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GEORGIA DAIRYFAX

Dear Dairy Producers:

The enclosed information was prepared by the University of Georgia Animal and Dairy Science faculty in Dairy Extension, Research & Teaching. We trust this information will be helpful to dairy farmers and dairy related businesses for continued improvement of the Georgia Dairy Industry.

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Sincerely,

Shea Tao

Associate Professor

UGA extension

UGA closes Dairy Research Center

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Dairy Nutrition and Management
Animal and Dairy Science – Tifton

The College of Agricultural and Environmental Science at the University of Georgia announced plans to close the Dairy Research Center on the Tifton Campus on Friday, September 4, 2020. This comes after several years of depressed milk prices which reduced revenues for operating the dairy and the state mandate to cut budgets due to reduced revenue collections. All animals will be sold as soon as possible. Dr. Bernard will retire at the end of October and Dr. Tao will be relocated to Athens.

Dairy research on the Coastal Plains Experiment Station (CPES) began in 1933 with a foundation herd of 28 purebred Jersey and 9 crossbred cows. In 1940, a new 40 stall stanchion barn was built along with a processing plant to provide milk to the Abraham Baldwin Agricultural College (ABAC) dining hall, staff at both CPES and ABAC, plus a retail route in Tifton. Garrett Jones was hired in 1947 to manage research at the dairy until his departure in 1951. Dr. Joe C. Johnson joined UGA in 1951 working in genetics and later on in forage quality. The first Holstein heifers were purchased in 1971. Dr. Larry Newton was hired in 1973 to work in the area of waste management and general nutrition. Funding was provided by the state to move the dairy operation from what is now the ABAC campus to its present location in 1975 in what were then state-of-the-art facilities. Dr. Joe West joined the faculty in 1986 to work in dairy nutrition and heat stress. Dr. West, along with the Georgia dairy industry, worked to get funding to build the current 250 cows facility. After being line item vetoed twice, the Dairy Research Center was opened in 1998. Dr. John Bernard was hired in 1998 as part of the funding to increase dairy research and focused on dairy nutrition and forage research. Dr. Sha Tao was hired in 2014 to work in heat stress physiology, replacing Dr. West who became the Assistant Dean of the Tifton Campus in 2008.

The Tifton dairy faculty and staff worked to address problems facing dairy producers in Georgia and the Southeast. Other faculty from Animal and Dairy Science, Crop and Soil Science, Agricultural Economics, and College of Veterinary Medicine also conducted research at the dairy over the years. Some of the topics addressed: nutritional strategies to reduce heat stress; improved heat stress abatement; waste management information used today for developing nutrient management plans; triple crop forage systems; utilization of various byproduct feeds; transition cow health; effectiveness of different commercial additives and supplements; improved dairy nutrition for cows and calves; and new pharmaceuticals to improve cow health. Information from this research has been used by nutritionist and producers throughout the world. In addition to this applied research, additional basic research was conducted to provide information on how heat stress changes the physiology of the cows that will potentially lead to improved management practices or new products. Several commercial products in development were also evaluated in research trials, some of which are in use today and some of which did not work and never made it to market.

There are many students who worked at the dairy during their time at ABAC or UGA. Some have gone on to own or work on dairies, others are working in allied industry or teaching vocational ag, and some have gone a completely different way after learning how hard dairy producers work each day. The Tifton Dairy also provide an opportunity for veterinary students to get first-hand

experience working with dairy cattle.

The research conducted here would not have been possible without the support of dairymen who contributed to the SE Milk Checkoff, Georgia beef and cotton commodity programs, Cotton Incorporated, numerous agribusiness groups, and grants from the state of Georgia and USDA. Over the years we have had many excellent employees who have contributed to dairy operations of the dairy and research trials and what has been accomplished over the years would not have been possible without them.

Forage are critical

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Forages have always been an integral part of the feeding program for dairy cows. As a ruminant, the dairy cow needs forage in her diet. Whether the forages are grazed or fed as preserved feeds, they are critical to the success of the dairy cow and the dairy farm.

With the introduction of the proximate analysis system for feed evaluation, scientific feeding of dairy cows began. The composition of feeds could be determined (Crude Fiber, Crude Protein, Ether Extract and Minerals) and the requirement for the dairy cow was determined in these values. Through the years the system has been refined and our cows have improved but forages are still critical to our success.

Using corn silage, sorghum silage, alfalfa hay and bemudagrass hay, rations were calculated to show the value of forage quality and availability. Table 1 shows the composition and price of the four forages. The prices are from production budgets and do not reflect a market value. Your price can and probably will be different.

Rations were balanced for 1350 pound cow producing 60 pounds of 3.6% fat milk and 155 days in milk. The price of milk is $18.00/cwt. The concentrate mix used the amount necessary to balance the ration for each forage using the following ingredients with their prices: ground corn $3.25/bu; soybean meal 48 $285.00/ton; whole cottonseed $210.00/ton; corn gluten feed $165.00/ton; soyhulls $110.00/ton; limestone $65.00/ton; dical phosphate $320.00/ton; TM salt $140.00/ton and dynamate $100.00/ton. Your prices may vary from these.

Table 2 shows the rations and costs for each forage. The rations were balanced with only one forage. Forage quality of each forage was correlated with the amount fed and the forage and concentrate ratio of the ration. Alfalfa hay has an advantage because of the protein content and the mix of concentrate and protein sources.

What if the forage quality could be improved from the values in Table 1? If one could harvest the crop to get a 10% increase in crude protein, 10% increase in NEL and 10% decrease in NDF, how would the ration change with increased forage quality? Table 3 shows the rations with the increased forage quality. The result was decreased ration costs and increased IOFC for each forage. This was accomplished by increasing the forage and decreasing the concentrate except for sorghum silage. The sorghum silage ration was cheaper because it could feed more of the cheaper grains.

Over the years in the Southeast, the amount of forage produced was limited. The full amount of the forages to be fed were not available. On Table 4 rations are shown where the amount of forage was limited. For corn silage, alfalfa hay and bermudagrass hay the amount available was approximately 50% of the first rations. Sorghum silage was only cut 20% to maintain a minimum forage value for rumen function. With the limited amount of forage, ration cost increased as more concentrate was fed and IOFC decreased. Not only the quality of forage is critical but the quantity of forage available is critical.

An observation I have made over the years is that one of the indicators or signs of success in the dairy business is the availability of forage for the dairy. Farms that have more than a year's

supply can weather the short crop years without paying premiums for forage and have the ability to feed different quality forage to different groups.

Forages are critical to the success of the dairy cow and the dairy farm.

