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GEORGIA DAIRYFAX

http://www.ces.uga.edu/Agriculture/asdsvm/Dairyscience/dairypage.HTML September/October 2005

Dear Dairy Producers:

The enclosed information was prepared by the University of Georgia Animal and Dairy Science faculty & graduate students 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,

Wm. Graves

William M. Graves
Professor & Extension Dairy Scientist
wgraves@uga.edu

County Extension Director or County Agent

/ach

Vaccinating Heifers Helps to Prevent Staph Mastitis

Dr. Steve Nickerson
Department Head
Animal and Dairy Science

As many of you may know, prior to my present position here at UGA, I spent 20 years directing the Mastitis Research Laboratory at LSU. One of our more recent projects was to develop a mastitis control program for dairy heifers because of the high prevalence of *Staphylococcus aureus* that we discovered in these young animals in Louisiana herds. As I talk with Georgia dairymen as well as county agents and bovine practitioners, I realize that the control of this mastitis-causing bacteria can still be a challenge.

Staph. aureus mastitis can be a major problem for Georgia's dairy industry because it is contagious and difficult to treat with antibiotics, especially during lactation. In some herds, *Staph. aureus* mastitis is prevalent in unbred as well as bred heifers, both of which serve as sources for infecting the older milking cows and spreading udder infections throughout the herd. Such intramammary infections in young dairy animals are associated with local swelling, udder deformity, and extremely high somatic cell counts (SCC). These infections have been found in heifers as young as 6 months of age. Likewise, microscopic analyses have shown that *Staph. aureus* infections adversely affect development of the milk-producing tissues of the mammary gland, reducing future milk yield.

Use of non-lactating cow therapy in heifers during pregnancy has been shown to cure 90 to 100% of *Staph. aureus* infections. Treated animals can produce up to 10% more milk during early lactation than untreated herdmates. The most efficient means of controlling *Staph. aureus* mastitis, however, is to prevent this disease in these young dairy animals by boosting their immune systems with vaccinations. Several years ago a study was designed to evaluate a commercial *Staph. aureus* vaccine when administered to heifers to determine if the practice was effective in reducing the occurrence and severity of *Staph. aureus* mastitis.

Seventy Jersey heifers from a university research herd were used. Previous microbiological culture of mammary secretions from this herd indicated that about 30% of these animals were infected with *Staph. aureus* by 15 months of age. At about 6 months of age, heifers were processed through a restraining chute equipped with a head gate to collect sterile mammary secretion samples for microbiological analyses to determine udder infection status. In addition, blood samples were collected and stored for subsequent analysis of anti-staphylococcal antibody concentrations. Thirty-five heifers were vaccinated in the rear leg muscle with the commercial vaccine, Lysigin (Boehringer Ingelheim Animal Health, Inc., St. Joseph, MO). The other 35 heifers served as unvaccinated controls.

Fourteen days after the initial processing, the vaccinated group was again processed through the chute and boosted with Lysigin according to label instructions. All animals were maintained on pasture and rotated by age group through calving so that exposure to *Staph. aureus* was through various means naturally occurring on the farm.

At 6-month intervals after the trial started, the vaccinated group was again processed through the chute for a second booster injection. At 2-month intervals after trial initiation and

through calving, all heifers were bled and serum samples were stored for determination of antibody titers. Mammary secretion samples also were collected at these times for bacteriological culture and for determination of SCC.

Immunization with Lysigin did not cause any adverse reactions at the injection site on the rear leg. Minimal swelling was occasionally observed and disappeared within 48 hours of administration. Fever or other systemic reactions to vaccination were not evident. The percentage of new *Staph. aureus* infections occurring before or during pregnancy was lower in vaccinates (14.3%) compared with controls (25.9%) for a significant reduction of 44.7%. The SCC in vaccinated heifers tended to remain lower than unvaccinated controls after vaccination, and at calving, the SCC were twice as high in control than in vaccinated heifers.
Blood antibody concentrations against *Staph. aureus* tended to remain higher in vaccinated heifers compared with unvaccinated controls throughout the trial, and concentrations in vaccinates were significantly elevated over controls at 2 months after receiving the primary immunization and at two months after receiving the second booster injection of vaccine. Antibody concentrations in vaccinates also were elevated over those of controls at calving.
In addition to the reduction observed in *Staph. aureus* mastitis, the vaccinated group experienced a reduction in mastitis caused by *Staphylococcus* species other than *Staph. aureus*, also known as coagulase-negative staph.

