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GEORGIA DAIRYFAX

http://www.ces.uga.edu/Agriculture/asdsvm/Dairyscience/dairypage.HTML January/February 2003

Dear Dairymen:

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

The following information is included:

Sincerely,

James W. Smith
Extension Dairy Scientist

County Extension Director or County Agent

/jlo

Whole Cottonseed Quality is Lower for the 2002 Crop

John K. Bernard
Dairy Research and Extension

The rains that drenched parts of the Southeast this past fall damaged a portion of the 2002 cotton crop. Much of the cotton that was exposed to prolonged wet weather before harvest has lower quality lint and whole cottonseed (WCS). Some of the WCS has higher concentrations of free fatty acids (FFA) in the oil than normal. Also, it is not uncommon to see sprouted WCS in some loads and aflatoxin is a possibility. Not all WCS was damaged, but a greater proportion of the crop is not suitable for crushing.

Because WCS is not considered suitable for crushing doesn't mean that it is not suitable as a feed ingredient. The WCS that is crushing to extract oil must meet the highest quality standards. Cotton oil is used mainly by fine restaurants and bakeries because of it's flavor and it isn't as susceptible to rancidity as other oils. Typically, oil mills must have WCS that has less than 12% moisture, 1.8% FFA in the oil, and 1% foreign matter.

To minimize the possibility of receiving lower quality feed ingredients, producers should develop minimum quality specifications for the ingredients they purchase. This would help minimize some of the variation in quality and provide a means of negotiation a settlement if the feed is not what was expected.

For WCS, the specifications will vary from those used by oil mills, but should be adequate to maintain quality. Whole cottonseed should be dry (less than 12% DM). An exception to this would be for new seed if facilities are available for drying the WCS on site to reduce and maintain moisture levels below 12%. The cost of drying should be taken into account when negotiating a price. It is not wise to store wet WCS as the quality will deteriorate during storage and the potential for aflatoxin increases. If a producer received a wet load of cottonseed, steps should be taken to dry it and get it fed as quickly as possible.

The concern with elevated concentrations of FFA in the oil is related to the potential negative effect on intake and production. Other fat sources with elevated concentrations of FFA have been shown to reduce dry matter intake, milk yield and nutrient digestibility when fed to cattle; however limited research has been conducted with WCS containing elevated concentrations of FFA in the oil. We recently competed a trial in which lactating cows were fed diets containing WCS with up to 12.5% FFA in the oil and did not see any negative impact on intake, digestion, milk yield or composition. In a second trial using steers, WCS with 18% FFA altered ruminal fermentation slightly, but no negative effects were observed when WCS containing less than 18% FFA in the oil were fed. No lactation trials have been conducted with WCS that contain even higher concentrations of FFA in the oil. In a normal year, most WCS do not exceed 12.5% FFA in the oil. The potential negative impact associated with feeding WCS with very high concentration of FFA in the oil will be proportional to the amount fed.

Many consultants have commented on the lower oil and protein content of some WCS. These changes are related more to differences in the varieties of cottonseed that are being planted rather than any direct effect of the weather except for seed which have sprouted or have other apparent problems. The trend in the cotton seed industry for the past decade has been to select for higher lint yields. As lint yield increases, the size of the WCS decreases. As the size of the WCS decreases, the concentration of oil and protein in the seed decreases. This change is reflected in values included in the latest NRC and accounts for the lower energy content of this ingredient. This trend does not appear to be changing because the value of lint is approximately 10 times that of WCS.

If producers have low quality WCS on hand and suspect it is causing intake problems, the amount fed should be reduced. The energy content of the ration should be adjusted to avoid reduced milk yield. If the quality of the WCS has not been determined, a sample should be submitted to a laboratory for analyses. An aflatoxin screen is advisable, especially if the moisture content is higher than normal. If the WCS is wet, it should be dried to prevent mold growth and additional deterioration in quality. For most producers, it is not feasible to purchase another load to blend or dilute the off quality seed.

High quality WCS will be priced higher compared to lower quality WCS this year. Producers should talk with their broker about quality when ordering. Steps should be taken to maintain the quality of WCS once it has been delivered to the farm. If there are concerns about the quality of the WCS and possible impact on production, it may be advisable to reduce the amount fed.