Table 1. Forages and Composition Used in the Rations

Forage	$/ton	DM%	NDF%	CP%	NEL
Corn Silage	25	30	51	9	.67
Sorghum Silage	30	28	58	8	.56
Alfalfa Hay	85	89	43	19	.60
Bermudagrass Hay	40	87	72	10	.55

Table 2. Ration Cost and Amount Feed

Forage	#/da	FiC	#Concentrate	Feed $	IOFC
Corn Silage	92.2	65:35	16.4	2.92	7.88
Sorghum Silage	39.2	36:64	33.6	3.26	7.54
Alfalfa Hay	40.7	80.20	10.3	2.50	8.30
Bermudagrass Hay	20.0	40:60	29.4	2.78	8.02

Table 3. Increased Forage Quality

Forage	#/da	FiC	# Concentrate	Feed $	IOFC
Corn Silage	102.8	74:26	12.2	2.84	7.96
Sorghum Silage	36.1	37:63	37.7	3.22	7.58
Alfalfa Hay	43.4	88:12	5.7	2.29	8.51
Bermudagrass Hay	20.0	40:60	28.9	2.71	8.09

Table 4. Limited Forage Availability

Forage	#da	FiC	# Concentrate	Feed $	IOFC
Corn Silage	40	42.58	30.4	2.99	7.81
Sorghum Silage	30	38:62	34.7	3.23	7.57
Alfalfa Hay	20	55:35	23.7	2.67	8.13
Bermudagrass Hay	10	38:62	34.2	2.88	7.92

Dairy dawg and youth updates

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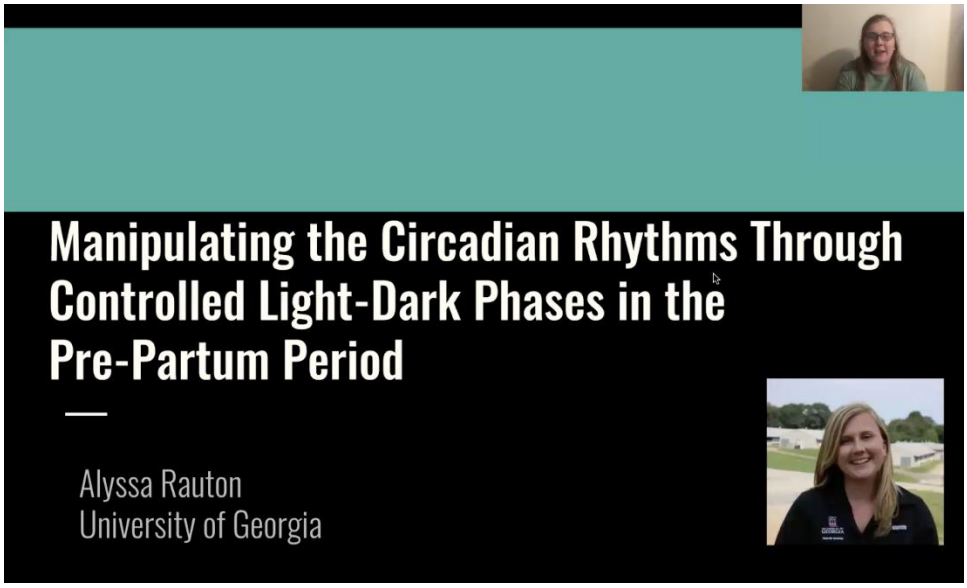
University of Georgia Students Attend (Virtually) the American Dairy Science Association Meetings

This year has certainly been one of unprecedented challenges. The way we meet and interact with others has taken on a new dimension with focus in the virtual realm. This was no different for this year's American Dairy Science Association meetings, which convened virtually June 22nd – 24th to host events from the Student Affiliate Division (SAD) to networking opportunities to late breaking research in the area of Dairy Science. The delegation that was set to attend from the University of Georgia remained committed to the event and participated in virtual competitive events, roundtables, scientific sessions and informal times to network with their peers. Though unlike any other, this year's ADSA-SAD meeting was still one filled with learning, new friends, and tremendous opportunities to build professional skills. Below are some of the top achievements from this year's UGA attendees:

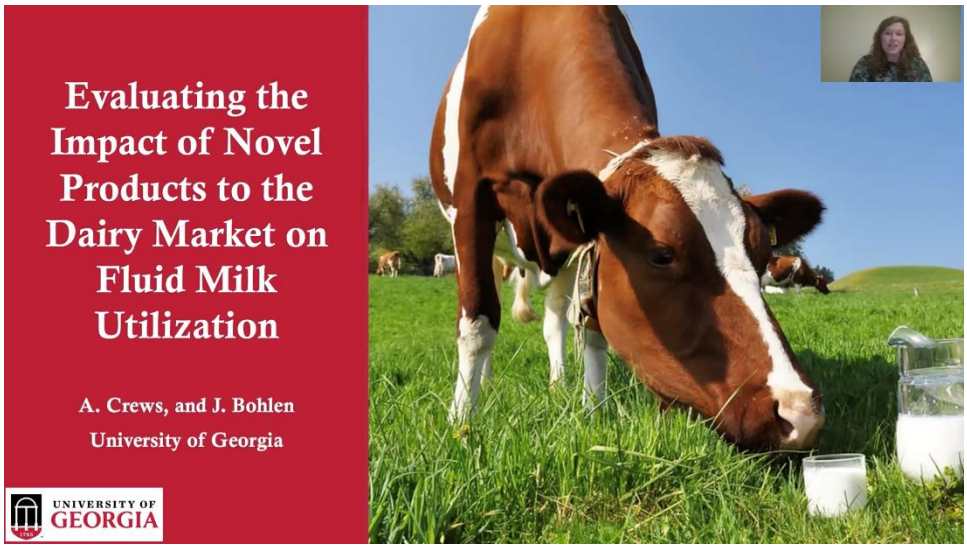
3rd place Annual Report, a document that details every event Dairy Science students at UGA have complete over the last year

3rd place Website, https://ugadsc.wixsite.com/ugadsc

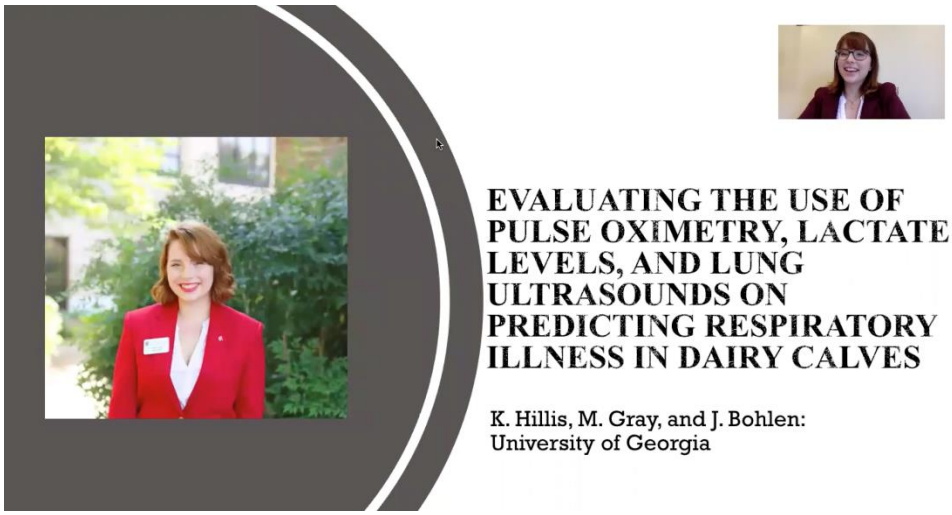
3rd place Dairy Production presentation, presented by Alyssa Rauton and titled "Manipulating circadian rhythms through controlled light-dark phases in the prepartum period on cow lactation performance".



2nd place Dairy Foods presentation, presented by Audri Crews and titled "Evaluating the impact of novel products to the dairy market on fluid milk utilization".



Our highest honors were the 1st place undergraduate research presentation, presented by Kenne Hillis and titled "Evaluating the use of pulse oximetry, lactate levels and lung ultrasounds in predicting respiratory illness in dairy calves".



If you would like to view this presentation made by Kenne, please visit the url below. This will give you a sneak peak into research opportunities for students in the area of dairy science as well as what one of these national presentations entails.

https://kaltura.uga.edu/media/t/1_asg7uub2

The University of Georgia is also incredibly proud to announce that Alyssa Rauton was elected to serve as the President for the ADSA-SAD organization in the 2020-2021 year.

