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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: October November December, 2019

Sincerely,

Sha Tao

Sha Tao, Assistant Professor

Another year

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Another year has flown by. 2019 has been an interesting year for agriculture with weather, trade, tariffs and business failures.

The dairy industry again experienced low milk prices that continues the recent trend. After years of negative cash flow with the cost of production higher than milk price, there has been an increase in dairy farms closing. Adding to this has been the loss of markets. This includes lack of trade, decreasing fluid milk consumption, and a decline in processing. Surprisingly milk production has not fallen which adds to the pressure to keep milk prices low.

Encouragingly milk prices have shown an increase in the last part of the year. This had led economists to predict that 2020 will have better milk prices. Hopefully other prices such as feed will not also increase to allow the potential for increased returns to the dairy farm.

Last August, my wife and I drove to Seattle to visit family and the Reno for a niece's wedding. We drove through parts of 13 states. There was a lot of news about the weather and its effect on crops this year. Too wet to plant, too dry for growth, too wet or dry for harvest. I was surprised with my windshield crop survey as we drove across the country. Crops looked better than I expected. The wheat harvest was finished as we went through Kansas and Colorado. There were outside piles of wheat at a couple of the elevators. The corn crop was excellent throughout the trip with harvesting starting as we returned home. In fact, it was impossible to distinguish between irrigated and dry land corn just by looking at the standing crops. The other surprise to me was the amount of corn grown in Nebraska. In fact, Nebraska is the third state in corn production. Quite a change over the last 20 years.

On the windshield livestock survey, there were no small operations. The beef farmer feeder seems to have disappeared from the country side. All of the large feed lots I saw looked to be almost full. A couple of feedlots had only Holsteins. Dairies also were large as I noticed several empty dairy barns next to corn fields. In southern Oregon and northern California, the range land was full of cow calf pairs but also several operations had yearlings on the same range land.

A recommendation is to visit Crater Lake if you get a chance. A beautiful spot.

Hopefully 2020 will be a better year for all. Good weather, good crops, good cows, good prices. Have a healthy year.

Winning at weaning: utilizing a step-down approach

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One of the highest cost of production in raising dairy replacement heifers is the pre-weaning stage. This is due in large part to the expense of milk replacer or utilization of saleable whole milk and the increased labor involved in feeding and managing these young calves. It has long been in the interest of a producer to adapt calves to solid calf starter as early as possible in order to reduce the milk replacer budget, however if this is done in appropriately, it can often lead to even higher costs through increased morbidity and mortality in the youngstock program.

At birth, the abomasum represents the largest compartment of the ruminant forestomach and is vital for the digestion of a milk based diet. However, through the pre-weaning phase, the rumen, reticulum and omasum all gradually develop and become integrated into the digestive process. Through appropriate nutrition and utilization of a high quality texturized calf starter, the rumen papillae can be stimulated to develop and grow which will allow for digestion of lower quality starters and forages post-weaning. The normal calf gastrointestinal microflora are also established to further aid in nutrient digestion and absorption. All of these processes are very sensitive to nutritional, health, immune and social challenges that may be occurring simultaneously.

In an effort to aid in the transition from a milk based to a plant protein based diet, recent research has focused on reducing the stresses associated at weaning. This includes limiting group movements to reduce social challenges, delaying weaning in animals experiencing health challenges, and a gradual or step-down approach to reducing milk feeding and encouraging dry starter intake. Significant focus has been placed on pre-weaned heifer development in the last 15 years, particularly in the areas of nutrient density and volume of milk fed to these animals in an effort to maximize weight gain and reduce health challenges pre-weaning. In these rapidly growing young animals, if we limit milk feeding to the same level as the animal grows, starter intake often increases to help accommodate growth performance; but in animals offered ad libitum milk either through automated feeders or a nipple bar it may be difficult to drive starter intake when milk is readily available. This limited starter intake may delay weaning or create additional challenges in a calf that physiologically, may not be quite ready to wean. The use of a step down approach in these calves may be indicated to drive additional starter intake and reduce the impact of abrupt weaning on post-weaning calf performance and health.

Step-down weaning often begins 10-14 days prior to weaning and may include a 25-50% reduction in milk feeding during the first few days of the process. This reduction is usually repeated approximately 5-7 days prior to weaning in order to further reduce dependence on milk and again improve starter intake. By the time calves are 3-5 days from weaning, each calf should be consuming 2-3 lbs of a high quality calf starter and at this time complete weaning may be instituted. This step-down approach may result in a calf slightly lighter at weaning than one experiencing abrupt weaning but recent research has shown that calves weaned through a step-down method often have fewer health events post-weaning and have higher feed intake and average daily gain post-weaning than those weaned abruptly.

As with any calf development program, consult with your herd nutritionist, veterinarian, and management team to ensure that you goals are achievable and that the appropriate tools and personnel are in place to be successful.

Monitoring and reducing feed cost

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Feed represents the largest cost of producing milk, so it is important to maximize the return on every dollar invested in feed. There are many factors that affect the conversion of feed into milk including: genetics, age, stage of lactation, disease, cow comfort, environment, disease, stage of lactation, forage and ingredient quality, feeding management, and nutrient balance of the ration fed. Two measures of how efficient feed is converted to milk are feed or dairy efficiency (lbs milk/lbs DM intake) and income over feed cost (**IOFC**).

