize feed cost and production or growth. This requires the ability to inventory forages by quality. In some situations, this may represent an additional investment in facilities but it could be as simple as making two drive over piles rather than one or using silage bags to store the highest quality (or low quality) forage separately.

Winter annual forage harvest has or will soon began on farms in Georgia and North Florida. It is important to consider the stage of maturity at harvest and the impact forage quality will have on production as well as feed cost given the high prices of feed ingredients. To support high milk production, you should harvest at an earlier stage of maturity (vegetative to early boot) to maximize nutrient content and digestibility, but this decreases forage yield. However, if you are feeding late lactation, dry cows, or bred heifers you could wait to harvest until the forage is slightly more mature when yields are higher.

Corn should be managed to optimize grain yield which will reduce the need for purchasing additional corn or energy supplements. Attention should be given to providing the growing corn crop adequate fertility and irrigation to promote growth. At harvest, producers should monitor kernel processing to ensure that all kernels are broken to improve starch digestibility.

While milk prices have increased, feed cost are likely to be high for the next few months with decreases grain production in the southern hemisphere and the disruption in exports from Ukraine due to the war offsetting some or all of the gains realized in the higher milk prices. This will continue to pressure margins. When possible, increasing the amount of digestible forage in the ration could help control purchased feed cost. It is also much easier to maintain high milk yield and components with higher quality forage. Inventorying forages according to quality allows you to take advantage of differences that occur in forage quality and minimize the impact on early lactation and high producing cows and growing heifers.

Table 1. Chemical composition of corn and winter annual silage samples from the Southeast submitted for analysis during the period of January 1, 2020 through March 7, 2022.

	Corn silage[1]		Winter annual silage[2]	
Item	High-starch	Low-starch	Low-fiber	High-fiber
N	2575	2284	324	344
DM, %	35.9	32.8	42.4	42.2
CP, % of DM	7.97	8.10	13.8	11.0
ADF, % of DM	22.5	27.0	32.6	39.5
$aNDF_{OM,}$ % of DM[3]	36.5	42.9	49.3	58.4
Lignin, % of DM	2.90	3.43	3.87	4.95
30-hour NDF digestibility, % of NDF	56.0	54.5	63.8	58.7
WSC, % of DM	2.10	2.10	10.4	7.09
Starch, % of DM	37.3	29.9	1.51	1.39
Fat, % of DM	3.16	3.00	3.34	2.99
Ash, % of DM	3.72	4.07	9.30	9.06
NEl, Mcal/lb	0.76	0.72	0.64	0.59

[1]The average NDF concentration of all corn silage samples was 40.1% NDF and were separated into High-starch (≤ 40% NDF) or Low-starch (> 40% NDF).
[2]Winter annuals included triticale, oat, and wheat silage with dry matter content between 35 and 50%. The average NDF concentration of all winter annual forage samples was 55.3% NDF and were separated by NDF concentrations into Low-fiber (≤ 55% NDF) or High-fiber (> 55% NDF).
[3]NDF determined using amylase and corrected for ash.

Table 2. Ingredient and chemical composition of rations formulated using corn silage and winter annual silage differing in composition.

Starch[1]	High	High	High	Low	Low	Low	Low
Fiber[1]	Low	High	High	Low	Low	High	High
Adjusted[2]	No	No	Yes	No	Yes	No	Yes
Ingredient composition							
Corn silage	22.00	22.00	22.00	22.00	22.00	22.00	22.00
Winter annual silage	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Bermudagrass hay	1.00	1.00	1.00	1.00	0.00	1.00	0.00
Ground corn	6.25	6.25	6.25	6.25	7.00	6.25	8.00
Soybean hulls	4.00	4.00	4.00	4.00	3.75	4.00	3.20
Citrus pulp	4.00	4.00	3.75	4.00	4.00	4.00	3.50
Whole cottonseed	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Soybean meal, 47% CP	4.50	4.50	4.5	4.50	4.50	4.50	4.50
Amino Plus	1.50	1.50	1.75	1.50	2.00	1.50	2.10
Mineral-Vitamin Mix	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Total	54.00	54.00	54.00	54.00	54.00	54.00	54.00
Chemical composition							
CP	16.05	15.79	15.99	16.10	16.37	15.84	16.16
$aNDF_{OM}$[3]	33.12	33.96	33.92	35.73	34.67	36.57	34.78
Starch	24.83	24.82	24.82	21.81	22.78	21.80	24.08
Fat	4.19	4.16	4.15	4.12	4.15	4.09	4.13

[1]Corn silage was separated into High-starch (≤ 40% NDF) or Low-starch (> 40% NDF) and winter annuals were separated by NDF concentrations into Low-fiber (≤ 55% NDF) or High-fiber (> 55% NDF).
[2]Rations were formulated without adjusting for lower forage quality (No) or reformulated (Yes) in an attempt to meet energy and protein requirements for milk yield
[3]NDF determined using amylase and corrected for ash

Table 3. Milk yield and component yield potential, value of milk, feed cost, and income over feed cost for rations formulated using corn silage and winter annual silage differing in composition.

Starch[1]	High	High	High	Low	Low	Low	Low
Fiber[1]	Low	High	High	High	High	Low	Low
Adjusted[2]	No	No	Yes	No	Yes	No	Yes
Predicted production[3]							
ME allowable milk, lb/d	87.60	86.57	86.47	84.63	85.73	83.59	85.81
MP allowable milk, lb/d	85.05	84.24	85.62	81.44	85.17	80.62	85.77
Milk fat, %	3.75	3.80	3.78	4.01	3.87	4.05	3.81
Milk fat, lb/d	3.19	3.23	3.22	3.41	3.29	3.44	3.24
Milk protein, %	3.05	3.05	3.05	2.99	3.04	3.05	3.05
Milk protein, lb/d	2.592	2.592	2.59	2.54	2.59	2.59	2.58
Value of milk[4]							
Skim, $/d	11.21	11.09	11.28	10.68	11.28	10.57	11.30
Fat, $/d	7.36	7.44	7.42	7.86	7.11	7.94	7.47
Total, $/d	18.57	18.53	18.70	18.54	118.39	15.51	18.77
Feed cost, $/d[5]	8.63	8.63	8.68	8.63	8.84	8.63	8.92
Income over feed cost, $/d	9.93	9.90	10.12	9.91	9.55	9.88	9.85
Difference in IFOC[6]							
$/cow/d		-0.031	+0.088	-0.026	-0.380	-0.55	-0.079
$/100 cow/month		-92	+7923	-2299	-34161	-4982	-7077