Though the meeting was certainly unconventional, the experience was still incredibly rewarding. As their advisor, I am incredibly proud of each of them for not only the accolades they received but for still participating in events that support and add value to the U.S. Dairy Industry.

4-H Dairy Youth Continue to Shine in Competitive Events

Youth in the dairy programs remained incredibly dedicated to competitive events in the 4-H program. Their dedication to these programs really epitomizes each of the 4 H's – loyal to the event, knowledge and work to lift up the dairy industry and doing so in a way that promoted health for all of those around them. Thought the events certainly looked different, the exceptional quality and caliber of dairy youth remained evident.

State 4-H Dairy Quiz Bowl Results

Held on June 5th as an online test for Seniors only.

The winners of the 2020 Georgia 4-H Dairy Quiz Bowl are:

First Place Team: Amare Woods, Jordan Daniels, Lydia Connell, Dana Wells and Seth Jones-Tift County.

Second Place Team: Kalani Washington, Alicia Carnes, Leah Szczepanski, Lexi Pritchard, Alyssa Haag and Lilly Ann Smith-Oconee County.

Third Place Team: Bella Fisk, Michael Whitlock, Alexa Hillebrand, Leopold Joh, Colton Swartz and Anthea Shelton-Coweta County.

The winning team from Tift County is competing in the virtual North American Dairy Educational Experience. This new event will release mini scenarios for evaluation every few weeks between September 4th and November 6th. Though only one team can compete, others are getting to participate in the experience as non-competitive teams.

State 4-H Dairy Judging Results

Held on July 14th as a virtual contest where Seniors judged 5 classes and gave two sets of reasons and Juniors judged 5 classes with no reasons.

The winners of the 2020 Georgia 4-H Dairy Judging contest are:

Seniors:

- First place team: Emma Newberry, Lexi Pritchard and Neely McCommons — Oconee County
- Second place team: Michael Whitlock, Colton Swartz and Bella Fisk — Coweta County
- Senior High Individual: Noel Pickel — Morgan County

Juniors:

- First place team: Andrew Gardner, Maggie Harper and Landon Gardner — Morgan County
- Junior High Individual: Sarah Morgan Sapp — Burke County

Drug and vaccine storage: protect your investment

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Pharmaceutical products (vaccines, antimicrobials, other injectable or oral drugs, fly control products, dewormers, intramammary tubes, teat dips, etc.) represent a large investment that helps to decrease the incidence of disease, mitigate the severity of disease, and improve animal health and productivity. When handled and used correctly, they are predictably safe and efficacious, and are usually cost-effective. However, improper storage of these can not only reduce their effectiveness, but also increase the risk of adverse reactions or inappropriate use of these medications. Proper and orderly storage of pharmaceuticals also reduces the inventory shrink that happens when drugs go out of date, containers are broken, or products disappear.

Inventory

Managing an appropriate inventory of drugs ensures that certain products are available when needed, and unnecessary stocking of underutilized products does not tie up excess cash resources. Few farms have an active inventory management system in place, and just order things when they are close to running out (or after they run out). In a perfect world, the drug inventory would be tracked along with disease incidence information, which may allow for timely ordering and appropriate inventory stocking.

A great time to review the drug inventory is when reviewing the animal health protocols or standard operating procedures (SOPs) on an annual or semi-annual basis. Every drug on the shelf should be tied to an SOP, and every product on an SOP should be in inventory in an amount consistent with disease incidence and the ability to restock shelves when necessary.

Most dairies are careful about orderliness, expiration dates, and proper drug labeling for their lactating cow drugs because of periodic regulatory inspections, but we have witnessed that this may not be the case on other areas of the farm, where inspectors may not routinely look. Drugs stored in calf barns, heifer working facilities, and in vehicles often get lost, broken, or forgotten about. This leads to excessive product utilization or wastage which may be a significant opportunity cost on some dairies.

Access to the drug storage rooms should be limited to trained employees. Many of the products utilized on farms do have some risk to animals or individuals on the dairy and should always be used with caution. Additionally, all treatments should be administered and recorded by trained herd-health personnel in an effort to provide appropriate and timely treatment while reducing the risk of milk or meat violative residues on the farm.

Cleanliness and orderliness

Medications should be stored according to their utilization category with medications stored for non-lactating cows kept isolated to prevent inadvertent use that may create violative milk and meat residues. Areas for storage should be well-lit, so that it is easy to read product labels to avoid inappropriate use of medications. Additionally, many product bottles look very similar and it may

be necessary to label shelf space for individual products.

Drug carts and totes are a convenient way to carry drugs from the storage area to the animals, but can quickly become disorganized. At the end of a treatment day, all drug storage carts and totes should be cleaned and restocked for the following day. Used needles should be discarded in approved sharps containers to avoid needlesticks. All used single use syringes should be discarded and re-usable syringes should be cleaned and dried. If re-usable syringes are utilized for vaccine delivery, the syringe should be cleaned with hot water and thoroughly rinsed and should not be cleaned with disinfectants as this may inactivate vaccines.

Protective sleeves should be used to reduce the risk of breaking glass bottles. Many large volume bottles provide product at a much cheaper price per dose, however breaking one bottle will often eliminate any potential savings. Bottle sleeves are often available from product distributors or manufacturers and should be utilized whenever possible.

Medications should be stored inside a building or cabinet with a secure latch to prevent build-up of dust, debris, or manure on the bottles. If the cap of the bottle is visibly dirty, it can be cleaned with 70% alcohol wipes prior to withdrawing medication. Cattle are much more tolerant than other animals to dirty injections, however they can develop abscesses or other adverse reactions to contaminated products and administration equipment. Additionally, the re-use of syringes and needles increases the risk of spread of contagious diseases such as Bovine Leukosis and Anaplasmosis.

Most medication bottles are rated for a certain number of punctures through the rubber cap, and exceeding those recommendations may lead to product wastage, evaporation, or bottle contamination. For large, multi-dose bottles, it may be necessary to use a tube-fed automatic syringe with a draw-off spike which should not be removed until the bottle is emptied. Leaving needles in bottles allows an easy route for contamination of the product. Multi-use bottles should only be punctured with new clean needles to avoid additional contamination.

Figure 1. *Examples of improper drug storage. A. Needle left in bottle; B. Severely contaminated sterile water; C. Intravenous fluids stored in animal areas and covered in manure; D. Drug stored in parlor on milk pipeline.*

Heat stress

Even if they do not require refrigeration, many products can be damaged by exposing them to high temperatures. The label on these products often recommends storage at room temperature (59°-86°F or 15°-30°C). Unless they are stored in air-conditioned rooms, this is very hard to maintain in the summertime. Because this damage is cumulative, drugs that must be used in outdoor environments should be stored there for the least amount of time possible. Medications stored in vehicles are at increased risk of heat damage as vehicular temperatures often soar over the ambient air temperature. For some products, evaporation over time may increase the concentration of the active ingredients and simultaneously increase the risk of adverse reactions occurring.

Refrigeration

The monetary investment that is stored in the farm refrigerator often far outweighs the quality or reliability of that refrigerator. We have seen too many hand-me-down household refrigerators with thousands of dollars of vaccines and pharmaceuticals stored inside. These household refrigerators, especially if the doors do not seal well and they are old and have dirty cooling systems, may not be maintaining the correct temperature or quickly recovering that temperature after they are opened. If these refrigerators are utilized for storing vaccines and there is an issue with stability of the product, it could lead to significant production losses in the event of disease challenge. The risk of having a refrigeration failure is not just in the cost to replace the products inside, but also in the increase in disease costs if there is unidentified issues associated with storage. Vaccines that have lost efficacy can increase the risk of disease occurring, which may not be seen for many months later.