Feed or dairy efficiency is easily calculated by dividing the lbs of milk shipped per cow by the lbs of DM consumed. Within herd, dairy efficiency allows you to monitor how well cows are converting feed into milk. Higher producing cows in early lactation should have a dairy efficiency (>1.6 or higher) since intake has not peaked. Late producing cows, especially those under heat stress, will have a much lower dairy efficiency (< 1.4) due to lower milk yield and more feed energy used to replenish body weight. Jerseys, and other high component breeds, will have lower dairy efficiency indexes due to more energy used for producing milk fat and protein unless far or energy corrected milk yield is calculated. An average dairy efficiency of 1.5 has been suggested as an acceptable measure for the whole herd.

Dairy efficiency affects revenues available to pay bills other than feed. Table 1 outlines how increasing or decreasing dairy efficiency by 0.1 compared with 1.5 can impact income over feed cost. This example was based on a 100 cow herd producing 75 lbs. of energy corrected milk (3.5% fat and 3.2% protein) when feed cost $0.13/lbs. of DM. As is illustrated in this example, there are opportunities for improving the bottom line. Assuming that forages are routinely analyzed and rations rebalanced, improving dairy efficiency is more often due to improvement in feeding management and/or cow comfort rather than general changes in the diet. However, if forage quality is less than optimal, improvements in feed efficiency can be achieved with improved forage quality longer term. While dairy efficiency is a good index for monitoring feed cost for the lactating cows, dairy efficiency typically does not address total feed cost unless replacement and dry cow feed cost are including in the calculation.

Table 1. Effect of changing feed efficiency 0.1 point.

	Feed Efficiency		
	1.4	1.5	1.6
DMI, lb/d	53.6	50.0	46.9
Feed cost, $/d	6.97	6.50	6.10
Savings/loss			
$/day	-47	-	40
$/year	-17,155	-	14,600

Another aspect of monitoring and reducing feed cost is to control the amount of refusal from lactating cows. While we need to feed cows so production is never limited by feed availability, feeding groups other than close-up dry cows and transition cows more than 5% extra results in excess feed that may be wasted poorly utilized even when fed to other groups of animals. For many producers, refusals from lactating cows are fed to heifers but the cost of this feed ($/lb of DM) is higher than what would be normally mixed and fed to these animals resulting in higher total feed cost. Keeping feed pushed up and reading feed bunks daily to adjust the amount of feed offered is key to maintaining ad libitum consumption while minimizing refusals.

Reducing feed shrinkage is another area that many dairies can improve and reduce total feed cost. Any feed spilled onto the ground, ingredient added in excess to a specific ration, or allowed to spoil increases total feed cost. Spoiled silage, moldy or rotten hay bales or baleage, and waste around hay rings are the most common source of shrinkage on most farms and represents an opportunity for reducing feed cost. The loss of hay when feeding round bales on the ground or in hay rings can be as much as 50%, depending on spoilage during storage and feeding losses. Spilling higher priced ingredients when loader buckets are overfilling or due to operator error also add up. Producers should periodically take a walk around their feed storage facility with the objective of looking for feed losses. Taking pictures will provide an opportunity to show and discuss your findings with all key employees as you work to reduce these losses.

Producers should take time to calculate and monitor dairy efficiency in their herd. They should also take time to work with their feeders to help them understand the impact of overfeeding the lactating cows on total feed cost. Discussions with all personnel about spoilage and waste fed can identify means of reduce feed cost and improving feed storage. Implementing a routine monitoring program for dairy efficiency, total feed cost and shrinkage will help identify opportunities for maximizing funds spent on feed and improve returns.

The risks of acidifying the prepartum dairy cow below urine pH 6.0

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Anionic salts are compounds based on chlorine and sulfur that allow acidifying the body of cows so that there is a greater availability of calcium at the time of parturition, avoiding milk fever, a metabolic disease which leads to prostration, muscle weakness, depression, unconsciousness, and death.

The traditional diets of dairy cows based on forages are rich in potassium and, therefore, keep the cow's body alkaline, which is a risk factor associated with a higher incidence of milk fever. This state of alkalinity leads to the receptors for the hormone that regulates the mobilization of calcium from the bones and that activates vitamin D in the kidney - so that more calcium is absorbed from the intestine - are altered in its three-dimensional structure, which in turn leads to the fact that the hormone that stimulates calcium mobilization (PTH) cannot work properly. When the organism is slightly acidified with the anionic salts, the receptors for this hormone recover their normal three-dimensional structure, which allows them to interact with the hormone properly and, therefore, mobilize more calcium, avoiding milk fever.

Milk fever is a very costly metabolic disease for the dairy industry, so its prevention, through the use of anionic salts during the prepartum period, has proven to be cost-effective with a ratio of 10:1.

The way to recognize that these salts are working properly is to evaluate the acidity of the urine (urine pH) of the cows at least once a week. This is because the overdosing of anionic salts can be detrimental when urine pH falls below the expected value.

The pH corresponds to the assessment of the concentration of hydrogen ions in a solution. Thus, the more hydrogens the more acidic the solution. The pH scale ranges from 1 to 14. A pH of 7.0 is a neutral value. Water has pH 7.0. When the pH is greater than 7.0, the solution is alkaline, while when it is less than 7.0, the solution is acid. Lemon juice has a pH between 3 and 4, so it tastes acidic.

The urine of the cows has a pH of 8.5, so when we feed anionic salts we look for a pH between 6 and 6.8. With this value, cows reduce the risk of milk fever noticeably. The problem is that when the pH is lower than 6.0, we are acidifying the cow far beyond what is recommended, which can be harmful to the animal and its fetus. Recall that the cow is still pregnant and we do not know very well what kind of complications could cause a state of uncompensated metabolic acidosis with urine pH's lower than 6.0. That is why we must evaluate the urinary pH of the cows once a week to see if we are doing well with the feeding of prepartum cows.