[1]Corn silage was separated into High Starch (≤ 40% NDF) or Low Starch (> 40% NDF) and winter annuals were separated by NDF concentrations into Low Fiber (≤ 55% NDF) or High Fiber (> 55% NDF).
[2]Rations were formulated without adjusting for lower forage quality (No) or reformulated (Yes)
[3]Milk yield and composition based on the Cornell Net Protein and Carbohydrate Model 6.55 using Nutrient Dynamic System software (Reggie Emilia, Italy).
[4]Prices used for calculating milk skin ($13.69/100 lb) and fat ($2.307/lb) prices were based on average prices received for November 2021, December 2021, and January 2022.
[5]Feed cost were calculated using $80/ton for corn silage (35% DM), $105/ton for winter annual silage (42% DM), $125/ton for bermudagrass hay, $345/ton for ground corn, $535 for soybean meal and market prices for all other ingredients.
[6]Difference compared with high starch, low fiber ration.

Revisit Approaches to Prevent and Control Mastitis in Lactating, Pregnant Cows to Avoid Lifelong Impacts on Replacement Heifers

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Recently a paper was published in the ***Journal of Dairy Science*** entitled "*Intergenerational cycle of disease: Maternal mastitis is associated with poorer daughter performance in dairy cattle*" (2021, Volume 104, Issue 4, Pages 4537-4528). Given the important findings of the study, below is a brief summary of the paper and a review of mastitis prevention and control strategies.

Brief review of journal paper

Authors Swartz (Michigan State), Bradford (Michigan State), and Clay (Dairy Records Management Systems) analyzed the records of over 15,000 dam-daughter pairs in the United States. Authors utilized the dam's somatic cell score (SCS) to investigate any associations with their daughter's incidence of dystocia, gestation length, age at first calving, 305 mature-equivalent milk yield (MY), 1st lactation 305 MY, 2nd lactation MY, and milk components. The most important conclusions related to this DairyFax article were as follows:

- ◊ Dam SCS was associated with:
  - Daughter's age at first calving (higher SCS, higher age at first calving)
  - Daughter's SCS in 1st and 2nd lactation (higher dam SCS, higher daughter SCS)
  - Daughter's 1st and 2nd lactation fat yields (higher dam SCS, lower daughter fat yields)

Essentially, mastitis during a dam's gestation has lasting, potentially lifelong, effects on the heifer born to that dam. The purpose of the journal paper was not to determine causation but did provide various areas for future investigations. Should further developments arise, they will be presented in future DairyFax articles.

Methods to prevent and control mastitis

Hygiene, Healthy, and Cow Comfort

1) Keep housing, bedding, and pastures clean & dry. This includes alleyways & holding pens.
2) Keep cows clean & dry. This includes udder & teats. When needed, udder hair should be clipped or singed. Tail switches may need to be trimmed.
   - *Assess hygiene periodically. Selected examples of scoring systems that can be utilized are shown in Figure 1. For small herds less than 100-150 cows, score all cows. For large herds, score at least 20-25% of cows/group or pen.*
3) Cows are cooled when and where needed, especially in the holding pen. This includes youngstock & dry cows, whether in barns or out in pastures.
   - *Key words here are water, shade, air flow/exchange, & cooling (evaporative cooling).*
4) Vaccination programs should include a coliform mastitis (gram negative/*E. coli*) vaccine.
   - *Depending on choice, vaccine schedule will differ. At a minimum, 2 injections should be given: 1 at dry off and the other approximately 1 month later. The 3 injection products may*

protect the cow further into lactation, rather than just the dry period. Work with your veterinarian and milk quality professionals to establish an appropriate schedule.

5) Maintain a balanced diet to support immune function, including during the dry period.

Milking Parlor and Milking Routine

1) Pre-milking routine should include a) cleaning teats & udder without the use of water, b) application of a germicidal teat dip for a minimum of 30 seconds, and c) complete drying of teats before unit attachment. In most situations, forestripping is also recommended just prior to teat dipping. Gloves should always be worn and changed if mastitis is suspected.
   - *Iodine-based teat dips are considered gold standard but other options are effective if utilized according to manufacture specifications and applied correctly (full coverage).*
   - *Dipping (liquid or foaming) is recommended over spraying.*
   - *Forestripping allows for detection of clinical mastitis.*
2) Milking unit should be properly attached within 45- 90 seconds of initial stimulation. Long lag time reduces milk yields.
   - *Fix liner slips (squawking) to reduce risk of mastitis.*
   - *Assess teats periodically. If abnormalities are noted (Figure 2), contact service technician to evaluate milking machines.*
3) Units are removed when needed and without vacuum on. Automatic take-offs work best.
4) Germicidal post dip is immediately applied (full coverage) and left on.
   - *Barrier post dips may need to be considered in pastured animals.*
5) Make sure that cows have water and fresh feed available, especially after leaving parlor to ensure they remain standing for up to 1 hour.
   - *The muscle at the teat end must fully contract/close to best protect from bacteria.*
6) Milking machines are inspected periodically to ensure pulsations, pressures, etc. are optimal/appropriate. This includes changing liners and other rubber/plastic parts as needed according to manufacturer specifications.
7) Milking parlor/equipment is cleaned and sanitized as required.
8) Milking staff is trained properly & refreshed periodically. Programs can be implemented to assess their effectiveness in parlor such as monitoring filter cleanliness, tracking bacteria, etc.