We recommend the use of wireless recording high-low thermometers to monitor refrigerators and their valuable contents. These monitoring devices can be fairly inexpensive, and some pharmaceutical companies offer them at little or no cost to their customers. One simple step to help ensure safety during medication storage is to maintain a daily temperature log, recording the high and low temperatures the refrigerator experiences. Once you know the current temperature of the refrigerator, you can then dial in the settings to match the recommendation on the product label. Most vaccines recommend a temperature of 35°-45°F (2°-7°C). Freezing these products or storing them at higher temperatures may render them completely ineffective, or may actually increase the risk of adverse reactions. In some vaccines that contain Gram negative bacteria, freezing or overheating can release more endotoxin (LPS), which can cause serious side effects in animals. Care should also be taken to avoid storage on the top shelf of a refrigerator (where the very cold air outflow could freeze products) or in the door of the refrigerator as it often experiences significant temperature fluctuations.

Recommended Action Items

- Work with your veterinarian to develop Standard Operating Procedures (SOPs) for disease treatment and prevention if not already in place.
- Begin by organizing and inventorying your current pharmaceutical drugs and vaccines.
- Discard expired products and any products that appear to have changed color or have debris present in the bottle, indicating potential contamination.
- Compare drug inventory with SOPs and update each as needed.
- Develop a plan for how much inventory to have on-hand, and what other locations on the farm will hold inventory (calf barn, etc.).

- Evaluate the quality of refrigeration equipment (temperature recording) and the risk and cost of failure of that equipment.
- Assign the responsibility of pharmaceutical inventory and management to one person and create a schedule of actions to ensure the investment is well managed.
- Evaluate treatment records and determine if there is potential waste of product or loss of inventory.

Finding the best fit synchronization program

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If there is one thing well understood in the dairy community, it is that there is no one size fits all when it comes to management. What works for one producer may not work as well or at all for another. So many variables including the animal, environment, labor, technologies, etc. alter what works best in each situation. When it comes to reproductive program development the story line is no different. Using synchronization programs, beef on dairy, technologies and other methodologies change from unit to unit. The information herein aims to help the producer, if using synchronization programs, determine what is their "best fit".

If choosing to utilize synchronization, it is pivotal to understand what the management and the animals need and which program(s) best fit those needs. Producers need to initially think of which type of program they want to implement - estrous synchronization or ovulation synchronization. This decision will ultimately hinge on animal variables, available labor, heat detection capabilities and ease of animal handling.

Estrous synchronization means synchronizing when an animal is in heat with the goal being to reduce the time needed to check heats and to potentially improve estrous or heat expression in a group of animals. Ovulation synchronization or timed artificial insemination (TAI) takes it a step further in that you are attempting to synchronize or time when the animal will actually ovulate. This removes the need for estrous expression and heat detection. Below is a short summary on considerations when determining which program to implement.

Estrous Synchronization:

- Estrous synchronization typically has fewer handling times in the synchronization program schedule.
- Heat activity prior to insemination gives greater "inseminator confidence" as the cervix usually has tone and other factors are present such as mucous discharge.
- Most useful in animals that are cycling and exhibiting heats activity.

Timed Artificial Insemination:

- TAI programs allow you to remove the labor expense and potential inaccuracy with heat detection. Your insemination or submission risk on a synchronized group of animals literally becomes 100.
- Adhering to the exact timing of TAI programs is far more imperative than with estrous synchronization programs. That is not to say that timing is unimportant with estrous synchronization but that small alterations, especially in the latter sequence of shot in a TAI program, can have much larger impacts on success.
- Many animals will not exhibit heat or have the secondary characteristics of an animal in heat such as cervical tone and/or mucus. This most often results because of a forced ovulation prior to reaching a threshold level of estrogen production.
- The programs generally used for TAI have a greater propensity to naturally deal with reproductive issues in the herd from animals that may be anestrus (not showing heats) or anovular (no ovulating).

Combination Approach:

- One may consider starting cows at or just after the VWP with no synchronization program or estrous synchronization and then shift to TAI at a certain threshold DIM. An example would be putting cows on a weekly or biweekly prostaglandin with heat detection until 100 DIM at which point cows with no insemination event or an open code would roll into a TAI program.

The next thing to think about is with regard to hormones utilized as part of the synchronization program. Needs and wants may help determine which ones you use versus those that you cut out. Reality is that the hormones and the sequence of those hormones have different impacts on different groups of animals. Throwing the kitchen sink at a group of animals might just be what some of them need but inherent overkill on others. On the other side, a single shot program may cheaply get you to insemination on a number of animals while leaving others without a breeding event. So knowing the animals and their needs can ultimately impact the success of the program you use both in terms of pregnancies and finances. Below are some considerations for the various hormones used in synchronization programs.

Prostaglandin F2α (PGF):

- Purpose is to lyse the Corpus Luteum (CL) to remove the progesterone block. This then allows for increased follicular growth and hopefully estrus and ovulation.
    - With the standard estrous cycle length of 21 days, a single prostaglandin injection will prove effective in those animals around days 6 – 16 of their cycle. Those that are day 17 are likely already regressing the CL.
    - Thus, a single injection will impact, in general, 55-60% of a cycling herd.
- Useful in herds that may need help with uterine cleaning prior to the end of the VWP.

Progesterone (P)

- Mimics the CL and will prevent sufficient follicular growth for estrus and ovulation.
- When added to a PGF program can improve tightness of animal synchrony in estrous synchronization programs.
- Has the ability to assist animals that are anovular particularly when used in a TAI program.
- Is the most expensive singular component added to a synchronization program.

Gonadotropin Releasing Hormone (GnRH)

- Works to force ovulation and/or initiate a new follicular wave.
    - Therefore, you will see GnRH used at the beginning of a program to initiate a new follicular wave and improve synchrony of animals or at the conclusion of a program to force ovulation around time of insemination.
- Often not effectively used alone. The only time the author uses GnRH alone is when breeding off natural or induced heat as an “insurance program” to increase the likelihood of ovulation occurring around the time of breeding.
- GnRH is an effective treatment with or without progesterone for many anovular animals.

Finding the right program really is up to the each farm's management and animals. Factors from animal variables, labor, and available technologies should all influence the decision to find the "best fit". Once you think you have it narrowed down a little, a useful resource is the Dairy Cattle Reproductive Councils "Protocols" page. Available in both English and Spanish at https://www.dcrcouncil.org/protocols/ this resource provides some tried and true synchronization programs for both cows and heifers.

Resource to assess teat condition in lactating cows

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A couple of years ago, the National Mastitis Council (NMC) released a new online resource to allow more rapid and comprehensive assessments of teat conditions. The Teat Condition Portfolio (TCP) is available to members of the NMC. The TCP is a collection of images that can be used cow-side to determine the potential origin or source of negative changes to teat condition. Collections include images that represent teat conditions as a result of environmentally-induced changes, infection-induced changes, machine-milking induced changes, as well as some images that represent "typical" teats. While I encourage you to explore NMC if you are not currently a member, and of course utilize the TCP, below I will highlight information compiled by NMC regarding evaluating teat condition. Note that the information being discussed below is available to members of NMC and as part of the TCP. Please reach out if you need assistance in assessing teat conditions, damage, etc.