Results of this study demonstrated a positive effect of vaccination in preventing new *Staph. aureus* infections of the mammary gland as well as in reducing SCC when the vaccination program was initiated at an early age in heifers from a herd with a high exposure to these mastitis-causing bacteria.

If staph is a problem in your milking herd, consider that the heifers you are raising might be the source of these infections. I would recommend that you ask your herd veterinarian to sample the mammary secretions of a few of these young dairy animals for bacteriological examination. If 10% or greater of the quarters are infected with *Staph. aureus*, then the real potential of these animals freshening with mastitis exists, and you should consider a vaccination program. If you have questions, please contact me at **scn@uga.edu**.

2005 Guthrie Dairy Youth Leadership Award

By Heather Shultz & Dr. Bill Graves

In 2000, the Guthrie Dairy Youth Leadership award was created to honor Dr. Larry Guthrie and a $10,000 fund endowed for this purpose. Dr. Guthrie retired from the Animal and Dairy Science Department at the University of Georgia and it was his wish that he be remembered this way. Dr. Guthrie was a major force behind the Youth Dairy Programs in Georgia for more than 20 years. Besides overseeing the 4-H and FFA Dairy Judging programs and developing the very successful Georgia Commercial Dairy Heifer Program, Dr. Guthrie has been an unwavering supporter of developing leaders for the Georgia Dairy Industry through the 4-H and FFA Programs. He has been involved in all facets of these youth dairy programs and many successful producers look back and recognize Dr. Guthrie and his efforts for at least part of their current success**.**

This years winner goes to Anna Savelle from Watkinsville, GA. Anna has been very active in 4-H and FFA. She is very involved in judging, showing and Quiz bowl activities.

She receives $400 towards expenses to the 2005 National FFA Convention in Louisville this fall. Our congratulations go to this outstanding young person.

Reducing Sand Cost for Bedding Free Stalls

Dr. John Bernard
Dairy Research and Extension

Sand is recognized as one of the better materials for bedding free stalls because it does not support bacterial growth and provides a comfortable material for cows to lie on. Approximately 40 to 50 lbs./day of sand are required to maintain free stalls because cows drag or kick sand out of the stalls as they exit. Depending on the cost of sand, the annual bedding to maintain a single free stall varies from $49.28 at $6/ton to $131.40 at $16/ton. For each $1/ton increase in the cost of sand, the annual bedding cost increases $8.21 per free stall based on a 45 lbs./day usage rate.

One option for reducing the amount of sand used and annual bedding cost is to install a sand retaining device. Research has shown that not all sand retaining devices reduce sand usage equally, so producers should ask for information about each product to determine its effectiveness. Some of the sand retaining devices used in a research trial at the Tifton Dairy Research Center reduced sand usage by 12 lbs./free stall/day, but there were no differences with others. The possible savings in sand cost per year are outlined in Table 1. One advantage of these sand retaining devices in addition to reduced bedding cost is that they maintain the slope and shape of each stall much better than free stalls without a sand retaining device. This is important for cow comfort and should not be overlooked.

Another option some producers may want to consider is recycling sand. This requires the collecting sand from the flush water using either a gravity or mechanical separator. Sand should have an organic matter content less than 2% to prevent bacterial concentrations from being a potential problem. Sand samples can be shipped to The University of Minnesota Veterinarian Diagnostic Laboratory for bacterial analyses to determine if the sand is suitable for use. The potential savings of using recycled sand is related to the effectiveness of the separator. There are cost associated with collecting and handling this sand, so producers should assign a nominal value to the recycled sand although the cost of collecting sand should be less than the cost of cleaning out the lagoon.

Based on the potential savings in sand cost outlined in Table 1, many of the sand retaining devices would pay for themselves in 1 to 2 years. The potential payback for developing a system for recycling sand will be longer depending on the type of separator used. Producers should review free stall bedding cost and determine if either of these options would potentially reduce operating cost.