Cream of the Crop Production Awards

James W. Smith
Extension Dairy Scientist

Each year Cream of the Crop production awards are presented at the Georgia Milk Producers Annual Meeting to recognize high levels of production efficiency. Eligibility requirements for 2002 were a DHIA herd average of 21,794 lbs. of milk and/or 780 lbs of fat for Holstein herds and 16, 662 lbs. of milk and/or714 lbs. of fat for other breeds.

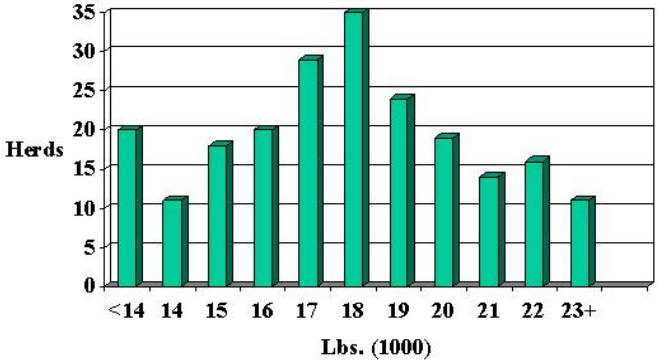
The average milk production for 217 Georgia Holstein herds at the end of the testing year on September 30, 2002 was 18,203 pounds. The median herd production was 18,168 pounds. The median is the midpoint so as many herds were above as below this production level. The distribution of these herds by milk production level is shown in the figure below. It's obvious that there is a wide range in milk production among Georgia Holstein herds.

Congratulations to the following herds for achieving outstanding levels of production. Special recognition is due the Irvin R. Yoder Dairy which is the high milk production herd and the Krulic Dairy Farm which is the high fat production herd in Georgia for 2002.

APPLING COUNTY			
Wright, Whitty & Davis Dairy	1055 cows	22026 M*	
CLARKE COUNTY			
Univ. of Georgia	155 cows	21946 M	789 F
HALL COUNTY			
Double C Dairy	134 cows	21980 M	830 F
HART COUNTY			
Martin Dairy, L.L.P. .	297 cows	21459 M	802 F
JEFFERSON COUNTY			
Cecil Dueck	53 cows	24323 M	824 F
Vista Farm	82 cows	22605 M	787 F
Donald Schmidt	53 cows	22192 M	678 F
JONES COUNTY			
Greene Bros. Dairy	309 cows	22320 M*	
MACON COUNTY			
Irvin R. Yoder	120 cows	25791 M	913 F
Mark E. Yoder	105 cows	24700 M	839 F
Marvin Yoder	95 cows	23062 M	827 F
Daniel Weaver	157 cows	22368 M*	817 F
Rufus Yoder, Jr.	102 cows	22274 M	718 F
Pete Miller	176 cows	22010 M	803 F
Mark D. Brenneman & Sons	126 cows	23305 M	750 F
MCDUFFIE COUNTY			
Rogers' Hillcrest Farms Inc.	386 cows	22522 M	833 F
MORGAN COUNTY			
Williams Dairy	457 cows	25414 M*	902 F*
Dave Clark	792 cows	23575 M	831 F
PIERCE COUNTY			
Gene Bowen	360 cows	22951 M*	
PUTNAM COUNTY			
Briarpatch Holsteins	462 cows	20666 M	803 F
Earnest R. Turk	375 cows	20660 M	781 F
SCREVEN COUNTY			
Krulic Dairy Frm, Inc.	106 cows	23600 M	917 F
SUMTER COUNTY			
Anthonys Dairy	716 cows	23141 M*	857 F*
TALIAFERRO COUNTY			
Williams Dairy	120 cows	22570 M	712 F
WARE COUNTY			
Moodys Dairy	989 cows	22326 M	

**Milked three times a day*

GA Holstein Herds by Milk Production



Dates to Remember

February 21-23, 2003	Commercial Dairy Heifer Show Georgia National Stock Show, Perry
February 28-March 2, 2003	Purebred Dairy Cattle Shows - GNSS, Perry
April 11, 2003	Spring Dairy Show, Athens
April 12, 2003	State 4-H and FFA Dairy Cattle Judging Contest, Athens
April 26, 2003	Holstein Southern Invitational Sale, Perry
November 11-12, 2003	Southeast Dairy Herd Management Conference Georgia Farm Bureau Building, Macon

Biosecurity Quiz: How well are you protecting your herd against disease?