Environmentally-induced changes involve a wide array of potential causes. The list below is abbreviated from resources provided by NMC.

- Roughness
  - Three levels can be identified, 1) smooth with no friction, 2) noticeable friction when running finger along teat, and 3) significant friction and typically flaking skin.
  - Observance may need to occur prior to attachment of the milking unit because the milk film may mask initial roughness.
- Chapping (Figure 1)
  - Chapping is largely associated with inadequate teat dip application, or inadequate concentrations of emollients (such as glycerol) in teat dips.
  - This change could also be caused by drying of wet teats particularly during periods of cold, windy weather, abrasions caused by dirt/debris on teats, and hardened liners or forceful unit removal.

Figure 1: *Chapped teat (Photo source: NMC Teat Condition Portfolio)*

- Insect damage (Figures 3 and 4)
  - Biting and blood sucking flies are the most common pest that contribute to teat wounds, especially in heifers and dry cows. Notably many of these flies also contribute to increased mastitis, especially *Staphylococcus aureus* mastitis.
- Chemicals (Figures 5 and 6)
  - Chemical irritation is usually the result of either a dip formulated/mixed incorrectly or an acidic/alkaline solution used inadvertently.

Figure 2 (left): *Normal, healthy heifer teat*
Figure 3 (center): *Heifer teat with fly bite lesions that have scabbed over*
Figure 4 (right): *Heifer teat with fresh, bloody fly bite lesions*

Figures 5 and 6: *Chemical irritation on teats (Photo source: NMC Teat Condition Portfolio)*

Infection-induced changes encompass infectious agents, such as viruses, fungi, and bacteria. These infectious agents may cause mastitis, such as some bacterial skin infections. Viral lesions are not as frequently identified in current herds, but should there be a diagnosis, animals need to be addressed immediately and aggressively due to their highly contagious nature. Again, the list below is abbreviated from resources provided by NMC.

- Viral lesions
  - While rare in developed dairies, viral lesions caused by an array of agents are possible and appearances vary as shown in the figures 7-9.
  - The most common viral diseases that cause teat lesions include pseudocowpox which can also spread to humans, herpes mammillitis, papilloma, and foot and mouth disease.

Figure 7 (left): *Pseudocowpox*
Figure 8 (center): *Herpes mammillitis*
Figure 9 (right): *Papilloma*
(Photo source: NMC Teat Condition Portfolio)

- Ringworm
  - Ringworm, caused by a fungus, is more often recognized by physical changes on the skin/hide of the animals, but similar changes can also be found on teats. Since this condition is highly contagious and transmissible to humans, care should be taken when milking animals identified to have ringworm.
- Bacterial skin infections
  - The skin of the teat can become infected with bacteria that also cause mastitis, such as *Staph. aureus* or *Streptococcus dysgalactiae*. Typically, these infections occur when there are existing lesions caused by chapping, abrasions, or cuts.
  - Unless severe, dips used for pre and post-dip should be effective in treating the wounds, however, if concerned a veterinarian should be contacted.

Machine-induced changes are the most widely considered and observed when assessing teat conditions. Machine-induced changes should be assessed AFTER the milking unit is removed.

- Short-term changes (single milking) are typically a result of overmilking, heavy milking clusters, high vacuum, incorrect pulsation, or inappropriate teat liner shape or size.
- Short-term changes include:
  - Color: Reddening or more severe blue/purple-coloration (figures 10 and 11).
  - Swelling: Swelling at the top of or centrally on the teat. In severe cases, you can observe a ring on the barrel of the teat.
  - Swelling/hardness at the teat end
  - Teat opening: A teat open more than 2 mm greatly increases the chance for entry of bacteria into the teat. For your comparison, NMC offers a visual clue that if the teat opening is similar to that of a match head, this indicates severe openness (>3 mm) of the teat after milking.

Figure 10: *Teat appears red after milking. Also shows raised ring, discussed below*
Figure 11: *Top of teat appears blue/purple*
(Photo source: NMC Teat Condition Portfolio)

- Medium-term changes (days to weeks)
  - Skin condition: Scaly/flaking skin or open lesions may be caused by the environment or by infections, but worsened by milking machines
  - Vascular damage (figure 12): Pin-prick red spots on teats, known as petechial hemorrhages, may indicate a failure in milking machine function particularly pulsation failure, high vacuum, or overmilking.
- Long-term changes (weeks to months)
  - Hyperkeratosis is the result of long-term stresses. When assessing teats for hyperkeratosis, the following scores are

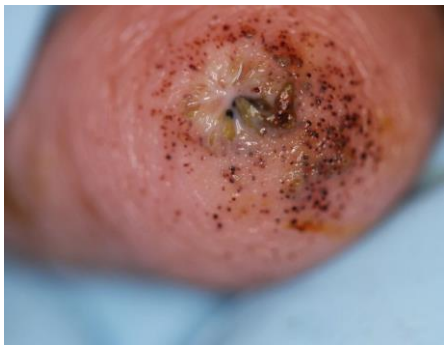

Figure 12: *Petechial hemorrhaging of teat end*
(Photo source: NMC Teat Condition Portfolio)

assessed: 1 or no ring, 2 or smooth/slightly raised rough ring, 3 or rough ring, and 4 or very rough ring (figures 13-16).

- Either 80 cows or 20% of the herd should be scored (whichever is greater) to determine whether hyperkeratosis is a concern in your herd.
- Ideally, you should score cows from multiple groups (varying DIM, levels of milk production, or number of lactations) to determine if there is a particular area of concern.

For short-, medium-, and long-term changes to the teats, NMC offers the following guidelines in Table 1 below.

Figure 13: (far left): *Score of 1, No ring*
Figure 14: (2nd from left): *Score of 2, Smooth or slightly raised ring*
Figure 15: (2nd from right): *Score of 3, Rough ring*
Figure 16: (far right): *Score of 4, Very rough ring (VR)*
(Photo source: NMC Teat Condition Portfolio)

Table 1. *Guidelines for management interventions for short-, medium-, and long-term changes in teat condition*

CONDITION	MINIMAL CRITERIA TO CONSIDER INTERVENTION (% OF COWS)	SHORT (ST) VS. MEDIUM (MT) VS. LONG-TERM (LT) EFFECT
COLOR	>20% with reddened or blue teats*	ST, MT
SWELLING AT OR NEAR TOP OF TEAT	>20% with swelling or rings at or near top of teats*	ST, MT
SWELLING/HARDNESS AT TEAT END	>20% with swelling, firmness at teat end*	ST, MT
OPENNESS OF TEAT ORIFICE	>20% with teat orifices open*	ST, MT
VASCULAR DAMAGE	>10% with petechial hemorrhaging*	ST, MT
TEAT SKIN ROUGHNESS	>5% with rough teat skin or visible lesions (chapping, etc.)**	MT, LT
TEAT END HYPERKERATOSIS	>20% with at least one R teats (score of 3) or >10% of cows with VR teats (score of 4)	MT, LT

*After milking
** Roughness may need to be observed prior to milking due to milk film left on teat after milking unit removal.
Source: Adapted from Mein et al., 2001

