Animal and Dairy Science Department
Agriculture Research Building for Animal & Dairy Science - Tifton
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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.

INSIDE THIS ISSUE: July August September, 2019

Sincerely,

Sha Tao

Sha Tao, Assistant Professor

UGA extension

Feeding management of close-up dry and transition cows

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Dairy Nutrition and Management

Animal and Dairy Science - Tifton

Management of close-up dry and transition (first 21 days of lactation) cows is critical for reducing metabolic and reproductive diseases and supporting milk production in the ensuing lactation. Approximately 50% of all mortalities occur within the first 30 to 60 days after calving. The majority of metabolic and reproductive diseases also occur within this same time and frequently result in higher culling rates. While it is not possible to prevent all metabolic or reproductive disease postpartum, a good dry cow - transition cow program can minimize these diseases and improve performance.

Cows should be dried off with proper body condition. Today the recommended body condition at dry off is 3.0 to 3.25. Producers should work with their nutritionist to minimize the number of cow that are below or above. Cows carrying too much condition do not eat well after calving and are more susceptible problems including ketosis, displaced abomasum, and fatty liver. Cows that are too thin do not have the reserves to sustain high milk production and bred back in a timely manner.

Feeding a properly balanced diet to meet the needs of each groups of cows is important. There have been a lot of advances in feeding these groups of cows in the past three decades. As we provide better heat abatement and cow comfort, intake is maintained or increased in many cases. It is important to monitor intake and formulate rations based on actual intake so that excess energy is not fed to dry cows which results in fat deposition. The addition of straw or other high fiber ingredients has been used successful on many dairies in these situations. However, if intake is lower than expected, the nutrient density needs to be increased to maintain desired nutrient intake. At UGA-Tifton, when we bring dry cows into the barn for research it is not uncommon to see intakes cows in the range of 28 to 30 lb/d for close-up dry cows. The barn provides shade and evaporative cooling improving cow comfort. However, the intake of cows housed outside with access to shade is only consume 22-24 lb/d which may not provide adequate nutrient intake unless the ration is formulated for the lower intake.

Your nutritionist formulates rations to meet the cow's requirements. It is important that the ration be mixed and delivered correctly. The close-up dry cow group is normally the smallest ration mixed on a farm. It is important to use a mixer that will properly mix this smaller ration and completely clean out when emptied. If the mixer doesn't mix properly or still contains feed from the last batch, the ration delivered is not what your nutritionist formulated and may contribute to metabolic problems. Be sure to evaluate this aspect of feeding management to see that it is not causing a problem.

Stocking density, particularly overstocking, can be an issue on many farms. Close-up dry cows and transition cows need 30 linear inches of bunk space. As stocking density increases (overcrowding), dry matter intake decreases. A field study in New Mexico reported that 1st lactation cows produced 6.5 lb/d more milk when the stocking density in the close-up pen was reduced from 120% to 80%. A survey of dairies in New York and Vermont reported that the

average bunk density for close-up dry cows was 92.9% of recommended. However, this varied 44.1% seasonally resulting in times when the facilities were stocked at 137%. As stocking density increases for either close-up or transition cows, there is more competition at the feed bunk resulting in increased bunk displacements, increased eating rate, reduced resting time, and increased idle standing time. These behavioral changes reduce ruminal pH, increase cortisol (stress indicator), lower milk yield, elevate SCC, increase health disorders, increase lameness and decrease pregnancy rate. Facilities for close-up and transition cows should be planned to minimize overcrowding. The ability to separate springing heifers from older cow is also advantageous as the heifers are more timid and experience more negative effects from overcrowding. If you are not able to separate springing heifers separate from older cows, the importance of producing a minimum of 30 linear inches of feed bunk space becomes more critical.

Fine tuning your feeding management of close-up and transition cows can help reduce metabolic and reproductive diseases post-calving and improve milk production. Everyone may not realize the 6.5 lb/d gain in production observed in the field study, but a positive gain in milk yield and reduced metabolic disease will have positive effects on the bottom line.

Picking the right mastitis treatment

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Decisions

Because of increased scrutiny over antimicrobial use in animal production, we need to rethink our reflex of treating all cases of clinical mastitis with antimicrobials. When faced with a case of clinical mastitis, we need to consider all of our options before reaching for an intramammary tube. Each of the 5 options has a place in certain cases, and sometimes there is not really a right or wrong answer.

1. Do nothing
2. Treat the affected quarter with a lactating intramammary tube
3. Dry off the cow early (if she is pregnant) and treat with a dry cow intramammary tube
4. Dry off the affected quarter
5. Sell the cow for beef

The bugs

Almost all inflammation of the mammary gland (mastitis) is a reaction to the introduction of bacteria into the gland by way of the streak canal. The distribution of causative organisms in both clinical and subclinical mastitis has changed over the last few decades. For a long time, we struggled to manage contagious organisms (especially *Strep. agalactiae*), but currently we see higher incidences of mastitis caused by opportunistic environmental pathogens. In many reports, the most common cause is found to be "no growth", followed by coliforms, then environmental *Streps*. This distribution is variable across farms and housing systems, and must be taken into account when designing treatment protocols.

