

Quality Milk: A Reality For ALL Dairy Farms

**Georgia Dairy Conference
Savannah, Georgia**

**Dr. Andrew Johnson
Green Bay, WI 54313**



Previous Speakers

Great information that every dairy operation in this room can benefit by

A lot of practical information for all dairies regardless of herd size





"The Udder Doctor"



The Udder Doctor

**Work on milk quality
and cow comfort**

in 30 countries and 47 states

**Work on herds ranging from
20 cows to over 22,000 cows**



Thank You

**This is my fourth time
speaking at this conference**

**Some of the best dairies in
USA here in this group**





Official Soft Drink
of





Been Painful

As stockholder and huge fan
this has been a very difficult
season

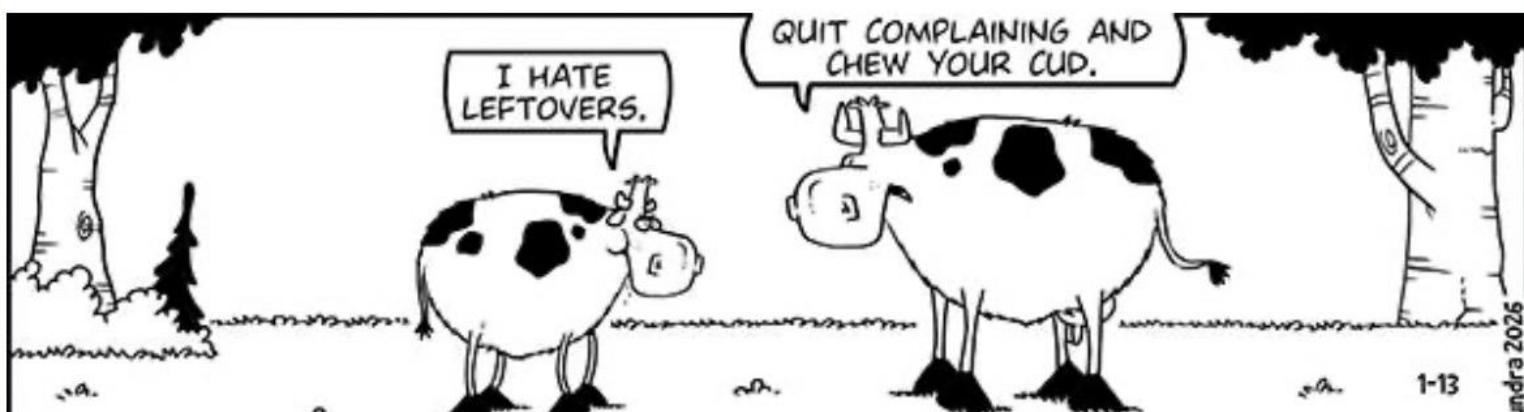
There is always next year!



Chad Carpenter's

TUNDRA

The comic strip



www.tundracomics.com

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Dr Andy

**Such an old dinosaur in the
industry but the story has
been the same**

**So proud to see the great
results in SE USA**



Dr Andy

**Over 25 years ago I was
clearly told in SE you
CANNOT have SCC under
300,000 due to weather**



SE Dairies

12 dairy operations actual
SCC averages for last 6
months 82,000

Range 52,000 to 92,000 SCC
Represents over 35,000 cows

Great Job!!