Mastitis Detection and Treatment

1) Monitor SCC of cows to identify problem cows or problem groups. Ideally individual SCC are available to identify those cows or groups.
   - *If narrowed down, first-calf heifers and fresh cows should be a major focus.*
2) When mastitis is detected (either clinical or subclinical), milk is cultured and treated based on presence of gram-positive bacteria. Consultation with a veterinarian is beneficial.
   - *Treatment protocols are established and clear for all staff. Work with your veterinarian and milk quality professionals to establish an appropriate regimen, ideally based on your herd pathogen profile.*
   - *Prior to treating, sanitize teat end thoroughly with alcohol.*
   - *When treating, partially insert antibiotic cannula (2-3 mm) to avoid damage and infusion of opportunistic, potentially uncurable pathogens.*

3) Don't neglect your dry cows and heifers.
   - *Dry cow therapy should include a teal seal. Selective dry cow therapy can be considered, but should not be implemented without a rigorous prevention, control, & treatment plan.*
   - *Fly control must be considered.*
   - *Heifers may need to be treated under the supervision of a veterinarian if first-calf heifers are calving in with infections and high SCC.*
     ⇒ *Link to resource for mastitis prevention in heifers: http://www.nmconline.org/wp-content/uploads/2018/04/NMC-Factsheet-Heifer-Mastitis-and-Control.pdf*
4) Separate cows with contagious, chronic mastitis → milk last. Cull where possible.
5) Keep diligent records for all treatments and cases and set goals for success!

This is not an exhaustive list by any means. Please reach out should you want to discuss methods in more detail or need further information. In addition to the figures at the end of this article, an excellent 2-page check-list put together by the National Mastitis Council based on their 10-point plan for mastitis control is included. Many of abbreviated methods discussed in this DairyFax article can be found in more detail there.

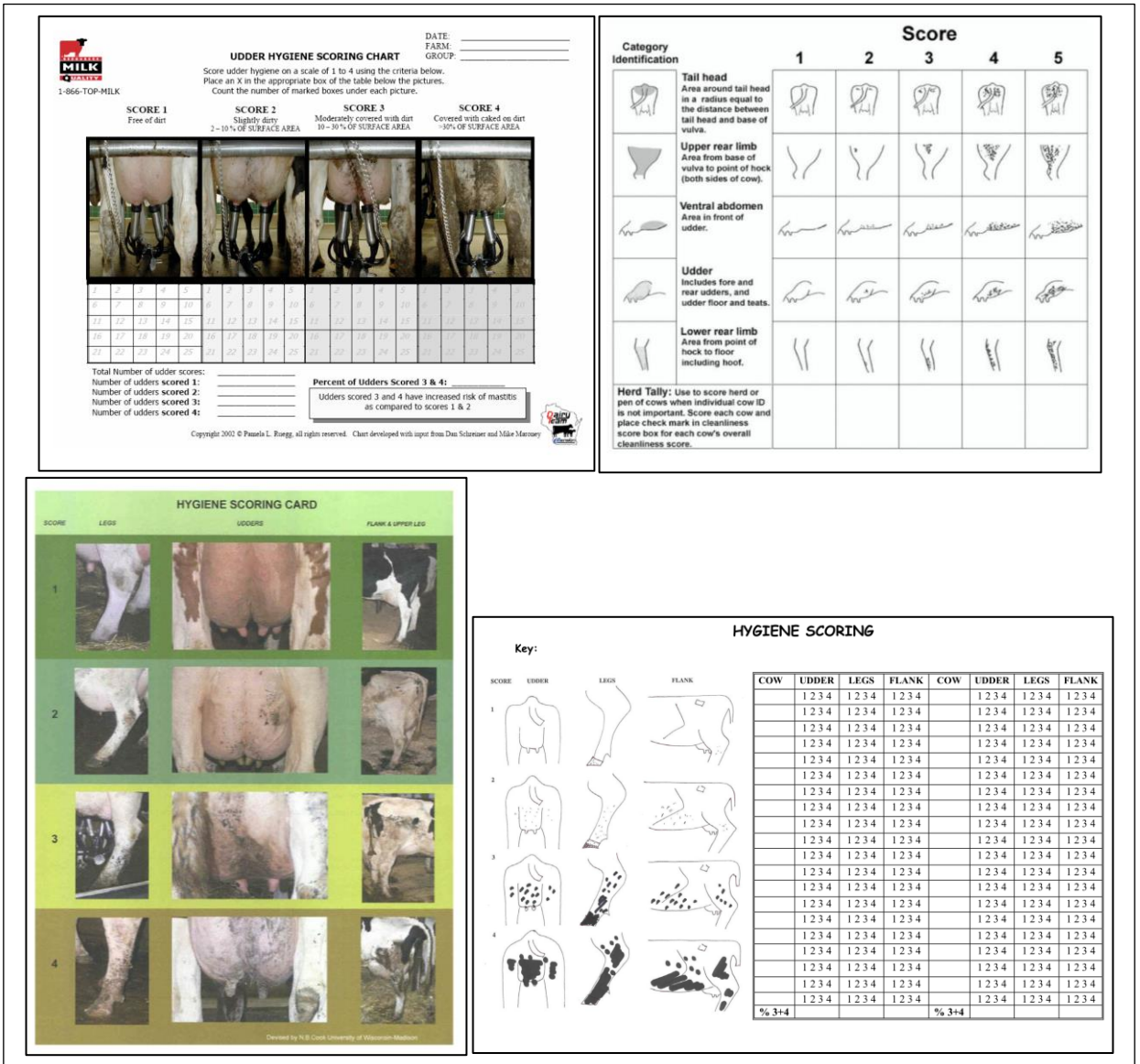

Figure 1. *Selected scoring systems to assess udder, legs, and/or flank hygiene. Sources: Top left, Reinemann, 2007; Top right, Reneau et a., 2005; Bottom left, https://www.vetmed.wisc.edu/fapm/wp-content/uploads/2020/01/hygiene.pdf; Bottom right, https://www.vetmed.wisc.edu/fapm/wp-content/uploads/2020/01/hyscorefrm.pdf*