If at any time the pH is lower than 6.0, we must decrease the amount of anionic salts in a few ounces to raise it back to what was expected (6.0-6.8).

Remember, pH scale is logarithmic, that is, when the pH of the urine of the cow falls from 8.5 to 7.5, the kidney must excrete 10 times more hydrogen ions from the body. When the pH drops from 8.5 to 6.5, it means that the amount of hydrogen ions excreted is 100 times; and when the pH is 5.5, it means that the amounts excreted will be 1000 times. Thus, a cow with urine pH less than 6.0 should have her kidneys working with a lot of overload, since they excrete in 1000 times the amounts of hydrogen ions present in the organism. This is not good for the kidney or the rest of the body, including the fetus, which still remains in the uterus of the cow.

Scientific evidence is consistent in demonstrating that lowering pH below 6.0 is meaninless in terms of preventing milk fever. In fact, a study published in the Journalof Dairy Science, entitled "Impact of Lowering Dietary Cation-Anion Difference in Nonlactating Dairy Cows: A Meta-Analysis" by E. Charbonneau, D. Pellerin and G. R. Oetzel - Vol. 89, (2): 537-548, showed that lowering the pH of the urine from 8.5 to 7 decreases the incidence of milk fever from 5% to 2%. On the other hand, when lowering it to 6-6.5, the incidence drops to 1%. However, if the urinary pH is reduced to 5.5, the incidence of milk fever drops to 0.9%, which is a marginal gain.

I think that by reducing the incidence of milk fever by only 0.1% (from 1 to 0.9%), the kidneys of prepartum cows and her pregnancy cannot be put at risk. Indeed, there is scientific evidence demonstrating that it makes no sense to lower the urine pH below 6.0. In a case report published in the Journal Frontiers in Nutrition, cows with urinary pH of 5.5 were shown to have blood calcium concentrations (8.1 mg/dL) similar to those with a urinary pH of 6.5 (8.1 mg/dL). Therefore, it makes no sense to lower the urinary pH to beyond 6.0, since calcium concentrations do not increase at all, in relation to cows with urinary pH between 6.0 and 6.8. (Melendez P and Poock S, 2017. A Dairy Herd Case Investigation with Very Low Dietary Cation – Anion Difference in Prepartum Dairy Cows. Front. Nutr. 4:26).

A study published in the Journal of Animal & Plant Sciences, 2016, 26 (2): 320-324, "Prepartum urine pH as a predictor of left displacement of abomasum" by Z. Mecitoglu, S. Senturk, C. Kara, G. Akgul and E. Uzabaci, showed that cows with lower urinary pH had a higher incidence of displacement of abomasum than those with urine pH greater than 6.2.

Finally, in a study presented at the Annual Meeting of the American Dairy Science Association, in Cincinnati, Ohio in 2019 (Melendez P, Bartolome J, Soto B. 2019. Association of prepartum urine pH and stillborn in Holstein cows fed anionic diets. J. Dairy Sci. Vol. 102, Suppl. 1, abs:217, pp157), it was shown that cows with a urine pH less than 6.0 were 2.3 times more likely to have a stillborn than cows with urinary pH greater than 6.0. This undoubtedly reveals some of the negative side effects of urine pH with values lower than 6.0 in prepartum dairy cows.

Therefore, it is concluded that it makes no sense to acidify cows beyond what is necessary (urine pH between 6 and 6.8), especially when the incidence of milk fever is very low (< 1%), because with a pH lower than 6.0, the extra benefit of reducing the presence of milk fever will be marginal compared to the negative side effects that may occur, such as the increased risk of stillbirths or displacement of the abomasum.

Using AMH in a dairy herd's reproductive program

Part 1: Variables that impact AMH production

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Identifying heifers that will survive in the herd after calving and perform well as a lactating cow is a challenge that many producers face. On average, producers will spend just over $2,200 to raise or buy a replacement heifer (Tranel, 2017). However, producers will not see a return on their investment until heifers enter the lactating herd. Therefore, it is in a producer's best interest to aim to invest only in those animals that will become pregnant, survive calving, and have a longer productive life.

Heritability estimates of productive life are very low (VanRaden et al., 2006) and therefore not a reliable indicator. Reliable biomarkers that might instead predict productive life are not well described. To identify what indicators may play a role in productive life, examining the reasons dairy animals are culled from the herd is useful. According to the national 2014 United States Department of Agriculture National Animal Health Monitoring System (NAHMS) study, the number one reason for removing animals from the herd was infertility (21.2%) followed by poor production (21.1%), mastitis (16.5%), animals sold as dairy replacements (9.5%) and lameness (7.2%) making up for 75% of the culling reasons. With fertility accounting for more than 20% of dairy culls, selecting fertile animals greatly impacts a producer's profitability and the herd's overall productive herd life.

Thus far there has been no reliable and consistent test for an animal's fertility. However, recent research indicates that inherent fertility of animals may be measured with a simple Anti-Müllerian Hormone (AMH) assessment. Anti-Müllerian Hormone (AMH) is a glycoprotein hormone that is produced by follicles on the ovary. After production, it enters circulation and can be detected easily and reliably with a simple blood sample. Multiple studies have validated that circulating AMH is a direct reflection of the total number of follicles that a cow has on her ovaries, or her Antral Follicle Count (AFC). Because of this relationship, the fact that it is easily sampled for, and is moderately heritable (0.36), AMH has proved useful for the selection of donor animals in an embryo transfer program.

