Animal and Dairy Science Department
Rhoades Center for Animal & Dairy Science - Athens
http://www.caes.uga.edu/departments/animal-dairy-science/about/newsletters.html

Telephone: (706) 542-0658
Fax: (706) 542-9316

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.

INSIDE THIS ISSUE: July August September, 2021

Sincerely,

Shea Tao

Associate Professor

UNIVERSITY OF GEORGIA EXTENSION

Will the genetic evaluation for heat stress be ever implemented in the US?

Ignacy Misztal, Ph.D., Distinguished Research Professor and D.W. Brooks Professor
706-542-0951/ignacy@uga.edu
Valerie Ryman, Ph.D., Assistant Professor and Extension Dairy Specialist
706-542-9105/vryman@uga.edu
Department of Animal and Dairy Science, UGA

When I came to UGA as faculty in 1996 to work primarily on beef genetics, there was an expectation to develop a project important to Georgia. At one meeting, dairy producers expressed their concerns about increasing susceptibility of Holsteins to heat stress in terms of declining production, increased mortality and plummeting fertility. Holsteins were intensively selected globally for increased milk using records from mostly moderate climates. Was that selection decreasing heat tolerance in hot environments, leading to increased problems over time? If so, can selection be modified to at least maintain the current level of heat tolerance? Can one identify heat tolerant bulls?

Existing methods in research on heat stress relied on experimental data from perhaps a thousand cows. Not enough for genetic studies where the genetic evaluation is carried out with data on millions of animals. A new method was needed. Around 2000 with Olga Ravagnolo, a PhD student from Uruguay, we developed a method based on test day records and weather observations from public weather stations. We associated each test day record with a public weather data two days before and carried genetic analyses for cows in GA. Each animal would have two genomic predictions, one for mild temperatures and another one for heat tolerance. The studies indicated a negative relationship (about --0.4 correlation) between the performance at mild temperatures and heat tolerance, as feared, indicating strong selection on production makes cows more susceptible to heat stress. Declining heat tolerance over time could be mitigated by improving management such as shade structures, cooling mechanisms, etc.

Can we identify a heat tolerant bull? In 2005, another graduate student Jarmila Bohmanova from the Czech Republic, extended the studies to the national data. She identified most heat tolerant bulls and found that they were positive for fertility and productive life but negative for production and dairy form. Still, those bulls had slightly positive total performance index (TPI).

It would be nice if analyses could include all the US data used for a routine genetic evaluation, to replace the current system. In 2010 Ignacio Aguilar, a PhD student from Uruguay, analyzed test days of 3 parities with close to 100 million records. He found that heat stress is relatively small in the first parity but increases in the second parity and again in the third parity. So cows become more susceptible to heat stress over time as they milk more and dissipate more heat. Over time, the genetic trend for heat tolerance was flat for the first parity but negative for the next two parities. It seemed to be time for an implementation. However, neither USDA, who conducted the genetic evaluation, nor AI companies were interested. My lab switched resources to methods for genomic evaluation and developed a special methodology called single-step, now a standard worldwide. That research pays the bills that are getting bigger since state resources gradually decline. We still conducted some studies on heat stress in pigs and beef. The one in pigs was actually implemented to select boars separately for summer and for the rest of the year, with tens of millions of dollars in savings.

Our studies were widely emulated in the world with hundreds of citations to our papers. I was asked to give many talks about the genetics of heat stress in places as diverse as Finland (!) and Australia. Is there any heat stress in usually cold Finland? There was none in the past but now things seem to change. In Siberia, a place known for permafrost, it was 90 degrees in the middle of May 2021…. A few years ago, Australians announced an official genetic evaluation for heat stress using a methodology developed at UGA. The first place in the world. Why Australians? A production system in hot Queensland requires cows to walk long distance to water holes and milking parlors, and apparently the cows were doing worse and worse.

So why there is no genetic evaluation for heat tolerance in dairy in the US? Many reasons. Cornell University hold a patent on analyses with test days, now expired, that discouraged USDA from using the test-days directly. Using simple models, USDA could not find evidence of heat stress in the US. Many detrimental issues due to heat stress were partially relieved by new management. Cooling has improved, reducing the impact of heat stress on production and fertility. Timed AI eliminated the problem of shortening heat. Sexed semen allowed for enough replacements despite short productive life. Crossbreeding seemed to give a short-term reprieve. And the hottest part of the US is just a small market for AI organizations.

Lately one of our students was asked by a major AI company to investigate an evaluation for heat tolerance. With heat stress intensifying, perhaps the market for heat tolerance predicted transmitting abilities (PTAs) is large enough to make money. The evaluation for heat stress would make sense more now than before. In 2010, PTA for heat stress would have high reliability only for old proven bulls. Now with genomic selection, high reliability can be extended to young bulls and even cows.

The use of bio-digester slurry and the inclusion of carbohydrate additives at ensiling on the nutritive value of Napier grass (Pennisetum purpureum) silage: A South African Experience

Mashudu D. Rambau[1,2], Felix Fushai[1], Todd R. Callaway[4], and Joseph J. Baloyi[1, 3]
[1]Department of Animal Science, University of Venda, Limpopo, South Africa
[2]National Agricultural Marketing Council, Gauteng, South Africa
[3]Fulbright Fellow, Department of Animal and Dairy Science, University of Georgia, Athens, GA
[4]Department of Animal and Dairy Science, University of Georgia, Athens, GA

Dr. Joseph Baloyi has joined the UGA Department of Animal and Dairy Science this fall as a Fulbright Fellow from the University of Venda in South Africa. He is the Head of the Animal Science Department and is studying ways to improve nutrient utilization in cattle. His time at UGA is being spent sharing his experiences in agriculture in South Africa with faculty, graduate students, and undergraduates, as well as performing research into forage utilization that can be used in pasture-based systems in both Georgia and South Africa. Dr. Baloyi would be delighted to hear from you if you have questions for him or information on dairy production in Georgia at Joseph.Baloyi@uga.edu.

In general, cattle production in South Africa is divided into commercial production which is drylot production similar to our feedlots or confined feeding operations, or communal animal rearing where cattle are reared on pastures and managed by communities of people. Rainy and dry seasons are more separated than we have here in Georgia, so there are definitely longer periods of drought than we have here which makes forages seasonally available. This poses tremendous challenges to communal cattle producers, and they must rely on native grasses and are dependent on stockpiling their native forages as silage. This report describes some of the challenges faced by producers in South Africa in trying to maintain nutritive value in native silages.