Most Important

**Dairies must make their
decisions based on FACTS
and NOT on Assumptions**

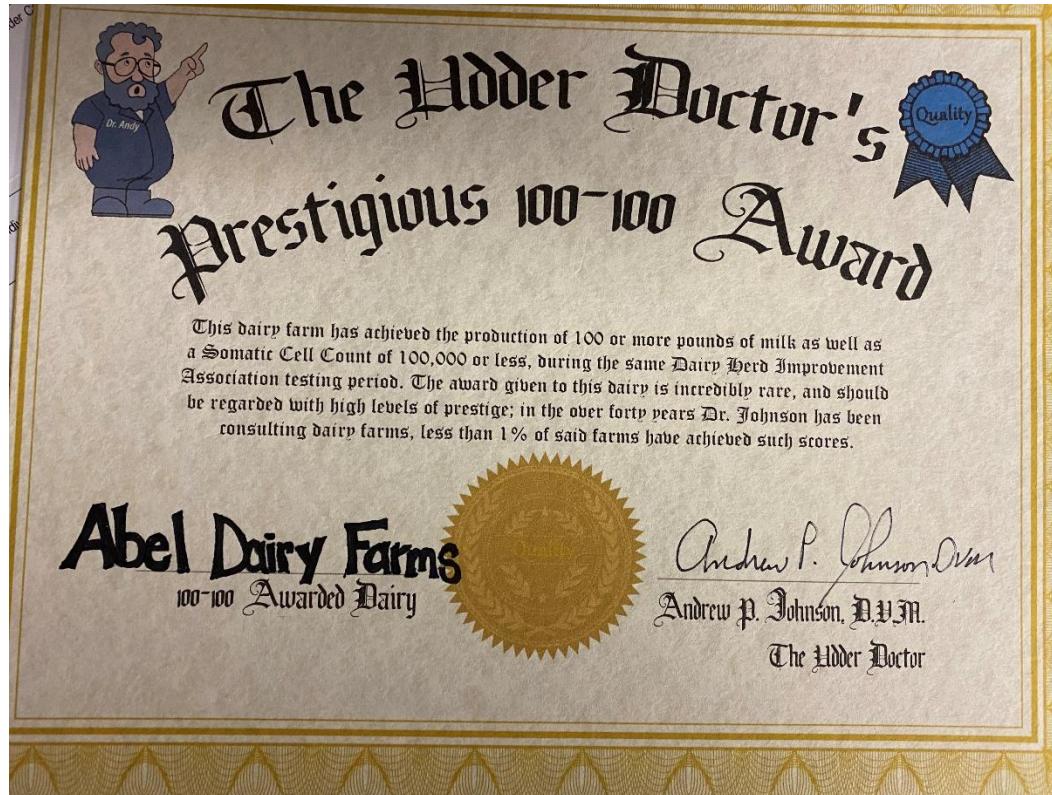
**So many mistakes have been
made for too many dairies**



