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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: April May June, 2020

Sincerely,

Sha Tao

Assistant Professor

UGA extension

Dr. John K. Bernard will retire from the Department of Animal and Dairy Science

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It is very unusual to write this type of articles two issues in a row, and it is hard to believe both Dr. West and Dr. Bernard retire at the same year!! Dr. Bernard is a prominent scientist and has an extraordinary career in education, research and Extension in dairy cattle nutrition. He is also an outstanding professional, mentor, and colleague. His intelligence, broad knowledge and deep understanding of ruminant nutrition and dairy cattle management have not only influenced students, peers and researchers, but also impacts the decision making of many dairy producers.

Dr. Bernard grew up in a dairy farm in TN. After obtained the B.S. degree at the University of Tennessee, he became a fieldsman of Dairymen Inc. in Georgia for 5 years. Later he returned to his family farm in TN and then went back to GA and obtained his M.S. and Ph.D. degrees at the University of Georgia. Upon graduation, he started his professional career at the University of Tennessee for 11 years before starting his current position at the University of Georgia – Tifton Campus. Dr. Bernard is going to retire later this year.

It is hard to summarize Dr. Bernard's contributions to dairy nutrition in one letter. During his extraordinary career, he has touched many facets of dairy cattle management and nutrition, from calf nutrition and feeding, protein and amino acid metabolism, effective utilization of forages and by-products, to heat stress management. His research has been widely recognized by scientists from both industry and academia, and adopted into practice nationally and internationally. During the last 10 years, he received over $3 million in research funding from both industry and government agencies and published over 60 peer-reviewed research articles, more than 60 abstracts and numerous proceedings, bulletins and reports. Dr. Bernard is well recognized by the academia community in dairy science. He is a recipient of the Honors Award of American Dairy Science Association Southern Branch in 2006, the Pioneer Hi-Bred Forage Award of American Dairy Science Association in 2011, Cady Award of Dairy Calf & Heifer Association in 2013, and Nutrition Professionals, Inc. Applied Dairy Nutrition Award of American Dairy Science Association in 2020.

Dr. Bernard is a leading authority on the utilization of by-product feeds for dairy cattle. His body of research on nutrient utilization of cottonseed and its impact on milk fatty acids and milk quality has directly impacted nutritional guidelines for this commonly used feedstuff. His work with the Easyflo cottonseed product established that a polysaccharide coating greatly enhanced the flow characteristics of cottonseed. In addition, Dr. Bernard is recognized as a leading forage specialist, especially in the southern United States. He has developed methods that effectively improve forage digestibility and lower feed cost in dairy cattle. He has also promoted the year-round production and utilization of alterative forages that best conform to the specialized weather and nutrient management conditions found in the southeastern United States. Direct application of his research on cutting height, theoretical chop-length and aggressive kernel processing of whole plant corn is being practiced to improve dietary nutrient digestibility and cow performance fed corn silage in our region. Additionally, he has undertaken a special initiative to demonstrate that the winter annual ryegrass silage and warm season perennial Tifton 85 bermudagrass can partly replace corn silage without affecting lactational performance of the cows better enabling double and triple cropping systems used in the southeast. He recently proved that silage produced from

brachytic dwarf BMR forage sorghum or millet, can effectively substitute for corn silage without compromising intake and performance. These studies are of importance because these forages are commonly seen in the southeast, and the results from his research provide opportunities for dairy producers to incorporate these forages into the crop rotation based on their own needs and situations while maintaining high milk production for their herds.

In addition to the utilization of by-product feeds and forage, he examined different nutritional additives, such as anionic salts, yeast culture, probiotics, glycerol, fatty acids, and immune stimulants, on the cow's performance aiming to enhance the production efficiency and animal health of the dairy herds. Dr. Bernard is one of the few ruminant nutritionists that have actually used multi-cannulated high producing lactating dairy cattle to confirm his research findings involving forage quality, corn silage processing, lysine and fatty acid supplementation, and ruminal fiber digestion. His research has generated actual data on rumen microbial protein synthesis and duodenal amino acids flow to confirm models. These studies have been widely cited, and serve as references for different modeling equations to predict the amino acid requirement for dairy cattle. Dr. Bernard is also an expert in calf and heifer nutrition and management. His volume of published research on carbohydrate and protein sources, nutritional additives and delivery methods of milk replacers on calf metabolism and performance, has influenced current calf feeding guidelines. Additionally, he is a long-term and active member of Dairy Calf and Heifer Association (**DCHA**), and is one of the scientists to formulate the "Gold Standards" guideline of DCHA.

It is important to emphasize the accomplishment of Dr. Bernard in Extension and education. Dr. Bernard is an Extension specialist in dairy cattle nutrition and management and serves as one of the primary academic references for the dairy industry in Georgia and the southeast. He is contacted continuously by producers and industrial representatives for various questions, and invited to farms to solve different problems related to dairy cattle nutrition and management on site. He is very effective to translate others' and his own research to practical solutions. He has published over 240 (over 60 in the last 10 years) Extension articles, bulletins and educational materials, and has been invited to talk to producers numerous times on county and state levels, and nationally and internationally. Dr. Bernard is respected for his service as an official judge for numerous dairy shows and this has strengthened his bond with the industry. His research and service has garnered respect by industry and academia. Dr. Bernard makes special efforts to educate and mentor students and junior faculty. In the last 10 years, he has directly supervised 10 graduate students as a committee chair, and influenced 12 others as a graduate committee member, in addition to managing numerous undergraduate student workers. Additionally, he has served as chair or member of the mentor committees of 3 junior faculty members, including myself. As a young faculty person and one of his mentees, I am impressed everyday by his strong dairy nutrition knowledge and deep understanding and commitment to the dairy industry. He passionately delivers his knowledge to all his students and mentees.

Here, I want to express my deepest appreciation for what he did for the dairy industry in GA, the Animal and Dairy Science department, the Tifton campus at UGA, and, most importantly, the people around him. We are all affected by Dr. Bernard. Thank you and Good luck, Dr. Bernard, we wish you a wonderful and more successful life after the chapter at UGA.

June Dairy Month

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June is Dairy Month. It is an unusual holiday event since it is a month long. The program was started in 1937. When it started it was called "National Dairy Month" and ran from June 10 to July 10. It was sponsored by chain stores to the theme of "Keep Youthful – Drink Milk". The National Dairy Council (NDC) supported the idea to help increase demand as production rose in many areas where cows went on pasture in the late spring and school ended. The NDC supplied promotional material to 6,300 stores that participated in the first program.

In 1939, "June Dairy Month" became the official title and the focus was on the increased use of dairy products. The effort was funded with a 1 cent per pound of butterfat check off in June. How times have changed with the cost of the checkoff.

During the war years, the focus was on usage and how to obtain an adequate supply of dairy products due to rationing. After the war, efforts returned to increasing sale and regaining the lost butter sales.

In 1955, the American Dairy Association (ADA) took over control of the June Dairy Month program. The emphasis was changed to sales promotion for dairy products and became a year around program with promotions for different dairy products.

June Dairy Month also evolved into a celebration of the dairy industry. Many communities have developed festivals, parades, cattle shows, princess contests for June Dairy Month with sponsorship of local business and distribution of dairy products. Even though it is still designed to increase sales of dairy products, June Dairy Month is also a celebration of our dairy industry.

Today with covid19 and the change in our habits has made this an unusual June Dairy Month. Milk consumption is down, school is online, restaurants closed and travel limited. As our economy reopens, an ice cream cone would be a good way to celebrate.

Herd it Through the Bovine

Youth Corner

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Times are challenging for so many across this state. While everyone works to adapt to new ways of handling everyday life, 4-H has also worked to adapt to new programming efforts for 4-H youth. There is an undeniable interest to make sure the young people of Georgia stay engaged in 4-H activities and that all opportunities, when possible, are made available, even if they look different than years past. In the realm of 4-H Dairy Youth Programs, the desire to make all events, opportunities, and programs available to those interested remains a top priority.

While the 4-H program is working diligently in these efforts, I think our youth are truly matching those efforts. As I watch these young people move forward with participating and competing in events, I cannot think of a better time when they have embodied the 4-H pledge:

"I pledge my head to clearer thinking,
My heart to greater loyalty,
My hands to larger service,
and my health to better living,
for my club, my community, my country, and my world."

Young people participating in 4-H activities right now and in the months to come are steadfast to this pledge and remain dedicated to these events even through these challenging times. This year I commend each of them for not only participating, but ultimately epitomizing each of the four H's, by remaining ***loyal*** to this event and using their ***knowledge*** *to* ***lift up*** the dairy industry in the most ***health conscious*** way possible.