In the tropics, dry season poses a major nutritional constraint on ruminant livestock production, especially dairy production. Cultivation and ensilage of surplus maize (*Zea mays*) and grass forages during rainy seasons can mitigate the challenge. Generally, ensiling is considered as an efficient process of preserving forage with high moisture content in sufficiently good quality. Improved grasses like Napier grass (*Pennisetum purpureum)* adapts very well in different ecological zones and could be conserved as silage for use during scarcity of feeds.

Napier grass is also known as, elephant grass or Uganda grass, is a perennial tropical grass native to the African grasslands. It is tall and forms in robust bamboo-like clumps with a low water and nutrient requirements, and therefore can make use of otherwise uncultivated lands. More often it reproduces vegetatively through stolons which are horizontal shoots above the soil that extend from the parent plant to offspring. Napier grass plantations can produce about 40 tonnes of dry biomass per hectare per year with an average energy content 18 GJ per tonne, and the grass can be harvested many times per year. Historically, Napier has been used primarily for grazing. However, generally, the grass is harvested in relatively short intervals (every 1 to 3 months) when it is to be used as fodder for animals (its main use), and relatively long intervals (4–12 months) when used for bioenergy. Longer harvesting intervals increases the stem/leaf ratio, making the forage harder to chew and digest, but in many cases the annual dry yield increases. The grass can reach a height of 7-8 meters after 4 months of growth. It produces best growth between 25 and 40 °C, and little growth below about 15 °C, with growth ceasing at 10 °C. Tops are killed by frost, but plants re-grow with the onset of warm, moist conditions. Grows from sea level to over 2,000 m elevation.

However, the quality of Napier grass silage depends on the ensiled material and the additives. Silage additives are natural or industrial products added in the forage or grain at ensiling to control or prevent certain types of fermentation, thus reducing losses and improving silage stability. In order to assist in the fermentation process, the silage additives are used to improve the nutrient and energy recovery in the silage

To achieve high yields of quality forage, the maintenance of soil fertility is critical. Organic amendments are often applied to soils to increase crop productivity, crop quality, or both. Bio-digester slurry (BDS) is the by-product of gas production generated from bio-degradable products through an anaerobic degradation. It contains substantial amounts of nitrogen and minerals like phosphorus and potassium. Though BDS was previously recommended to promote soil health for sustainable cropping systems, the nutritional benefits of BDS irrigation in fodder production are not clearly defined for specific pasture species.

Effective ensilage can reduce the cost of feeds through ensuring a steady supply of quality feed for ruminant animals. Tropical grasses contain reasonable crude protein content but characteristically low fermentable carbohydrates, attributes which may reduce the silage quality. Napier grass is commonly used as a cut-and -carry foliage or as a silage crop in tropical climates, especially in small holder dairy in Kenya. It is considered to produce high quality forage and has a high yielding potential but has low water-soluble carbohydrates (WSC) content. The application of carbohydrate additives enhances the quality of the silage and increase animal productivity. Readily available, low-cost carbohydrate additives such as brown sugar, molasses, and maize meal can improve the quality of silage produced by poorly resourced farmers. Therefore, the aim of the study was to determine the effect of irrigation with BDS and the inclusion of carbohydrates additives at ensiling of Napier grass, ruminal degradability and *in vitro* digestibility of Napier grass silage.

Napier grass established in 5 × 4 meter plots replicated three times in a completely randomized design was irrigated weekly with either BDS or water. After 12 weeks, the Napier was freshly cut and ensiled for 90 days in 1 liter glass jars in a 2 (control and slurry irrigation) × 4 (no additive, molasses, corn (maize) meal and brown sugar) factorial arrangement replicated three times. The nutrient composition was determined using standard protocols. The ruminal degradability of dry matter (DM) and crude protein (CP) were determined by the nylon bag technique and the degradation kinetic parameters ileal digestibility of DM and CP of undegraded rumen digesta was determined *in vitro* by the pepsin-pancreatin method. Fertilization with BDS increased CP content of fresh cut Napier grass. The BDS fertilization with molasses inclusion improved the silage DM content which resulted in silage pH of 4.2 and lowest ammonia-nitrogen (13.3 g/kg TN). Other chemical components and fermentation characteristics, and *in vitro* DM and CP digestibility were not affected by the treatments. Potential DM degradability of the control was low because of low levels of the water-soluble carbohydrates (WSC) since there were no additives added.

In conclusion, slurry application improved the nutrient composition of fresh cut Napier grass, while the combination of BDS fertilization and carbohydrate additives improved the silage quality, with greater additive effect on unfertilized grass, and with the best effect obtained with molasses inclusion. In Georgia, farmers could grow this high yielding Napier grass and either use it for grazing or cut-and -feed or even ensile it for their cows. Examining potential novel forage sources is important to improving Georgia agriculture and improving the efficiency, profitability, and sustainability of dairy production.

Conditioning the Heifer for Reproductive Success

Is there a such thing as too little or too much?

Jillian Bohlen, Ph.D., Associate Professor and Dairy Extension Specialist
706-542-9108 / jfain@uga.edu
Department of Animal and Dairy Science, UGA

Efficiency is often the golden key to profitability. Timed events that rationalize opportunity costs are at the heart of every day and long-term decisions. When it comes to preparing the dairy heifer for lactating herd entry, it is well established that managing her appropriately starts while she is actually still in utero. From that point forward, growth and development are key stakeholders in her future lactation performance while carrying with her rearing expenses that are often the second highest on the farm. As we begin to think about this ultimate goal of successful entry into the milking herd, we have to put some time into deciding the optimum time for first breeding. Deciding the correct time focuses on variables like frame size, labor management, carrying costs, etc. However, as producers we must include in this decision model heifer conditioning as it relates to current and future success. This brief discussion will then focus on the ideal body condition at first breeding and some of the potential reproductive pitfalls if that ideal is not met. There are a number of other reasons outside of reproduction on why heifer conditioning impacts long term success but those conversations will be saved for a later time.

The ideal condition of a dairy heifer at first breeding is in the range of 2.75 - 3.0 on a five-point scale. Elanco has created an excellent resource to learn about body condition scoring dairy heifers. In the "references" section at the conclusion of this article, is a link where that reference was made available by Cornell. Body condition scoring, particularly in heifers under 12 months of age, can be difficult and inconsistent. Many are able to tell "too little" or "too much" after this age with consistency and without using numerical assignments. A suitable substitute to traditional body condition scoring is cross-referencing growth (hip height/wither height) with weight.