Using culture to make better decisions

The more information we have about the invading pathogen, the better we can direct the decision to treat (choosing the right drug and duration), allow the immune system to work alone, or forgo treatment. Using herd pathogen history is helpful, but is not as good as having rapid bacterial culture results for individual cases. Simple and rapid on-farm culture systems allow us to have a rapid determination of whether the infection is caused by a gram-positive organism, a gram-negative organism, or if there are no organisms able to be cultured from the udder. More complete information about bacterial species can be obtained through diagnostic labs or veterinary clinic labs, but is usually not attained rapidly enough to make treatment decisions.

The drugs

There are currently only seven approved intramammary drugs for use in lactating dairy cattle in the US (see Table below). Most of these were approved for use before 1985, and their label recommendations reflect the predominant intramammary pathogens of the time. Six of the drugs are beta-lactam drugs that work by inhibiting cell wall synthesis, and one is a lincosamide that inhibits bacterial protein synthesis. The expected in-vitro spectrum of activity of many of these

drugs is good for most gram-positive intramammary pathogens. The gram-negative spectrum is poor or non-existent for most drugs except for ceftiofur. The expected efficacy for some unusual organisms (yeasts, molds, *Prototheca*, *Mycoplasma*…) is essentially zero. Unfortunately, there is very little research data to prove that one tube is a better choice than another, since every farm's mastitis pathogen profile is different. I recommend that you work with your herd veterinarian to select the most appropriate treatment regimens to match your farm's pathogens, cattle, and management.

Table. *Approved intramammary drugs for use in lactating dairy cattle in the US*.

Trade Name	Manufacturer	Drug	Dosage	Meat Withdrawal	Milk Withdrawal
Amoxi-Mast	Merck	Amoxicillin	1 tube q 12h for 3 treatments	12 days	60 hours
Dariclox	Merck	Cloxacillin	1 tube q 12h for 3 treatments	10 days	48 hours
Masti-Clear	WG Critical Care	Procaine Penicillin G	1 tube q 12h for 3 treatments	3 days	60 hours
Pirsue	Zoetis	Pirlimycin	1 tube q 24h up to 8 days	9 days	36 hours
PolyMast	Boehringer Ingelheim	Hetacillin	1 tube q 24h up to 3 treatments	10 days	72 hours
Spectramast LC	Zoetis	Ceftiofur HCl	1 tube q 24h up to 8 days	2 days	72 hours
ToDay	Boehringer Ingelheim	Cephapirin	1 tube now, 1 tube 12h later	4 days	96 hours

Picking the right lactating tube

The purpose of intramammary antimicrobials is to slow bacterial growth long enough for the immune system to gain an advantage over the pathogen; it is the immune system that does most of the work in clearing bacteria. Since the cost, mechanism of action, efficacy, and the milk withdrawal times are very similar across most of the lactating cow tubes, the selection of one product over another should be guided by the ability of the farm to follow label directions and minimize extra-label drug use. There are some products that are labeled to be given every twelve hours, which is almost impossible in a herd that milks three times per day. Some of the tubes have flexible labels that allow for anywhere from 2 days to 8 days of treatments. I recommend finding a product that meets the needs of the farm for treatment interval, length of treatment, and milk withdrawal time, and be consistent in its use. Some farms may choose to keep more than one product on inventory- one for first-line empirical treatment, and one for repeat or refractory cases.

Clinical vs bacteriologic cure

Most cow-level outcomes are determined on whether we achieve a clinical cure, which is when the milk returns to normal appearance. In most cases of clinical mastitis, this occurs around 5 to 7 days after the onset of clinical signs, regardless of bacterial cause. Determining bacteriologic cure (when no microorganisms can be cultured from the milk) is usually only done in research settings. For some bacterial pathogens (*E. coli*), bacteriologic cure may happen even before we detect clinical signs of abnormal milk. The immune system reacts rapidly and strongly to the pathogen,

and we are left with signs of inflammation without live bacteria. For other organisms (*Staph aureus* for example), we can achieve clinical cure in a few days but never reach a bacteriologic cure; the organism will live in the udder for the life of the cow and may only be shed intermittently.

Chronic mastitis

Cases that do not respond to treatment in the usual timeframe, or from which unusual organisms are cultured probably will not respond to long-term or repeated intramammary antimicrobials. In these cases, withholding treatment, drying the affected quarter, drying the cow off early, or culling should be considered. Some farms have implemented a three strikes rule (3 cases of clinical mastitis in one lactation warrants culling), and have greatly reduced the number of repeat cases and hospital days.

Drying off a quarter

There are a variety of reports of stopping milk production in a single mammary quarter by infusing caustic substances (iodine, chlorhexidine, etc.) in the udder to kill milk producing tissues. I do not recommend this practice, since it results in too much inflammation, and can result in violative residues in milk and meat for a long time. My preferred method is to simply stop milking that quarter. The increased pressure from not milking will signal the secretory cells in the affected quarter to stop producing milk, just as is done when we stop milking all quarters at dry-off. The cow should be marked in some way (most farms use colored legbands) so that milking technicians no longer milk that quarter. The affected quarter may or may not return to normal in the next lactation.

Conclusions

Before we begin a treatment regimen for a case of mastitis, we need to first evaluate the cow and gather more information to make sure we maximize our chance of clinical cure, and minimize the unnecessary antimicrobials, discarded milk, and residue risks in cases that do not require antimicrobials.