State 4-H Dairy Quiz Bowl Contest

This year's contest was offered to Seniors only on June 4th. In keeping with 4-H policies on how to handle contests during this pandemic, the contest was offered virtually with a 100-question test. This year, there were five Senior teams competing to which Tift County took top honors followed by Oconee County in second and Coweta county in third. Team members are included below:

Tift County: Amare Woods, Jordan Daniels, Lydia Connell, Dana Wells and Seth Jones

Oconee County: Kalani Washington, Alicia Carnes, Leah Szczepanski, Lexi Pritchard, Alyssa Haag and Lilly Ann Smith

Coweta County: Bella Fisk, Michael Whitlock, Alexa Hillebrand, Leopold Joh, Colton Swartz and Anthea Shelton

Congratulations and thank you to all teams competing. The team from Tift will have the opportunity to represent the state of Georgia at the National 4-H Dairy Quiz Bowl Competition this fall held in Louisville, KY.

State 4-H Dairy Judging Contest

Much like dairy quiz bowl, this year's State 4-H Dairy Judging Contest will be held virtually on July 14th. With no travel expenses or time, all youth interested in dairy judging are encouraged to speak with their 4-H agent about competing as this year offers a tremendous opportunity to not only compete but also learn and prepare for future contests. Classes will be available via video on contest day and will include both cows and heifers either haltered or loose.

Though not formally announced, it may be assumed that the 2020 National 4-H Dairy Judging Contest held in conjunction with World Dairy Expo is canceled for 2020; however, the opportunity for the state winning team to travel to a national contest is not! The winning team from the State 4-H Dairy Judging Contest will have the opportunity to attend either the national contest held in conjunction with the All American Dairy Show in Pennsylvania or the national contest held in conjunction with the NAILE in Kentucky.

Southeast Dairy Youth Retreat

Canceled

Planned for July of 2020 this event is canceled with hopes to for Clemson to host the retreat in 2021.

National 4-H Dairy Conference

Canceled

Planned for September of 2020 this event is canceled with the decision to cancel World Dairy Expo.

Avoiding feeding management inefficiencies and "shrinks"

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Feeding costs are the most important item that determines the profitability of milk production systems. They account for over 50% of production costs and therefore we must be very efficient in handling nutrition and feeding management to minimize feeding costs.

Most progressive milk producers care about the smallest details to avoid unnecessary feed losses. This is what is known as "shrinks". In this article, the most important factors that determine feed inefficiencies to avoid involuntary losses and improve business profitability will be discussed.

Among the most important factors to analyze we have:

1. Feed storage

Efficient storage of supplies is essential to prevent unnecessary losses. In the case of concentrates and grains it is important to consider the moisture of the ingredients. They must contain at least 86% dry matter, otherwise the risk of fungal contamination and mycotoxins production is very high.

Fungal and yeast contamination can lead to excess heat production of feed that can even lead to the development of fires.

On the forage side, we must be efficient to avoid unnecessary losses during storage; thus, during silage/haylage confection, the use of good inoculants, efficient compaction and sealing must be addressed properly. A well-made silo can avoid losses of dry matter of up to 20 to 30% and also losses in the nutritional quality of the final product. Yeast contamination can lead to the presence of hot spots. This hot silage will depress dry matter intake and therefore affect feed efficiency.

Proper handling of the exposed face of the silo should be optimal. Silo must have a width that allows to advance in daily silage removal of 8 to 12 inches in depth to avoid the development of hot spots, because of oxygen exposure.

2. Pests

The presence of pests such as birds and rodents are very important factors that determine feed losses, considerably. In the case of birds, pigeons, starlings and sparrows can be a serious problem, affecting crops, stored feed and the TMR on the feed bunk.

The presence of rodents is also a pest that can affect the quality of feed, in addition to inducing unintentional feed losses and dissemination of diseases. As an example, in an outbreak investigation of cows affected with digestive disorders, fever and mortality in a Missouri farm, we found that the cause of the problem was *Salmonella dublin* and the source of the bacteria came from a pest of raccoons that contaminated the stored grain.

Therefore, the pest of both birds and rodents can act as vectors of infections that can affect livestock, including diseases such as leptospirosis, salmonellosis, avian mycobacteria, *E. coli*, etc.

Another type of pests is the presence of toxic plants in some crops, such as jimsonweed (*Datura*

stramonium), contaminating corn crops. If pesticides are not applied, contamination can lead to potential poisoning of livestock. The following photo shows a pile of jimsonweed seed obtained from a highly contaminated corn grain shipment

Photo 1. *A pile of jimsonweed seed obtained from a highly contaminated corn grain shipment.*

3. Frequency of nutritional analysis of forages:

In the case of a bunker corn silo, if a representative sample is not taken, ration formulation errors can be made, which can mean great losses to the producer.

Photo 2 shows an exposed face of a bunker silo where various sampling areas are observed with a starch value expressed as a percentage. In general, all areas have a starch value between 25 to 35%. If we take a representative sample of the entire exposed face, considering the 10 sub-samples framed in the photo, it means that the average starch content of this silo is 31.1%.

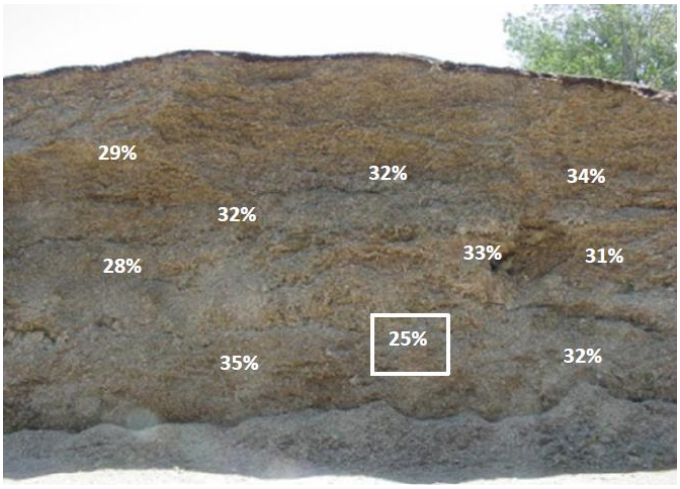

Photo 2. *A face of a bunker silo. Numbers represent the starch contents of samples collected at each location.*

Suppose the sample is not taken well and a single subsample is taken from the area framed in the white square that has a starch value of 25%. With this subsample we are going to be underestimating the content of the silo by 6.1% in its starch content. If we use this number for the formulation (25%), we will most likely have to add more corn grain to the diet, unnecessarily, to

achieve the desired starch value of the diet. If we also make a second mistake of only using this single sample as an indicator of the starch content of the entire silo, we will multiply the error several times, meaning an unnecessary extra cost in the purchase of corn grain. Along with this, when using a silage with an underestimated starch content of 25%, it will lead to overfeeding an excess of starch, due to the excess contribution of the corn grain, with the consequent risk of ruminal acidosis. Therefore, a simple error, such as considering a single subsample, for the whole year, that underestimates the starch content of the silage, can mean a considerable loss for the dairy, due to the unnecessary excess purchase of corn grain and the risk of ruminal acidosis and carry over effects.

Considering this point, it is then recommended to take several subsamples of a forage, homogenize them properly, and generate a representative composite sample for subsequent analysis. Furthermore, considering the variation of feed over time, it is necessary to carry out a consistent sampling protocol over time, especially forages, due to its larger variation. Therefore, at least a monthly nutritional analysis of silage/haylage and hay should be considered to correct for changes in their actual nutrient composition. Larger farms (> 1,000 lactating cows) should consider a weekly sampling to correct for nutritional variations.

4. Consistency and precision in the preparation and delivery of diets:

The use of computer software that facilitate management in the preparation of a TMR undoubtedly helps to carry out an efficient feeding management. Both reduced amounts and excesses in the load of each ingredient when preparing a diet bring losses for the producer. Reduced amounts of certain ingredients will negatively impact milk production, and excessive amounts will mean significant losses (shrink) in feed stock, especially those that are more expensive, such as the additives. This will increase the cost of the diet significantly, reducing the income over feeding cost and profit of the farm.

On the other hand, the delivery of the diet must be efficient, considering a residual of 2 to 4%. If this percentage is higher, it will mean a waste and considerable loss of feed. If this percentage is lower, it will impact the expected feed intake and depress the herd's milk production.

5. Consistent monitoring of inventories.

Assessing the balance of ingredients on the farm is essential for an efficient feed management of the herd. The precision of the scales both at the arrival of the trucks, and at the time of the preparation of diets are important. Adequate maintenance of truck scales and mixers must be made to avoid unnecessary losses.