The biological background for the necessary condition of an animal for reproductive success is simple. If she is unable to sustain herself, reproduction should not be a current goal. Reproduction is built upon the survival of the species. That means sending forth not just young but young that will be successful. Biologically, an under conditioned heifer represents one potentially lacking in vigor as a result of either genetics or from a mere result of environmental circumstances. In either case, she has the higher potential to send forth offspring that will be disadvantaged. A concept that is counterintuitive to species survival.

Therefore, the reproductive system will, in most of our mammalian species, not "turn on" (puberty) until a certain level of "fatness" or condition is met. Now, there are multiple other factors that determine age at puberty onset but fatness by many is considered the main limitation. Understanding this, most dairy heifers will attain puberty when they are 30-40% of mature body weight.

A heifer that is under conditioned then may represent a few problems if using age as a marker for first breeding. In fact, severe under conditioning could keep her from achieving puberty and thus cycling at the ideal breeding age. While the proportion of these animals is hopefully low on most operations, it is still in the realm of possibilities. More commonly mild to moderate under conditioning causes a delay in puberty onset as seen in Table 1. This delay ultimately leads to fewer cycles prior to first breeding. There is much data to support that the number of cycles, normal in nature, that occur prior to first breeding impact that first breeding attempt's success. Second to this is the issue that many heifers that are under conditioned cycle abnormally. They are known to be more erratic in their nature of cycling and more abnormal in their endocrine (hormone) profiles.

Table 1: Body condition score at heifer breeding as it relates to reproductive success and herd longevity (Archbold et al., 2012).

	Body Condition Score at Mating Start Date			
	< 2.75	3	3.25	>3.25
Pubertal rate (%)	54	68	81	85
Calving date (lactation 1)	16-Mar	25-Feb	1-Mar	3-Mar
Calving date (lactation 2)	9-Mar	7-Mar	10-Mar	8-Mar
Calving date (lactation 3)	17-Mar	21-Mar	28-Mar	3-Mar
Longevity (% to lactation 1)	91	86	90	87
Longevity (% to lactation 2)	62	72	77	73
Longevity (% to lactation 3)	48	56	55	57

Compensatory weight gain on that under conditioned heifer is possible for her to attain a condition suitable for entry into the lactating herd. The reduction in weight on the over conditioned heifer is more challenging. While over conditioning and its impact on reproductive success in lactating cows is well documented, the conversation regarding heifers is more limited. Anecdotally, the Jersey heifers at the UGA teaching dairy, housed alongside the Holsteins, tend to be over conditioned by breeding age. Frequent ultrasounds have indicated that a portion of these heifers do experience ovarian abnormalities. Most of these are related to follicular cysts. This condition is currently masked by the use of timed AI programs in the heifers that utilize progesterone/GnRH combos that naturally deal with a subset of these ovarian problems. The data that we do have on over conditioned heifers reinforces portions of the discussions on under conditioned heifers. That is that more rapid conditioning of heifers turns into an earlier onset of puberty in these animals. One study performed by Pritchard et al. in 1972 potentially elucidates that this early turn on of reproductive ability does not necessarily equate to reproductive efficiency. Presented in Table 2 below is adapted information relative to puberty onset of heifers and reproductive efficiency in heifers fed a traditional grain level versus those "over fed". Of importance to note is the earlier onset of puberty did equate to shorter time to conception but achieved this with increased services per conception when compared to the traditionally fed heifers. The latter variable potentially eluding to reproductive inefficiencies in what was assumed to be a more over conditioned heifer. The discussion then ties back to the one that began this short article, opportunity costs. Is it more important to have her bred sooner or less services required per conception? That discussion will be up to each individual producer putting the pen to paper.

Table 2: Adapted table from Pritchard et al. study comparing reproductive parameters to "standard" grain feeding (0.9 kg / day) to "extra" grain feeding (4.5 kg / day).

Item of Interest	# of Heifers	0.9 kg Grain	4.5 kg Grain
Age at first estrus (months)	30	8.7	7.5
Weight at first estrus (kg)	30	250	255
Wither height at first estrus (cm)	30	109.2	108.6
Age at first insemination (months)	9	13.3	11.3
Age at conception (months)	9	14.7	13.4
Services per conception (no)	9	2.3	3.2

One would be remiss to not mention here at the conclusion that both the under and over conditioned heifer suffer higher incidence rates of transition cow disorders from dystocia to metabolic problems (Figure 1).