Table 1. Potential saving in sand cost per year per free stall each reduction in the amount of sand required for maintenance.

lbs./day/	Cost of sand, $/ton						
free stall	$6.00	$8.00	$10.00	$12.00	$14.00	$16.00	$18.00
6	6.57	8.76	10.95	13.14	15.33	17.52	19.71
8	8.76	11.68	14.60	17.52	20.44	23.36	26.28
10	10.95	14.60	18.25	21.90	25.55	29.20	32.85
12	13.14	17.52	21.90	26.28	30.66	35.04	39.42
14	15.33	20.44	25.55	30.66	35.77	40.88	45.99
16	17.52	23.36	29.20	35.04	40.88	46.72	52.56
28	19.71	26.28	32.85	39.42	45.99	52.56	59.13
20	21.90	29.20	36.50	43.80	51.10	58.40	65.70
22	24.09	32.12	40.15	48.18	56.21	64.24	72.27
24	26.28	35.04	43.80	52.56	61.32	70.08	78.84

Dates to Remember

December 4-7	Georgia Farm Bureau Annual Meeting. Jeckyl Island. Dairy Meeting on Monday Afternoon.
February 6-8	Georgia Milk Producers Meeting. St. Simons at King and Prince
February 11	UGA Dairy Science Club Heifer Show, Athens, ADS Arena
March 7, 2006	3rd Florida Dairy Road Show planned at the ARDC in Tifton, GA**.** Contact Dr. John Bernard @ 229-391-6856 or jbernard@uga.edu
May 25, 2006	The 2006 Corn Silage/Conserved Forage Field Day at the Plant Science and Education Unit in Citra, FL. Contact Dr. John Bernard @229-391-6859 or jbernard@uga.edu

2005 McCullough Scholarship Winner

Dr. Bill Graves

National Dairy Shrine has announced the two winners of Marshall E. McCullough scholarships for 2005. The scholarships are presented in memory of the well-known Georgia nutrition researcher and educator Dr. Marshall E. McCullough. The awards are given to incoming college freshmen planning to major in dairy/animal science with a communications emphasis or in agriculture journalism with a dairy emphasis. One of this years winners is from Watkinsville Georgia. Heather Savelle was seleced to receive a $1,000 scholarship. She is an outstanding student ranking in the top 10% of her class. A member of the National Honor Society, she is attending the University of Georgia and majors in animal/dairy science. Very active in 4-H and FFA, Heather was high individual in the State 4-H Dairy Judging Contest and on the state winning 4-H Dairy Quiz Bowl team. She won the National FFA Agri-Entrepreneurship Award winner with her own business “Heather’s Heifers” raising dairy heifer replacements. We at UGA are proud to see Heather win this national recognition for her many years of hard work and are “ tickled” to have her at UGA as a Freshman.

Update on National Animal Identification

Dr. Ronnie Silcox
Extension Animal Scientist

During Christmas week in 2003 the first case of BSE was reported in the United States. On December 30, 2003 the Secretary of Agriculture announced, “USDA is also working to take the next steps toward implementation of a verifiable system of national animal identification….”

Over the past year, there have been listening sessions and planning sessions to get this done. According to USDA, “The goal of the National Animal Identification System is to have the capability to identify all premises that had direct contact with a foreign animal disease (FAD) within 48 hours after discovery.”

This national animal ID program will develop over the next few years. The first step is to identify farms (premises) that have livestock. After a national number that will allow fast location of premises is established, a uniform method of identifying animals will be established. Then a national database will be established that tracks the movement of animals from one location to another.

All meat animals (cattle, swine, sheep, goats,chickens ...) are included. The methods of animal identification will probably be different for different types of animals. Cattle will probably be individually identified with electronic ear tags. Swine and poultry are more likely to use group or lot identification.

While the stated goal of the national animal identification system is to control animal diseases, a uniform national ID system could be used by producers or producer groups to do other things, like development of markets for source verified products.

A national animal ID system is coming and it is an evolving process. To keep up with current developments a good reference is the Animal and Plant Health Inspection Service web site: http://animalid.aphis.usda.gov/nais/index.shtml

The Georgia Department of Agriculture is now accepting applications for premises ID numbers from livestock producers. At this point in time, this is a voluntary program. There are no federal or state regulations at this time (February, 2005) that require a producer to have a premises ID. However, it is expected that it will not be long before some marketing groups start asking for these.

An application is included on the following page. For most producers, one premises ID would cover the whole farm. More than one premises ID is needed only in cases where there are totally separate herds at different locations.