In the case of the preparation of additive mixtures that are expensive (protected amino acids, mycotoxin binders, vitamins, etc.), precision scales and automatic mixers must be used. The preparation of these premixes on the soil is an inefficient management, due to the losses, which may seem minimal, but at a high cost to the producer. As an example, monensin may costs between $ 8-9 per pound. If we waste a couple of grams every time we prepare a premix, by making the mix on the concrete floor, this can translate into considerable losses for the producer.

In conclusion, considering all the factors that mean losses for the producer throughout the feeding management, emphasis should be placed on controlling the involuntary losses (shrinks), considering an adequate monitoring of the weighing of ingredients on arrival, in the storage stalls, during the preparation of the TMR and its delivery on the feed-bunk. Control and prevention of pests (birds and rodents) is also essential. Finally, precision management for the most expensive feed ingredients and additives is required.

Summer annual forages other than corn silage

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While corn silage is the primary forage fed to lactating dairy cows, especially in the Southeast, corn is not always the best crop to plant. The reasons for not planting corn include no irrigation or inadequate water to meet the produce a good corn crop, soil does not have the fertility to support corn silage, or it doesn't fit into the cropping rotation. For those acres, the question becomes what is the best forage crop to plan that will produce the quality and quantity of forage needed. There are several options to choose. The Georgia Statewide Variety Test include forage sorghum program has yield information on forage sorghum, pearl millet, and sorghum-sudan grass. However, very limited information is available for crabgrass, forage soybeans, cowpeas, and other summer annual crops.

We conducted a trial to evaluate BMR pearl millet (PMS) and BMR forage sorghum (FSS) in diets based on corn silage. These forages were grown on non-irrigated land and harvested when the grain reached dough stage of maturity. The FSS was direct chopped whereas the PMS was cut and wilted before chopping. Both were bagged and stored for 5 months before feeding. Diets contained (DM basis) 32.6% corn silage and 20.59% of either PMS or BMR. Diets were formulated to contain similar concentrations of protein, fiber, and energy. No differences were observed in intake, milk yield or composition, or feed efficiency among the cows in the 8 week trial. The only difference we observed was higher MUN concentrations for the cows fed FSS which is consistent with previous research. The results of this research indicates that either PMS or FSS can be fed along with corn silage to lactating dairy cows. The choice of which one to plant should be made on agronomic, cropping system, or forage harvesting system needs.

There has been interest in crabgrass, forage soybeans, cowpeas and other summer annual crops. There is data available on crabgrass used primarily for grazing beef cattle, but not data related to its use in dairy rations. While many people consider crabgrass a weed, it does produce high quality forage and is very persistent in the hot, dry summer. The biggest challenge with crabgrass when harvesting for hay is getting it dry enough to bale before the next rain comes, so harvesting as baleage or haylage is a better option. There is ample data from beef research showing that crabgrass can support very acceptable animal performance when grazed, but some producers have grown crabgrass to use for feeding heifers or dry cow. Improved varieties are available that look very promising.

We have some preliminary information on forage soybeans and cowpeas alone or planted with improved pearl millet. While the forage quality is good, the yields are much lower than pearl millet, especially for soybeans. We hope to have additional information later this year to share on this project that was funded by the Georgia Beef Checkoff.

Summer annual forages can be used to supplement corn silage and other forages in dairy rations. While they do not provide the same yield of high energy forage as corn silage, they are less risky on non-irrigated due to the greater drought tolerance and are better suited to soils with lower fertility. These forages can be used to provide effective fiber for lactating cows or used for heifers and dry cows that have lower energy requirements. The choice of which summer annual to plant should be based on agronomic and harvesting factors (baleage vs silage) when they are not grazed.

Strategies to maintain or improve mammary health and milk quality

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At a time when milk prices have once again fallen, maintaining or improving mammary health and milk quality is increasingly imperative to earn premiums and/or avoid penalties. Over the past 60-70 years there has been an abundance of research conducted to address mammary health in an effort to support production of high quality milk. The culmination of those studies and what continues to be investigated today is centered around the tenet that a mastitis prevention and control plan should include management practices that address cow and her environment during milking AND between milkings. Below, we will briefly walk through some of the most predominant factors to consider when addressing mammary health and milk quality. This is not an exhaustive discussion of factors to consider when working to improve mammary health and milk quality, so don't hesitate to reach out to your extension agents and specialists, veterinarians, consultants, etc. as you move forward, hopefully toward a better tomorrow.

During milking

Proper, consistent milking procedures significantly reduce the risk of mastitis and contribute to optimal milk quality. Milkers should be calm and quiet to limit cow stress that may result in adrenaline release which inhibits milk letdown. The milking procedure should proceed as follows:

1) Gloves are worn at all times. If contaminated, they should be changed.
2) Teats are wiped free of dirt/debris.
    a. This initial tactile stimulation coupled with the following steps promotes maximal milk letdown (Bruckmaier and Wellnitz, 2008).
    b. Water is used as a last resort. If used, mammary gland and teats are dried completely prior to continuing to the next step.
3) The foremilk of each quarter is stripped 3-5 times to maximize milk letdown and observe the milk/mammary gland for any signs of clinical mastitis (Sandrucci et al., 2007).
    a. If clinical mastitis is detected, milkers should follow a pre-established mastitis control plan. Work with your milking personnel, extension agents/specialists, and veterinarians to develop a comprehensive plan that is logical and economical. Aside from simply administering your pre-selected antibiotic at the first sign of clinical mastitis, some additional options may be:
        - On-farm milk culture prior to antibiotic therapy. Steps include:
            - Clinical sample is collected for milk culture.
            - Antibiotic therapy is only initiated immediately if clinical mastitis is severe (i.e. systemic). The outcome of mild (abnormal milk) and moderate (abnormal milk and udder) cases is not different if treatment is withheld for 24 hours and there are no long-term negative effects of implementing this strategy (Lago et al., 2011a,b).
            - Sample is plated immediately and read within 24 hours.
            - Only Gram-positive cases receive antibiotic therapy (type and duration could be tailored to pathogen depending on type of on-farm culture implemented) or design specialized protocol that could resemble Figure 1.

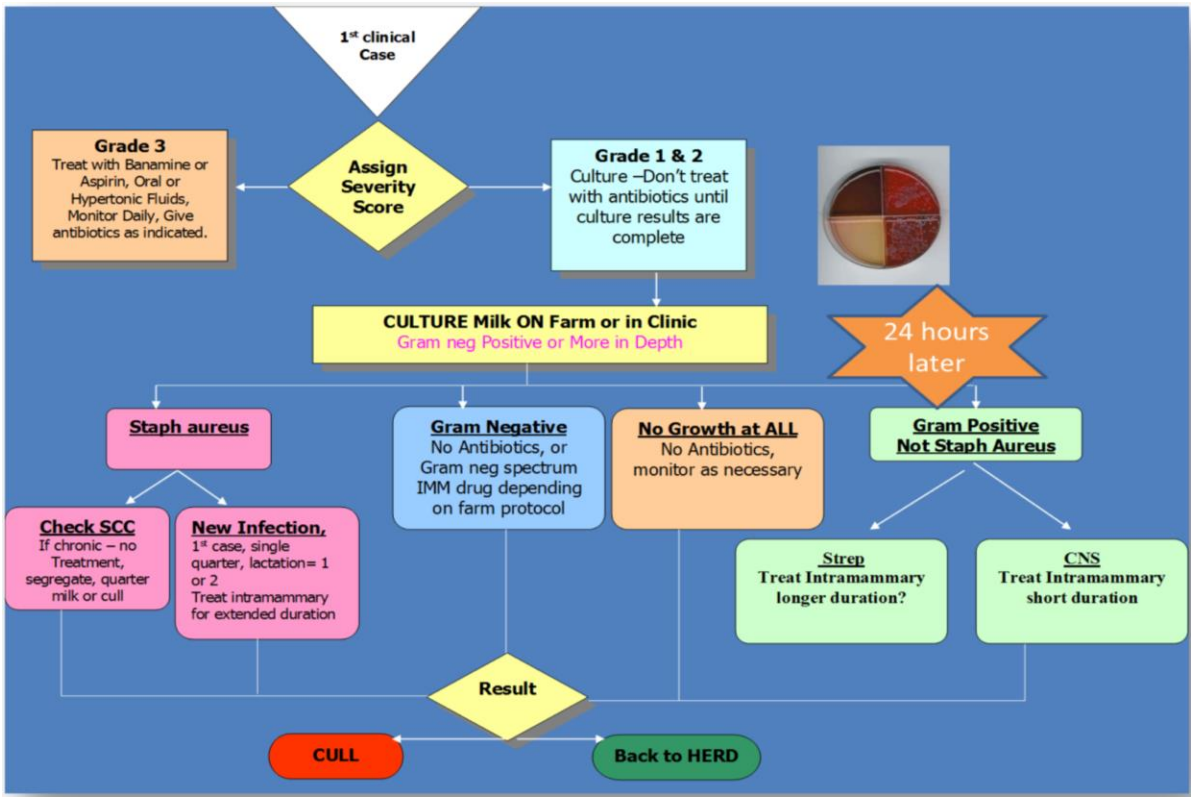

Figure 1. *Decision tree for antibiotic therapy with on-farm milk culture*
Source: https://milkquality.wisc.edu/wp-content/uploads/sites/212/2015/06/Ruegg_On-Farm-Culture-and-Treatment-Decisions.pdf