References

1) Hillerton, JE, Mein, GA, Neijenhuis, F, Morgan, WF, Reinemann, DJ, Baines, JR Ohnstad, I, Rasmussen, MD, Timms, L, Britt, Farnsworth, R, Cook, N. and T. Hemling. Evaluation of bovine teat condition in commercial dairy herds: 5. Environmental factors. Teat Club International, c/o Institute for Animal Health. Compton, UK.
2) Hillerton, JE, Morgan, WF, Farnsworth, R, Neijenhuis, F, Baines, JR, Mein, GA, Ohnstad, I, DJ Reinemann and L. Timms. Relationship between teat-end callosity or hyperkeratosis and mastitis. "Teat Club International", Institute for Animal Health, Compton, UK.
3) Mein, GA, Neijenhuis, F, Morgan, WF, Reinemann, DJ, Hillerton, JE, Baines, JR, Ohnstad, I, Rasmussen, MD, Timms, L, Britt, JS, Farnswortt, R.,, Cook, N and T. Hemling. Evaluation of bovine teat condition in commercial dairy herds: 1. Non-infectious factors. "Teat Club International", c/o F. Neijenhuis, Research Institute for Animal Husbandry Lelystad, The Netherlands.
4) Neijenhuis, F, Mein, GA, Britt, JS, Reinemann, DJ, Hillerton, JE, Farnsworth, R, Baines, JR, Hemling, T, I. Ohnstad, Cook, NB, and Morgan. Evaluation of bovine teat condition in commercial dairy herds: 2. Infectious factors and infections. Teat Club International, c/o F. Neijenhuis, Research Institute for Animal Husbandry PO Box 2176, 8203 AD Lelystad, The Netherlands.

2020-2021

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/

Georgia Dairy Conference

- January 18-20, 2021
- Savannah Marriott Riverfront, 100 General McIntosh Boulevard, Savannah, GA 31401
- http://www.gadairyconference.com/

Top GA DHIA By Test Day Milk Production – June 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	6/1/2020	1209	89	100.3	4	3.6	30858	1255
DANNY BELL*	Morgan	H	6/4/2020	312	92	91.7	4.2	3.36	29676	1192
J.EVERETT WILLIAMS*	Morgan	X	6/8/2020	2000	87	90.7	4.5	3.57	27422	1167
DOUG CHAMBERS	Jones	H	6/22/2020	444	89	85.6	3.4	2.59	25530	917
A & J DAIRY*	Wilkes	H	6/3/2020	414	91	82.9			28586	
SCOTT GLOVER	Hall	H	5/27/2020	192	89	81.7	3.7	2.76	26388	1031
SCHAAPMAN HOLSTEINS*	Wilcox	H	5/31/2020	682	90	80.8	3.5	2.62	26287	916
EBERLY FAMILY FARM*	Burke	H	6/15/2020	1056	88	77.2	3.7	2.51	24920	954
TROY YODER	Macon	H	6/23/2020	298	88	76.9	4	2.69	23684	930
BOBBY JOHNSON	Grady	X	5/24/2020	570	91	74.4			22080	
MARTIN DAIRY L. L. P.	Hart	H	6/4/2020	306	91	73.9	3.7	2.56	23840	927
HORST CREST FARMS	Burke	H	5/27/2020	187	86	70.9	3.5	2.16	20578	776
OCMULGEE DAIRY	Houston	H	6/25/2020	330	87	70.9	3.7	2.25	21590	806
RODNEY & CARLIN GIESBRECHT	Washington	H	6/25/2020	356	87	70.5	3.9	2.56	19418	755
COASTAL PLAIN EXP STATION*	Tift	H	6/19/2020	250	89	70.3	3.7	2.31	22080	860
VISSCHER DAIRY LLC*	Jefferson	H	6/18/2020	871	84	66.8	3.4	2.07	21395	724
RYAN HOLDEMAN	Jefferson	H	5/18/2020	95	93	63.4	4.1	2.56	21147	829
UNIV OF GA DAIRY FARM	Clarke	X	6/16/2020	122	90	62.7	4.3	2.34	19777	821
FRANKS FARM	Burke	B	6/8/2020	215	88	62.6	4	2.22	19888	802
JERRY SWAFFORD	Putnam	H	6/23/2020	132	86	61.8	4	1.99	18771	758

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

Top GA DHIA By Test Day Fat Production – June 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	6/1/2020	1209	89	100.3	4	3.6	30858	1255
J.EVERETT WILLIAMS*	Morgan	X	6/8/2020	2000	87	90.7	4.5	3.57	27422	1167
DANNY BELL*	Morgan	H	6/4/2020	312	92	91.7	4.2	3.36	29676	1192
SCOTT GLOVER	Hall	H	5/27/2020	192	89	81.7	3.7	2.76	26388	1031
TROY YODER	Macon	H	6/23/2020	298	88	76.9	4	2.69	23684	930
SCHAAPMAN HOLSTEINS*	Wilcox	H	5/31/2020	682	90	80.8	3.5	2.62	26287	916
DOUG CHAMBERS	Jones	H	6/22/2020	444	89	85.6	3.4	2.59	25530	917
RYAN HOLDEMAN	Jefferson	H	5/18/2020	95	93	63.4	4.1	2.56	21147	829
MARTIN DAIRY L. L. P.	Hart	H	6/4/2020	306	91	73.9	3.7	2.56	23840	927
RODNEY & CARLIN GIESBRECHT	Washington	H	6/25/2020	356	87	70.5	3.9	2.56	19418	755
EBERLY FAMILY FARM*	Burke	H	6/15/2020	1056	88	77.2	3.7	2.51	24920	954
UNIV OF GA DAIRY FARM	Clarke	X	6/16/2020	122	90	62.7	4.3	2.34	19777	821
COASTAL PLAIN EXP STATION*	Tift	H	6/19/2020	250	89	70.3	3.7	2.31	22080	860
OCMULGEE DAIRY	Houston	H	6/25/2020	330	87	70.9	3.7	2.25	21590	806
BOB MOORE #2	Putnam	H	6/10/2020	436	89	52.5	4.4	2.24	18754	775
FRANKS FARM	Burke	B	6/8/2020	215	88	62.6	4	2.22	19888	802
BOB MOORE	Putnam	H	5/31/2020	173	89	57.3	4	2.18	18988	789
HORST CREST FARMS	Burke	H	5/27/2020	187	86	70.9	3.5	2.16	20578	776
BERRY COLLEGE DAIRY	Floyd	J	6/8/2020	33	82	55.2	4.7	2.09	15941	740
VISSCHER DAIRY LLC*	Jefferson	H	6/18/2020	871	84	66.8	3.4	2.07	21395	724

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

Top GA DHIA By Test Day Milk Production – July 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	6/29/2020	1242	89	98.4	3.9	3.37	30948	1259
J.EVERETT WILLIAMS*	Morgan	X	7/6/2020	1993	87	92.7	4.2	3.33	27433	1176
DANNY BELL*	Morgan	H	7/2/2020	307	92	89.5	4	3.17	29595	1197
DOUG CHAMBERS	Jones	H	7/26/2020	439	89	87.3	3.4	2.5	25767	927
A & J DAIRY*	Wilkes	H	7/2/2020	400	91	86.5			28592	
SCOTT GLOVER	Hall	H	7/27/2020	191	89	81.3	3.5	2.45	26731	1030
SCHAAPMAN HOLSTEINS	Wilcox	H	7/1/2020	690	90	79.9	3.5	2.49	26332	920
EBERLY FAMILY FARM*	Burke	H	7/20/2020	1057	88	77.9	3.7	2.52	24967	956
TROY YODER	Macon	H	6/23/2020	298	88	76.9	4	2.69	23684	930
OCMULGEE DAIRY	Houston	H	6/25/2020	330	87	70.9	3.7	2.25	21590	806
RODNEY & CARLIN GIESBRECHT	Washington	H	6/25/2020	356	87	70.5	3.9	2.56	19418	755
VISSCHER DAIRY LLC*	Jefferson	H	6/18/2020	871	84	66.8	3.4	2.07	21395	724
MARTIN DAIRY L. L. P.	Hart	H	7/1/2020	298	91	66.4	4	2.45	23835	932
BOBBY JOHNSON	Grady	X	7/30/2020	568	92	66.3			22897	
FRANKS FARM	Burke	B	7/13/2020	208	88	66	3.8	2.27	20209	814
COASTAL PLAIN EXP STATION	Tift	H	7/22/2020	248	90	62.9	4	2.15	22280	868
UNIV OF GA DAIRY FARM	Clarke	X	7/15/2020	123	90	62.5	4	2.16	19791	826
DAVID ADDIS	Whitfield	H	7/14/2020	36	78	62.2	3.4	1.09	16181	638
W.T.MERIWETHER	Morgan	H	7/13/2020	68	86	61.6	3.6	1.72	19061	680
RUFUS YODER JR	Macon	H	6/26/2020	161	89	60.2	3.7	1.81	20321	751