Georgia Department of Agriculture
Thomas T. Irvin, Commissioner
Capitol Square, Room 105, Atlanta, GA 30334

NAIS Premises ID Application

Business/Farm/Ranch Account Information

Business/Premises Name

Mailing Address

City State ZIP

Owner Name

Business Phone FAX

Cell Phone Pager Email

Premises Contact *(Manager, Agent, Stable Manager, etc.)* Business or Cell Phone

Business Type ***(please check only one)***

☐ Individual ☐ Incorporated ☐ Limited Liability Corporation ☐ Partnership
☐ Limited Liability Partnership ☐ Non-Profit Organization ☐ State or Federal Government

Premises Information ***(Primary location where livestock reside. If animals are managed as separate herds on separate locations without commingling, register multiple premises.)***

Physical (911) Address

City State ZIP County

Primary Business Function ***(please check only one)***

☐ Producer Unit/Farm ☐ Exhibition ☐ Laboratory ☐ Clinic
☐ Market/collection point ☐ Non-Producer Participant ☐ Port of Entry ☐ Tagging Site
☐ Quarantine Facility ☐ Rendering ☐ Slaughter Plant

Species on Premises ***(please check all that apply)***

☐ Cattle ☐ Horses ☐ Goats ☐ Sheep ☐ Swine ☐ Deer ☐ Elk ☐ Llama ☐ Bison
☐ Poultry ☐ Chickens ☐ Ducks ☐ Geese ☐ Guineas ☐ Pheasants ☐ Quail ☐ Turkeys ☐ Emu

Signature of Applicant or Authorized Agent: **Date:**

MAIL OR FAX COMPLETED FORM TO:

Mail:
Georgia Department of Agriculture
Attn: NAIS Program Room 105
Capitol Square
Atlanta, GA 30334

FAX:
404-651-9024
Attn: NAIS Program

TOP 20 DHIA HERDS BY TEST DAY MILK PRODUCTION

					Test Day Average				Yearly Average				
							Fat			Fat		Protein	
Herd	County	Br.	Mo.	Cows	% Days in Milk	Milk	%	Lbs.	Milk	%	Lbs.	%	Lbs.
Dave Clark	Morgan	H	7	846	92	70.9*	3.2	2.26	26086	3.2	838	2.9	758
Williams Dairy	Morgan	H	7	596	92	70.0*	3.7	2.64	26578	3.7	988	3.1	816
Al & Richard Kinder	Hart	H	6	320	97	67.8	3.5	2.36	20695	3.5	733	3.1	632
Martin Dairy L.L.P.	Hart	H	6	293	88	65.3	3.4	2.23	23629	3.6	860	3.0	706
Brooksco Dairy	Brooks	H	7	2572	93	65.3*			22983				
Cecil Dueck	Jefferson	H	6	80	99	65.1	3.6	2.36	24496	3.6	892	3.0	737
Krulic Dairy Farm, Inc	Screven	H	7	117	91	64.1	3.4	2.15	24764	3.6	897	3.1	758
Williams Dairy	Morgan	H	7	124	91	62.8	3.6	2.27	23875	3.5	842	3.0	713
Coastal Plain Exp Station	Tift	H	7	201	92	60.8	3.8	2.29	19196	3.9	749	3.1	592
Scott Glover	White	H	7	103	89	60.1	3.7	2.23	22890	3.9	885	3.0	684
Cory Johnson	Ware	H	6	457	86	60.1*			21111				
Rufus Yoder Jr.	Macon	H	7	89	92	59.8	2.9	1.71	20821	3.4	698	3.1	648
Wayne Stoffell	Peach	H	7	852	91	58.7*	.0		20418				
Agri-Fresh Dairy	Laurens	H	7	198	88	58.2*	3.5	2.03	23288	3.4	784	3.0	688
Aurora Dairy Georgia LLC	Mitchell	H	7	3583	92	57.7*	3.5	2.04	20920	3.7	776	3.0	626
Floyd Yoder	Macon	H	7	76	89	57.7	3.4	1.95	20259	3.3	674	3.1	622
Louis Yder	Macon	H	7	133	92	56.5	3.3	1.89	20037	3.3	659	3.1	613
Harry Schappman	Wilcox	H	7	552	89	56.4			20021				
Ed Boehs	Jefferson	H	7	84	95	56.2	3.5	1.94	21408	3.7	801	3.1	662
Irvin R Yoder	Macon	H	7	119	81	55.9	3.8	2.11	21883	3.6	794	3.1	681

[1]Minimum herd size of 10 cows. Yearly average calculated after 365 days on test. (Mo.) column indicates month of test. Test day milk, marked with an asterisk (*),indicates herd was milked three times per day (3X).Information in this table is complied from Dairy Records Management Systems Reports (Raleigh, NC).