What the research says about the commercially-available *Staphylococcus aureus* vaccine

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The only commercially-available *Staphylococcus aureus* vaccine in the U.S. is Lysigin®, which is distributed by Boehringer Ingelheim Vetmedica. The vaccine is composed of common strains of *Staph. aureus* bacteria that have been lysed (broken in smaller, non-infectious pieces). These non-infectious pieces are sufficient to be recognized by the cow's immune system enabling development of antibodies against *Staph. aureus*, including various toxins and proteins. The following bullet points demonstrate various findings beginning with initial studies in the 1960s through the present:

- 1960s and 70s
  - Cows vaccinated with Lysigin® demonstrated decreased clinical symptoms and fewer chronic infections (Williams et al., 1966; 1975).
- 1980s
  - Cows vaccinated with Lysigin® (formerly Somato-Staph) had significantly higher spontaneous cure rates (meaning they did not require antibiotic therapy to cure) compared to non-vaccinated controls (61-76% vs 21-30%), however new *Staph. aureus* infection rates were not reduced (Pankey et al., 1983a; 1985).
- 1990s
  - Heifers vaccinated with Lysigin® showed a 45% reduction in new *Staph. aureus* mammary infections during gestation and at calving (Nickerson et al., 1999). It is theorized that the best response was realized in this particular study because heifers were vaccinated and the vaccination regimen included more than 2 doses.
- 2000s
  - After experimental challenge with *Staph. aureus*, all cows (including Lysigin®-vaccinated cows) became infected with *Staph. aureus*. However, Lysigin®-vaccinated cows had decreased clinical symptoms. There was no difference in SCC or milk yield between vaccinated animals and non-vaccinated animals (Middleton et al., 2006).
  - When Lysigin® was used on a herd with 5% of its cows infected with *Staph. aureus*, the vaccine failed to prevent new staphylococcal infections (Middleton et al., 2009).
- 2010s
  - Though not the objective of the project, a recent study found little increase in antibody titers following vaccination with Lysigin® (Ryman et al., 2013). In fact, the increase in horn fly populations was more associated with increased antibody titers than the vaccination itself.

As is evident by the available data, you must evaluate your own farm to determine whether the expense and labor commitment of vaccination is warranted. Though the research suggests that clinical symptoms may be reduced, and rates of chronic infections are lower, the rate of new infections will not change, thus continuing to propagate *Staph. aureus* in a herd. Instead, the primary focus should be on reducing new cases of *Staph. aureus* by eliminating *Staph. aureus*-infected animals from the herd, maintaining good milking practices in the milk parlor, and

implementing rigorous fly control.

However, there may be some arguments in support of implementing a *Staph. aureus* vaccine. Are first lactation heifers introducing new infections into the herd? Fly control should be a major focus as horn flies are the primary culprit in causing pre-calving *Staph. aureus* infections. However, Lysigin® may be a useful tool as some of the data suggests that use in heifers beginning at 6 months with a 14 day booster (and vaccination every 6 months after) contributes to reduced cases of new *Staph. aureus* infections (Nickerson et al., 1999). However, the vaccine regimen for this plan is labor-intensive and costly, thus reducing its potential as a viable option.

Reference

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2) Middleton, J.R., C.D. Luby, and D.S. Adams. 2009. Efficacy of vaccination against staphylococcal mastitis: A review and new data. Vet. Microbiol. 134:192-198.

3) Nickerson, S.C., W.E. Owens, G.M. Tomita, and P. Widel. 1999. Vaccinating dairy heifers with a *Staphylococcus aureus* bacterin reduces mastitis at calving. Large Animal Practice 20:16-28.

4) Pankey, J.W.; Duirs, G.; Twomey, A.; Evaluation of a Commerical Bacterin Against *Staphyloccus aureus* Mastitis in New Zealand, Dairy Research Report, Louisiana Agricultural Experiment Station. 1983.

5) Pankey, J.W.; Boddie, N.T.; Watts, J.L; Preliminary Report on Protein A and a Commercial Bacterin as Vaccines against *Staphylococcus aureus* Mastitis in Dairy Cattle, Dairy Research Report, Louisiana Agricultural Experiment Station. 1983.

6) Ryman, V.E., S.C. Nickerson, D.J. Hurley, R.D. Berghaus, and F.M. Kautz. 2013. Influence of horn flies (*Haematobia irritans*) on teat skin condition, intramammary infection, and serum anti-*S. aureus* antibody titres in holstein heifers. Res Vet Sci. 95:343-346

Sorting behavior of heat-stressed lactating dairy cows

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Heat stress affects a dairy cow's rumen function and health, which can influence what a cow likes to eat during summer. Heat stress is caused by the imbalance between heat gain from the environment and metabolism and heat loss. Although heat abatement provided by shade, fans and soakers is widely used to cool cows, it is still apparent that lactating dairy cows experience physiological changes, such as increased respiration rate and decreased intake during summer. These factors not only reduce milk yield, but also influence optimal function of the rumen.