More recent research has aimed to determine if AMH may have a more robust ability to serve as a biological marker of fertility. This article serves as part one of a two part series that will explain recent work at UGA to further evaluate the usefulness of using AMH in a reproductive program focusing on changes in AMH over time (part 1) and AMH for breeding protocol assignment (part 2). To date, comprehensive data evaluating AMH over an animal's life and what life events may temporarily or permanently impact its production is limited. Two prominent works have touched on this topic of AMH fluctuating over time (Monniaux et al, 2013) and the correlation between AMH production and productive life (Jimenez-Krassel et al., 2015). These studies indicate that AMH transiently drops during gestation and post partum and that animals with the lowest AMH concentration as heifers had a 4.2 month shorter productive life than herd average with a 6.8% higher culling rate for reproductive reasons. Validation of these findings is much needed as the ability to qualify what happens to AMH over time as well as what events in an animal's life may temporarily or permanently impact its production could allow for its use as a tool in management of their breeding as well as early cull decisions. The research conducted below was completed to add data to in this much needed area.

The study followed 105 virgin Holstein heifers beginning when they were 12-15 months old. They were tracked with AMH sampled as pre-breeding heifers, again at freshening, and a final time at their first breeding in the lactating herd (Figure 1). In addition to AMH sampling, these animals were also traditionally evaluated through ultrasound of the reproductive tract with AFC, abnormalities, and cyclicity evaluated.

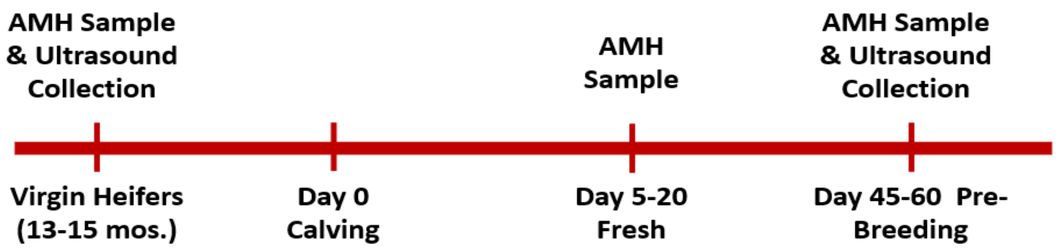

Figure 1: *Timeline for data collection*

Animals were subsequently grouped by AMH as High, Mid, or Low relative to their herdmates at each sampling time point. Evaluating AMH relative to herdmates is important as there is a high amount of variability in AMH from herd to herd as demonstrated in Table 1.

Table 1: Research findings demonstrating AMH variability from herd to herd

Study	# Cows Sampled	Range in AMH Concentration (pg/mL)
Ribeiro et al., 2014	1,237	10 - 3,198
Jimenez Krassel et al., 2015	281	6.2 - 432
Alward et al., 2019 (unpublished)	105	10 - 1,224
Akbarinejad et al., 2019	86	97.9 - 2,110
Gobikrushanth et al., 2018	400	151.7 - 1,879

Over time, we saw that AMH dropped significantly from heifer to immediately post-calving, before rising slightly around pre-breeding (45-60 DIM) time as seen in Figure 2. One hundred percent of animals followed this pattern of reduction and partial recovery. In addition to tracking animals through this time, we also evaluated the impact that health events (dystocia, metabolic disorders, etc.) had on an animal's ability to recover her AMH value post calving. No previous works have investigated the presence of these health events and AMH concentration. However, the use of sexed semen and low rates of health events led to no significant findings in this area. That said, the failure of animals to completely recover AMH values by 45-60 DIM may play a role in determination of voluntary wait periods to maximize fertility to first service. In order to see when and if AMH fully recovers, research with additional sampling time points is warranted.

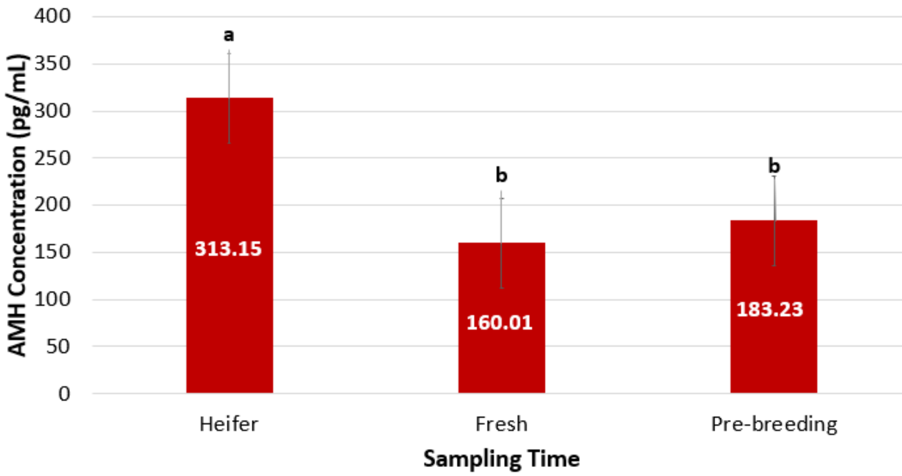

Figure 2. *Average AMH concentration over time*

An important part of the current work is that animals predominantly maintained their AMH categorization over the three sampling times. This indicates that despite seeing a drop in AMH post-calving, all animals experienced the same drop in AMH, meaning that animals still maintained their AMH categorization when compared to their herdmates. Retention of AMH category is confirmed by the high correlation (>0.64) exhibited between each of the samples for AMH concentration. Table 2 shows the percentage of animals that maintained their AMH categorization from one sampling to the next. It is of particular interest that the LOW AMH animals were more likely to stay in their LOW category whereas the majority of animals that "moved" switched between the MID and HIGH categories. This may indicate that the lower fertility animals are a clearer separation than those that are at or above average AMH concentrations for the herd.

