PRODUCING QUALITY MILK IN FLORIDA

DAVID R. BRAY
FLORIDA’S MILK MARKET

1. Is wanted by all

2. Deficit milk supply (heat stress)

3. Is screwed up
1. We export milk out of the state

2. Others ship milk into the state at the same time
MILK QUALITY?

1. Milk in the Southeast is usually lower in quality than Yankee milk

2. Premiums paid for quality milk in the North – cheese makers pay for quality
1. Our processors want longer shelf life

2. Must improve to keep milk imports out of the state
WORLD MARKETS ARE CHANGING

1. More people in the world with money need milk products

2. World’s economy is changing

3. Natural disasters—floods, tsunamis – less food produced
4. Burning food in our cars, trucks and farm machinery has increased demand for corn and rising prices for the world.

5. Governments are being over thrown.
EXPORT POSSIBILITIES?

1. E.U. has set limits of <400,00 SCC for a country to export milk and milk products to them

2. U.S. products are found less desirable than others because of substandard quality-SCC <400,000

3. How many loads are going North today that could be exported?
U.S. MILK MARKET INCLUDING THE S. E.

1. Has too much product

2. Has the ability to produce more milk

3. Needs to be able to sell more milk products

4. Must meet milk quality standards for export
WHAT DOES THIS MEAN TO THE MILK PRODUCERS IN THE U.S. / SOUTHEAST

1. We must lower our SCC to <400,000 to keep our local markets. Processors have other options since milk is imported anyway.

2. For the U.S. to compete globally the S.E. must improve milk quality.
WHAT IS BEING DONE? (SMI)

1. Penalties set up to increase milk quality
   a. SCC < 650,000
   b. SPC < 80,000
   c. PI < 100,000

2. Hired Dr. Adam Jackanicz as their Field Representative. His expertise is much needed.
HIGH SCC HERD NOW?

1. Get a bulk tank culture done on the herd, two weeks in a row

2. Strip every quarter of every cow in the herd, this should be done by someone in management or ownership in the dairy, not by the guy you hired last week.
3. Do something with those cows with high SCC quarters

a. If she has been treated more than 5 episodes this lactation
b. Dry that quarter off, kill it
c. Cull the cow
d. Dry the cow off early if she is pregnant
4. If you have a bunch of junk cows, chronic cows, cull them
5. Leg Band all Blind Quarters
6. Don’t milk those quarters
7. Make a list of cows with bling quarters
8. Keep it updated.
Need Color Codes
5. Treat the quarter with a commercial tube, cleaning the teat end off with alcohol pads, follow label directions, some drugs need to be given at 12 hour intervals, do what the labels says

6. Treat or cull enough quarters to be below the penalty limit.
7. Determine what kind of bacteria you have in the herd from the bulk tank results, if you have a Veterinarian you should have some input from him or her. If not, I would be happy to discuss the options with you.
8. Figure out how you got into this mess and how to get out of it.

a. Milk clean dry udders
b. Post dip every quarter milked
c. Keep your cows in as clean a place as possible.
d. Rebuild your pulsators
e. Clean your vacuum controller
f. Dry treat every cow going dry
g. Mow your careless weeds in all pastures
9. Cull junk cows and don’t make more junk cows!
HIGH SPC

1. A bulk tank analysis would help to make a decision
   a. If you have low SCC, low pathogen levels you have eliminated cows
   b. If high see above in high SCC
COOLING

1. Cooling is easy
   a. Is milk cooling fast enough
   b. Temperature low enough
   c. You need a thermometer
CLEANING

a. Is your hot water temperature 160° F at the start of wash?

b. 120° F at the dump cycle?

c. Is the air injector working properly?
d. Get the system checked

e. Clean the cooling fins

f. Check if the agitator is working

g. Is the tank iced up

h. Get it checked
Concrete is Cleaner
HAS YOUR CHEMICALS CHANGED?

a. Inexpensive chemicals are usually less concentrated and more are needed

b. Are you sanitizing the tank less than an hour before using it?

c. If you use chlorine, some acid rinse sanitizers have a long time limit
Accurate Amounts of Chemicals
Everything in its place
Out of the Sun
Safety
RUBBER

a. Change all rubber hoses, gaskets, jetter cups in the parlor twice a year

b. Change liners every 1200 cow milking or per label directions

c. Change all rubber parlor hoses, milk house hoses at least once a year

d. Don’t chase milk with water and don’t drink out of them either
Cups and Ducks
HIGH PIC

1. Poor milking hygiene, dirty conditions in lots, stalls and the parlor.

2. Poor wash up procedures and or sanitizing of milking equipment.

3. Poor or slow milk cooling, milk not cooled below 38°F, blends should not exceed 48°F
4. Poor water quality

5. Milk clean dry udders and teats, have proper wash up and sanitizing of milking equipment, cool you milk cold and as quickly as possible.