- Antibiotic therapy followed by milk culturing
  - Clinical sample is collected for milk culture.
  - Antibiotic therapy is initiated immediately.
  - Sample is either cultured on farm or sent to a laboratory.
  - When results are known, antibiotic therapy is either altered, extended, or terminated.

b. Work with your herd veterinarian and specialists to identify the best treatment regimens, including the selection of antibiotic therapies and duration of those selected.
c. Make sure to thoroughly disinfect the teat end with 70% isopropyl alcohol prior to infusion of antibiotic and only use the partial insertion technique to avoid introduction of additional pathogens.
d. Record each case of clinical mastitis, quarter affected, date of occurrence, days in milk, type and duration of treatment, and any culture data collected.
e. Do not treat chronic mastitis cases. Consider culling.

4) Each teat is thoroughly dipped with a germicidal pre-dip that remains on for at least 30 seconds.
   a. Note that pre-dipping is done AFTER stripping foremilk. Although gloves prevent transfer of human skin bacteria to the cow, bacteria can still be passed from cow to cow and teat to teat. If a teat is pre-dipped first and then stripped, this could deposit bacteria onto a sanitized teat. Moreover, if stripping is done immediately after dipping the teat, this may remove the majority of the teat dip just applied.

5) Teat dip is completely removed with a single use towel, paying close attention to the teat end.
6) Milking unit is attached within 90-120 seconds of initial teat stimulation. Liner slips (squawking) are corrected immediately.
7) If manually detaching, unit is removed with vacuum off.
8) Teats are thoroughly dipped with a germicidal post-dip which remains.
9) Fresh feed and water is provided to keep cows standing for at least 1 hour after exiting.

Lastly, a proper functioning milking system is imperative for good mammary health and milk quality. Milking inflations and other rubber/plastic parts should be changed regularly according to manufacturer's guidelines. Failing to change rubber/plastic components may lead to development of cracks that can harbor bacteria and other pathogens. Make sure that your system is serviced regularly according to manufacturer's guidelines. The signs and sounds of equipment not functioning properly includes squawking, cow discomfort, and altered teat end/teat skin appearance. Changes to the teats include color (red to purple discoloration), hemorrhaging or swelling especially at the teat end, rings around the base, cracking of the teat skin, and teat end hyperkeratosis (flowering of teat end). These changes can be caused by overmilking, high milking vacuum, inaccurate pulsation or lack of pulsation, to name a few. Also, don't forget that your washing and sanitizing cycles should be periodically assessed. Your service technician can work with you to evaluate how well your equipment is functioning and can evaluate temperatures, chemicals, and timing of your washing/sanitizing cycles. If your milk co-op is reporting high bacteria (either SPC, PIC, or LPC) in your milk, refer to the Figure 2 below and work with your mammary health team to narrow down the area contributing to these counts.

Sources of Microbial Contamination As Detected by Bacteriological Procedures

Test Result	Natural Flora of Teat Skin	Mastitis	Dirty Cows	Dirty Equipment	Poor Cooling
SPC >10,000	Unlikely	Possible	Possible	Possible	Possible
SPC>100,000	Unlikely	Possible (rare)	Unlikely	**Very Likely**	**Very Likely**
LPC >200-300	Unlikely	Unlikely	Possible	**Very Likely**	Unlikely
Higher PI than SPC	Unlikely	Unlikely	Possible	**Very Likely**	**Very Likely**
Higher SPC than PI	Unlikely	Possible	Possible (not likely)	Possible (not likely)	Possible (not likely)
Coliform	Unlikely	Possible (rare)	Possible	Possible	Possible (not likely)

Figure 2. *Sources of bacteria contributing to elevated SPC, PI, or LPC.*
Source: Raw Milk Bacteria Tests & Sources and Causes of High Bacteria Counts – An Abbreviated Review.

Between milkings

The environment is the biggest factor to consider when discussing mammary health and milk quality challenges between milkings. In free-stall operations, sand bedding is preferred as it will harbor the least number of environmental pathogens (Hogan et al., 1989). Beds should be groomed daily, ideally 2-3x/day, and re-bedded no less than every 2-3 weeks depending on your operation.

Bedding material should be filled to the height of the curb to promote cow comfort and proper stall usage. In pasture-based operations, make every effort to provide access to clean lying areas. If possible, allow for pasture rotation especially if pastures become overgrazed and muddy. In either operation, restrict access to standing water, such as ponds, which can expose cows to pathogens such as *Nocardia, Pseudomonas,* and *Prototheca*. During warm summer months provide access to shade in pastures, and utilize fans and sprinkler/mister/soaker systems in free-stalls to reduce heat stress. To further reduce potential exposure to environmental pathogens, clipping/singeing udder hair and trimming tail switches can be performed to reduce dirt and manure accumulation.

Let's discuss dry cow management as part of this section.

Consider decreasing the energy density of the diet to lower milk production in preparation for dry off. High milk yield at dry off is associated with increased SCC and risk of mastitis in the next lactation (Gott et al., 2017). Additionally, make sure that the dry cow diet has sufficient vitamins and minerals to promote immune health. As examples, selenium, zinc, copper, and vitamin E are critical for an appropriate immune response. Work with your nutritionist to formulate the most appropriate rations for late lactation and dry/transition cows.

Current research still supports drying cows off abruptly followed by administration of a dry cow antibiotic therapy. Make sure to sanitize teat ends prior to infusing antibiotics and use the partial insertion technique just as you would when treating clinical mastitis. The dry cow antibiotic therapy cures existing infections, but there is a X PERCENT chance that a cow can contract an infection during the dry period. To prevent new infections, administer a teat sealant. An internal teat sealant will stay in place through the dry period and will be removed by stripping as the cow enters her next lactation. An external teat sealant can be used but it only remains on the teat for up to 7 days, with some applications coming off within as little as 24 hours. If an external teat sealant is used at dry off, apply an external teat sealant prior to calving as well to reduce the risk of developing a new infection just prior to calving.

It is good practice to incorporate a coliform vaccine into your dry off program as well, especially if severe coliform mastitis remains a problem in your herd. There are 3 commercially available coliform vaccines that have performed similarly in research trials (REFERNCE). *ENVIRACOR™ J-5* (Zoetis), J-Vac® (Boehringer Ingelheim), and Endovac-Dairy® (Endovac Animal Health). The main difference is the vaccine regimen which may dictate which vaccine would work best for your operation. *ENVIRACOR™ J-5* is a 3-dose regimen, whereas J-Vac® and Endovac-Dairy® are 2-dose regimens with recommendations or allowances for a whole herd annual booster. The only other vaccination available for the major mastitis pathogens is against *Staph. aureus*. Lysigin® is initially given to heifers at 6 months of age, followed by a booster 2 weeks later and then every 6 months. Efficacy has been variable over the past few decades for vaccination of cows (Middleton, 2019). Data in heifers is a bit more encouraging with reduced severity and duration and perhaps greater chance of spontaneous cure (Middleton, et al, 2006; Middleton, 2019).

Additional tips

- Monitor individual cow SCC when possible to further investigate cows with subclinical and/or chronic mastitis.
- Make sure any purchased animals won't introduce contagious pathogens to your herd.
- Consider culling chronically high SCC cows that do not respond to antibiotic therapy.
- Cull or segregate (and milk last) cows with contagious mastitis, such as *Staph. aureus*.

- Don't forget about your heifers!
  - Implement fly control to reduce the risk of *Staph. aureus* mastitis in heifers.
  - Provide a clean and comfortable environment and offer a well-balanced ration.
  - Consider antibiotic therapy for heifers to cure existing infections. While the average cure rate for Staph. aureus in cows is 20-30%, cure rates can be as high as 100% in heifers (Nickerson, 2009). Note that this is extra-label use so this can only be implemented as part of a valid veterinary/client/patient relationship.
  - In herds with high rates of *Staph. aureus* in first lactation animals, vaccination with Lysigin® may be considered (Middleton, 2019).