Table 2. Retention of AMH categorization over time by AMH group

	Heifer to Fresh	Heifer to Pre-Breeding	All 3 Time Points
LOW	88%	81.25%	81.25%
MID	58.62%	55%	35%
HIGH	59.26%	63.16%	47.37%

This is important because as heifers, we saw that numerically, the LOW AMH group had a greater age at 1st service, lower conception risk and higher services per conception when compared to the MID and HIGH AMH animals (Table 3). Overall, these animals also had a 5.2% higher culling rate when compared to their MID and HIGH herdmates. Coupled with the fact that LOW AMH animals are more likely to retain their categorization than other animals, this may prove a useful tool to identify those animals that are reproductively inferior.

Table 3. Heifer reproductive parameters by AMH group

	LOW	MID	HIGH
Age at 1st Service (months)	14.2 ± 0.9	13.86 ± 0.69	13.79 ± 1.0
1st Service Conception Risk	25.0% ± 4.4	40.0% ± 5.0	41.2% ± 5.0
Services per Conception	2.3 ± 1.16	2.06 ± 1.1	1.91 ± 1.0

This research has added to the limited body of data working to characterize what happens to AMH from pre-breeding heifers to lactating cows. While AMH varies with stage of life, the majority of animals maintain their AMH categorization across all stages. Also interesting is the trending data for LOW AMH animals to have subpar fertility as heifers and a higher cull rate following entry in the lactating herd. This indicates a heifer AMH sample may serve as a reliable predictor of future AMH concentration and an identifier specifically of animals that will remain in the LOW AMH category post-calving and most likely have a shorter productive life. This knowledge may serve as an additional tool when making culling decisions on farm.

The second part of this series will continue to follow these animals and their reproductive performance in the lactating herd while also evaluating the association between AMH and success to various breeding programs.

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Important Dates

2019-2020

Georgia Dairy Conference

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

31st Florida Ruminant Nutrition Symposium

- February, 3-5, 2020
- Best Western Gateway Grand, 4200 Northwest 97th Boulevard, Gainesville, FL 32606
- http://dairy.ifas.ufl.edu/rns/info.shtml

Top GA DHIA By Test Day Milk Production – September 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	9/11/2019	421	88	95.2	4.1	3.39	30411	1270
DAVE CLARK*	Morgan	H	9/2/2019	1246	89	93.2	4	3.27	30807	1263
DANNY BELL*	Morgan	H	9/5/2019	307	91	88.2	3.8	3.1	28925	1116
A & J DAIRY*	Wilkes	H	8/25/2019	422	91	85.9			28485	
J.EVERETT WILLIAMS*	Morgan	X	9/9/2019	1979	88	81.5	4.1	2.85	26958	1139
SCOTT GLOVER	Hall	H	9/5/2019	180	87	78.8	4	2.54	25304	1005
PHIL HARVEY #2*	Putnam	H	9/18/2019	1602	88	77.6	3.2	2.25	25451	948
SCHAAPMAN HOLSTEINS	Wilcox	H	8/31/2019	740	89	76.5	3.4	2.1	26856	917
TROY YODER	Macon	H	8/24/2019	307	89	74.4	4	2.42	26031	1004
DOUG CHAMBERS	Jones	H	9/23/2019	448	88	74.2	3.6	2.14	25929	894
EBERLY FAMILY FARM	Burke	H	9/16/2019	1047	90	73.9	3.9	2.45	25147	952
MARTIN DAIRY L. L. P.	Hart	H	9/4/2019	323	90	67.1	4.2	2.26	23625	935
IRVIN R YODER	Macon	H	9/21/2019	240	91	67.1	3.9	2.03	25016	922
RUFUS YODER JR	Macon	H	8/29/2019	185	90	63.4	3.6	1.95	21043	777
VISSCHER DAIRY LLC*	Jefferson	H	9/12/2019	1038	86	63.4	3.4	1.79	22358	795
OCMULGEE DAIRY	Houston	H	8/28/2019	326	89	62.4	3.7	1.85	22233	820
FRANKS FARM	Burke	B	9/9/2019	194	87	60.8	3.8	1.96	18216	744
COASTAL PLAIN EXP STATION	Tift	H	8/22/2019	254	89	58.7	3.9	1.94	22234	866
W.T.MERIWETHER	Morgan	H	9/12/2019	72	89	58.6	3.4	1.6	18875	661
BOBBY JOHNSON	Grady	X	8/23/2019	481	92	58.3			21021	

[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 – September 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	9/11/2019	421	88	95.2	4.1	3.39	30411	1270
DAVE CLARK*	Morgan	H	9/2/2019	1246	89	93.2	4	3.27	30807	1263
DANNY BELL*	Morgan	H	9/5/2019	307	91	88.2	3.8	3.1	28925	1116
J.EVERETT WILLIAMS*	Morgan	X	9/9/2019	1979	88	81.5	4.1	2.85	26958	1139
SCOTT GLOVER	Hall	H	9/5/2019	180	87	78.8	4	2.54	25304	1005
EBERLY FAMILY FARM	Burke	H	9/16/2019	1047	90	73.9	3.9	2.45	25147	952
TROY YODER	Macon	H	8/24/2019	307	89	74.4	4	2.42	26031	1004
MARTIN DAIRY L. L. P.	Hart	H	9/4/2019	323	90	67.1	4.2	2.26	23625	935
PHIL HARVEY #2*	Putnam	H	9/18/2019	1602	88	77.6	3.2	2.25	25451	948
BERRY COLLEGE DAIRY	Floyd	J	8/20/2019	33	81	55.4	5	2.17	16632	840
DOUG CHAMBERS	Jones	H	9/23/2019	448	88	74.2	3.6	2.14	25929	894
SCHAAPMAN HOLSTEINS	Wilcox	H	8/31/2019	740	89	76.5	3.4	2.1	26856	917
TWIN OAKS FARM	Jefferson	H	9/11/2019	82	90	55.5	4	2.09	22086	850
IRVIN R YODER	Macon	H	9/21/2019	240	91	67.1	3.9	2.03	25016	922
FRANKS FARM	Burke	B	9/9/2019	194	87	60.8	3.8	1.96	18216	744
RUFUS YODER JR	Macon	H	8/29/2019	185	90	63.4	3.6	1.95	21043	777
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
VISSCHER DAIRY LLC*	Jefferson	H	9/12/2019	1038	86	63.4	3.4	1.79	22358	795
HORST CREST FARMS	Burke	H	9/24/2019	155	84	49.9	4.2	1.78	18859	715