TOP 20 DHIA HERDS BY TEST DAY FAT PRODUCTION

					Test Day Average				Yearly Average				
							Fat			Fat		Protein	
Herd	County	Br.	Mo.	Cows	% Days in Milk	Milk	%	Lbs.	Milk	%	Lbs.	%	Lbs.
Williams Dairy	Morgan	H	7	596	92	70.0*	3.7	2.61	26578	3.7	988	3.1	816
Coastal Plain Exp Station	Tift	J	7	24	92	50.3	4.9	2.47	14584	4.7	690	3.5	510
Berry College Dairy	Floyd	J	7	30	87	48.8	4.9	2.39	18892	5.0	943	3.5	668
Al & Richard Kinder	Hart	H	6	320	97	67.8	3.5	2.36	20695	3.5	733	3.1	632
Cecil Dueck	Jefferson	H	6	80	99	65.1	3.6	2.36	24496	3.6	892	3.0	737
Coastal Plain Exp Station	Tift	H	7	201	92	60.8	3.8	2.29	19196	3.9	749	3.1	592
Williams Dairy	Morgan	H	7	124	91	62.8	3.6	2.27	23875	3.5	842	3.0	713
Dave Clark	Morgan	H	7	846	92	70.9*	3.2	2.26	26086	3.2	838	2.9	758
Martin Dairy L.L.P.	Hart	H	6	293	88	65.3	3.4	2.23	23629	3.6	860	3.0	706
Scott Glover	White	H	7	103	89	60.1	3.7	2.23	22890	3.9	885	3.0	684
Krulic Dairy Farm, Inc.	Screven	H	7	117	91	64.1	3.4	2.15	24764	3.6	897	3.0	758
Irvin R Yoder	Macon	H	7	119	81	55.9	3.8	2.11	21883	3.6	794	3.1	681
Aurora Dairy Georgia L.L.C.	Mitchell	H	7	3583	92	57.7*	3.5	2.04	20920	3.7	776	3.0	626
Lawayne Weaver	Macon	H	7	137	94	52.7	3.9	2.04	20388	3.7	759	3.2	643
Agri-Fresh Dairy	Laurens	H	7	198	88	58.2*	3.5	2.03	23288	3.4	784	3.0	688
Ocmulgee Dairy	Housten	H	7	301	88	53.1	3.7	1.97	20547	3.5	719	3.0	626
Floyd Yoder	Macon	H	7	76	89	57.7	3.4	1.95	20259	3.3	674	3.1	622
Ed Boehs	Jefferson	H	7	84	95	56.2	3.4	1.94	21408	3.7	801	3.0	662
Russell Johnston	Morgan	H	7	108	93	53.4	3.6	1.92	20297	3.9	783	3.2	643
Gin Branch Farm	Laurens	H	7	59	85	50.5	3.8	1.91	22340	3.3	741	3.0	666

[1]Minimum herd size of 10 cows. Yearly average calculated after 365 days on test. (Mo.) column indicates month of test. Test day milk, marked with an asterisk (*),indicates herd was milked three times per day (3X).
Information in this table is complied from Dairy Records Management Systems Reports (Raleigh, NC).

TOP 20 DHIA HERDS BY TEST DAY MILK PRODUCTION

					Test Day Average				Yearly Average				
							Fat			Fat		Protein	
Herd	County	Br.	Mo.	Cows	% Days in Milk	Milk	%	Lbs.	Milk	%	Lbs.	%	Lbs.
Krulic Dairy Farm, Inc.	Screven	H	8	112	93	67.4	3.5	2.35	24881	3.6	897	3.1	761
Dave Clark	Morgan	H	8	840	87	62.6*	3.5	2.19	26116	3.2	838	2.9	757
J. Everett Williams	Morgan	H	8	632	90	62.5*	3.6	2.26	26654	3.7	989	3.1	820
Berry College Dairy	Floyd	J	8	31	94	60.3	4.1	2.46	19562	4.9	963	3.5	691
Brooksco Dairy	Brooks	H	8	2551	88	59.9*			23110				
Wright & Whitty Davis Dairy	Appling	H	8	1124	88	58.8*			21319				
Scott Glover	White	H	8	105	82	58.7	3.9	2.28	23181	3.9	899	3.0	692
Larry Moody	Ware	H	8	939	83	58.2			23064				
Louis Yoder	Macon	H	8	128	95	57.2	3.1	1.78	20218	3.3	665	3.1	617
Aurora Dairy Georgia L.L.C	Mitchell	H	8	3534	89	56.5*	3.6	1.89	21134	3.7	781	3.0	632
Wayne Stoffell	Peach	H	8	835	89	55.8*			20451				
Russell Johnston	Morgan	H	8	106	86	55.0	3.8	2.07	20421	3.8	785	3.2	644
Lamar Anthony	Sumter	H	8	855	80	54.9*	3.2	1.76	21865	3.6	793	3.0	648
G & H Dairy	White	H	8	83	89	54.6	3.5	1.92	18973	3.7	709	3.0	562
B & S Dairy		H	8	546	87	54.4	3.5	1.90	20376				
Rufus Yoder Jr.	Macon	H	8	90	97	54.2	3.7	2.00	20977	3.4	704	3.1	650
Al & Richard Kinder	Hart	H	8	310	90	53.8	3.5	1.87	20908	3.6	750	3.1	640
RA Mcelmurray & Son		H	8	147	90	53.7	3.2	1.74	20013	3.2	639	3.1	612
Floyd Yoder	Macon	H	8	76	88	52.3	3.6	1.90	20542	3.3	682	3.1	629
Lazy S Dairy	Worth	H	8	303	93	52.0	3.8	1.95	20330	3.5	718	3.0	604