A checklist detailing the National Mastitis Council's 10-point "Recommended Mastitis Control Program" is available for download and printing here: http://www.nmconline.org/wp-content/uploads/2016/08/RECOMMENDED-MASTITIS-CONTROL-PROGRAM-International.pdf.

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Dry-off management

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The dry period is a critical window for optimum health and performance of dairy cattle with dry-off management influencing behavior, stress responses and mammary health of dairy cows. Therefore it is an important topic to be discussed and yet receives little attention. The influence of milk production level at dry-off is a critical aspect to understand when developing dry-off programs. Indeed, several studies reported that greater milk yield at dry-off was positively associated with a higher risk of acquiring a new intramammary infection resulting in lower milk quality in the subsequent lactation. Increased milk yield at dry-off was also reported to result in behavioral changes, such as frustration and stronger stress responses after milking cessation, thereby representing an animal welfare issue. With increasing milk production per cow due to genetic selection, the milk yield before milking cessation is increasing as well. The current pandemic has compounded this issue further with many producers adopting early dry-off practices in an attempt to minimize impact from a volatile market. This automatically and significantly increases the milk yield at dry-off, posing a threat to cow health and wellbeing. Therefore, management strategies to maintain animal wellbeing and mammary health during the transition from lactation to dry period are critical, especially during these challenging times.

Internal teat sealant.

Rapid formation of a keratin plug in the teat canal minimizes intramammary infection after dry-off. However, this is not achieved naturally in most of the quarters after dry-off, especially in high milk yield cows. In some studies, a keratin plug had yet to form even 10 days after dry-off, which puts cow at risk of developing an infection during early dry period that will persist for the duration. An internal teat sealant mimics natural keratin and prevents milk leakage and bacterial entry. Studies have reported that using teat sealant at dry-off significantly reduced the risk acquiring intramammary infection after dry-off and the risk to develop clinical mastitis in early lactation. An internal teat sealant remains in place throughout the dry period and is removed by suckling or stripping out. Even in cows that develop functional keratin plugs in the absence of a teat seal, the keratin plug will begin degrading 2-3 weeks prior to calving highlighting the even greater importance of an internal teat sealant. X-ray images have shown that undisturbed internal teat sealants will remain in place for up to 100 days, unless manually removed. While external teat sealants are available and can be used, they only remain on the teat for up to 7 days, with some staying on as little as a day. Moreover, the external sealant should be reapplied periodically during the dry period, or at a minimum, each week of the close-up period to prevent the risk of intramammary infection. To further complicate matters, the adherence and effectiveness of an external teat sealant is affected by weather with a less optimal application during fall or summer months, a time when the risk of intramammary infections especially those caused by environmental pathogens, is already very high. Ultimately, the most effective teat sealant to use in combination with dry cow antibiotic therapy at dry off is an internal teat sealant. This combination

will effectively cure most existing infections and prevent new infections to promote optimal milk yield and quality in the next lactation. Your steps for combination dry cow therapy would be: 1) Prep and milk cow as normal, 2) Sanitize teat end with 70% alcohol, 3) Administer dry cow antibiotic with partial insertion technique and after massage up into the mammary gland, 4) Administer internal teat sealant with partial insertion technique but do NOT massage (if needed, sanitize again before this step), 5) Dip with germicidal post-dip.

Reducing milk yield.

One approach to reduce milk yield at dry-off is nutrient restriction at the end of the lactation. This can be achieved by limiting intake or ration changes to reduce nutrient density. For example, feeding dry hay or limiting intake by 50% during the last week of lactation substantially reduces milk yield before dry-off, and accelerates mammary involution after dry-off. Successful mammary involution is important for the health of the mammary gland to prepare for the next lactation. However, these approaches could also causes negative energy balance and associated metabolic disturbances such as increased plasma non-esterified fatty acids and ketone bodies. The negative energy balance could subsequently lead to immunosuppression which may offset the benefits of reduced milk yield. Additionally, studies reported that limiting feed intake or dietary changes to reduced milk yield at the end of lactation results in hunger behavior, posing additional concerns in animal welfare.

Gradual cessation of milking by reducing milking frequency before dry-off is one efficient approach to reduce milk yield at dry-off. Studies reported that reducing milking frequency to 1×/d in the last week of lactation decreased milk yield by over 20%, reduced milk leakage and udder firmness after dry-off, and is associated with reduced risk of acquiring intramammary infection in early lactation. Importantly, reducing milking frequency in late lactation had no apparent negative influences on cow's immune function and behavioral responses. However, the target milk production level for dry-off which provides full benefits for mammary health is still unknown.

The proper dry-off management is essential to maintain cow health and overall animal welfare. Several management strategies to reduce milk yield and facilitate dry-off have been studied but with limited extent. Utilization of internal teat sealant has been proven effective to prevent the development of intramammary infection and gradual cessation of milking is a promising strategy to lower milk yield before dry off to improve mammary health and animal welfare. High producing herd may benefit most from this strategy compared with low producing herd. Additional research is required to examine the impacts of different strategies and their combination on cow health and economic implications in herds with different production levels.

Premiums make a difference in the milk check

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Dairy farmers are considered price takers because milk price is set by the market place and the individual dairyman has no influence on the price he receives. The focus has been on being an efficient producer and control costs. One part of the milk check the dairy farmer can control is premium payments. Most coop have put in premium programs that pay an incentive for meeting certain standards. The programs also include a penalty if you do not meet the criteria. Most of these programs involve SCC and milk quality.

These premium change the gross milk check in that they can increase or decrease value in addition to the income from milk. The premiums differ from other deductions such as hauling, coop fee and promotion which are subtracted from the gross value resulting in the net value to the dairyman.

The following is an example of premiums.

The Ely dairy milk production and milk value is shown in table 1.

Table 1. Milk shipped, blend $, BF% and milk income by month and year for Ely Dairy

Month	lb shipped	Blend $	BF%	Milk $
1	119,577	$18.27	4.39	$21,846.72
2	102,188	$18.35	4.45	$18,751.50
3	122,353	$18.70	4.24	$22,880.01
4	120,331	$18.70	4.13	$22,501.90
5	127,144	$19.24	4.03	$24,462.51
6	122,048	$19.58	3.94	$23,897.00
7	130,151	$20.25	3.77	$26,355.58
8	109,298	$20.85	3.82	$22,788.63
9	123,238	$20.52	3.99	$25,288.44
10	162,249	$20.66	4.09	$33,520.64
11	161,378	$20.98	4.47	$33,857.10
12	195,239	$21.63	4.52	$42,230.20
Year	1,595,194	$19.81	4.15	$318,380.22

For the year, milk income was $318,380.22 with a blend price of $19.81/cwt.

The Ely Coop is the processor where Ely Dairy ships their milk. Ely Coop has a premium program based on SCC and PIC values with a simple sliding scale for each. Both include an incentive and a penalty per cwt of milk shipped. The values are in table 2.

Table 2. Ely Coop premium program for SCC and PIC

SCC	Rate/cwt		PIC	Rate/cwt
10-100	$0.50		<20	$0.30
101-150	$0.40		21-40	$0.20
150-200	$0.30		41-60	$0.10
201-250	$0.20		61-100	$0.00
251-300	$0.10		101-150	-$0.25
301-400	$0.00		151-300	-$0.50
401-500	-$0.20		301-750	-$1.00
501-600	-$0.50		750+	-$2.00
601+	-$1.00			

The negative incentive is greater than the positive incentive numerical. The premium is designed to reward the producer for doing a good job but the penalty for doing a poor job is large.

Table 3 shows the premium payment for Ely Dairy.

Table 3. Premium payment for SCC and PIC for Ely Dairy

Month	# shipped	SCC	SCC rate	SCC $	PI	PI rate	Pi $
1	119,577	133	$0.40	$478.31	688	-$1.00	-$1,195.77
2	102,188	160	$0.30	$306.56	2590	-$2.00	-$2,043.76
3	122,353	146	$0.40	$489.41	6	$0.30	$367.06
4	120,331	140	$0.40	$481.32	2392	-$2.00	-$2,406.62
5	127,144	134	$0.40	$508.58	1718	-$2.00	-$2,542.88
6	122,048	185	$0.30	$366.14	3	$0.30	$366.14
7	130,151	189	$0.30	$390.45	80	$0.00	$0.00
8	109,298	205	$0.20	$218.60	21	$0.20	$218.60
9	123,238	326	$0.00	$0.00	33	$0.20	$246.48
10	162,249	450	-$0.20	-$324.50	190	-$0.50	-$811.25
11	161,378	260	$0.10	$161.38	18	$0.30	$484.13
12	195,239	147	$0.40	$780.96	382	-$1.00	-$1,952.39
Year	1,595,194	206	0.25	3,857.21	677	-0.60	-9,270.26

Looking at the month data for Ely Dairy the SCC is fairly good. There is a rise 9 and 10 resulting is lower SCC premium. The premium for PIC shows a different story for Ely Dairy. There are high value that they seem to get under control and then jump up again showing there are some underlining problems that the dairy has not been able to correct. This has resulted in some severe penalties for the dairy. This has resulted in less gross income for Ely Dairy (Table 4). For Ely Dairy the gross income $312,967.18 due to the premiums.