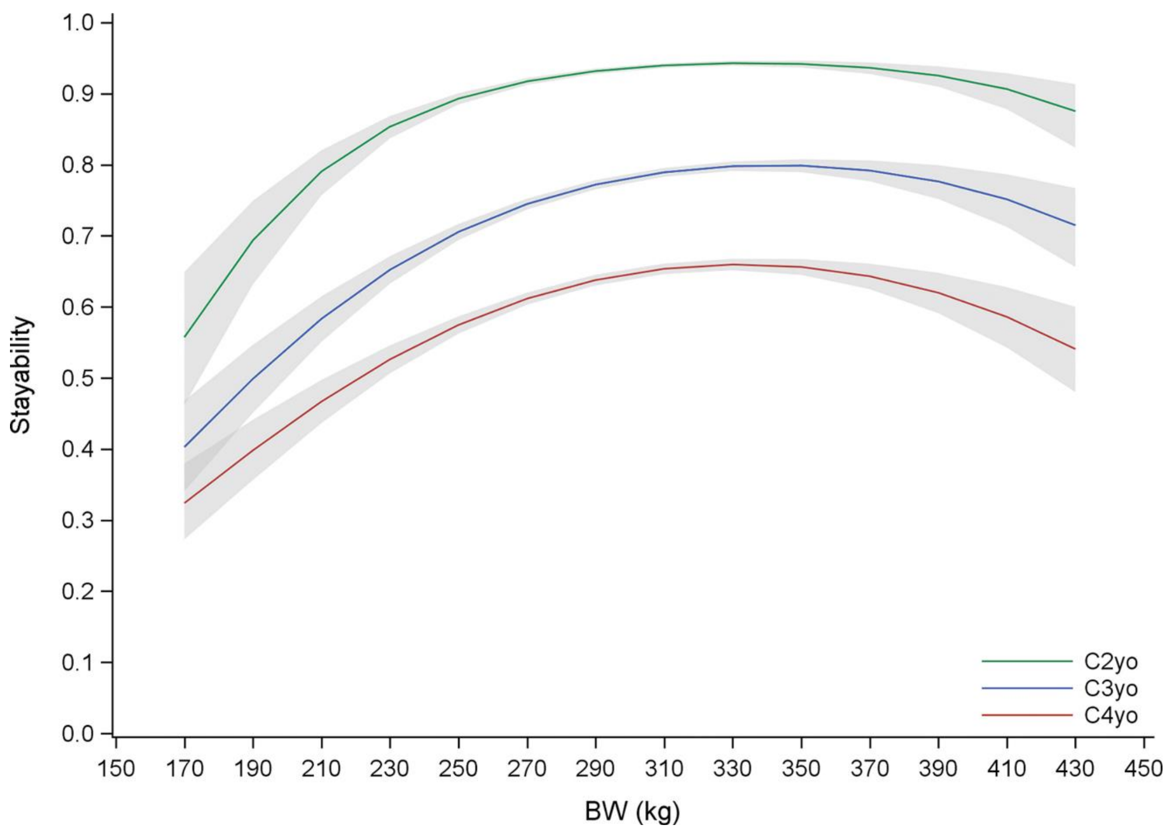

Figure 1: *Stayability (herd longevity) of animals based on body weight at heifer breeding. (Handcock et al., 2020)*

It is then well described that these transition cow difficulties are then detrimental to future reproductive success. So while getting fat on heifers is important reproductive functioning, too much can potentially present problems on reproductive efficiency. Simple assessments on farm of conditioning at breeding in heifers and data on services necessary to conceive, transition cow disorders and ultimately milk production may assist a producer in finding the right condition for their operation's goals.

References:

Archbold, H., L. Shalloo, E. Kennedy, K.M. Pierce , and F. Buckley. 2012 Influence of age, body weight and body condtion score before mating start date on the pubertal rate of maiden Holstein-Friesian heifers and implications for subsequent cow performance and profitability. Animal. 6:7.

Handcock, R.C., N. Lopez-Villalobos, L.R. McNaughton, P.J. Back, G.R. Edwards and R.E. Hickson. 2020. Body weight of dairy heifers is positively associated with reproduction and stayability. Journal of Dairy Sci 103:5.

Pritchard, D. E., H. D. Hafs, H.A. Tucker, L.J. Boyd, R.W. Purchas, and J.T. Huber. 1972. Growth, mammary, reproductive and pituitary hormone characteristics of Holstein heifers fed extra grain and melegestrol acetate. Journal of Dairy Sci 55:7.

Right from the start: Body condition scoring for replacement dairy heifers. Elanco. https://www.vet.cornell.edu/sites/default/files/1d_Elanco_Heifer_BCS_Guide_9.pdf

Ruminal degradation of different forages and feedstuffs related to dairy cattle efficiency: TMR, microbes, and you

Alexa Harvey, Jenna Farmer, Wenyi Huang, Graduate students,
and **Todd Callaway**, Ph.D., Associate Professor, todd.callaway@uga.edu
Department of Animal and Dairy Science, todd.callaway@uga.edu

The dairy industry in Georgia impacts the lives of many of our state's citizens, and dairy products are ranked among the top 10 agricultural commodities in Georgia. Milk is an essential part of a balanced diet by providing vital nutrients such as calcium, proteins, and vitamin D. Although several dairies across the state and nation have shut down in the past few years, milk production has increased. So, you may ask yourself how are we producing more milk with less cows? Simply put we have improved our animal management and milk production efficiency by utilizing the ability of the rumen in the cow.

Dairy cows, and all ruminant animals really, can convert forages and otherwise unusable products into highly nutritious products that are an important part of our daily lives. Most of what a dairy cow eats cannot be consumed by humans and often contain by-product (waste/leftovers) of another process. The forage/by-product combination provides fuel for microbes in the rumen to break down nutrients to create the dairy products we enjoy every day. In this article we will give a brief overview of how this degradation occurs and why changes in the microbial population can help are able to produce more milk with less cows.

Typically, high-quality forages and grains are the cornerstone of a healthy diet for dairy cattle. However, ruminant animals possess one of the best processes to degrade forages and feedstuffs which would not be suitable for non-ruminant animals and extract the nutrients they need. The reason dairy cows can do this is because they possess a 4 chambered - "stomach" (rumen, reticulum, abomasum, and omasum) that all work together to break down feed into the nutrients that the dairy cow can use (Fig. 1). The rumen of cattle is the largest compartment of the ruminant stomach and is where microbes (bacteria, protozoa, and fungi) break down or degrade feed by using fermentation, like what beer and wine are made through. Degradation of feed encompasses the whole process of chewing the feed, allowing the microbes to break it down in the rumen and reticulum, and the process of acid digestion in the abomasum.

We have increased production efficiency in dairy cattle through optimizing rumen microbial function. The microbes in the rumen of a dairy cow that is on a high forage diet are going to be completely different than the ruminal microbes of a dairy cow fed a grain diet or supplemented with by-product feedstuffs. An optimal diet will include a mix of forages, grains, and by-products which should keep the rumen at an optimal pH of around 6-7 and provide adequate scratch factor to ensure the

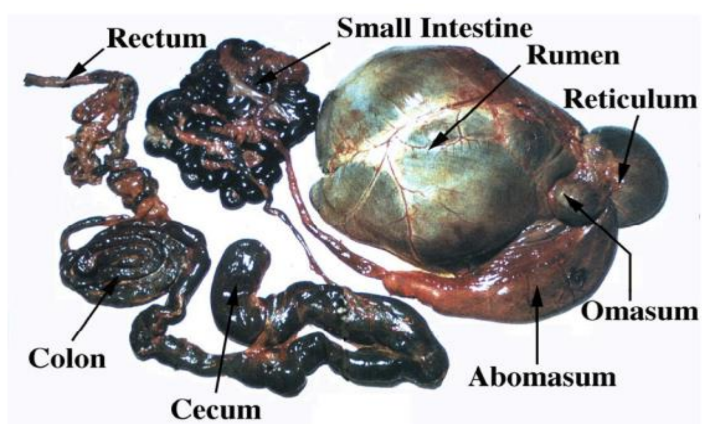

Figure 1: *Graphic of a digestive tract for a ruminant animal obtained from Russell, J, et al,.*

cow salivates enough to keep the rumen pH from changing. Typically, dairy cattle that are fed a high concentrate or grain diet will have a lower ruminal pH level. This can increase the risk of subacute ruminal acidosis (SARA) which can cause a domino effect of other health issues (Zhang et al., 2017). What dairy cattle producers have found is that they are able to supplement by-products in place of forages. Some of these by-products include soybean meal, canola meal, corn distiller grain, bone meal, etc. Most by-products are not as palatable as grains or high-quality forages so what producers have found is it is best to mix the diet all together. Many dairy operations in the United States operate by feeding a total mixed ration formula to meet their dairy cattle's diet because for the rumen to operate at an efficiency level that the dairy industry needs, the rumen needs forages, grains, protein feeds, vitamins, and minerals that the producers can incorporate all together in a total mixed ration or TMR.