Heat-stressed cows may experience rumen acidosis which can be attributed to different factors including reduced rumen motility and a shift of blood flow to the peripheral, which promote the accumulation of volatile fatty acids in the rumen reducing pH. The elevated respiration rate increases loss of carbon dioxide. This will eventually induce respiratory alkalosis and reduce bicarbonate concentrations in the saliva. Because of the lower rumination and the increased drooling of heat-stressed cows, the total amount of bicarbonate flowing to the rumen through saliva decreases, reducing total buffering capacity. Independent of heat stress, cows with rumen acidosis sort for forage and longer particles of the diet. If heat stress can alter lactating cows' feed sorting behavior in the same fashion is not clear.

In a study conducted at Tifton UGA Dairy Research Center, researcher from University of Georgia, in collaboration with researchers from University of Florida, examined the impact of heat stress on lactating cows' sorting behavior. The study was conducted during the summer time. Mid to late lactation cows were housed under shade and either exposed to evaporative cooling or not. The evaporative cooling included fans over freestalls and feed bunks using misters installed on the face of the fans. Cows without evaporative cooling were housed in the same barn, but the fans and misters were turned off. The body temperature of the cows was recorded through the trial using a thermometer placed in the vagina. Individual intake was recorded for each cow which were individual fed behind Calan gates. Samples of the fresh TMR and orts collected for a period of 4 days for each cow and particle separation determined using the Penn State Particle Separator. The particle separator separated the feed into 4 portions based on size: long, medium, short, and fine, which are the portions remain on each sieve after extensive shaking of the separator. The sample collection was repeated twice. The sorting behavior was calculated as described by Miller-Cushon et al. (2019). The correlation between virginal temperature and sorting behavior for long or short particle of the TMR was determined.

The results from this study are summarized in Figure 1. The x-axis of the figures is the cow's vaginal temperature and the y-axis is the sorting for long (Figure 1a) or short (Figure 1b) particles displayed by percentage. For example, for a certain particle, when the sorting equals to 100%, the cow doesn't sort; when the sorting is over 100%, the cow sorts for this particle; and when the sorting is below 100%, the cow sorts against this particle. From Figure 1, as body temperature increased under heat stress, cows sorted for long particle and against short particles. These data

suggest the preference of a heat-stressed lactating dairy cow for the longer particles of the diet, which probably is an effort to maintain a healthy rumen environment. Because long particles of a diet normally are from forage and contain higher content of NDF, this portion of the diet may be more effective to induce saliva production and buffer the rumen.

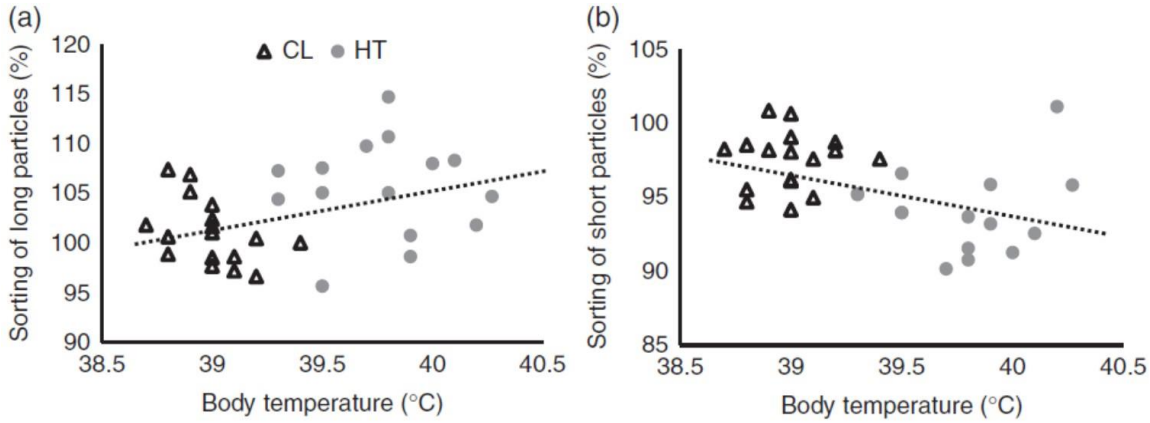

Figure 1. The correlation between vaginal temperature and sorting behavior of heat-stressed lactating dairy cows (Miller-Cushon et al., 2019).

It is not uncommon to increase the proportion of the concentrate in the diet during summer to increase the energy content to maintain energy intake as intake declines. It is critical to ensure there is enough peNDF in the diet to maintain a healthy rumen environment. Previous studies conducted by Drs. Joe West and John Bernard at UGA Tifton also clearly demonstrated the importance of good quality forage in the lactating cow ration for maintaining milk yield during summer.

Reference

Miller-Cushon, E. K., A. M. Dayton, K. C. Horvath, A. P. A. Monteiro, X. Weng, and S. Tao. 2019. Effects of acute and chronic heat stress on feed sorting behavior of lactating dairy cows. Animal. 6:1-8. doi: 10.1017/S1751731118003762.