Figure 2. A: *Red teat with raised ring after milking (immediate change), B: Bluish/purple teat after milking(immediate change), C: Petechial hemorrhaging of teat end (medium-long term change), D: Score of 1 → No ring (normal, healthy), E: Score of 2 → Smooth or slightly raised ring (can be common in machine-milked cows, F: Score of 3 → Rough ring, Score of 4 → Very rough ring (VR) (Photo source: NMC Teat Condition Portfolio)*

RECOMMENDED MASTITIS CONTROL PROGRAM

NMC
A global organization for mastitis control and milk quality
605 Columbus Avenue South | New Prague, MN 56071 | Phone 952-758-2146 | Fax 952-758-5813

Name/Farm: _____ Date: _____

1. Establishment of Goals for Udder Health

- ☐ Set realistic targets for average herd somatic cell count (SCC) or linear score and clinical mastitis rate.
- ☐ Review goals on a timely basis, with input from the Herd Udder Health Advisory Team (veterinarian, producer, herd manager, milking personnel and advisors).
- ☐ Prioritize management changes to achieve stated goals.
- ☐ Other: _____

2. Maintenance of a Clean, Dry, Comfortable Environment

- ☐ Ensure proper stall usage by ensuring adequacy of stall size and design and provide adequate space in loose yards for the number of cows housed.
- ☐ Maintain clean, dry, and comfortable stalls and yards through appropriate bedding management.
- ☐ Keep cow traffic areas clean and dry.
- ☐ Ensure ventilation system is functioning properly.
- ☐ Ensure cows at pasture have uncontaminated lying areas.
- ☐ Control detrimental environmental influences (heat stress, frostbite, stray voltage, etc.).
- ☐ Ensure that cows remain standing after milking (provide fresh feed and water).
- ☐ Other: _____

3. Proper Milking Procedures

- ☐ Examine foremilk to facilitate early detection of clinical mastitis and proper milk letdown.
- ☐ Ensure teats are clean and dry before milking.
- ☐ If local regulations allow, apply pre-milking teat disinfectant that completely covers the teat skin and allow it to remain on teats for at least 30 seconds then dry teats using a properly washed and disinfected cloth towel for use on one cow, or a single service paper towel.
- ☐ Wear clean gloves during the milking process to limit spread of contagious pathogens.
- ☐ Attach teat cups squarely and level with the udder within 90 seconds of udder preparation.
- ☐ Adjust cluster during milking to prevent liner slips and squawks.
- ☐ With manual removal, avoid machine stripping and shut off vacuum to the claw before removing cluster.
- ☐ Apply teat disinfectant immediately following teat cup removal, and assure complete coverage of teats.
- ☐ Any teat disinfectant should be selected based on documented efficacy data which can be found on the NMC website (www.nmconline.org).
- ☐ To optimize mastitis control and reduce costs, teat dipping is preferred to spraying as the method of disinfectant application.
- ☐ Milk cows with confirmed contagious intramammary infections last.
- ☐ Other: _____

4. Proper Maintenance and Use of Milking Equipment

- ☐ Install or update equipment to ISO 5707 (International Organization for Standardization, "Milking machine installations–Construction and performance").
- ☐ Service, maintain, and regularly evaluate equipment function according to manufacturer's guidelines, using dynamic evaluation methods and an appropriate record form.
- ☐ Replace liners and other rubber and plastic parts regularly, according to manufacturer's guidelines.
- ☐ Replace broken or cracked inflations and short milk tubes immediately.
- ☐ Thoroughly wash and sanitize equipment after each milking.
- ☐ Other: _____

5. Good Record Keeping

- ☐ For each case of clinical mastitis, record cow identification, date detected, days in milk, quarter(s) affected, number and type of treatments, outcome of treatments (i.e. return to normal milk, time to discard milk) and the causative bacterial pathogen if a sample was cultured on-farm or in a laboratory.
- ☐ Use a computerized or manual record system to manage information, such as individual cow SCC data, on the prevalence and incidence of subclinical mastitis.
- ☐ Other: _____

6. Appropriate Management of Clinical Mastitis During Lactation

- ☐ Develop and implement a herd clinical mastitis treatment protocol with the Herd Udder Health Advisory team.
- ☐ Carefully consider the economic ramifications of therapy decisions.
- ☐ Collect a pre-treatment milk sample aseptically for microbiological culture so that antimicrobial susceptibility tests can be used when appropriate.

- ☐ Use an appropriate therapeutic regimen; use drugs according to the protocol, or as recommended by the health advisors.
- ☐ Prior to infusion, disinfect the teat with a germicide and scrub the teat-end with an alcohol swab.
- ☐ For infusion of intramammary antibiotics, use a single-dose, regulatory approved product by the partial insertion method.
- ☐ Do not treat chronic non-responsive infections.
- ☐ Observe the correct withdrawal period for the antibiotic used, as stated on the label. If extra-label drug use is necessary, follow regulatory guidelines under the supervision of a veterinarian (i.e. in the systemic treatment of coliform mastitis).
- ☐ Always follow recommended drug storage guidelines and observe expiration dates.
- ☐ Clearly identify all treated cows, and record all treatments in a permanent record.
- ☐ When necessary, test milk for inhibitory substances before consignment.
- ☐ Other: _____

7. Effective Dry Cow Management

- ☐ Decrease the energy density of the ration during late lactation to reduce milk production before dry-off.
- ☐ Dry cows off abruptly and dry treat each quarter immediately following the last milking of lactation.
- ☐ Disinfect teats and scrub the teat-end with an alcohol swab before infusing.
- ☐ Treat all quarters of all cows with a commercially available approved [long-acting] dry-cow antibiotic and/or an approved internal teat sealant.
- ☐ Use the partial insertion method of dry treatment infusion.
- ☐ Disinfect teats immediately following infusion using any approved post milking disinfectant teat dip.
- ☐ Provide adequate dry cow nutrition to enhance immune system function.
- ☐ Maintain a clean, dry, comfortable environment for dry cows. Dry cow environmental management is important to minimize exposure to pathogens.
- ☐ In situations of high environmental pathogen exposure, use an internal or external teat sealant for dry cows in addition to any antimicrobial product.
- ☐ In herds with coliform mastitis problems, vaccinate with a core antigen endotoxin vaccine following manufacturer's directions.
- ☐ Clip flanks and udders to remove excess body hair. Udder singeing may be useful to ensure hair removal.
- ☐ Other: _____