Total mixed rations are a method of feeding dairy cattle that contains all the feeds and nutrients the cow needs. Rather than having to feed protein components, energy components and hay or silage fed separately, with a TMR, these nutrients are supplied to the rumen microbes at the same time. With a TMR, every mouthful of feed that the cow eats is a balanced ration, and there are fewer opportunities for the cow to pick and choose to eat a lot of the feedstuff, which also helps keep ruminal pH steady. The benefits from feeding a TMR not only impact the cows, but also your bottom line as a dairy farmer. You can conceal less palatable feed ingredients using a TMR and prevents some cows eating mostly hay and others eating mostly grain. This greatly simplifies the problems you face in feeding your different groups of lactating and dry cows. The rumen microbes can reproduce very quickly and require nutrients in specific ratios, just like the cow does. Rumen microbial growth and microbial protein synthesis can be increased by feeding a TMR rather than feeding ingredients individually due to a more uniform supply of nutrients for the microbial use.

A further benefit of TMR that is mediated by the ruminal microbes is a reduction in the incidence of SARA or full acidosis. Acidosis is caused by the accumulation of acid and the reduction in pH of the rumen contents. Grain generates large amounts of acid and fiber is needed to stimulate saliva production which acts to buffer the ruminal pH. Also, when feeding a TMR, the amount grain fed is spread out across many small meals throughout the day rather than in 2-4 larger meals as is the case with component feeding. TMR feeding helps to increase the average rumen pH during the day, especially minimizing dramatic variation in rumen pH. For farmers, using TMR may save labor because there will be less trips to make around the barn. TMR feeding can also facilitate the use of commodity feeds (purchased at lower cost per ton) such as wet brewer's grains that are more difficult to handle, which potentially reduces feed cost.

There has been extensive research conducted looking at dairy cattle feed efficiency related to diet composition. This is critical to Georgia because milk is a very important commodity that is easily accessible, affordable, and influences the consumer and producer market with its economic contribution. Without the efforts and advancements that have been made in the dairy industry to benefit cost effectiveness and production efficiency, we as a nation are not going to be able to keep up with our growing population. Discovering the importance of forages and concentrates mix in dairy cattle diets brought upon the idea of supplementing by-products and ultimately creating the total mixed ration formula. This discovery has allowed the dairy industry to be where it is today but just like in the 1950's when by-products and TMR were just being introduced to try and keep up with the growing population and economy, the same problems face animal agriculture today and more research and developments will need to be done to sustain production while keeping our dairy cattle healthy and happy.

References:

Zhang, J., Shi, H., Wang, Y., Li, S., Cao, Z., Ji, S., He, Y., & Zhang, H. (2017). Effect of Dietary Forage to Concentrate Ratios on Dynamic Profile Changes and Interactions of Ruminal Microbiota and Metabolites in Holstein Heifers [Original Research]. Frontiers in Microbiology, 8(2206). https://doi.org/10.3389/fmicb.2017.02206

Russell, James B. Rumen Microbiology and Its Role in Ruminant Nutrition. Ithaca, NY.

Important Dates

2021

2021 Georgia National Fair

- October 7-17, 2021
- Perry, GA
- https://www.georgianationalfair.com/

The Sunbelt AG Expo

- Oct 19-21, 2021
- Moultrie, GA
- https://sunbeltexpo.com/

Georgia Dairy Conference

- January 17-19, 2022
- Savannah Marriott Riverfront, 100 General McIntosh Boulevard, Savannah, Georgia
- https://www.gadairyconference.com/

Top GA DHIA By Test Day Milk Production – June 2021										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
GODFREY FARMS INC*	Morgan	HO	5/31/2021	1176	90	100	3.7	3.32	31301	1232
WDAIRY LLC*	Morgan	XX	6/7/2021	1963	87	92.4	4.3	3.46	28159	1260
DANNY BELL*	Morgan	HO	6/3/2021	317	90	90.4	4.1	3.3	29561	1246
A & J DAIRY*	Wilkes	HO	6/9/2021	388	92	88.3	0	0	28608	0
DOUG CHAMBERS	Jones	HO	6/20/2021	447	86	87.1	3.5	2.6	26595	969
SCHAAPMAN HOLSTEINS*	Wilcox	HO	6/3/2021	729	90	86.9	3.5	2.87	28858	1034
SCOTT GLOVER	Hall	HO	6/2/2021	165	88	83.9	3.9	2.96	27175	1044
BOBBY JOHNSON	Grady	XX	6/22/2021	612	91	78.1	0	0	23188	0
OCMULGEE DAIRY	Houston	HO	5/27/2021	357	87	75.8	3.5	2.35	23050	849
RODNEY & CARLIN GIESBRECHT	Washington	HO	6/23/2021	350	91	74.7	3.3	2.43	22960	894
EBERLY FAMILY FARM	Burke	HO	6/14/2021	1063	89	74.4	3.7	2.43	24004	924
UNIV OF GA DAIRY FARM	Clarke	HO	6/25/2021	139	84	73.5	3.7	2.35	20342	824
HORST CREST FARMS	Burke	HO	5/27/2021	165	86	68.5	3.8	2	20416	792
FRANKS FARM	Burke	BS	6/15/2021	188	88	65.5	4.1	2.34	19597	814
JERRY SWAFFORD	Putnam	HO	6/21/2021	130	85	65.2	3.7	2.17	20207	787
MARTIN DAIRY L. L. P.	Hart	HO	6/1/2021	122	88	64.3	3.8	1.98	22121	880
JAMES W MOON	Morgan	HO	6/9/2021	135	86	63.1	3.9	2.21	17793	631
RYAN HOLDEMAN	Jefferson	HO	5/27/2021	94	86	59.4	4.2	2.42	18713	745
BOB MOORE	Putnam	HO	6/10/2021	495	92	57.8	4.2	2.37	20061	851
W.T.MERIWETHER	Morgan	HO	6/8/2021	77	89	57.1	3.6	1.89	19124	682

[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).