[1]Minimum herd size of 10 cows. Yearly average calculated after 365 days on test. (Mo.) column indicates month of test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X).
Information in this table is complied from Dairy Records Management Systems Reports (Raleigh, NC).

TOP 20 DHIA HERDS BY TEST DAY FAT PRODUCTION

					Test Day Average				Yearly Average				
							Fat			Fat		Protein	
Herd	County	Br.	Mo.	Cows	% Days in Milk	Milk	%	Lbs.	Milk	%	Lbs.	%	Lbs.
Berry College Dairy	Floyd	J	8	31	94	60.3	4.1	2.46	19562	4.9	963	3.5	691
Krulic Dairy Farm, Inc.	Screven	H	8	112	93	67.4	3.5	2.35	24881	3.6	897	3.1	761
Scott Glover	White	H	8	105	82	58.7	3.9	2.28	23181	3.9	899	3.0	692
J. Everett Williams	Morgan	H	8	632	90	62.5*	3.6	2.26	23181	3.7	989	3.1	820
Dave Clark	Morgan	H	8	840	87	62.6*	3.5	2.19	26116	3.2	838	2.9	757
Russell Johnston	Morgan	H	8	106	86	55.0	3.8	2.07	20421	3.8	785	3.2	644
Coastal Plain Exp Station	Tift	J	8	25	84	42.9	4.8	2.07	15126	4.7	715	3.5	527
Rufus Yoder Jr	Macon	H	8	90	97	54.2	3.7	2.00	20977	3.4	704	3.1	650
Lazy S Dairy	Worth	H	8	303	93	52.0	3.8	1.95	20330	3.5	718	3.0	604
G & H Dairy	White	H	8	83	89	54.6	3.5	1.92	18973	3.7	709	3.0	562
B & S Dairy		H	8	546	87	54.4	3.5	1.90	20376				
Floyd Yoder	Macon	H	8	76	88	52.3	3.6	7.90	20542	3.3	682	3.1	629
Aurora Dairy Georgia L.L.C.	Mitchelll	H	8	3534	89	56.5*	3.3	1.89	21134	3.7	781	3.0	632
Al & Richard Kinder	Hart	H	8	310	90	63.8	3.5	1.87	20908	3.6	750	3.1	640
Coastal Plain Exp Station	Tift	H	8	180	84	50.1	3.7	1.85	20026	3.8	761	3.0	607
Moriah Dairy Inc		H	8	446	88	51.2*	3.5	1.80	20289				
Ocmulgee Dairy	Housten	H	8	300	88	50.7	3.6	1.80	20550	3.5	723	3.0	626
Louis Yoder	Macon	H	8	128	95	57.2	3.1	1.78	20218	3.3	665	3.1	317
Lamar Anthony	Sumter	H	8	855	80	54.9*	3.2	1.76	21865	3.6	793	3.0	648
David Moss	Morgan	H	8	110	82	45.4	3.9	1.76	20506	4.3	877	3.0	612

[1]Minimum herd size of 10 cows. Yearly average calculated after 365 days on test. (Mo.) column indicates month of test. Test day milk, marked with an asterisk (*), indicates herd was milked three times per day (3X).
Information in this table is complied from Dairy Records Management Systems Reports (Raleigh, NC).