Important Dates

2019-2020

Georgia National Fair

- October 3-13, 2019
- 401 Larry Walker Parkway, Perry, GA
- https://www.georgianationalfair.com/

Sunbelt Agriculture Expo

- October 15-17, 2019
- 290-G Harper Boulevard, Moultrie, GA 31788-2157
- http://sunbeltexpo.com/

Georgia Dairy Conference

- January 20-22, 2020
- Savannah Marriott Riverfront, 100 General McIntosh Boulevard, Savannah, GA 31401
- http://www.gadairyconference.com/

Top GA DHIA By Test Day Milk Production – June 2019										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	6/12/2019	422	88	96.1	4	3.54	30558	1241
DAVE CLARK*	Morgan	H	6/3/2019	1192	89	95.7	4	3.43	30710	1261
DANNY BELL*	Morgan	H	6/6/2019	287	91	92.8	3.5	2.84	28739	1108
J.EVERETT WILLIAMS*	Morgan	X	6/10/2019	1966	88	87.6	4.2	3.28	27058	1167
A & J DAIRY*	Wilkes	H	6/23/2019	430	91	86.6			28416	
VISSCHER DAIRY LLC*	Jefferson	H	5/17/2019	985	88	84.8	3.3	2.52	22545	803
DOUG CHAMBERS	Jones	H	5/28/2019	434	89	83.8	3.2	2.38	26056	895
SCOTT GLOVER	Hall	H	6/25/2019	176	87	82.3	3.7	2.49	25472	1006
SCHAAPMAN HOLSTEINS*	Wilcox	H	6/8/2019	729	90	81.1	3.4	2.39	26950	944
PHIL HARVEY #2	Putnam	H	5/16/2019	1556	88	81	3.8	2.68	25084	955
EBERLY FAMILY FARM	Burke	H	6/17/2019	994	90	79.5	3.8	2.56	25225	946
MARTIN DAIRY L. L. P.	Hart	H	6/13/2019	311	89	77.6	3.5	2.47	23396	931
TROY YODER	Macon	H	6/17/2019	309	89	77.2	3.6	2.47	26057	1020
IRVIN R YODER	Macon	H	5/24/2019	210	89	76.9	3.6	2.54	24664	922
TWIN OAKS FARM	Jefferson	H	5/16/2019	85	89	70.6	3.4	2.35	22087	846
SOUTHERN SANDS FARM	Jenkins	H	6/11/2019	91	89	69.7	3.6	2.34	23547	868
OCMULGEE DAIRY	Houston	H	6/25/2019	312	88	67.2	3.6	2.13	22298	816
HORST CREST FARMS	Burke	H	6/24/2019	160	84	66.4	3.4	1.94	18847	732
BOB MOORE #2	Putnam	H	6/12/2019	510	89	66.2	3.3	2.03	20189	731
COASTAL PLAIN EXP STATION*	Tift	H	6/18/2019	250	90	64.8	4	2.31	23147	882

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

Top GA DHIA By Test Day Fat Production – June 2019										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	6/12/2019	422	88	96.1	4	3.54	30558	1241
DAVE CLARK*	Morgan	H	6/3/2019	1192	89	95.7	4	3.43	30710	1261
J.EVERETT WILLIAMS*	Morgan	X	6/10/2019	1966	88	87.6	4.2	3.28	27058	1167
DANNY BELL*	Morgan	H	6/6/2019	287	91	92.8	3.5	2.84	28739	1108
PHIL HARVEY #2	Putnam	H	5/16/2019	1556	88	81	3.8	2.68	25084	955
EBERLY FAMILY FARM	Burke	H	6/17/2019	994	90	79.5	3.8	2.56	25225	946
IRVIN R YODER	Macon	H	5/24/2019	210	89	76.9	3.6	2.54	24664	922
VISSCHER DAIRY LLC*	Jefferson	H	5/17/2019	985	88	84.8	3.3	2.52	22545	803
SCOTT GLOVER	Hall	H	6/25/2019	176	87	82.3	3.7	2.49	25472	1006
MARTIN DAIRY L. L. P.	Hart	H	6/13/2019	311	89	77.6	3.5	2.47	23396	931
TROY YODER	Macon	H	6/17/2019	309	89	77.2	3.6	2.47	26057	1020
SCHAAPMAN HOLSTEINS*	Wilcox	H	6/8/2019	729	90	81.1	3.4	2.39	26950	944
DOUG CHAMBERS	Jones	H	5/28/2019	434	89	83.8	3.2	2.38	26056	895
TWIN OAKS FARM	Jefferson	H	5/16/2019	85	89	70.6	3.4	2.35	22087	846
SOUTHERN SANDS FARM	Jenkins	H	6/11/2019	91	89	69.7	3.6	2.34	23547	868
BRENNEMAN FARMS	Macon	H	6/14/2019	50	82	63.7	3.9	2.31	19714	695
COASTAL PLAIN EXP STATION*	Tift	H	6/18/2019	250	90	64.8	4	2.31	23147	882
KIRK BUTCHER	Coweta	H	5/16/2019	359	88	63.1	3.9	2.29	19194	732
BERRY COLLEGE DAIRY	Floyd	J	6/20/2019	34	82	56.4	5.4	2.16	16907	844
BOB MOORE	Putnam	H	6/4/2019	203	89	59.7	3.6	2.13	19644	783
OCMULGEE DAIRY	Houston	H	6/25/2019	312	88	67.2	3.6	2.13	22298	816