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

Top GA DHIA By Test Day Fat Production - July 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	6/29/2020	1242	89	98.4	3.9	3.37	30948	1259
J.EVERETT WILLIAMS*	Morgan	X	7/6/2020	1993	87	92.7	4.2	3.33	27433	1176
DANNY BELL*	Morgan	H	7/2/2020	307	92	89.5	4	3.17	29595	1197
TROY YODER	Macon	H	6/23/2020	298	88	76.9	4	2.69	23684	930
RODNEY & CARLIN GIESBRECHT	Washington	H	6/25/2020	356	87	70.5	3.9	2.56	19418	755
EBERLY FAMILY FARM*	Burke	H	7/20/2020	1057	88	77.9	3.7	2.52	24967	956
DOUG CHAMBERS	Jones	H	7/26/2020	439	89	87.3	3.4	2.5	25767	927
SCHAAPMAN HOLSTEINS	Wilcox	H	7/1/2020	690	90	79.9	3.5	2.49	26332	920
SCOTT GLOVER	Hall	H	7/27/2020	191	89	81.3	3.5	2.45	26731	1030
MARTIN DAIRY L. L. P.	Hart	H	7/1/2020	298	91	66.4	4	2.45	23835	932
FRANKS FARM	Burke	B	7/13/2020	208	88	66	3.8	2.27	20209	814
OCMULGEE DAIRY	Houston	H	6/25/2020	330	87	70.9	3.7	2.25	21590	806
BERRY COLLEGE DAIRY	Floyd	J	7/14/2020	32	83	54.3	4.9	2.19	16104	741
UNIV OF GA DAIRY FARM	Clarke	X	7/15/2020	123	90	62.5	4	2.16	19791	826
COASTAL PLAIN EXP STATION	Tift	H	7/22/2020	248	90	62.9	4	2.15	22280	868
BOB MOORE	Putnam	H	6/29/2020	197	89	56.7	3.9	2.11	18921	790
BOB MOORE #2	Putnam	H	7/14/2020	454	89	54.8	4.2	2.1	18619	785
VISSCHER DAIRY LLC*	Jefferson	H	6/18/2020	871	84	66.8	3.4	2.07	21395	724
EUGENE KING	Macon	H	7/14/2020	133	91	56.1	3.6	1.86	19469	700
BRENNEMAN FARMS	Macon	H	6/27/2020	50	86	52.9	3.6	1.83	20450	756

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

Top GA DHIA By Test Day Milk Production – August 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	8/3/2020	1235	89	95.3	3.8	3.19	30960	1257
J.EVERETT WILLIAMS*	Morgan	X	8/10/2020	2012	87	90.5	4.3	3.27	27569	1190
DANNY BELL*	Morgan	H	8/6/2020	307	92	88.8	4	3	29561	1200
A & J DAIRY*	Wilkes	H	8/4/2020	392	91	85.3			28630	
SCHAAPMAN HOLSTEINS	Wilcox	H	8/7/2020	680	90	83.2	3.8	2.67	26422	929
DOUG CHAMBERS	Jones	H	8/24/2020	437	89	81.9	3.5	2.33	25921	933
SCOTT GLOVER	Hall	H	8/24/2020	194	89	80.7	3.8	2.69	26811	1030
EBERLY FAMILY FARM*	Burke	H	8/17/2020	1045	88	79.5	3.8	2.63	24996	958
TROY YODER	Macon	H	7/31/2020	298	88	73.7	3.8	2.47	23557	934
OCMULGEE DAIRY	Houston	H	8/26/2020	336	87	69.8	3.6	2.1	21914	817
BOBBY JOHNSON	Grady	X	7/30/2020	568	92	66.3			22897	
UNIV OF GA DAIRY FARM	Clarke	X	8/13/2020	124	89	65.4	3.9	2.1	19842	829
COASTAL PLAIN EXP STATION	Tift	H	8/20/2020	256	90	63.1	4.3	2.29	22441	878
RODNEY & CARLIN GIESBRECHT	Washington	H	8/17/2020	339	88	62.9	3.9	2.33	19985	784
MARTIN DAIRY L. L. P.	Hart	H	8/11/2020	301	92	61.6	3.9	2.13	23767	934
FRANKS FARM	Burke	B	8/17/2020	207	89	61.2	3.9	2.06	20464	824
HORST CREST FARMS	Burke	H	8/26/2020	192	86	59.3	3.9	2.03	20877	788
SOUTHERN ROSE FARMS	Laurens	H	7/28/2020	94	86	58.8	3.9	2.12	20133	824
BOB MOORE #2	Putnam	H	8/19/2020	558	90	56.9	4.1	1.85	18822	800
W.T.MERIWETHER	Morgan	H	8/11/2020	67	86	55.5	3.4	1.26	19021	680