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

UGA extension

Top GA DHIA By Test Day Milk Production – October 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	10/9/2019	415	88	94.4	4.1	3.23	30402	1272
DAVE CLARK*	Morgan	H	9/30/2019	1240	89	91.2	3.9	3.14	30800	1264
DANNY BELL*	Morgan	H	10/3/2019	311	91	87	3.9	3.2	29029	1122
A & J DAIRY*	Wilkes	H	10/23/2019	413	90	86.1			28608	
J.EVERETT WILLIAMS*	Morgan	X	10/7/2019	1981	88	83.5	4.2	3.04	26960	1135
SCHAAPMAN HOLSTEINS	Wilcox	H	10/26/2019	703	89	80.3	3.2	2.18	26869	910
SCOTT GLOVER	Hall	H	10/4/2019	176	87	77.9	3.8	2.56	25325	1009
PHIL HARVEY #2*	Putnam	H	9/18/2019	1602	88	77.6	3.2	2.25	25451	948
EBERLY FAMILY FARM	Burke	H	10/14/2019	1044	89	76.8	3.9	2.56	25074	955
DOUG CHAMBERS	Jones	H	10/24/2019	450	88	70.9	3.8	2.23	25715	892
TROY YODER	Macon	H	9/30/2019	307	88	70.2	3.9	2.18	25840	997
SOUTHERN SANDS FARM	Burke	H	10/11/2019	101	89	68.5	3.6	1.81	23099	842
COASTAL PLAIN EXP STATION*	Tift	H	10/24/2019	257	89	67.3	3.7	2.18	21995	868
IRVIN R YODER	Macon	H	9/21/2019	240	91	67.1	3.9	2.03	25016	922
BOBBY JOHNSON	Grady	X	10/17/2019	579	91	65.8			21165	
MARTIN DAIRY L. L. P.	Hart	H	10/3/2019	318	90	63.1	3.7	2.04	23599	935
WHITEHOUSE FARM	Macon	H	10/17/2019	251	88	62.7	3.7	1.93	21417	805
RUFUS YODER JR	Macon	H	10/23/2019	181	89	60.9	3.8	2.02	21059	774
OCMULGEE DAIRY	Houston	H	10/15/2019	335	88	60.6	3.9	1.85	21968	814
SOUTHERN ROSE FARMS	Laurens	H	10/15/2019	105	86	59.9	4	1.79	19412	769

[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 - October 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	10/9/2019	415	88	94.4	4.1	3.23	30402	1272
DANNY BELL*	Morgan	H	10/3/2019	311	91	87	3.9	3.2	29029	1122
DAVE CLARK*	Morgan	H	9/30/2019	1240	89	91.2	3.9	3.14	30800	1264
J.EVERETT WILLIAMS*	Morgan	X	10/7/2019	1981	88	83.5	4.2	3.04	26960	1135
SCOTT GLOVER	Hall	H	10/4/2019	176	87	77.9	3.8	2.56	25325	1009
EBERLY FAMILY FARM	Burke	H	10/14/2019	1044	89	76.8	3.9	2.56	25074	955
PHIL HARVEY #2*	Putnam	H	9/18/2019	1602	88	77.6	3.2	2.25	25451	948
ROGERS FARM SERVICES	Tattnall	H	10/16/2019	166	90	53.3	4.3	2.25	16672	626
DOUG CHAMBERS	Jones	H	10/24/2019	450	88	70.9	3.8	2.23	25715	892
BERRY COLLEGE DAIRY	Floyd	J	10/28/2019	33	82	54.7	4.6	2.22	16759	831
TROY YODER	Macon	H	9/30/2019	307	88	70.2	3.9	2.18	25840	997
COASTAL PLAIN EXP STATION*	Tift	H	10/24/2019	257	89	67.3	3.7	2.18	21995	868
SCHAAPMAN HOLSTEINS	Wilcox	H	10/26/2019	703	89	80.3	3.2	2.18	26869	910
MARTIN DAIRY L. L. P.	Hart	H	10/3/2019	318	90	63.1	3.7	2.04	23599	935
IRVIN R YODER	Macon	H	9/21/2019	240	91	67.1	3.9	2.03	25016	922
JERRY SWAFFORD	Putnam	H	10/21/2019	113	87	59.4	4.4	2.02	18738	714
RUFUS YODER JR	Macon	H	10/23/2019	181	89	60.9	3.8	2.02	21059	774
UNIV OF GA DAIRY FARM	Clarke	X	10/3/2019	102	87	56.9	4	1.93	17593	697
WHITEHOUSE FARM	Macon	H	10/17/2019	251	88	62.7	3.7	1.93	21417	805
HORST CREST FARMS	Burke	H	10/23/2019	150	84	57.5	4	1.87	18883	714