UNIVERSITY OF GEORGIA EXTENSION

Top GA DHIA By Test Day Fat Production – June 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	6/7/2021	1963	87	92.4	4.3	3.46	28159	1260
GODFREY FARMS INC*	Morgan	HO	5/31/2021	1176	90	100	3.7	3.32	31301	1232
DANNY BELL*	Morgan	HO	6/3/2021	317	90	90.4	4.1	3.3	29561	1246
SCOTT GLOVER	Hall	HO	6/2/2021	165	88	83.9	3.9	2.96	27175	1044
SCHAAPMAN HOLSTEINS*	Wilcox	HO	6/3/2021	729	90	86.9	3.5	2.87	28858	1034
DOUG CHAMBERS	Jones	HO	6/20/2021	447	86	87.1	3.5	2.6	26595	969
EBERLY FAMILY FARM	Burke	HO	6/14/2021	1063	89	74.4	3.7	2.43	24004	924
RODNEY & CARLIN GIESBRECHT	Washington	HO	6/23/2021	350	91	74.7	3.3	2.43	22960	894
RYAN HOLDEMAN	Jefferson	HO	5/27/2021	94	86	59.4	4.2	2.42	18713	745
BOB MOORE	Putnam	HO	6/10/2021	495	92	57.8	4.2	2.37	20061	851
OCMULGEE DAIRY	Houston	HO	5/27/2021	357	87	75.8	3.5	2.35	23050	849
UNIV OF GA DAIRY FARM	Clarke	HO	6/25/2021	139	84	73.5	3.7	2.35	20342	824
FRANKS FARM	Burke	BS	6/15/2021	188	88	65.5	4.1	2.34	19597	814
JAMES W MOON	Morgan	HO	6/9/2021	135	86	63.1	3.9	2.21	17793	631
JERRY SWAFFORD	Putnam	HO	6/21/2021	130	85	65.2	3.7	2.17	20207	787
HORST CREST FARMS	Burke	HO	5/27/2021	165	86	68.5	3.8	2	20416	792
MARTIN DAIRY L. L. P.	Hart	HO	6/1/2021	122	88	64.3	3.8	1.98	22121	880
GRASSY FLATS	Brooks	XX	5/20/2021	834	90	52	4	1.95	17427	680
BERRY COLLEGE DAIRY	Floyd	JE	6/16/2021	31	83	56.4	4.8	1.92	15363	744
W.T.MERIWETHER	Morgan	HO	6/8/2021	77	89	57.1	3.6	1.89	19124	682

[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).

UNIVERSITY OF GEORGIA EXTENSION

Top GA DHIA By Test Day Milk Production – July 2021										
					Test Day Average				**Yearly Average**	
Herd	**County**	**Br.**	**Test date**	**[1]Cows**	**% in Milk**	**Milk**	**% Fat**	**TD Fat**	**Milk**	**Lbs. Fat**
GODFREY FARMS INC*	Morgan	HO	7/5/2021	1193	90	98.1	3.8	3.39	31383	1231
SCOTT GLOVER	Hall	HO	7/5/2021	160	88	91.8	3.5	2.67	27205	1051
WDAIRY LLC*	Morgan	XX	7/12/2021	1952	87	90.1	4.6	3.58	28181	1266
SCHAAPMAN HOLSTEINS*	Wilcox	HO	7/3/2021	736	90	89.7	3.5	2.86	29196	1046
DANNY BELL*	Morgan	HO	7/8/2021	324	90	89.4	4.1	3.27	29588	1248
A & J DAIRY*	Wilkes	HO	7/15/2021	400	92	87.2	0	0	28657	0
DOUG CHAMBERS	Jones	HO	7/26/2021	446	86	84.4	3.3	2.37	26599	968
EBERLY FAMILY FARM	Burke	HO	7/19/2021	1051	89	76.6	3.5	2.44	23992	922
OCMULGEE DAIRY	Houston	HO	6/29/2021	356	87	74.6	3.7	2.35	23173	851
TROY YODER	Macon	HO	6/30/2021	320	88	74.5	3.6	2.37	24943	954
UNIV OF GA DAIRY FARM	Clarke	HO	7/28/2021	139	84	71.4	3.9	2.34	20577	829
RODNEY & CARLIN GIESBRECHT	Washington	HO	7/26/2021	338	91	70.6	3.7	2.49	23399	902
BOBBY JOHNSON	Grady	XX	7/23/2021	611	91	68.3	0	0	23251	0
FRANKS FARM	Burke	BS	6/15/2021	188	88	65.5	4.1	2.34	19597	814
HORST CREST FARMS	Burke	HO	6/29/2021	172	86	63.7	3.8	1.88	20461	802
W.T.MERIWETHER	Morgan	HO	7/14/2021	77	89	60.3	3.4	1.7	19212	684
MARTIN DAIRY L. L. P.	Hart	HO	7/22/2021	129	87	60	3.8	1.71	21701	861
JAMES W MOON	Morgan	HO	7/15/2021	137	86	59.7	3.6	1.88	18437	719
BOB MOORE	Putnam	HO	7/15/2021	510	92	57.9	4.2	2.23	20197	858
BERRY COLLEGE DAIRY	Floyd	JE	7/19/2021	33	83	57.3	4.6	2.07	15265	737

[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 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	7/12/2021	1952	87	90.1	4.6	3.58	28181	1266
GODFREY FARMS INC*	Morgan	HO	7/5/2021	1193	90	98.1	3.8	3.39	31383	1231
DANNY BELL*	Morgan	HO	7/8/2021	324	90	89.4	4.1	3.27	29588	1248
SCHAAPMAN HOLSTEINS*	Wilcox	HO	7/3/2021	736	90	89.7	3.5	2.86	29196	1046
SCOTT GLOVER	Hall	HO	7/5/2021	160	88	91.8	3.5	2.67	27205	1051
RODNEY & CARLIN GIESBRECHT	Washington	HO	7/26/2021	338	91	70.6	3.7	2.49	23399	902
EBERLY FAMILY FARM	Burke	HO	7/19/2021	1051	89	76.6	3.5	2.44	23992	922
DOUG CHAMBERS	Jones	HO	7/26/2021	446	86	84.4	3.3	2.37	26599	968
TROY YODER	Macon	HO	6/30/2021	320	88	74.5	3.6	2.37	24943	954
OCMULGEE DAIRY	Houston	HO	6/29/2021	356	87	74.6	3.7	2.35	23173	851
UNIV OF GA DAIRY FARM	Clarke	HO	7/28/2021	139	84	71.4	3.9	2.34	20577	829
FRANKS FARM	Burke	BS	6/15/2021	188	88	65.5	4.1	2.34	19597	814
BOB MOORE	Putnam	HO	7/15/2021	510	92	57.9	4.2	2.23	20197	858
BERRY COLLEGE DAIRY	Floyd	JE	7/19/2021	33	83	57.3	4.6	2.07	15265	737
HORST CREST FARMS	Burke	HO	6/29/2021	172	86	63.7	3.8	1.88	20461	802
JAMES W MOON	Morgan	HO	7/15/2021	137	86	59.7	3.6	1.88	18437	719
ROGERS FARM SERVICES	Tattnall	HO	7/13/2021	148	90	49.3	4	1.8	15645	663
MARTIN DAIRY L. L. P.	Hart	HO	7/22/2021	129	87	60	3.8	1.71	21701	861
W.T.MERIWETHER	Morgan	HO	7/14/2021	77	89	60.3	3.4	1.7	19212	684
JERRY SWAFFORD	Putnam	HO	7/27/2021	131	86	53.7	3.5	1.67	20638	801