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

Top GA DHIA By Test Day Milk Production – July 2019										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
DAVE CLARK*	Morgan	H	7/1/2019	1197	89	96.7	3.8	3.27	30761	1261
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	7/10/2019	432	88	95.6	4	3.4	30513	1252
DANNY BELL*	Morgan	H	7/4/2019	302	91	92.3	3.8	2.99	28883	1110
A & J DAIRY*	Wilkes	H	7/25/2019	423	91	87.3			28482	
J.EVERETT WILLIAMS*	Morgan	X	7/8/2019	1946	88	85.9	3.8	2.92	26989	1155
SCOTT GLOVER	Hall	H	6/25/2019	176	87	82.3	3.7	2.49	25472	1006
R & D DAIRY*	Lamar	H	7/26/2019	292	94	80.2	3.4	2.62	25534	990
DOUG CHAMBERS	Jones	H	7/23/2019	444	89	79.3	3.4	2.2	26181	895
SCHAAPMAN HOLSTEINS	Wilcox	H	7/27/2019	745	89	77.9	3.4	2.27	26935	929
TROY YODER	Macon	H	7/25/2019	309	89	77.8	3.4	2.37	26032	1009
EBERLY FAMILY FARM	Burke	H	7/15/2019	1001	90	75.8	3.7	2.35	25095	946
IRVIN R YODER	Macon	H	6/28/2019	233	90	72.1	3.6	2.48	24828	924
VISSCHER DAIRY LLC*	Jefferson	H	7/11/2019	966	87	69.1	3.4	1.87	22680	805
MARTIN DAIRY L. L. P.	Hart	H	7/23/2019	315	89	65.7	3.7	2.02	23517	929
WHITEHOUSE FARM	Macon	H	6/19/2019	245	90	64.4	3.7	2.1	22217	836
UNIV OF GA DAIRY FARM	Clarke	H	7/8/2019	80	88	63.2	3.7	2.1	17523	690
TWIN OAKS FARM	Jefferson	H	7/10/2019	87	89	62.5	3.7	2.33	22049	839
RUFUS YODER JR	Macon	H	6/21/2019	162	91	62.1	3.6	1.92	21499	796
OCMULGEE DAIRY	Houston	H	7/24/2019	317	89	61	3.7	1.98	22314	820
JERRY SWAFFORD	Putnam	H	6/25/2019	99	85	60.7	3.8	1.97	17834	668

[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 2019										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	7/10/2019	432	88	95.6	4	3.4	30513	1252
DAVE CLARK*	Morgan	H	7/1/2019	1197	89	96.7	3.8	3.27	30761	1261
DANNY BELL*	Morgan	H	7/4/2019	302	91	92.3	3.8	2.99	28883	1110
J.EVERETT WILLIAMS*	Morgan	X	7/8/2019	1946	88	85.9	3.8	2.92	26989	1155
R & D DAIRY*	Lamar	H	7/26/2019	292	94	80.2	3.4	2.62	25534	990
SCOTT GLOVER	Hall	H	6/25/2019	176	87	82.3	3.7	2.49	25472	1006
IRVIN R YODER	Macon	H	6/28/2019	233	90	72.1	3.6	2.48	24828	924
TROY YODER	Macon	H	7/25/2019	309	89	77.8	3.4	2.37	26032	1009
EBERLY FAMILY FARM	Burke	H	7/15/2019	1001	90	75.8	3.7	2.35	25095	946
TWIN OAKS FARM	Jefferson	H	7/10/2019	87	89	62.5	3.7	2.33	22049	839
SCHAAPMAN HOLSTEINS	Wilcox	H	7/27/2019	745	89	77.9	3.4	2.27	26935	929
SOUTHERN ROSE FARMS	Laurens	H	6/25/2019	100	89	60.5	4	2.2	20579	813
DOUG CHAMBERS	Jones	H	7/23/2019	444	89	79.3	3.4	2.2	26181	895
BRENNEMAN FARMS	Macon	H	7/16/2019	51	81	60.3	3.9	2.19	19771	696
WHITEHOUSE FARM	Macon	H	6/19/2019	245	90	64.4	3.7	2.1	22217	836
UNIV OF GA DAIRY FARM	Clarke	H	7/8/2019	80	88	63.2	3.7	2.1	17523	690
BOB MOORE	Putnam	H	7/2/2019	213	89	56.1	3.9	2.08	19715	784
JOHN WESTSTEYN*	Bacon	X	6/30/2019	1443	91	55.2	3.9	2.03	19616	787
MARTIN DAIRY L. L. P.	Hart	H	7/23/2019	315	89	65.7	3.7	2.02	23517	929
OCMULGEE DAIRY	Houston	H	7/24/2019	317	89	61	3.7	1.98	22314	820