8. Maintenance of Biosecurity for Contagious Pathogens and Marketing of Chronically Infected Cows

- ☐ Request bulk tank and individual cow SCC data. For suspect animals, further diagnostic efforts may be indicated to identify cases of subclinical mastitis prior to purchasing cows.
- ☐ If possible, obtain aseptically collected milk samples for bacteriological culture from cows prior to purchase.
- ☐ Isolate recently purchased cows, and milk separately, until there is assurance of the absence of intramammary infection.
- ☐ Segregate cows with a persistently high SCC or linear score (i.e. SCC greater than 200,000 or linear score greater than or equal to 4.0 for several months) and observe response to dry treatment or other recommended therapy.
- ☐ Market or permanently segregate cows persistently infected with *Staphylococcus aureus* or other non-responsive microbial agents (*Mycoplasma, Nocardia, Pseudomonas,* or *Arcanobacterium pyogenes*).
- ☐ Consider udder health status of first-calf heifers as this can impinge on herd biosecurity.
- ☐ Other: _____

9. Regular Monitoring of Udder Health Status

- ☐ Enroll in an individual cow SCC program or use some other monitor of subclinical infections.
- ☐ Use a sensitive cow-side monitor of inflammation in cows suspected of infection and in high risk periods (i.e. early lactation).
- ☐ Monitor distributions of high SCC cows, and rates of change to elevated SCC.
- ☐ Conduct milk bacteriological culture of clinical cases and high SCC cows regularly.
- ☐ Monitor udder health for the herd using reports from the regional regulatory agency or milk marketing organization and DHI.
- ☐ Calculate clinical mastitis rates and distributions regularly, paying particular attention to infections in heifers.
- ☐ Use SCC and clinical mastitis records to evaluate protocols, and to make treatment and marketing decisions.
- ☐ Other: _____

10. Periodic Review of Mastitis Control Program

- ☐ Obtain objective evaluations from veterinarian, industry field person or extension representative.
- ☐ A step-by-step approach to the review, and a standard evaluation form are useful.
- ☐ Make use of the entire Herd Udder Health Advisory Team: veterinarian, producer, herd manager, milking personnel, and advisors.
- ☐ Other: _____

Source: *https://www.nmconline.org/wp-content/uploads/2020/04/RECOMMENDED-MASTITIS-CONTROL-PROGRAM.pdf; nmc@nmconline.org*

Top GA DHIA By Test Day Milk Production – December 2021										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
GODFREY DAIRY FARM*	Morgan	HO	12/2/2021	1241	89	98.6	3.8	3.17	31295	1200
SCHAAPMAN HOLSTEINS*	Wilcox	HO	12/16/2021	736	91	95.2	3.8	3.17	29632	1081
WDAIRY LLC*	Morgan	XX	12/6/2021	1979	86	93.5	4.4	3.52	28262	1274
SCOTT GLOVER	Hall	HO	12/1/2021	187	88	84	4.1	3.13	28265	1051
DOUG CHAMBERS	Jones	HO	12/20/2021	422	87	83.6	3.7	2.56	26808	952
TROY YODER	Macon	HO	12/2/2021	312	87	78.6	3.4	2.27	24511	913
EBERLY FAMILY FARM	Burke	HO	12/13/2021	1063	89	76.9	3.6	2.4	24022	894
MARTIN DAIRY L. L. P.	Hart	HO	12/17/2021	385	89	74	4.2	2.78	21477	840
A & J DAIRY*	Wilkes	HO	12/8/2021	399	92	73.5	0	0	28103	0
OCMULGEE DAIRY	Houston	HO	11/30/2021	356	87	73.1	3.5	2.16	23677	852
BOBBY JOHNSON	Grady	XX	12/22/2021	767	93	71.8	0	0	24092	0
JERRY SWAFFORD	Putnam	HO	12/19/2021	133	85	71.2	3.9	2.25	20174	769
BOB MOORE	Putnam	HO	12/9/2021	534	89	71	4.1	2.45	20085	832
W.T.MERIWETHER	Morgan	HO	12/5/2021	78	87	64.5	3.6	1.85	19151	675
RODNEY & CARLIN GIESBRECHT	Washington	HO	11/22/2021	360	91	62.6	4.1	2.27	23302	822
ALEX MILLICAN	Walker	HO	12/9/2021	95	73	61	3.2	1.34	15680	531
JAMES W MOON	Morgan	HO	12/9/2021	137	86	60.3	4	2.02	19547	753
GRASSY FLATS	Brooks	XX	11/15/2021	881	88	60.2	3.9	2.06	17215	674
HORST CREST FARMS	Burke	HO	11/30/2021	153	82	59.9	4.1	2.09	18964	747
UNIV OF GA DAIRY FARM	Clarke	XX	12/27/2021	143	86	59.4	4.2	2.1	21081	852