Dana Cole, Veterinarian
Food Animal Health & Management Program

As the industry becomes more diversified and the threat of foreign animal disease increases, biosecurity is a growing concern. Although biosecurity is an easy concept to understand, it is often very difficult to put into practice. Many activities that we have done for years without thinking about it now are known biosecurity risks and may be having long term impacts on our herd's health and production. For example, introducing a heifer that is infected with Bovine Viral Diarrhea Virus (BVDV) can result in significant losses due to disease and calf losses. In addition, calves born to dams that were exposed to the virus during early pregnancy can be persistently infected with the virus and, undetected, may be a source of disease to others in the herd. This is only one example of how something so common—adding a new heifer to the herd—can result in long term problems. Imagine if this heifer had a foreign disease such as Foot and Mouth!

Here is a short biosecurity quiz to see how vulnerable you may be to the introduction of new diseases in your herd:

Question	Answer (Points)
1. Do you purchase animals every year?	Yes (2pts) No (0pts)
2. If you purchase animals, how long do you keep them separated (quarantined) from the rest of the animals in your herd?	Less than 2 weeks (4pts) 2-3 weeks (3pts) 30 days (2pts) 60 days (1pt)
3. Do you have animals leave the farm and return?	Yes (2pts) No (0pts)
4. If you do have animals leave and return, do you quarantine them when they return?	No (4pts) Yes (1pt)
5. Do cattle in the quarantine pen have contact (i.e. shared waterer, feed bunk, fenceline, handling facility) with other cattle in your herd?	Don't have quarantine pen for new animals (3pts) Yes (2pts) No (0pts) Have closed herd, and no animals that leave ever return (0pts)
6. Can manure run off from your quarantine pen into your calving pen or calf hutch area?	Yes, most days (4pts) Yes, when it rains hard (2pts) Never (0pts)
7. Do you loan or borrow equipment (i.e. manure spreader, trailers, scrapers) from other farms?	Yes (2pts) No (0pts)
8. Are visitors (and personnel with outside employment in agriculture) required to disinfect their boots before entering livestock areas?	No (2pts) Yes (0pts)
Question	**Answer (Points)**
9. Do your hoof trimmers sanitize their equipment before coming onto your farm?	No (2pts) Yes (0pts)
10. When you ship cattle, does the truck stop at more than one farm during a trip?	Yes (2pts) No (0pts)
11. Do other species (i.e. dogs, cats, deer, horses) have contact with your cattle or cattle feed?	Yes (3pts) No (0pts)
12. Do your cattle have fenceline contact with neighboring cattle?	Yes (3pts) No (0pts)

Scores:
0-6 points: WOW! You are probably doing a good job of keeping disease out, now you can focus on managing disease and production within your herd.

7-11 points: You are aware of the importance of biosecurity, but can still take a few steps to tighten up your protocols

12-16 points: With a bit more vigilance, you can significantly lower the probability of disease entering your herd.

17+ points: It might be a good time to talk with your veterinarian about how you can improve your facility's biosecurity.

Electronic Thaw Baths

by W. M. Graves & L. E. McKee
University of Georgia

Electronic thaw baths have become very popular on Georgia dairy operations. In the last decade both AC and DC versions have become available, depending on where you want to thaw your straws. Producers and technicians should keep the unit full of clean tap water. It takes approximately one minute to warm up 2°F. That means 80° F water requires 8 minutes to get to 96° F, and 60° water requires 18 minutes. Wait for the green light to come on, indicating the unit is at the correct temperature. Agitate the water by moving the basket up and down to assure temperature consistency. Check the temperature monthly for accuracy with a mercury bulb thermometer.