Table 4. Milk Income, SCC Premium, PIC Premium and Gross Income for the Ely Dairy.

Month	Milk Income	SCC Premium	PIC Premium	Gross Income
1	$21,846.72	$478.31	-$1,195.77	$21,129.26
2	$18,751.50	$306.56	-$2,043.76	$17,014.30
3	$22,880.01	$489.41	$367.06	$23,736.48
4	$22,501.90	$481.32	-$2,406.62	$20,576.60
5	$24,462.51	$508.58	-$2,542.88	$22,428.20
6	$23,897.00	$366.14	$366.14	$24,629.29
7	$26,355.58	$390.45	$0.00	$26,746.03
8	$22,788.63	$218.60	$218.60	$23,225.83
9	$25,288.44	$0.00	$246.48	$25,534.91
10	$33,520.64	-$324.50	-$811.25	$32,384.90
11	$33,857.10	$161.38	$484.13	$34,502.62
12	$42,230.20	$780.96	-$1,952.39	$41,058.76
Year	$318,380.22	$3,857.21	-$9,270.26	$312,967.18

If there were no premiums or Ely Dairy would be at the minimum value of $0.00 premium, then the gross milk income for Ely Dairy would be $318,380.22. What if Ely Dairy would qualify for the maximum premium? The gross income then be $331,141.77 (Table 5).

How much do the premiums make a difference? For the Ely Dairy, an increase to the $0.00 premium results in an increase of 1.73 % in gross income. If the Ely Dairy received the maximum premium, the gross income would increase 5.81% (Table 6).

Premiums are under the control of the dairyman and can make a difference in the gross income for the dairy.

Table 5. Milk Income, SCC Premium, PIC Premium and Gross Income for the Ely Dairy Receiving the Maximum Premium.

Month	Milk	SCC Premium	PIC Premium	Gross $
1	$21,846.72	597.89	358.73	$22,803.33
2	$18,751.50	510.94	306.56	$19,569.00
3	$22,880.01	611.77	367.06	$23,858.84
4	$22,501.90	601.66	360.99	$23,464.55
5	$24,462.51	635.72	381.43	$25,479.66
6	$23,897.00	610.24	366.14	$24,873.38
7	$26,355.58	650.76	390.45	$27,396.79
8	$22,788.63	546.49	327.89	$23,663.02
9	$25,288.44	616.19	369.71	$26,274.34
10	$33,520.64	811.25	486.75	$34,818.64
11	$33,857.10	806.89	484.13	$35,148.13
12	$42,230.20	976.20	585.72	$43,792.11
Year	$318,380.22	$7,975.97	$4,785.58	$331,141.77

Table 6. Change in Gross Income for Ely Dairy from Current Situation

Ely Dairy	Gross Income	Change from Current, %
Current	$312,967.18	
0 Premium	$318,380.22	1.73
Max Premium	$331,141.77	5.81

COVID-19 Multi-State Dairy Industry Survey

COVID-19 continues to affect the dairy industry nationwide. In a multi-state effort, faculty from University of California, University of Idaho, South Dakota State University and Washington State University are trying to gather information to learn how Extension Services can best support the dairy industry during these unprecedented times. If you are an allied industry professional, a dairy producer, or a dairy worker please take **10 minutes** to complete this **confidential survey**. Results from this study will allow us to identify critical areas for **outreach activities** aimed to **mitigate health, labor, and economic risks**. Thanks for your time and be safe!

Surveys:

Allied Industry Professionals (Veterinarians, Nutritionists, Consultants, Sales Reps):
https://wsu.co1.qualtrics.com/jfe/form/SV_3Jn5tx9KnPNE2nr

Dairy Producers/Managers:

https://wsu.co1.qualtrics.com/jfe/form/SV_d7gA0pfFiIjeRs9

Dairy Farm Workers (English and Spanish):
https://ucdavis.co1.qualtrics.com/jfe/form/SV_czN1s3rjp9FaAHb

Important Dates

2020-2021

2020 UF/UGA Virtual Corn Silage Tour

- Please visit https://youtu.be/4MsipOW8l0I

The American Dairy Science Association (ADSA) Virtual Annual Meeting

- June 22-24, 2020
- Student registration is free.
- https://www.adsa.org/Meetings/2020-Annual-Meeting

2020 GA Food Animal Conference

- Sep 18-20, 2020
- 4500 Southern Pine Dr, Pine Mountain, GA 31822, (844) 221-3746
- https://gvma.net/georgia-food-animal-conference/

Top GA DHIA By Test Day Milk Production – March 2020										
					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	3/2/2020	1190	89	96.6	4.3	3.78	30662	1254
A & J DAIRY*	Wilkes	H	3/25/2020	417	91	92			28850	
DANNY BELL*	Morgan	H	3/4/2020	312	92	90.8	4	3.45	29547	1161
J.EVERETT WILLIAMS*	Morgan	X	3/9/2020	1960	88	88.5	4.5	3.52	27342	1130
DOUG CHAMBERS	Jones	H	3/23/2020	424	88	87.6	3.7	2.88	25254	895
SCHAAPMAN HOLSTEINS*	Wilcox	H	3/17/2020	684	89	83.8	3.6	2.82	26414	916
SCOTT GLOVER	Hall	H	3/13/2020	195	88	83.2	3.8	2.92	25936	1016
PHIL HARVEY #2*	Putnam	H	3/19/2020	1512	88	82.3	3.7	2.62	25772	929
EBERLY FAMILY FARM	Burke	H	3/16/2020	1036	88	81.2	3.9	2.9	25084	962
BRENNEMAN FARMS	Macon	H	3/2/2020	56	85	75.9	3.6	2.75	20709	762
OCMULGEE DAIRY	Houston	H	3/26/2020	324	88	75.8	3.5	2.37	21518	797
MARTIN DAIRY L. L. P.	Hart	H	3/2/2020	316	91	75.1	4.1	3.04	23804	922
BOBBY JOHNSON	Grady	X	3/3/2020	582	92	74.6			21482	
VISSCHER DAIRY LLC*	Jefferson	H	3/4/2020	871	84	74.1	3.4	2.24	21731	750
TROY YODER	Macon	H	3/17/2020	248	88	74.1	4	2.55	24425	942
COASTAL PLAIN EXP STATION*	Tift	H	3/21/2020	248	89	71.1	3.7	2.4	21891	870
RYAN HOLDEMAN	Jefferson	H	3/12/2020	95	93	70.4	3.8	2.45	21500	828
WHITEHOUSE FARM	Macon	H	3/20/2020	243	89	69.9	3.8	2.5	21603	814
RODNEY & CARLIN GIESBRECHT	Washington	H	2/20/2020	453	87	68.7	3.9	2.42	18553	710
HORST CREST FARMS	Burke	H	3/25/2020	180	86	68.3	3.6	2.19	20370	766

[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 – March 2020										
					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	3/2/2020	1190	89	96.6	4.3	3.78	30662	1254
J.EVERETT WILLIAMS*	Morgan	X	3/9/2020	1960	88	88.5	4.5	3.52	27342	1130
DANNY BELL*	Morgan	H	3/4/2020	312	92	90.8	4	3.45	29547	1161
MARTIN DAIRY L. L. P.	Hart	H	3/2/2020	316	91	75.1	4.1	3.04	23804	922
SCOTT GLOVER	Hall	H	3/13/2020	195	88	83.2	3.8	2.92	25936	1016
EBERLY FAMILY FARM	Burke	H	3/16/2020	1036	88	81.2	3.9	2.9	25084	962
DOUG CHAMBERS	Jones	H	3/23/2020	424	88	87.6	3.7	2.88	25254	895
SCHAAPMAN HOLSTEINS*	Wilcox	H	3/17/2020	684	89	83.8	3.6	2.82	26414	916
BRENNEMAN FARMS	Macon	H	3/2/2020	56	85	75.9	3.6	2.75	20709	762
PHIL HARVEY #2*	Putnam	H	3/19/2020	1512	88	82.3	3.7	2.62	25772	929
TROY YODER	Macon	H	3/17/2020	248	88	74.1	4	2.55	24425	942
KEN STEWART	Greene	H	2/19/2020	98	94	61.6	4.2	2.53	19622	686
BUDDHA BELLY FARM LLC	Brooks	X	2/27/2020	656	82	58.1	4.4	2.5	15911	661
UNIV OF GA DAIRY FARM	Clarke	X	3/18/2020	128	88	62.1	4.2	2.5	19111	777
WHITEHOUSE FARM	Macon	H	3/20/2020	243	89	69.9	3.8	2.5	21603	814
BOB MOORE	Putnam	H	3/1/2020	199	90	59.8	4.3	2.47	19431	795
RYAN HOLDEMAN	Jefferson	H	3/12/2020	95	93	70.4	3.8	2.45	21500	828
FRANKS FARM	Burke	B	2/24/2020	209	87	66.7	4.1	2.43	18831	765
RODNEY & CARLIN GIESBRECHT	Washington	H	2/20/2020	453	87	68.7	3.9	2.42	18553	710
BOB MOORE #2	Putnam	H	3/12/2020	479	89	57.7	4.4	2.41	19456	753