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UGA extension

Top GA DHIA By Test Day Milk Production – November 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	11/4/2019	1242	89	91.5	4	3.25	30742	1261
DANNY BELL*	Morgan	H	11/7/2019	317	91	88.7	4.2	3.4	29162	1135
J.EVERETT WILLIAMS*	Morgan	X	11/11/2019	1962	88	85.9	4.3	3.21	27021	1133
A & J DAIRY*	Wilkes	H	11/20/2019	404	91	84.3			28744	
SCHAAPMAN HOLSTEINS	Wilcox	H	11/23/2019	723	89	80.3	3.2	2.25	26986	910
SCOTT GLOVER	Hall	H	11/11/2019	187	87	80	4	2.74	25236	1008
EBERLY FAMILY FARM	Burke	H	11/18/2019	1037	89	79.8	3.8	2.62	25181	964
DOUG CHAMBERS	Jones	H	11/22/2019	450	88	76.1	3.6	2.28	25552	889
IRVIN R YODER	Macon	H	11/25/2019	247	90	74.7	4.1	2.7	24897	923
MARTIN DAIRY L. L. P.	Hart	H	11/12/2019	313	90	73.5	3.8	2.44	23602	930
TROY YODER	Macon	H	11/23/2019	323	88	72.1	4.3	2.45	25428	978
BRENNEMAN FARMS	Macon	H	11/19/2019	48	82	70.8	3.8	1.74	19986	712
COASTAL PLAIN EXP STATION*	Tift	H	11/19/2019	264	89	70.1	4	2.5	22027	870
BOBBY JOHNSON	Grady	X	11/22/2019	576	91	67.3			21367	
OCMULGEE DAIRY	Houston	H	11/20/2019	323	88	65.9	3.8	2.08	21775	809
SOUTHERN SANDS FARM	Burke	H	11/19/2019	102	89	64	3.8	2.07	22846	831
WHITEHOUSE FARM	Macon	H	10/17/2019	251	88	62.7	3.7	1.93	21417	805
FRANKS FARM	Burke	B	11/11/2019	202	86	62.5	4.3	2.41	18327	751
BOB MOORE #2	Putnam	H	11/14/2019	525	88	62.4	4.1	2.17	19601	712
MARK E BRENNEMAN	Macon	H	11/7/2019	137	87	62.2	4	1.91	18134	638

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

UGA extension

Top GA DHIA By Test Day Fat Production – November 2019										
					Test Day Average				Yearly Average	
Herd	**County**	**Br.**	**Test Date**	**[1]Cows**	**% in Milk**	**Milk**	**% Fat**	**TD Fat**	**Milk**	**Lbs. Fat**
DANNY BELL*	Morgan	H	11/7/2019	317	91	88.7	4.2	3.4	29162	1135
DAVE CLARK*	Morgan	H	11/4/2019	1242	89	91.5	4	3.25	30742	1261
J.EVERETT WILLIAMS*	Morgan	X	11/11/2019	1962	88	85.9	4.3	3.21	27021	1133
SCOTT GLOVER	Hall	H	11/11/2019	187	87	80	4	2.74	25236	1008
IRVIN R YODER	Macon	H	11/25/2019	247	90	74.7	4.1	2.7	24897	923
EBERLY FAMILY FARM	Burke	H	11/18/2019	1037	89	79.8	3.8	2.62	25181	964
COASTAL PLAIN EXP STATION*	Tift	H	11/19/2019	264	89	70.1	4	2.5	22027	870
TROY YODER	Macon	H	11/23/2019	323	88	72.1	4.3	2.45	25428	978
MARTIN DAIRY L. L. P.	Hart	H	11/12/2019	313	90	73.5	3.8	2.44	23602	930
FRANKS FARM	Burke	B	11/11/2019	202	86	62.5	4.3	2.41	18327	751
ROGERS FARM SERVICES	Tattnall	H	11/19/2019	168	91	51.9	4.7	2.31	16763	645
JAMES W MOON	Morgan	H	11/21/2019	135	88	57.4	4.5	2.31	17477	642
DOUG CHAMBERS	Jones	H	11/22/2019	450	88	76.1	3.6	2.28	25552	889
SCHAAPMAN HOLSTEINS	Wilcox	H	11/23/2019	723	89	80.3	3.2	2.25	26986	910
BERRY COLLEGE DAIRY	Floyd	J	10/28/2019	33	82	54.7	4.6	2.22	16759	831
BOB MOORE #2	Putnam	H	11/14/2019	525	88	62.4	4.1	2.17	19601	712
JERRY SWAFFORD	Putnam	H	11/24/2019	122	86	58.7	4.6	2.17	18756	727
BOB MOORE	Putnam	H	11/5/2019	230	90	54.6	4.5	2.15	19948	800
UNIV OF GA DAIRY FARM	Clarke	X	11/14/2019	108	87	54.3	4.4	2.12	17568	702
OCMULGEE DAIRY	Houston	H	11/20/2019	323	88	65.9	3.8	2.08	21775	809