[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 2019										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	8/14/2019	439	88	96.1	4	3.4	30416	1263
DAVE CLARK*	Morgan	H	8/5/2019	1231	89	94.4	4	3.29	30802	1261
DANNY BELL*	Morgan	H	8/8/2019	315	91	91.3	3.9	2.92	28925	1113
A & J DAIRY*	Wilkes	H	8/25/2019	422	91	85.9			28485	
J.EVERETT WILLIAMS*	Morgan	X	8/12/2019	1981	88	84.1	4.1	2.88	26961	1144
R & D DAIRY*	Lamar	H	7/26/2019	292	94	80.2	3.4	2.62	25534	990
SCHAAPMAN HOLSTEINS	Wilcox	H	7/27/2019	745	89	77.9	3.4	2.27	26935	929
DOUG CHAMBERS	Jones	H	8/26/2019	452	89	77.4	3.5	2.21	26091	895
EBERLY FAMILY FARM	Burke	H	8/19/2019	1051	90	77.1	3.7	2.47	25155	950
TROY YODER	Macon	H	8/24/2019	307	89	74.4	4	2.42	26031	1004
IRVIN R YODER	Macon	H	8/2/2019	244	90	70.7	3.5	2.28	24920	922
SOUTHERN SANDS FARM	Jenkins	H	8/14/2019	95	89	66.1	3.6	2.08	23022	846
MARTIN DAIRY L. L. P.	Hart	H	7/23/2019	315	89	65.7	3.7	2.02	23517	929
WHITEHOUSE FARM	Macon	H	8/7/2019	247	90	63.7	3.7	2	21946	825
OCMULGEE DAIRY	Houston	H	8/28/2019	326	89	62.4	3.7	1.85	22233	820
COASTAL PLAIN EXP STATION	Tift	H	8/22/2019	254	89	58.7	3.9	1.94	22234	866
BOBBY JOHNSON	Grady	X	8/23/2019	481	92	58.3			21021	
KIRK BUTCHER	Coweta	H	8/1/2019	384	89	58.2			19433	
SOUTHERN ROSE FARMS	Laurens	H	8/26/2019	106	89	57.8	3.9	1.41	20160	798
HORST CREST FARMS	Burke	H	8/26/2019	161	84	57.4	3.8	1.79	18841	717

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

Top GA DHIA By Test Day Fat Production – August 2019										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
RODGERS' HILLCREST FARMS INC.*	McDuffie	H	8/14/2019	439	88	96.1	4	3.4	30416	1263
DAVE CLARK*	Morgan	H	8/5/2019	1231	89	94.4	4	3.29	30802	1261
DANNY BELL*	Morgan	H	8/8/2019	315	91	91.3	3.9	2.92	28925	1113
J.EVERETT WILLIAMS*	Morgan	X	8/12/2019	1981	88	84.1	4.1	2.88	26961	1144
R & D DAIRY*	Lamar	H	7/26/2019	292	94	80.2	3.4	2.62	25534	990
EBERLY FAMILY FARM	Burke	H	8/19/2019	1051	90	77.1	3.7	2.47	25155	950
TROY YODER	Macon	H	8/24/2019	307	89	74.4	4	2.42	26031	1004
IRVIN R YODER	Macon	H	8/2/2019	244	90	70.7	3.5	2.28	24920	922
SCHAAPMAN HOLSTEINS	Wilcox	H	7/27/2019	745	89	77.9	3.4	2.27	26935	929
DOUG CHAMBERS	Jones	H	8/26/2019	452	89	77.4	3.5	2.21	26091	895
BERRY COLLEGE DAIRY	Floyd	J	8/20/2019	33	81	55.4	5	2.17	16632	840
SOUTHERN SANDS FARM	Jenkins	H	8/14/2019	95	89	66.1	3.6	2.08	23022	846
MARTIN DAIRY L. L. P.	Hart	H	7/23/2019	315	89	65.7	3.7	2.02	23517	929
WHITEHOUSE FARM	Macon	H	8/7/2019	247	90	63.7	3.7	2	21946	825
JOHN WESTSTEYN*	Bacon	X	8/6/2019	1520	92	55.2	3.9	1.95	19742	788
COASTAL PLAIN EXP STATION	Tift	H	8/22/2019	254	89	58.7	3.9	1.94	22234	866
OCMULGEE DAIRY	Houston	H	8/28/2019	326	89	62.4	3.7	1.85	22233	820
BOB MOORE	Putnam	H	8/4/2019	221	90	54	3.9	1.83	19897	791
HORST CREST FARMS	Burke	H	8/26/2019	161	84	57.4	3.8	1.79	18841	717
WALNUT BRANCH FARM	Washington	H	8/16/2019	487	89	54.2	3.8	1.69	19370	736

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Top GA Lows Herds for SCC –TD Average Score – June 2019									
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	6/25/2019	H	34	17601	1	30	1.7	107
BRENNEMAN FARMS	Macon	6/14/2019	H	50	19714	1.2	58	1.9	128
IRVIN R YODER	Macon	5/24/2019	H	210	24664	1.6	92	2.1	141
RODGERS' HILLCREST FARMS INC.*	McDuffie	6/12/2019	H	422	30558	1.6	147	2.6	215
DAVE CLARK*	Morgan	6/3/2019	H	1192	30710	1.8	162	2.1	185
BERRY COLLEGE DAIRY	Floyd	6/20/2019	J	34	16907	1.9	83	1.9	99
J.EVERETT WILLIAMS*	Morgan	6/10/2019	X	1966	27058	1.9	152	2.1	177
RUFUS YODER JR	Macon	6/21/2019	H	162	21499	2	195	2.5	197
VISSCHER DAIRY LLC*	Jefferson	5/17/2019	H	985	22545	2	209	2.7	234
DOUG CHAMBERS	Jones	5/28/2019	H	434	26056	2.1	157	2.7	245
PHIL HARVEY #2	Putnam	5/16/2019	H	1556	25084	2.1	178	2.8	254
ALEX MILLICAN	Walker	5/21/2019	H	100	17531	2.2	193	2.5	214
TWIN OAKS FARM	Jefferson	5/16/2019	H	85	22087	2.2	249	3.1	319
EBERLY FAMILY FARM	Burke	6/17/2019	H	994	25225	2.4	228	2.3	203
EUGENE KING	Macon	5/27/2019	H	117	18410	2.4	233	2.3	166
JERRY SWAFFORD	Putnam	6/25/2019	H	99	17834	2.5	238	2.9	218
MARTIN DAIRY L. L. P.	Hart	6/13/2019	H	311	23396	2.6	197	2.3	168
DANNY BELL*	Morgan	6/6/2019	H	287	28739	2.6	226	2.4	217
TROY YODER	Macon	6/17/2019	H	309	26057	2.7	216	2.8	217
ROGERS FARM SERVICES	Tattnall	6/10/2019	H	176	16941	2.8	220	3.1	290