[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 – August 2021										
					Test Day Average				**Yearly Average**	
Herd	**County**	**Br.**	**Test Date**	**[1]Cows**	**% in Milk**	**Milk**	**% Fat**	**TD Fat**	**Milk**	**Lbs. Fat**
GODFREY FARMS INC*	Morgan	HO	8/2/2021	1179	90	99.1	3.6	3.15	31550	1234
DANNY BELL*	Morgan	HO	8/5/2021	323	91	88.9	4	3.12	29745	1256
WDAIRY LLC*	Morgan	XX	8/9/2021	1975	87	88.2	4.3	3.26	28193	1272
SCOTT GLOVER	Hall	HO	8/2/2021	160	87	87.3	3.3	2.34	27290	1054
A & J DAIRY*	Wilkes	HO	8/12/2021	400	92	84.8	0	0	28673	0
DOUG CHAMBERS	Jones	HO	8/23/2021	449	87	82.4	3.4	2.4	26718	969
EBERLY FAMILY FARM	Burke	HO	8/16/2021	1035	89	77.8	3.4	2.39	23993	916
SCHAAPMAN HOLSTEINS*	Wilcox	HO	8/25/2021	756	90	77.3	3.8	2.66	29289	1047
VISSCHER DAIRY LLC*	Jefferson	HO	8/12/2021	797	87	72.6	0	0	22575	608
UNIV OF GA DAIRY FARM	Clarke	HO	7/28/2021	139	84	71.4	3.9	2.34	20577	829
OCMULGEE DAIRY	Houston	HO	7/27/2021	358	87	71.1	3.5	2.16	23311	854
BOBBY JOHNSON	Grady	XX	8/27/2021	679	92	66.2	0	0	23717	0
RODNEY & CARLIN GIESBRECHT	Washington	HO	8/25/2021	339	91	63.9	0	0	23316	865
MARTIN DAIRY L. L. P.	Hart	HO	8/19/2021	130	87	59.5	3.7	1.76	21343	844
JAMES W MOON	Morgan	HO	8/12/2021	142	87	59.1	3.5	1.65	19201	747
FRANKS FARM	Burke	BS	7/27/2021	192	88	56.6	3.9	2.01	19408	810
BERRY COLLEGE DAIRY	Floyd	JE	8/10/2021	34	82	56.4	4.7	2.18	15188	730
ALEX MILLICAN	Walker	HO	8/9/2021	89	76	55.2	3.3	1.13	15862	552
JERRY SWAFFORD	Putnam	HO	8/24/2021	132	86	54.9	3.7	1.57	20781	801
W.T.MERIWETHER	Morgan	HO	8/11/2021	77	90	54.7	3.6	1.58	19501	695

[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).***

UNIVERSITY OF GEORGIA EXTENSION

Top GA DHIA By Test Day Fat Production – August 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	8/9/2021	1975	87	88.2	4.3	3.26	28193	1272
GODFREY FARMS INC*	Morgan	HO	8/2/2021	1179	90	99.1	3.6	3.15	31550	1234
DANNY BELL*	Morgan	HO	8/5/2021	323	91	88.9	4	3.12	29745	1256
SCHAAPMAN HOLSTEINS*	Wilcox	HO	8/25/2021	756	90	77.3	3.8	2.66	29289	1047
DOUG CHAMBERS	Jones	HO	8/23/2021	449	87	82.4	3.4	2.4	26718	969
EBERLY FAMILY FARM	Burke	HO	8/16/2021	1035	89	77.8	3.4	2.39	23993	916
SCOTT GLOVER	Hall	HO	8/2/2021	160	87	87.3	3.3	2.34	27290	1054
UNIV OF GA DAIRY FARM	Clarke	HO	7/28/2021	139	84	71.4	3.9	2.34	20577	829
BERRY COLLEGE DAIRY	Floyd	JE	8/10/2021	34	82	56.4	4.7	2.18	15188	730
OCMULGEE DAIRY	Houston	HO	7/27/2021	358	87	71.1	3.5	2.16	23311	854
FRANKS FARM	Burke	BS	7/27/2021	192	88	56.6	3.9	2.01	19408	810
BOB MOORE	Putnam	HO	8/12/2021	514	92	53.6	4.2	1.77	20346	865
MARTIN DAIRY L. L. P.	Hart	HO	8/19/2021	130	87	59.5	3.7	1.76	21343	844
ROGERS FARM SERVICES	Tattnall	HO	8/10/2021	154	89	45.2	4.4	1.71	15565	660
JAMES W MOON	Morgan	HO	8/12/2021	142	87	59.1	3.5	1.65	19201	747
W.T.MERIWETHER	Morgan	HO	8/11/2021	77	90	54.7	3.6	1.58	19501	695
JERRY SWAFFORD	Putnam	HO	8/24/2021	132	86	54.9	3.7	1.57	20781	801
HORST CREST FARMS	Burke	HO	7/27/2021	168	85	53.2	3.7	1.52	20160	789
EMORY AND CHARLES YOUNG	Washington	HO	8/19/2021	249	82	44.9	3.6	1.38	13471	496
WEIR DAIRY	Seminole	HO	8/20/2021	84	90	40	3.8	1.28	15954	594