[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 – December 2021										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
WDAIRY LLC*	Morgan	XX	12/6/2021	1979	86	93.5	4.4	3.52	28262	1274
GODFREY DAIRY FARM*	Morgan	HO	12/2/2021	1241	89	98.6	3.8	3.17	31295	1200
SCHAAPMAN HOLSTEINS*	Wilcox	HO	12/16/2021	736	91	95.2	3.8	3.17	29632	1081
SCOTT GLOVER	Hall	HO	12/1/2021	187	88	84	4.1	3.13	28265	1051
MARTIN DAIRY L. L. P.	Hart	HO	12/17/2021	385	89	74	4.2	2.78	21477	840
DOUG CHAMBERS	Jones	HO	12/20/2021	422	87	83.6	3.7	2.56	26808	952
BOB MOORE	Putnam	HO	12/9/2021	534	89	71	4.1	2.45	20085	832
EBERLY FAMILY FARM	Burke	HO	12/13/2021	1063	89	76.9	3.6	2.4	24022	894
TROY YODER	Macon	HO	12/2/2021	312	87	78.6	3.4	2.27	24511	913
RODNEY & CARLIN GIESBRECHT	Washington	HO	11/22/2021	360	91	62.6	4.1	2.27	23302	822
JERRY SWAFFORD	Putnam	HO	12/19/2021	133	85	71.2	3.9	2.25	20174	769
OCMULGEE DAIRY	Houston	HO	11/30/2021	356	87	73.1	3.5	2.16	23677	852
BERRY COLLEGE DAIRY	Floyd	JE	12/7/2021	34	83	58.1	4.5	2.16	16062	759
UNIV OF GA DAIRY FARM	Clarke	XX	12/27/2021	143	86	59.4	4.2	2.1	21081	852
HORST CREST FARMS	Burke	HO	11/30/2021	153	82	59.9	4.1	2.09	18964	747
GRASSY FLATS	Brooks	XX	11/15/2021	881	88	60.2	3.9	2.06	17215	674
FRANKS FARM	Burke	BS	11/30/2021	202	89	50.4	4.5	2.06	19324	803
JAMES W MOON	Morgan	HO	12/9/2021	137	86	60.3	4	2.02	19547	753
W.T.MERIWETHER	Morgan	HO	12/5/2021	78	87	64.5	3.6	1.85	19151	675
WEIR DAIRY	Seminole	HO	12/17/2021	79	90	52.3	3.8	1.71	15522	590

[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 – January 2022										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
GODFREY DAIRY FARM*	Morgan	HO	1/3/2022	1242	89	102.2	4.3	3.93	31371	1212
WDAIRY LLC*	Morgan	XX	1/24/2022	1988	86	95.4	4.3	3.59	28549	1281
SCHAAPMAN HOLSTEINS*	Wilcox	HO	1/20/2022	729	91	95.1	3.9	3.31	29540	1085
SCOTT GLOVER	Hall	HO	1/11/2022	184	89	90.7	4.1	3.44	28251	1058
DANNY BELL*	Morgan	HO	1/4/2022	315	90	89.7	4.3	3.41	29397	1222
VISSCHER DAIRY LLC*	Jefferson	HO	1/12/2022	796	86	85.4	2.9	2.15	23409	511
A & J DAIRY*	Wilkes	HO	1/17/2022	374	92	84.5	0	0	27923	0
DOUG CHAMBERS	Jones	HO	12/20/2021	422	87	83.6	3.7	2.56	26808	952
TROY YODER	Macon	HO	1/10/2022	311	87	79.9	3.8	2.58	24640	901
OCMULGEE DAIRY	Houston	HO	12/30/2021	360	87	78.1	3.6	2.4	23718	850
MARTIN DAIRY L. L. P.	Hart	HO	1/18/2022	378	90	74.2	4.3	2.84	21702	851
JERRY SWAFFORD	Putnam	HO	1/26/2022	136	85	74.2	3.8	2.59	20296	769
BOBBY JOHNSON	Grady	XX	12/22/2021	767	93	71.8	0	0	24092	0
BOB MOORE	Putnam	HO	1/25/2022	518	89	70.5	4.5	2.89	20327	842
RODNEY & CARLIN GIESBRECHT	Washington	HO	1/24/2022	358	90	66	4.2	2.25	23193	823
JAMES W MOON	Morgan	HO	1/13/2022	135	86	64.3	4.1	2.4	19557	755
HORST CREST FARMS	Burke	HO	12/30/2021	153	82	62.7	3.6	1.99	18855	743
UNIV OF GA DAIRY FARM	Clarke	XX	12/27/2021	143	86	59.4	4.2	2.1	21081	852
ALEX MILLICAN	Walker	HO	1/12/2022	96	73	58.4	3.4	1.49	15207	509
WEIR DAIRY	Seminole	HO	1/19/2022	81	90	55.8	3.9	2.01	15427	591

[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 – January 2022										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
GODFREY DAIRY FARM*	Morgan	HO	1/3/2022	1242	89	102.2	4.3	3.93	31371	1212
WDAIRY LLC*	Morgan	XX	1/24/2022	1988	86	95.4	4.3	3.59	28549	1281
SCOTT GLOVER	Hall	HO	1/11/2022	184	89	90.7	4.1	3.44	28251	1058
DANNY BELL*	Morgan	HO	1/4/2022	315	90	89.7	4.3	3.41	29397	1222
SCHAAPMAN HOLSTEINS*	Wilcox	HO	1/20/2022	729	91	95.1	3.9	3.31	29540	1085
BOB MOORE	Putnam	HO	1/25/2022	518	89	70.5	4.5	2.89	20327	842
MARTIN DAIRY L. L. P.	Hart	HO	1/18/2022	378	90	74.2	4.3	2.84	21702	851
JERRY SWAFFORD	Putnam	HO	1/26/2022	136	85	74.2	3.8	2.59	20296	769
TROY YODER	Macon	HO	1/10/2022	311	87	79.9	3.8	2.58	24640	901
DOUG CHAMBERS	Jones	HO	12/20/2021	422	87	83.6	3.7	2.56	26808	952
OCMULGEE DAIRY	Houston	HO	12/30/2021	360	87	78.1	3.6	2.4	23718	850
JAMES W MOON	Morgan	HO	1/13/2022	135	86	64.3	4.1	2.4	19557	755
ROGERS FARM SERVICES	Tattnall	XX	1/11/2022	160	86	52.8	4.9	2.28	15314	660
FRANKS FARM	Burke	BS	1/11/2022	196	88	55.3	4.7	2.25	19275	805
RODNEY & CARLIN GIESBRECHT	Washington	HO	1/24/2022	358	90	66	4.2	2.25	23193	823
VISSCHER DAIRY LLC*	Jefferson	HO	1/12/2022	796	86	85.4	2.9	2.15	23409	511
UNIV OF GA DAIRY FARM	Clarke	XX	12/27/2021	143	86	59.4	4.2	2.1	21081	852
BERRY COLLEGE DAIRY	Floyd	JE	1/11/2022	37	82	48.9	4.8	2.03	16045	751
WEIR DAIRY	Seminole	HO	1/19/2022	81	90	55.8	3.9	2.01	15427	591
HORST CREST FARMS	Burke	HO	12/30/2021	153	82	62.7	3.6	1.99	18855	743