You can use the flat thaw monitor generally provided to determine correct temperature for thawing. Place it in the water for at least 15 seconds prior to reading the temperature. The inexpensive, flat, plastic thaw monitor thermometers are state of the art, liquid crystal temperature indicating devices. They have a high degree of accuracy and with proper care will give long and useful service.

The thaw monitor thermometers have been triple laminated to give the best possible water resistance. However, long continuous exposure to water will cause the crystals in the indicator to become moisture contaminated. The numbers will become dull and milky in color. If this should happen, leave the indicator in a dry environment until the numbers become clear and bright. Then recheck the indicator against an accurate mercury bulb thermometer. It is recommended to use the indicator for water adjustment and final check prior to thawing. Do not bend or fold the thermometer, leave in direct sunlight, or expose it to liquid nitrogen. Wash only with soap and water.

There is an internal temperature adjustment knob for the electronic thaw bath. The unit has been factory calibrated to 96°F. However, if you desire to adjust the preset temperature, you may readjust it by removing the screws on the bottom of the unit and adjusting the knob clockwise for warmer and counter-clock-wise for cooler temperatures. Turn the temperature adjustment knob a little at a time and allow the unit to stabilize before checking the temperature again. Be careful. High or low temperatures can affect fertility. If your unit does not maintain proper temperature, return the unit for repair and replacement.

The Dairy Business Analysis Project Summary for 2001

Lane O. Ely[1], Albert deVries[2] and Russ Griesy[2]
University of Florida[2] and University of Georgia[1]

The collection and summary of financial data has been completed for 2001 for the Dairy Business Analysis Project (DBAP). Thirty-nine dairies had complete data that was included in the 2001 summary. These included 1 dairy from Alabama, 27 from Florida and 11 from Georgia.

The average values for the project, for Florida and for Georgia are reported in the tables. The average herd had 977 cows and 477 heifers. (Table 1) Florida herds were larger than Georgia herds which resulted in Florida herds selling more milk and having more employees. Milk production per cow was higher for Georgia herds (19,342 pounds) than Florida herd (16,355 pounds). Cows per worker was equal resulting in more milk sold per worker in Georgia (1.0 million pounds) than Florida (.85 million pounds). The cull rate was 40% in Georgia versus 34% in Florida.

Revenue is listed in Table 2. The average milk income was $18.24/cwt with Florida at $18.33/cwt and Georgia at $17.92/cwt. Total revenue was $20.00/cwt with Florida at $19.77/cwt and Georgia $20.16/cwt. Georgia was higher because of higher income from selling raised or leased cows and gain on purchased livestock sales.

Expenses are reported in Table 3. The average total expense was $17.75/cwt with Florida averaging $17.91/cwt and Georgia averaging $17.00/cwt. The largest expense item was purchased feed with an average of $7.32/cwt and Florida at $7.51/cwt and Georgia at $6.96/cwt. Even though Georgia had lower purchased feed cost, crop expense was higher than Florida resulting in equal purchased feed plus crop expenses for the two states. Georgia had lower personnel expenses and other expenses resulting in the lower total expenses.

Returns are reported in Table 4. Net farm income from operations averaged $2.25/cwt for the project with the Florida average $1.86/cwt and Georgia $3.17/cwt. The rate of return on assets, rate of return on equity, operating profit margin ratio and asset turnover rate were higher for the Georgia herds than Florida herds.

2001 was a good year. We are getting ready to collect 2002 data. Anyone interested in participating in the project can contact Lane Ely, 706-542-9107 or laneely@uga.edu. As the economic picture changes the more information one has the better decisions that can be made.

Information needed to participate and complete the data is listed below:

1) P&L for 2002 (cash inflow and outflow).
2) Balance sheet - 1/1/02 and 12/31/02 (assets and liabilities).
3) Cow flow - cow numbers 1/1/02 and 12/31/02 plus number of cows that entered and left herd.
4) Other inventory including young stock, bulls, value of feed and supplies.
5) Accounts payable, accounts receivable and cash on hand for 1/1/02 and 12/31/02.
6) Depreciation for tax year 2002 for a) cattle, b) equipment and c) buildings.