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UGA extension

Top GA Lows Herds for SCC –TD Average Score –September 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
DANNY BELL*	Morgan	9/5/2019	H	307	28925	1.5	91	2.3	209
DAVE CLARK*	Morgan	9/2/2019	H	1246	30807	1.5	127	1.9	164
MASSEY FAMILY FARM, LLC	Hart	9/3/2019	H	142	7954	1.6	221	2.8	275
ALEX MILLICAN	Walker	8/22/2019	H	95	18096	1.7	195	2.4	200
SCHAAPMAN HOLSTEINS	Wilcox	8/31/2019	H	740	26856	1.8	124	2.6	211
J.EVERETT WILLIAMS*	Morgan	9/9/2019	X	1979	26958	1.8	143	1.9	154
EBERLY FAMILY FARM	Burke	9/16/2019	H	1047	25147	1.9	151	2.2	193
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
FRANKS FARM	Burke	9/9/2019	B	194	18216	2	157	2.8	230
DOUG CHAMBERS	Jones	9/23/2019	H	448	25929	2.2	215	2.4	202
IRVIN R YODER	Macon	9/21/2019	H	240	25016	2.4	212	2.1	151
SCOTT GLOVER	Hall	9/5/2019	H	180	25304	2.5	203	2.8	184
VISSCHER DAIRY LLC*	Jefferson	9/12/2019	H	1038	22358	2.5	308	2.5	221
TROY YODER	Macon	8/24/2019	H	307	26031	2.6	211	2.8	217
EUGENE KING	Macon	8/30/2019	H	121	18248	2.6	220	2.3	184
PHIL HARVEY #2*	Putnam	9/18/2019	H	1602	25451	2.6	224	2.8	240
RUFUS YODER JR	Macon	8/29/2019	H	185	21043	2.7	281	2.5	209
RODGERS' HILLCREST FARMS INC.*	McDuffie	9/11/2019	H	421	30411	2.7	295	2.4	214

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Top GA Lows Herds for SCC –TD Average Score – October 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	10/14/2019	H	42	17515	1.1	29	1.3	45
DAVE CLARK*	Morgan	9/30/2019	H	1240	30800	1.3	94	1.9	152
DANNY BELL*	Morgan	10/3/2019	H	311	29029	1.5	97	2.2	199
RODGERS' HILLCREST FARMS INC.*	McDuffie	10/9/2019	H	415	30402	1.9	206	2.3	213
BERRY COLLEGE DAIRY	Floyd	10/28/2019	J	33	16759	2	74	2	95
J.EVERETT WILLIAMS*	Morgan	10/7/2019	X	1981	26960	2	136	2	152
BRENNEMAN FARMS	Macon	10/11/2019	H	50	19856	2.1	203	1.7	103
EBERLY FAMILY FARM	Burke	10/14/2019	H	1044	25074	2.3	188	2.2	192
SCOTT GLOVER	Hall	10/4/2019	H	176	25325	2.3	197	2.8	199
IRVIN R YODER	Macon	9/21/2019	H	240	25016	2.4	212	2.1	151
TROY YODER	Macon	9/30/2019	H	307	25840	2.5	182	2.8	213
EUGENE KING	Macon	10/15/2019	H	126	18403	2.5	232	2.3	190
SOUTHERN SANDS FARM	Jenkins	10/11/2019	H	101	23099	2.5	253	2.3	170
UNIV OF GA DAIRY FARM	Clarke	10/3/2019	X	102	17593	2.6	194	3	196
PHIL HARVEY #2*	Putnam	9/18/2019	H	1602	25451	2.6	224	2.8	240
DONALD NEWBERRY	Bibb	9/28/2019	H	130	14044	2.7	255	2.9	249
ALEX MILLICAN	Walker	10/15/2019	H	96	18265	2.8	186	2.2	180
JAMES W MOON	Morgan	10/22/2019	H	129	17349	2.8	223	2.9	242
JUMPING GULLY DAIRY LLC	Brooks	10/5/2019	X	1215	15208	2.8	293	3.4	350
W N PETERS	Monroe	10/28/2019	X	130	14817	2.9	210	3.4	413

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UGA extension

Top GA Lows Herds for SCC –TD Average Score – November 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	11/18/2019	H	40	17596	1.7	171	1.3	56
BRENNEMAN FARMS	Macon	11/19/2019	H	48	19986	1.9	187	1.7	118
BERRY COLLEGE DAIRY	Floyd	10/28/2019	J	33	16759	2	74	2	95
J.EVERETT WILLIAMS*	Morgan	11/11/2019	X	1962	27021	2	132	1.9	148
SCOTT GLOVER	Hall	11/11/2019	H	187	25236	2.1	128	2.7	187
DAVE CLARK*	Morgan	11/4/2019	H	1242	30742	2.1	161	1.9	149
MARK E BRENNEMAN	Macon	11/7/2019	H	137	18134	2.1	180	2.9	292
SOUTHERN SANDS FARM	Jenkins	11/19/2019	H	102	22846	2.2	145	2.3	167
FRANKS FARM	Burke	11/11/2019	B	202	18327	2.3	143	2.7	214
KEN STEWART	Greene	11/20/2019	H	110	19730	2.3	193	3.3	327
DANNY BELL*	Morgan	11/7/2019	H	317	29162	2.4	176	2.2	193
EBERLY FAMILY FARM	Burke	11/18/2019	H	1037	25181	2.4	194	2.2	193
IRVIN R YODER	Macon	11/25/2019	H	247	24897	2.6	152	2.2	157
UNIV OF GA DAIRY FARM	Clarke	11/14/2019	X	108	17568	2.6	175	2.8	177
DOUG CHAMBERS	Jones	11/22/2019	H	450	25552	2.6	223	2.4	193
JERRY SWAFFORD	Putnam	11/24/2019	H	122	18756	2.8	166	2.9	196
MARTIN DAIRY L. L. P.	Hart	11/12/2019	H	313	23602	2.8	296	2.4	200
W N PETERS	Monroe	10/28/2019	X	130	14817	2.9	210	3.4	413
HALE DAIRY	Oconee	11/12/2019	H	130	15352	2.9	284	3.1	299
TROY YODER	Macon	11/23/2019	H	323	25428	3	174	2.7	190

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