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UGA extension

Top GA Lows Herds for SCC –TD Average Score – July 2019									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
DAVE CLARK*	Morgan	7/1/2019	H	1197	30761	1.2	92	2	178
DAVID ADDIS	Whitfield	7/18/2019	H	36	17604	1.5	57	1.7	106
J.EVERETT WILLIAMS*	Morgan	7/8/2019	X	1946	26989	1.7	152	2	164
DANNY BELL*	Morgan	7/4/2019	H	302	28883	1.7	156	2.4	218
BERRY COLLEGE DAIRY	Floyd	7/18/2019	J	35	16761	1.9	60	2	100
ALEX MILLICAN	Walker	6/27/2019	H	97	17751	1.9	105	2.4	206
HALE DAIRY	Oconee	7/17/2019	H	104	15058	1.9	106	3.1	283
IRVIN R YODER	Macon	6/28/2019	H	233	24828	1.9	154	2.1	141
RUFUS YODER JR	Macon	6/21/2019	H	162	21499	2	195	2.5	197
RODGERS' HILLCREST FARMS INC.*	McDuffie	7/10/2019	H	432	30513	2.1	171	2.5	210
UNIV OF GA DAIRY FARM	Clarke	7/8/2019	H	80	17523	2.3	98	3	196
MARTIN DAIRY L. L. P.	Hart	7/23/2019	H	315	23517	2.3	145	2.3	160
FRANKS FARM	Burke	7/8/2019	B	185	18545	2.3	180	2.9	238
DOUG CHAMBERS	Jones	7/23/2019	H	444	26181	2.3	194	2.5	214
EBERLY FAMILY FARM	Burke	7/15/2019	H	1001	25095	2.4	158	2.3	197
SOUTHERN ROSE FARMS	Laurens	6/25/2019	H	100	20579	2.5	173	2.7	186
JERRY SWAFFORD	Putnam	6/25/2019	H	99	17834	2.5	238	2.9	218
VISSCHER DAIRY LLC*	Jefferson	7/11/2019	H	966	22680	2.6	220	2.7	232
TROY YODER	Macon	7/25/2019	H	309	26032	2.7	225	2.8	217
W.T.MERIWETHER	Morgan	7/9/2019	H	70	18412	2.8	243	3	282

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UGA extension

Top GA Lows Herds for SCC –TD Average Score – August 2019									
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	8/23/2019	H	38	17476	1.1	32	1.6	88
SOUTHERN SANDS FARM	Burke	8/14/2019	H	95	23022	1.5	75	2.4	153
RODGERS' HILLCREST FARMS INC.*	McDuffie	8/14/2019	H	439	30416	1.7	155	2.4	206
DANNY BELL*	Morgan	8/8/2019	H	315	28925	1.7	170	2.3	216
ALEX MILLICAN	Walker	8/22/2019	H	95	18096	1.7	195	2.4	200
J.EVERETT WILLIAMS*	Morgan	8/12/2019	X	1981	26961	1.8	159	2	158
HALE DAIRY	Oconee	7/17/2019	H	104	15058	1.9	106	3.1	283
DAVE CLARK*	Morgan	8/5/2019	H	1231	30802	1.9	163	2	173
BRENNEMAN FARMS	Macon	8/26/2019	H	51	19786	1.9	181	1.7	93
BERRY COLLEGE DAIRY	Floyd	8/20/2019	J	33	16632	2	88	2	99
EBERLY FAMILY FARM	Burke	8/19/2019	H	1051	25155	2.2	171	2.3	195
MARTIN DAIRY L. L. P.	Hart	7/23/2019	H	315	23517	2.3	145	2.3	160
IRVIN R YODER	Macon	8/2/2019	H	244	24920	2.3	216	2.1	148
DOUG CHAMBERS	Jones	8/26/2019	H	452	26091	2.4	223	2.5	206
TROY YODER	Macon	8/24/2019	H	307	26031	2.6	211	2.8	217
ROGERS FARM SERVICES	Tattnall	8/12/2019	H	188	16605	2.7	246	3	249
SOUTHERN ROSE FARMS	Laurens	8/26/2019	H	106	20160	2.8	236	2.8	202
WHITEHOUSE FARM	Macon	8/7/2019	H	247	21946	2.8	246	2.8	253
HORST CREST FARMS	Burke	8/26/2019	H	161	18841	3	219	3.5	297
W.T.MERIWETHER	Morgan	8/13/2019	H	67	18532	3	230	2.9	262

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