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Top GA DHIA By Test Day Milk Production – February 2022										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
GODFREY DAIRY FARM*	Morgan	HO	2/7/2022	1234	89	97.2	4.5	3.99	31429	1226
WDAIRY LLC*	Morgan	XX	2/21/2022	2008	86	91.4	4.5	3.61	28759	1277
DANNY BELL*	Morgan	HO	2/1/2022	321	89	89.8	4.2	3.31	29277	1216
EBERLY FAMILY FARM	Burke	HO	2/3/2022	1048	89	87.5	3.8	2.92	24373	894
SCOTT GLOVER	Hall	HO	2/7/2022	186	88	87.5	4.4	3.5	28344	1063
SCHAAPMAN HOLSTEINS*	Wilcox	HO	2/21/2022	724	91	87.2	3.8	3.06	29387	1086
A & J DAIRY*	Wilkes	HO	2/10/2022	351	92	86.4	0	0	27926	0
DOUG CHAMBERS	Jones	HO	1/27/2022	436	87	82.1	3.7	2.68	26579	944
OCMULGEE DAIRY	Houston	HO	2/24/2022	359	87	78.4	3.5	2.45	23885	842
MARTIN DAIRY L. L. P.	Hart	HO	2/18/2022	370	89	78.2	4.3	3.03	21200	844
JERRY SWAFFORD	Putnam	HO	1/26/2022	136	85	74.2	3.8	2.59	20296	769
RODNEY & CARLIN GIESBRECHT	Washington	HO	2/22/2022	405	90	72.5	3.9	2.53	22884	812
BOB MOORE	Putnam	HO	1/25/2022	518	89	70.5	4.5	2.89	20327	842
HORST CREST FARMS	Burke	HO	2/24/2022	153	82	67.9	3.7	2.26	18734	716
JAMES W MOON	Morgan	HO	2/10/2022	136	86	67.5	3.7	2.32	19514	749
ALEX MILLICAN	Walker	HO	2/9/2022	93	73	66.7	3.4	1.95	15391	509
W.T.MERIWETHER	Morgan	HO	1/26/2022	76	87	66	3.7	2.09	19255	678
GRASSY FLATS	Brooks	XX	2/5/2022	841	84	62.1	4.2	2.57	17207	673
UNIV OF GA DAIRY FARM	Clarke	XX	1/28/2022	134	86	61.1	4.1	2.11	20976	841
BERRY COLLEGE DAIRY	Floyd	JE	2/10/2022	37	82	60.1	5.3	2.75	16062	752

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Top GA DHIA By Test Day Fat Production – February 2022										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
GODFREY DAIRY FARM*	Morgan	HO	2/7/2022	1234	89	97.2	4.5	3.99	31429	1226
WDAIRY LLC*	Morgan	XX	2/21/2022	2008	86	91.4	4.5	3.61	28759	1277
SCOTT GLOVER	Hall	HO	2/7/2022	186	88	87.5	4.4	3.5	28344	1063
DANNY BELL*	Morgan	HO	2/1/2022	321	89	89.8	4.2	3.31	29277	1216
SCHAAPMAN HOLSTEINS*	Wilcox	HO	2/21/2022	724	91	87.2	3.8	3.06	29387	1086
MARTIN DAIRY L. L. P.	Hart	HO	2/18/2022	370	89	78.2	4.3	3.03	21200	844
EBERLY FAMILY FARM	Burke	HO	2/3/2022	1048	89	87.5	3.8	2.92	24373	894
BOB MOORE	Putnam	HO	1/25/2022	518	89	70.5	4.5	2.89	20327	842
BERRY COLLEGE DAIRY	Floyd	JE	2/10/2022	37	82	60.1	5.3	2.75	16062	752
DOUG CHAMBERS	Jones	HO	1/27/2022	436	87	82.1	3.7	2.68	26579	944
JERRY SWAFFORD	Putnam	HO	1/26/2022	136	85	74.2	3.8	2.59	20296	769
GRASSY FLATS	Brooks	XX	2/5/2022	841	84	62.1	4.2	2.57	17207	673
RODNEY & CARLIN GIESBRECHT	Washington	HO	2/22/2022	405	90	72.5	3.9	2.53	22884	812
OCMULGEE DAIRY	Houston	HO	2/24/2022	359	87	78.4	3.5	2.45	23885	842
JAMES W MOON	Morgan	HO	2/10/2022	136	86	67.5	3.7	2.32	19514	749
HORST CREST FARMS	Burke	HO	2/24/2022	153	82	67.9	3.7	2.26	18734	716
ROGERS FARM SERVICES	Tattnall	XX	2/9/2022	147	87	52.3	4.8	2.15	15438	671
WEIR DAIRY	Seminole	HO	2/21/2022	84	90	54.9	4.1	2.14	15536	598
UNIV OF GA DAIRY FARM	Clarke	XX	1/28/2022	134	86	61.1	4.1	2.11	20976	841
W.T.MERIWETHER	Morgan	HO	1/26/2022	76	87	66	3.7	2.09	19255	678