[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).***

UNIVERSITY OF GEORGIA EXTENSION

Top GA Low Herds for SCC – TD Average Score – June 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	6/16/2021	JE	31	15363	1	32	1.7	77
FRANKS FARM	Burke	6/15/2021	BS	188	19597	1.6	106	2.4	173
SCOTT GLOVER	Hall	6/2/2021	HO	165	27175	1.8	92	2.1	124
UNIV OF GA DAIRY FARM	Clarke	6/25/2021	HO	139	20342	1.8	259	2.3	186
DANNY BELL*	Morgan	6/3/2021	HO	317	29561	1.9	140	2	141
EBERLY FAMILY FARM	Burke	6/14/2021	HO	1063	24004	2	170	2.2	181
RYAN HOLDEMAN	Jefferson	5/27/2021	HO	94	18713	2.1	131	2.8	312
WDAIRY LLC*	Morgan	6/7/2021	XX	1963	28159	2.1	157	2.2	174
GODFREY FARMS INC*	Morgan	5/31/2021	HO	1176	31301	2.1	168	2.2	191
DOUG CHAMBERS	Jones	6/20/2021	HO	447	26595	2.3	187	2.3	213
ROGERS FARM SERVICES	Tattnall	6/9/2021	HO	159	15501	2.3	203	3.5	374
SCHAAPMAN HOLSTEINS*	Wilcox	6/3/2021	HO	729	28858	2.4	213	2.7	250
RODNEY & CARLIN GIESBRECHT	Washington	6/23/2021	HO	350	22960	2.5	277	2.5	236
GRASSY FLATS	Brooks	5/20/2021	XX	834	17427	2.6	195	2.8	239
HORST CREST FARMS	Burke	5/27/2021	HO	165	20416	2.6	203	3.7	371
BOB MOORE	Putnam	6/10/2021	HO	495	20061	2.7	211	3.4	325
ALBERT HALE	Oconee	6/2/2021	HO	88	10749	3	189	3	258
OCMULGEE DAIRY	Houston	5/27/2021	HO	357	23050	3	305	3.9	441
W.T.MERIWETHER	Morgan	6/8/2021	HO	77	19124	3.1	291	3.3	362
MARTIN DAIRY L. L. P.	Hart	6/1/2021	HO	122	22121	3.1	306	3	302

[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).

UNIVERSITY OF GEORGIA EXTENSION

Top GA Low Herds for SCC –TD Average Score – July 2021									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
DAVID ADDIS	Whitfield	7/12/2021	HO	51	16704	1.4	54	1.3	81
ALEX MILLICAN	Walker	7/9/2021	HO	88	15993	1.5	71	2.1	165
SCOTT GLOVER	Hall	7/5/2021	HO	160	27205	1.6	81	2.1	116
FRANKS FARM	Burke	6/15/2021	BS	188	19597	1.6	106	2.4	173
DANNY BELL*	Morgan	7/8/2021	HO	324	29588	1.8	118	2.1	141
BERRY COLLEGE DAIRY	Floyd	7/19/2021	JE	33	15265	2	92	1.7	76
UNIV OF GA DAIRY FARM	Clarke	7/28/2021	HO	139	20577	2	200	2.3	179
WDAIRY LLC*	Morgan	7/12/2021	XX	1952	28181	2.1	173	2.2	168
GODFREY FARMS INC*	Morgan	7/5/2021	HO	1193	31383	2.1	189	2.2	190
DOUG CHAMBERS	Jones	7/26/2021	HO	446	26599	2.1	197	2.3	215
EBERLY FAMILY FARM	Burke	7/19/2021	HO	1051	23992	2.2	189	2.2	181
JAMES W MOON	Morgan	7/15/2021	HO	137	18437	2.2	207	2.5	215
MARTIN DAIRY L. L. P.	Hart	7/22/2021	HO	129	21701	2.2	323	2.9	291
BOB MOORE	Putnam	7/15/2021	HO	510	20197	2.8	224	3.4	318
ROGERS FARM SERVICES	Tattnall	7/13/2021	HO	148	15645	2.8	234	3.4	354
ALBERT HALE	Oconee	7/5/2021	HO	84	10751	2.9	157	3	250
JERRY SWAFFORD	Putnam	7/27/2021	HO	131	20638	3	240	2.9	222
RODNEY & CARLIN GIESBRECHT	Washington	7/26/2021	HO	338	23399	3	367	2.6	243
GRASSY FLATS	Brooks	7/8/2021	XX	854	17120	3.1	284	2.8	245
EMORY AND CHARLES YOUNG	Washington	6/30/2021	HO	263	13083	3.1	312	3.6	396

[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).

UNIVERSITY OF GEORGIA EXTENSION

Top GA Low Herds for SCC –TD Average Score – August 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	8/10/2021	JE	34	15188	1.2	39	1.6	75
SCOTT GLOVER	Hall	8/2/2021	HO	160	27290	1.5	87	2	112
DANNY BELL*	Morgan	8/5/2021	HO	323	29745	1.5	113	2	138
FRANKS FARM	Burke	7/27/2021	BS	192	19408	1.7	95	2.4	169
UNIV OF GA DAIRY FARM	Clarke	7/28/2021	HO	139	20577	2	200	2.3	179
WDAIRY LLC*	Morgan	8/9/2021	XX	1975	28193	2.1	181	2.2	165
EBERLY FAMILY FARM	Burke	8/16/2021	HO	1035	23993	2.2	205	2.2	183
GODFREY FARMS INC*	Morgan	8/2/2021	HO	1179	31550	2.3	189	2.2	186
ALEX MILLICAN	Walker	8/9/2021	HO	89	15862	2.3	210	2.2	167
DOUG CHAMBERS	Jones	8/23/2021	HO	449	26718	2.4	228	2.3	214
DONALD NEWBERRY	Bibb	7/30/2021	HO	103	17019	2.5	218	2.8	223
W.T.MERIWETHER	Morgan	8/11/2021	HO	77	19501	2.5	233	3.2	332
JERRY SWAFFORD	Putnam	8/24/2021	HO	132	20781	2.7	161	2.9	215
JAMES W MOON	Morgan	8/12/2021	HO	142	19201	2.7	268	2.5	208
SCHAAPMAN HOLSTEINS*	Wilcox	8/25/2021	HO	756	29289	2.8	262	2.8	248
MARTIN DAIRY L. L. P.	Hart	8/19/2021	HO	130	21343	2.9	270	2.9	289
BOB MOORE	Putnam	8/12/2021	HO	514	20346	3.1	265	3.3	311
EMORY AND CHARLES YOUNG	Washington	8/19/2021	HO	249	13471	3.3	359	3.4	371
GRASSY FLATS	Brooks	8/18/2021	XX	921	18023	3.3	377	2.8	255
HORST CREST FARMS	Burke	7/27/2021	HO	168	20160	3.4	265	3.7	364

[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).

UNIVERSITY OF GEORGIA EXTENSION