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

Top GA DHIA By Test Day Fat Production – August 2020										
					Test Day Average				Yearly Average	
Herd	County	Br.	Test Date	[1]Cows	% in Milk	Milk	% Fat	TD Fat	Milk	Lbs. Fat
J.EVERETT WILLIAMS*	Morgan	X	8/10/2020	2012	87	90.5	4.3	3.27	27569	1190
DAVE CLARK*	Morgan	H	8/3/2020	1235	89	95.3	3.8	3.19	30960	1257
DANNY BELL*	Morgan	H	8/6/2020	307	92	88.8	4	3	29561	1200
SCOTT GLOVER	Hall	H	8/24/2020	194	89	80.7	3.8	2.69	26811	1030
SCHAAPMAN HOLSTEINS	Wilcox	H	8/7/2020	680	90	83.2	3.8	2.67	26422	929
EBERLY FAMILY FARM*	Burke	H	8/17/2020	1045	88	79.5	3.8	2.63	24996	958
TROY YODER	Macon	H	7/31/2020	298	88	73.7	3.8	2.47	23557	934
BERRY COLLEGE DAIRY	Floyd	J	8/11/2020	34	84	52.6	5	2.38	16267	749
DOUG CHAMBERS	Jones	H	8/24/2020	437	89	81.9	3.5	2.33	25921	933
RODNEY & CARLIN GIESBRECHT	Washington	H	8/17/2020	339	88	62.9	3.9	2.33	19985	784
COASTAL PLAIN EXP STATION	Tift	H	8/20/2020	256	90	63.1	4.3	2.29	22441	878
MARTIN DAIRY L. L. P.	Hart	H	8/11/2020	301	92	61.6	3.9	2.13	23767	934
SOUTHERN ROSE FARMS	Laurens	H	7/28/2020	94	86	58.8	3.9	2.12	20133	824
OCMULGEE DAIRY	Houston	H	8/26/2020	336	87	69.8	3.6	2.1	21914	817
UNIV OF GA DAIRY FARM	Clarke	X	8/13/2020	124	89	65.4	3.9	2.1	19842	829
FRANKS FARM	Burke	B	8/17/2020	207	89	61.2	3.9	2.06	20464	824
HORST CREST FARMS	Burke	H	8/26/2020	192	86	59.3	3.9	2.03	20877	788
RYAN HOLDEMAN	Jefferson	H	8/12/2020	90	93	50.4	4.3	1.9	20456	827
WHITEHOUSE FARM	Macon	H	8/7/2020	225	89	53.3	3.9	1.9	20793	792
ROGERS FARM SERVICES	Tattnall	H	8/18/2020	183	94	47.7	4.2	1.89	17417	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 Lows Herds for SCC –TD Average Score – June 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	5/25/2020	H	51	20683	1	74	1.6	130
BERRY COLLEGE DAIRY	Floyd	6/8/2020	J	33	15941	1.2	35	1.9	79
DAVID ADDIS	Whitfield	6/11/2020	H	36	16444	1.3	250	1.4	78
DANNY BELL*	Morgan	6/4/2020	H	312	29676	1.6	145	2	146
ALEX MILLICAN	Walker	6/11/2020	H	96	16983	1.9	176	2.3	180
DAVE CLARK*	Morgan	6/1/2020	H	1209	30858	2	191	1.9	157
DOUG CHAMBERS	Jones	6/22/2020	H	444	25530	2.1	189	2.4	216
SCOTT GLOVER	Hall	5/27/2020	H	192	26388	2.2	160	2.6	192
FRANKS FARM	Burke	6/8/2020	B	215	19888	2.2	209	2.1	168
EBERLY FAMILY FARM*	Burke	6/15/2020	H	1056	24920	2.3	209	2.2	169
J.EVERETT WILLIAMS*	Morgan	6/8/2020	X	2000	27422	2.3	210	2	151
WHITEHOUSE FARM	Macon	6/9/2020	H	239	21180	2.3	276	2.8	273
RODNEY & CARLIN GIESBRECHT	Washington	6/25/2020	H	356	19418	2.4	199	2.6	242
JERRY SWAFFORD	Putnam	6/23/2020	H	132	18771	2.6	197	2.9	203
VISSCHER DAIRY LLC*	Jefferson	6/18/2020	H	871	21395	2.7	199	2.4	195
COASTAL PLAIN EXP STATION*	Tift	6/19/2020	H	250	22080	2.7	217	3.1	316
TROY YODER	Macon	6/23/2020	H	298	23684	2.7	228	2.8	206
W.T.MERIWETHER	Morgan	6/11/2020	H	71	19116	2.8	311	3	250
MARTIN DAIRY L. L. P.	Hart	6/4/2020	H	306	23840	2.9	227	2.9	270
UNIV OF GA DAIRY FARM	Clarke	6/16/2020	X	122	19777	3	217	2.6	187

[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 Lows Herds for SCC –TD Average Score – July 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	7/14/2020	H	36	16181	0.5	21	1.3	75
BRENNEMAN FARMS	Macon	6/27/2020	H	50	20450	1.1	60	1.6	130
DANNY BELL*	Morgan	7/2/2020	H	307	29595	1.4	115	2	142
FRANKS FARM	Burke	7/13/2020	B	208	20209	1.8	142	2.1	164
RUFUS YODER JR	Macon	6/26/2020	H	161	20321	1.8	174	2.6	239
EBERLY FAMILY FARM*	Burke	7/20/2020	H	1057	24967	2	179	2.2	171
DOUG CHAMBERS	Jones	7/26/2020	H	439	25767	2	180	2.4	214
DAVE CLARK*	Morgan	6/29/2020	H	1242	30948	2	208	2	166
BERRY COLLEGE DAIRY	Floyd	7/14/2020	J	32	16104	2.2	105	2	83
SCOTT GLOVER	Hall	7/27/2020	H	191	26731	2.3	133	2.4	177
RODNEY & CARLIN GIESBRECHT	Washington	6/25/2020	H	356	19418	2.4	199	2.6	242
J.EVERETT WILLIAMS*	Morgan	7/6/2020	X	1993	27433	2.4	234	2.1	158
ALEX MILLICAN	Walker	7/15/2020	H	93	16837	2.4	358	2.3	202
JERRY SWAFFORD	Putnam	7/27/2020	H	137	18750	2.5	246	2.9	207
EUGENE KING	Macon	7/14/2020	H	133	19469	2.6	207	2.4	204
VISSCHER DAIRY LLC*	Jefferson	6/18/2020	H	871	21395	2.7	199	2.4	195
TROY YODER	Macon	6/23/2020	H	298	23684	2.7	228	2.8	206
UNIV OF GA DAIRY FARM	Clarke	7/15/2020	X	123	19791	2.7	279	2.6	195
ROGERS FARM SERVICES	Tattnall	7/23/2020	H	190	17374	3	472	3.3	375
W.T.MERIWETHER	Morgan	7/13/2020	H	68	19061	3.1	287	3	254

[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 Lows Herds for SCC –TD Average Score – August 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	8/12/2020	H	38	15942	0.7	149	1.3	85
BERRY COLLEGE DAIRY	Floyd	8/11/2020	J	34	16267	1.2	56	1.9	81
ALEX MILLICAN	Walker	8/14/2020	H	91	16889	1.7	190	2.3	201
DANNY BELL*	Morgan	8/6/2020	H	307	29561	1.9	154	2	141
EBERLY FAMILY FARM*	Burke	8/17/2020	H	1045	24996	1.9	187	2.1	172
FRANKS FARM	Burke	8/17/2020	B	207	20464	2.1	211	2.1	170
DAVE CLARK*	Morgan	8/3/2020	H	1235	30960	2.1	232	2	172
J.EVERETT WILLIAMS*	Morgan	8/10/2020	X	2012	27569	2.4	227	2.1	164
DOUG CHAMBERS	Jones	8/24/2020	H	437	25921	2.6	240	2.4	216
SCOTT GLOVER	Hall	8/24/2020	H	194	26811	2.7	211	2.5	177
JERRY SWAFFORD	Putnam	8/25/2020	H	137	18588	2.7	235	2.8	206
SCHAAPMAN HOLSTEINS	Wilcox	8/7/2020	H	680	26422	2.7	270	2.4	198
RODNEY & CARLIN GIESBRECHT	Washington	8/17/2020	H	339	19985	2.7	304	2.5	232
WHITEHOUSE FARM	Macon	8/7/2020	H	225	20793	2.7	328	2.7	287
UNIV OF GA DAIRY FARM	Clarke	8/13/2020	X	124	19842	2.8	225	2.6	188
TROY YODER	Macon	7/31/2020	H	298	23557	3	269	2.8	211
MARTIN DAIRY L. L. P.	Hart	8/11/2020	H	301	23767	3.2	353	3	297
SOUTHERN ROSE FARMS	Laurens	7/28/2020	H	94	20133	3.3	263	2.9	248
COASTAL PLAIN EXP STATION	Tift	8/20/2020	H	256	22441	3.4	427	3	297
BOB MOORE #2	Putnam	8/19/2020	H	558	18822	3.5	346	3.5	350

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