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Top GA Low Herds for SCC – TD Average Score – December 2021									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
BERRY COLLEGE DAIRY	Floyd	12/7/2021	JE	34	16062	1.8	76	1.7	93
SCOTT GLOVER	Hall	12/1/2021	HO	187	28265	1.8	103	1.7	86
EBERLY FAMILY FARM	Burke	12/13/2021	HO	1063	24022	2	135	2.2	176
WDAIRY LLC*	Morgan	12/6/2021	XX	1979	28262	2	137	2.1	150
GODFREY DAIRY FARM*	Morgan	12/2/2021	HO	1241	31295	2.1	174	2.2	177
UNIV OF GA DAIRY FARM	Clarke	12/27/2021	XX	143	21081	2.3	148	2.2	198
MARTIN DAIRY L. L. P.	Hart	12/17/2021	HO	385	21477	2.4	157	2.7	262
JERRY SWAFFORD	Putnam	12/19/2021	HO	133	20174	2.5	136	2.9	202
FRANKS FARM	Burke	11/30/2021	BS	202	19324	2.5	169	2.3	169
ALBERT HALE	Oconee	12/1/2021	HO	84	11923	2.5	186	2.9	228
ALEX MILLICAN	Walker	12/9/2021	HO	95	15680	2.6	193	2.3	200
DOUG CHAMBERS	Jones	12/20/2021	HO	422	26808	2.6	224	2.4	215
HORST CREST FARMS	Burke	11/30/2021	HO	153	18964	2.8	243	3.5	322
JAMES W MOON	Morgan	12/9/2021	HO	137	19547	2.8	277	2.6	244
TROY YODER	Macon	12/2/2021	HO	312	24511	2.9	166	2.7	177
RODNEY & CARLIN GIESBRECHT	Washington	11/22/2021	HO	360	23302	2.9	214	2.6	253
W.T.MERIWETHER	Morgan	12/5/2021	HO	78	19151	2.9	257	3.1	308
GRASSY FLATS	Brooks	11/15/2021	XX	881	17215	3.1	282	3	282
BOB MOORE	Putnam	12/9/2021	HO	534	20085	3.2	260	3.2	280
OCMULGEE DAIRY	Houston	11/30/2021	HO	356	23677	3.4	394	3.8	447

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Top GA Low Herds for SCC –TD Average Score – January 2022									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
SCOTT GLOVER	Hall	1/11/2022	HO	184	28251	1.4	65	1.7	84
ALEX MILLICAN	Walker	1/12/2022	HO	96	15207	1.5	92	2.2	191
BERRY COLLEGE DAIRY	Floyd	1/11/2022	JE	37	16045	2.1	162	1.7	101
WDAIRY LLC*	Morgan	1/24/2022	XX	1988	28549	2.1	166	2.1	153
GODFREY DAIRY FARM*	Morgan	1/3/2022	HO	1242	31371	2.1	174	2.2	177
UNIV OF GA DAIRY FARM	Clarke	12/27/2021	XX	143	21081	2.3	148	2.2	198
DANNY BELL*	Morgan	1/4/2022	HO	315	29397	2.3	168	2	140
TROY YODER	Macon	1/10/2022	HO	311	24640	2.3	168	2.7	181
RODNEY & CARLIN GIESBRECHT	Washington	1/24/2022	HO	358	23193	2.5	165	2.6	256
DOUG CHAMBERS	Jones	12/20/2021	HO	422	26808	2.6	224	2.4	215
ALBERT HALE	Oconee	1/3/2022	HO	80	11928	2.6	244	2.9	233
FRANKS FARM	Burke	1/11/2022	BS	196	19275	2.6	256	2.2	174
MARTIN DAIRY L. L. P.	Hart	1/18/2022	HO	378	21702	2.7	242	2.7	258
HORST CREST FARMS	Burke	12/30/2021	HO	153	18855	2.8	209	3.4	315
JAMES W MOON	Morgan	1/13/2022	HO	135	19557	2.8	278	2.7	256
JERRY SWAFFORD	Putnam	1/26/2022	HO	136	20296	2.9	205	2.9	197
WEIR DAIRY	Seminole	1/19/2022	HO	81	15427	3.3	222	4	473
BOB MOORE	Putnam	1/25/2022	HO	518	20327	3.4	306	3.2	277
OCMULGEE DAIRY	Houston	12/30/2021	HO	360	23718	3.5	456	3.8	451
ROGERS FARM SERVICES	Tattnall	1/11/2022	XX	160	15314	3.6	401	3.5	373

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Top GA Low Herds for SCC –TD Average Score – February 2022									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
SCOTT GLOVER	Hall	2/7/2022	HO	186	28344	1.5	75	1.6	83
EBERLY FAMILY FARM	Burke	2/3/2022	HO	1048	24373	1.7	150	2.1	174
BERRY COLLEGE DAIRY	Floyd	2/10/2022	JE	37	16062	1.8	64	1.8	102
DANNY BELL*	Morgan	2/1/2022	HO	321	29277	2.2	147	2	139
MARTIN DAIRY L. L. P.	Hart	2/18/2022	HO	370	21200	2.3	136	2.6	242
RODNEY & CARLIN GIESBRECHT	Washington	2/22/2022	HO	405	22884	2.3	173	2.6	252
WDAIRY LLC*	Morgan	2/21/2022	XX	2008	28759	2.3	175	2.1	156
ALBERT HALE	Oconee	1/31/2022	HO	77	12003	2.3	251	2.8	233
GODFREY DAIRY FARM*	Morgan	2/7/2022	HO	1234	31429	2.4	241	2.2	187
ALEX MILLICAN	Walker	2/9/2022	HO	93	15391	2.4	243	2.3	200
HORST CREST FARMS	Burke	2/24/2022	HO	153	18734	2.5	183	3.1	270
DOUG CHAMBERS	Jones	1/27/2022	HO	436	26579	2.6	265	2.4	219
FRANKS FARM	Burke	2/15/2022	BS	188	19032	2.7	238	2.3	173
UNIV OF GA DAIRY FARM	Clarke	1/28/2022	XX	134	20976	2.7	258	2.2	202
GRASSY FLATS	Brooks	2/5/2022	XX	841	17207	2.8	281	3	301
JAMES W MOON	Morgan	2/10/2022	HO	136	19514	2.8	293	2.7	262
JERRY SWAFFORD	Putnam	1/26/2022	HO	136	20296	2.9	205	2.9	197
W.T.MERIWETHER	Morgan	1/26/2022	HO	76	19255	2.9	226	3.1	309
BUDDHA BELLY FARM LLC	Brooks	2/9/2022	XX	773	15355	2.9	241	3.4	364
BOB MOORE	Putnam	1/25/2022	HO	518	20327	3.4	306	3.2	277

[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).