[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 – April 2020										
					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	3/30/2020	1190	89	97.9	4.1	3.65	30692	1254
DANNY BELL*	Morgan	H	4/10/2020	314	92	89	4	3.32	29695	1170
J.EVERETT WILLIAMS*	Morgan	X	4/6/2020	1967	88	88.9	4.7	3.64	27409	1143
A & J DAIRY*	Wilkes	H	4/28/2020	423	91	88.5			28759	
DOUG CHAMBERS	Jones	H	4/27/2020	429	88	86.8	3.6	2.77	25302	899
SCOTT GLOVER	Hall	H	4/27/2020	191	88	84.2	4	3.06	26209	1024
PHIL HARVEY #2*	Putnam	H	3/19/2020	1512	88	82.3	3.7	2.62	25772	929
SCHAAPMAN HOLSTEINS*	Wilcox	H	4/22/2020	710	89	82.2	3.5	2.7	26244	912
EBERLY FAMILY FARM	Burke	H	4/13/2020	1032	88	77.1	3.8	2.7	25077	962
SOUTHERN SANDS FARM	Burke	H	4/14/2020	111	88	76.6	3.8	2.54	22543	828
MARTIN DAIRY L. L. P.	Hart	H	4/2/2020	321	91	75.8	3.9	2.9	23824	920
VISSCHER DAIRY LLC*	Jefferson	H	4/8/2020	851	84	75.3	3.2	2.1	21632	739
OCMULGEE DAIRY	Houston	H	4/25/2020	321	87	74.7	3.5	2.31	21455	794
TROY YODER	Macon	H	3/17/2020	248	88	74.1	4	2.55	24425	942
RODNEY & CARLIN GIESBRECHT	Washington	H	3/31/2020	438	87	73.7	3.8	2.61	18671	713
W.T.MERIWETHER	Morgan	H	4/7/2020	74	88	72.1	3.4	2.31	19500	682
COASTAL PLAIN EXP STATION*	Tift	H	4/17/2020	255	89	70.7	3.7	2.39	21860	865
WHITEHOUSE FARM	Macon	H	3/20/2020	243	89	69.9	3.8	2.5	21603	814
BRENNEMAN FARMS	Macon	H	4/15/2020	55	86	68.9	3.5	2.39	20842	776
HORST CREST FARMS	Burke	H	3/25/2020	180	86	68.3	3.6	2.19	20370	766

[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 - April 2020										
					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	3/30/2020	1190	89	97.9	4.1	3.65	30692	1254
J.EVERETT WILLIAMS*	Morgan	X	4/6/2020	1967	88	88.9	4.7	3.64	27409	1143
DANNY BELL*	Morgan	H	4/10/2020	314	92	89	4	3.32	29695	1170
SCOTT GLOVER	Hall	H	4/27/2020	191	88	84.2	4	3.06	26209	1024
MARTIN DAIRY L. L. P.	Hart	H	4/2/2020	321	91	75.8	3.9	2.9	23824	920
DOUG CHAMBERS	Jones	H	4/27/2020	429	88	86.8	3.6	2.77	25302	899
EBERLY FAMILY FARM	Burke	H	4/13/2020	1032	88	77.1	3.8	2.7	25077	962
SCHAAPMAN HOLSTEINS*	Wilcox	H	4/22/2020	710	89	82.2	3.5	2.7	26244	912
PHIL HARVEY #2*	Putnam	H	3/19/2020	1512	88	82.3	3.7	2.62	25772	929
RODNEY & CARLIN GIESBRECHT	Washington	H	3/31/2020	438	87	73.7	3.8	2.61	18671	713
UNIV OF GA DAIRY FARM	Clarke	X	4/15/2020	125	90	65.8	4.3	2.59	19595	803
TROY YODER	Macon	H	3/17/2020	248	88	74.1	4	2.55	24425	942
ROGERS FARM SERVICES	Tattnall	H	4/14/2020	169	93	57.7	4.7	2.54	17049	715
SOUTHERN SANDS FARM	Burke	H	4/14/2020	111	88	76.6	3.8	2.54	22543	828
BOB MOORE	Putnam	H	3/31/2020	193	90	65.2	4.1	2.52	19216	790
WHITEHOUSE FARM	Macon	H	3/20/2020	243	89	69.9	3.8	2.5	21603	814
FRANKS FARM	Burke	B	3/31/2020	212	87	66.9	4	2.46	19190	777
BOB MOORE #2	Putnam	H	4/8/2020	452	89	60	4.3	2.45	19232	758
SOUTHERN ROSE FARMS	Laurens	H	4/25/2020	95	84	64.9	4	2.44	19535	804
COASTAL PLAIN EXP STATION*	Tift	H	4/17/2020	255	89	70.7	3.7	2.39	21860	865

[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 – May 2020										
					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	5/4/2020	1195	89	99	3.9	3.5	30742	1252
DANNY BELL*	Morgan	H	5/8/2020	324	92	89.3	4.3	3.34	29699	1179
DOUG CHAMBERS	Jones	H	5/22/2020	439	88	89	3.5	2.82	25367	906
J.EVERETT WILLIAMS*	Morgan	X	5/11/2020	1990	87	88.8	4.5	3.44	27426	1157
A & J DAIRY*	Wilkes	H	4/28/2020	423	91	88.5			28759	
SCHAAPMAN HOLSTEINS*	Wilcox	H	4/22/2020	710	89	82.2	3.5	2.7	26244	912
SCOTT GLOVER	Hall	H	5/27/2020	192	89	81.7	3.7	2.76	26388	1031
TROY YODER	Macon	H	4/30/2020	281	88	75.7	3.7	2.44	23959	930
MARTIN DAIRY L. L. P.	Hart	H	5/4/2020	312	91	75.7	3.8	2.78	23861	923
VISSCHER DAIRY LLC*	Jefferson	H	5/6/2020	848	84	75.4	3.2	2.12	21539	731
RODNEY & CARLIN GIESBRECHT	Washington	H	5/14/2020	380	87	74.8	3.9	2.71	18903	729
OCMULGEE DAIRY	Houston	H	4/25/2020	321	87	74.7	3.5	2.31	21455	794
EBERLY FAMILY FARM	Burke	H	5/18/2020	1068	88	74.7	3.8	2.54	24977	957
BOBBY JOHNSON	Grady	X	5/24/2020	570	91	74.4			22080	
HORST CREST FARMS	Burke	H	4/29/2020	183	86	71	3.6	2.24	20444	770
COASTAL PLAIN EXP STATION*	Tift	H	4/17/2020	255	89	70.7	3.7	2.39	21860	865
BRENNEMAN FARMS	Macon	H	4/15/2020	55	86	68.9	3.5	2.39	20842	776
FRANKS FARM	Burke	B	5/4/2020	211	88	66.4	3.9	2.35	19595	791
ALEX MILLICAN	Walker	H	5/12/2020	98	83	65.7	3.1	1.79	17123	582
SOUTHERN ROSE FARMS	Laurens	H	4/25/2020	95	84	64.9	4	2.44	19535	804