Information is confidential and only summaries will be published. Each farm receives a report of its data and a summary report analyzing the farm with project data.

We look for increased participation as financial decisions become increasingly important.

Table 1. DBAP 2001 - Farm Size

	Average	Florida	Georgia
Farms	39	27	11
Cows	977	1078	794
Heifers	477	556	308
Milk sold (million lbs.)	17.55	18.98	15.29
FTE workers	19	21	13
Acres - pasture & cultivated land	437	469	355
Milk sold/cow (lbs.)	17,170	16,355	19,342
Cows/FTE worker	51.5	52.2	51.8
Milk sold/FTE worker (million lbs.)	.88	.85	1.00
Cull rate	.36	.34	.40

Table 2. DBAP 2001 - Revenue/cwt.

	Average	Florida	Georgia
Milk sold	$18.24	$18.33	$17.92
Raised, leased cow sales	.56	.51	.66
Heifer sales	.29	.38	.10
Gain on purchased livestock sales	-.08	-.28	.43
Other	.21	.20	.21
Total	$20.00	$19.77	$20.16

Table 3. DBAP 2001 - Expense/cwt

	Average	Florida	Georgia
Personnel	$2.69	$2.87	$2.22
Purchased feed	7.32	7.51	6.96
Crops	.48	.25	.74
Machinery	1.01	.99	.93
Livestock	1.64	1.66	1.63
Milk marketing	1.05	1.02	1.16
Building and land	.64	.54	.76
Interest	.61	.75	.30
Depreciation: Livestock	.67	.69	.70
Machinery	.50	.41	.62
Buildings	.24	.23	.26
Other	1.52	1.75	1.03
Total	$17.75	$17.91	$17.00

Table 4. DBAP 2001 - Returns

	Average	Florida	Georgia
Total revenue	$20.00	$19.77	$20.16
Total expenses	17.75	17.91	17.00
Net farm income from operations	2.25	1.86	3.17
Appreciation	.15	.13	.19
Net farm income	$2.39	$1.99	$3.36
Rate of return on assets	.09	.07	.14
Rate of return on equity	.11	.07	.21
Operating profit margin ratio	.09	.08	.13
Asset turnover rate	.90	.83	1.10

Tail Docking, Cow Cleanliness and Mastitis

Warren D. Gilson
Extension Dairy Scientist

The Pasteurized Milk Ordinance (PMO) requires that the udder and teats be cleaned before the milking machine is attached. Obviously, the cleaner the cows are when they enter the milking area, the easier it is to accomplish this task. Clean cows also make the job of milking more enjoyable.

Recently, many producers have begun docking the tails on their cows to assist in keeping cows clean. Some producers report that the cows are much cleaner when the tails are docked while others find little difference.

Researchers at the University of Wisconsin recently examined the effect of tail docking on milk quality and cow cleanliness. They studied the cows on eight Wisconsin farms. The herds were followed for eight to nine months. All herds were housed in freestall barns. Half the cows on each farm were docked while the other half were left intact.

Milk samples were collected five times during the trial for determination of intramammary infection (IMI). They also scored cleanliness of the udder and legs simultaneously. Somatic cell count data were obtained from DHIA monthly.

The researchers found no significant difference in the cleanliness of the legs and udders between the docked and undocked cows. There was a significant interaction between farm and treatment. The majority of the herds showed no difference; however, the docked cows were significantly dirtier on two farms while they were significantly cleaner on three farms.

Intramammary infection rates were not significantly different between the two groups. Correspondingly, somatic cell counts did not differ between the docked and undocked cows. This indicates that tail docking did not affect the incidence of mastitis in these herds.

Keeping cows clean is a difficult task regardless of the housing system. These results indicate that tail docking overall has an insignificant effect on cow cleanliness and milk quality. The farm by treatment interaction; however, indicates that individual results may vary. Tail docking may result in an improvement in cow cleanliness on some farms while others may be dirtier.

Whether you decide to dock tails or not is an individual decision you must make. The desired result of cleaner cows may or may not occur. These results indicate that efforts to improve the environment may be much more important and pay bigger dividends than tail docking.