7. Bacteria that cause PIC do not survive Pasteurization.
LABORATORY PASTEURIZED COUNT REDUCTION PROCEDURES

1. The LPC test is doing a standard plate count on pasteurized milk

   a. The mastitis pathogens are killed and what remains is crap

   b. These organisms are not from cows udders, they are usually spore formers, like bacillus or other undesirables like pseudomonas, which live in rubber hoses and are in some water supplies
If a high LPC count is present or in your near future, 250-300 cfu/ml. is the usual cut off point, then the following procedures need to be done to ensure you stay below these levels.
MILK CLEAN DRY PRE-DIPPED TEATS AND UDPERS

a. Dirty sand bedding, muddy lots are a big supplier of these non-cow bacteria

b. Milking wet and or dirty teats will load up the tank with them.
REPLACE ALL RUBBER PARTS IN THE MILKING PARLOR

a. Milk hoses, wash hoses, jetter cups, pipeline gaskets

b. Milk pump gaskets and butterfly valves etc.

c. While apart inspect inside the pipelines for any build-up or milk stone

d. Including the pipeline from the milk pump to the bulk tank
e. Hot water supply to pipeline, bulk tank washers

f. All rubber water hoses that may get water into the milk supply, replace all rubber parts every six (6) months

g. No chasing of milk especially not with a rubber hose
Rubber Parlor Hose
Old Hoses???
PULSATOR LINES

a. Wash out pulsator lines, they should have clean outs on the corners so it can be flushed out

b. Wash out pulsator hoses, remove the twin pulsator hoses from the claw

c. Run hot soapy water through them and the pulsators

d. Most pulsators will take a quart of water
e. Rinse pulsators, change hoses if old

f. When liners split during milking the milk runs through the pulsators into the pulsator lines and throughout the vacuum system

g. Dried milk film may be a big problem of high LPC’S
VACUUM SUPPLY LINES

Wash out vacuum supply lines, trap to pump, balance tanks etc. (DO NOT RUN WATER INTO VACUUM PUMPS!!!!)
Untouched?
Trapped
BULK TANKS

a. Inspect inside of bulk tanks

b. You need a black-light or big flash light

c. A skinny person

d. Let the tank air out
e. If any internal cleaning of the tanks is needed use a non-scratch 3M scrubber and soap and water

f. No acids or strong chemicals that will kill the skinny guy in the tank

g. NEVER COMBINE ACID CLEANERS WITH OTHER CHEMICALS
OTHER STUFF

a. Make sure air injectors are working properly

b. Chemical concentrations are correct for your system

c. Minimum of 160° F water at the start of the wash cycle

d. Dump the water at 120° F
e. Sanitization of tanks and pipelines should be 1 hour or less with chlorine sanitizers

f. Some products are longer lasting

g. Check all labels of all chemicals, you might learn something important

h. If you only do wash up twice a day and you milk 3 X you might try washing the system 3 X
Positive Side-Harder to clean
a. Make sure your cooling system is working properly

b. Chillers are necessary if you have an old tank with little cooling capacity

c. Ideally if we never get milk to $40^\circ$ F we will have lower counts
PLATE COOLERS

a. The plate cooler is a good candidate for LPC problems

b. Lots of gaskets etc. If all above fail this is it.
TRANSFER HOSES

a. From the tank to the truck can be a problem also especially on large daries where bulk tanks are filled multiple times a day

b. It is possible that the hose does not get washed and sanitized every time.
Transfer What?
NOT ROCKET SCIENCE

a. This is not an expensive process, no cows to treat, or cull, just good husbandry practices like keeping cows as clean and cool as possible

b. Milking clean dry teats
c. Have enough hot water and proper chemical concentrations

d. Flushing out your milking system regularly

e. Change rubber parts every six (6) months

f. You just as well get used to doing this because these tests are here forever
BIO-FILMS

a. If none of these changes don’t lower your LPC count you may have a problem with BIO-films on the surfaces of your equipment.

b. These are removed with a more powerful chemicals.

c. You should contact your chemical supplier to get the proper chemicals and concentrations to remove them.
d. Bio-films seem to be a bigger problem in larger herds that milk around the clock

e. Again you need to probably use high quality chemicals to control them
FROM THE COW

a. Another factor may be that dry cow teat sealants may stick to pipelines and harbor undesirable bacteria

b. You will need better chemicals to remove these residues

c. Some dry and lactation antibiotics may cling to surfaces and won’t be removed with conventional wash up procedures
How are we Doing?
Something New???
Great Job Dairymen

• 1 - You guys have made great progress in Milk Quality.
• 2 - SCC on many dairies are under 300,000
• 3 - The majority of dairymen are ready for world trade today.
• 4- If we wish to compete for our market we better get everybody in this position.
SUMMARY

1. Sell junk cows!

2. Don’t make more junk cows!

3. Buy quality chemical products!
O.M.G., I’m Rich

- Silver in the Hair
- Gold in the Teeth
- Crystals in the Kidneys
- Sugar in the Blood
- Lead in the Ass
- Iron in the Arteries
And an inexhaustible supply of Natural Gas