[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 – May 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	5/4/2020	1195	89	99	3.9	3.5	30742	1252
J.EVERETT WILLIAMS*	Morgan	X	5/11/2020	1990	87	88.8	4.5	3.44	27426	1157
DANNY BELL*	Morgan	H	5/8/2020	324	92	89.3	4.3	3.34	29699	1179
DOUG CHAMBERS	Jones	H	5/22/2020	439	88	89	3.5	2.82	25367	906
MARTIN DAIRY L. L. P.	Hart	H	5/4/2020	312	91	75.7	3.8	2.78	23861	923
SCOTT GLOVER	Hall	H	5/27/2020	192	89	81.7	3.7	2.76	26388	1031
RODNEY & CARLIN GIESBRECHT	Washington	H	5/14/2020	380	87	74.8	3.9	2.71	18903	729
SCHAAPMAN HOLSTEINS*	Wilcox	H	4/22/2020	710	89	82.2	3.5	2.7	26244	912
RYAN HOLDEMAN	Jefferson	H	5/18/2020	95	93	63.4	4.1	2.56	21147	829
EBERLY FAMILY FARM	Burke	H	5/18/2020	1068	88	74.7	3.8	2.54	24977	957
BOB MOORE	Putnam	H	5/5/2020	173	90	63.2	4.1	2.45	19087	789
SOUTHERN ROSE FARMS	Laurens	H	4/25/2020	95	84	64.9	4	2.44	19535	804
TROY YODER	Macon	H	4/30/2020	281	88	75.7	3.7	2.44	23959	930
BOB MOORE #2	Putnam	H	5/14/2020	415	89	58.2	4.3	2.43	18972	767
COASTAL PLAIN EXP STATION*	Tift	H	4/17/2020	255	89	70.7	3.7	2.39	21860	865
BRENNEMAN FARMS	Macon	H	4/15/2020	55	86	68.9	3.5	2.39	20842	776
FRANKS FARM	Burke	B	5/4/2020	211	88	66.4	3.9	2.35	19595	791
OCMULGEE DAIRY	Houston	H	4/25/2020	321	87	74.7	3.5	2.31	21455	794
HORST CREST FARMS	Burke	H	4/29/2020	183	86	71	3.6	2.24	20444	770
UNIV OF GA DAIRY FARM	Clarke	X	5/19/2020	123	90	60.1	3.9	2.15	19745	815

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Top GA Lows Herds for SCC –TD Average Score – March 2020									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
BRENNEMAN FARMS	Macon	3/2/2020	H	56	20709	1.1	44	1.6	126
FRANKS FARM	Burke	2/24/2020	B	209	18831	1.8	135	2.4	183
DAVE CLARK*	Morgan	3/2/2020	H	1190	30662	2	156	1.8	145
DAVID ADDIS	Whitfield	3/9/2020	H	41	17241	2.1	104	1.4	62
DANNY BELL*	Morgan	3/4/2020	H	312	29547	2.2	140	2.1	159
J.EVERETT WILLIAMS*	Morgan	3/9/2020	X	1960	27342	2.2	163	1.9	146
EBERLY FAMILY FARM	Burke	3/16/2020	H	1036	25084	2.3	157	2.1	166
ALEX MILLICAN	Walker	3/10/2020	H	100	17434	2.3	194	2.3	183
VISSCHER DAIRY LLC*	Jefferson	3/4/2020	H	871	21731	2.4	171	2.3	208
RODNEY & CARLIN GIESBRECHT	Washington	2/20/2020	H	453	18553	2.4	231	2.5	246
UNIV OF GA DAIRY FARM	Clarke	3/18/2020	X	128	19111	2.5	153	2.5	172
DOUG CHAMBERS	Jones	3/23/2020	H	424	25254	2.5	230	2.4	202
COASTAL PLAIN EXP STATION*	Tift	3/21/2020	H	248	21891	2.6	200	3.2	324
PHIL HARVEY #2*	Putnam	3/19/2020	H	1512	25772	2.6	229	2.5	208
WHITEHOUSE FARM	Macon	3/20/2020	H	243	21603	2.6	257	2.7	263
JAMES W MOON	Morgan	3/16/2020	H	129	17543	2.6	278	2.9	270
MASSEY FAMILY FARM, LLC	Hart	3/3/2020	H	117	9710	2.7	226	3	318
JERRY SWAFFORD	Putnam	3/25/2020	H	139	18848	2.8	178	3	217
RYAN HOLDEMAN	Jefferson	3/12/2020	H	95	21500	2.8	274	3.1	329
BERRY COLLEGE DAIRY	Floyd	3/9/2020	J	38	16396	2.9	183	2	93

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Top GA Lows Herds for SCC –TD Average Score – April 2020									
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	4/7/2020	H	40	16982	1.1	32	1.4	61
BRENNEMAN FARMS	Macon	4/15/2020	H	55	20842	1.5	105	1.6	130
BERRY COLLEGE DAIRY	Floyd	4/8/2020	J	34	16141	1.7	51	2	90
FRANKS FARM	Burke	3/31/2020	B	212	19190	2	165	2.3	171
RODNEY & CARLIN GIESBRECHT	Washington	3/31/2020	H	438	18671	2.2	148	2.4	230
J.EVERETT WILLIAMS*	Morgan	4/6/2020	X	1967	27409	2.2	170	2	148
EBERLY FAMILY FARM	Burke	4/13/2020	H	1032	25077	2.2	172	2.1	166
VISSCHER DAIRY LLC*	Jefferson	4/8/2020	H	851	21632	2.3	145	2.4	204
DANNY BELL*	Morgan	4/10/2020	H	314	29695	2.3	150	2.1	154
SOUTHERN SANDS FARM	Burke	4/14/2020	H	111	22543	2.3	169	2.3	164
EUGENE KING	Macon	3/31/2020	H	122	19069	2.3	184	2.3	198
DAVE CLARK*	Morgan	3/30/2020	H	1190	30692	2.3	221	1.9	152
SCHAAPMAN HOLSTEINS*	Wilcox	4/22/2020	H	710	26244	2.5	200	2.5	196
DOUG CHAMBERS	Jones	4/27/2020	H	429	25302	2.5	227	2.4	208
RUFUS YODER JR	Macon	4/17/2020	H	174	20619	2.5	249	2.6	243
SCOTT GLOVER	Hall	4/27/2020	H	191	26209	2.6	151	2.6	196
UNIV OF GA DAIRY FARM	Clarke	4/15/2020	X	125	19595	2.6	182	2.5	173
PHIL HARVEY #2*	Putnam	3/19/2020	H	1512	25772	2.6	229	2.5	208
WHITEHOUSE FARM	Macon	3/20/2020	H	243	21603	2.6	257	2.7	263
COASTAL PLAIN EXP STATION*	Tift	4/17/2020	H	255	21860	2.7	222	3.1	319

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UGA extension

Top GA Lows Herds for SCC –TD Average Score – May 2020									
Herd	**County**	**Test Date**	**Br.**	**[1]Cows**	**Milk-Rolling**	**SCC-TD-Average Score**	**SCC-TD-Weight Average**	**SCC-Average Score**	**SCC-Wt.**
BRENNEMAN FARMS	Macon	4/15/2020	H	55	20842	1.5	105	1.6	130
BERRY COLLEGE DAIRY	Floyd	5/11/2020	J	32	15892	1.7	56	2	83
DAVID ADDIS	Whitfield	5/11/2020	H	38	16676	1.7	83	1.4	58
DOUG CHAMBERS	Jones	5/22/2020	H	439	25367	1.7	155	2.3	208
ALEX MILLICAN	Walker	5/12/2020	H	98	17123	1.9	123	2.3	173
EBERLY FAMILY FARM	Burke	5/18/2020	H	1068	24977	2	169	2.2	171
FRANKS FARM	Burke	5/4/2020	B	211	19595	2.1	185	2.2	167
DAVE CLARK*	Morgan	5/4/2020	H	1195	30742	2.1	188	1.9	154
ROGERS FARM SERVICES	Tattnall	5/20/2020	H	170	17209	2.1	217	3.2	332
SCOTT GLOVER	Hall	5/27/2020	H	192	26388	2.2	160	2.6	192
MARK E BRENNEMAN	Macon	5/2/2020	H	139	19316	2.2	170	2.6	289
VISSCHER DAIRY LLC*	Jefferson	5/6/2020	H	848	21539	2.2	174	2.4	199
J.EVERETT WILLIAMS*	Morgan	5/11/2020	X	1990	27426	2.2	181	2	146
EUGENE KING	Macon	5/2/2020	H	124	19179	2.2	192	2.3	209
RODNEY & CARLIN GIESBRECHT	Washington	5/14/2020	H	380	18903	2.3	226	2.6	249
SCHAAPMAN HOLSTEINS*	Wilcox	4/22/2020	H	710	26244	2.5	200	2.5	196
TROY YODER	Macon	4/30/2020	H	281	23959	2.5	208	2.8	205
RUFUS YODER JR	Macon	4/17/2020	H	174	20619	2.5	249	2.6	243
JERRY SWAFFORD	Putnam	5/25/2020	H	139	18903	2.6	137	2.9	207
DANNY BELL*	Morgan	5/8/2020	H	324	29699	2.6	179	2.1	152

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