The Dairy Industry

Quality Matters

100-100 Club



Quality Matters

100-100 Club

In 15 years over 40 dairies have
achieved this award
75% in last 5 years

8 dairies in this room have gotten this
award



Quality Matters

100-100 Club

Dairies all locations USA
50 to 7,500 cows

Bed with sand, recycled sand, straw,
sawdust, mattress and
Manure Solids



Quality Matters

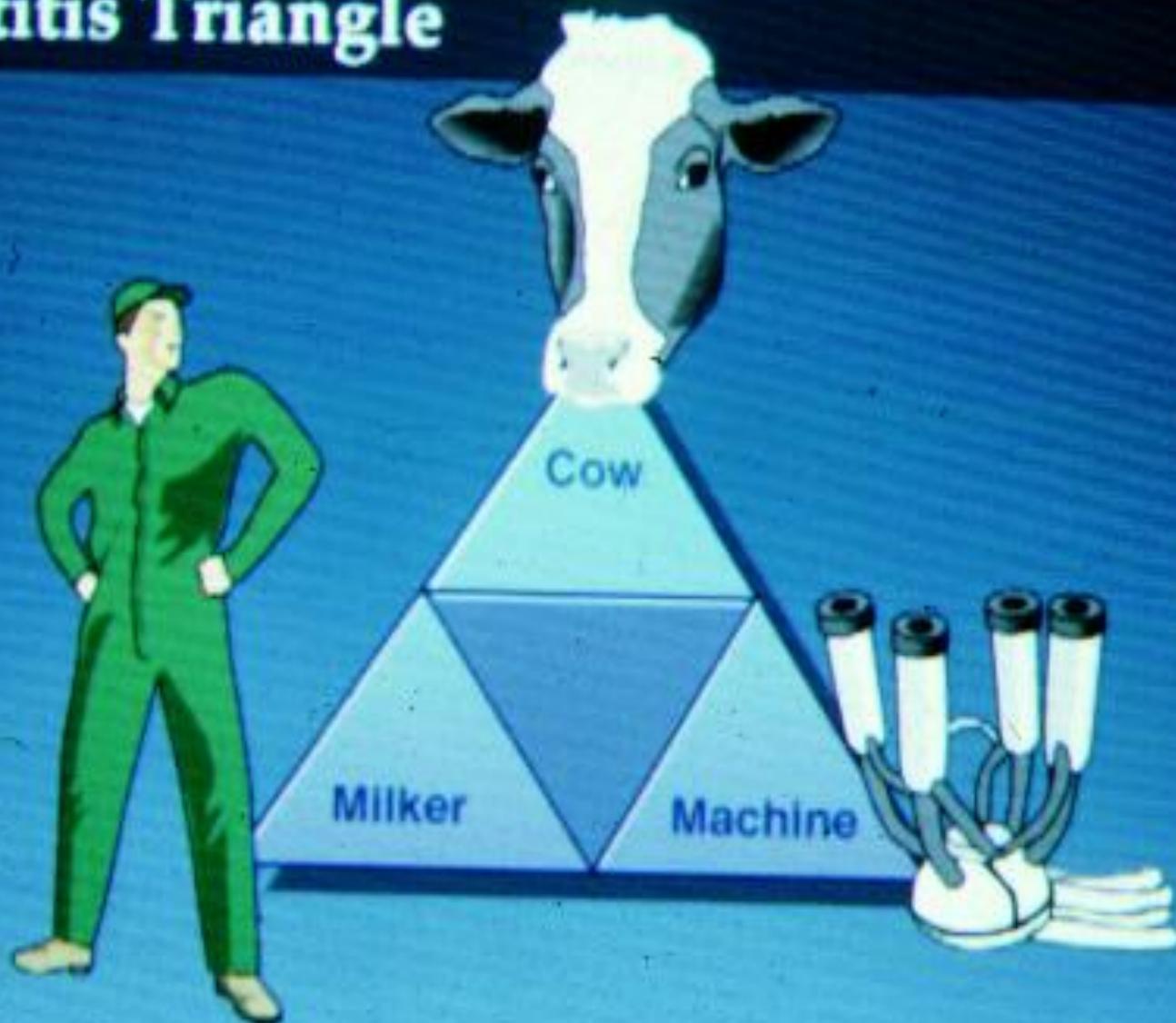
100-100 Club

These dairies focus on doing the little things correctly every milking

They understand the importance of the
MASTITIS TRIANGLE



The Mastitis Triangle



100,000 and Stay There

Key Issues:

Clean Cows

Correct Milking Routine

Correct Predip and Post Dip

Proper Milking Equipment Settings

Bedding Handling

Stall Care



The Quality of Milk is Determined at the Dairy



SCC of Each Dairy

1. Is exactly what they have decided it should be
2. Reflects the management decisions of the dairy (housing, milking routine, milking equipment)
3. Truthfully, It reflects the true attitude of the dairy



Herd SCC

Every herd is
capable of producing milk
with an SCC in the bulk tank
less than 150,000

Size doesn't matter,
attitude does!!



Herd Production

Where is the future going to be?

Think of the huge change the last
10 years and last 5 years
Been amazing and keeps getting
better



Herd Production

30,000 pound (13,636 kg)
common now

Some dairies pushing 40,000 pound
(18,182 kg)

Is 50,000 pound (22,727 kg) in our
future



Herd Production

7 pounds (3.18 kg)
total solids were also a goal

Some dairies now achieving 9 pound
(4.1 kg)

Higher milk and solids are more
common



A Top Herd

13,626 cows through parlor

94 pounds/head/day (42.7kg)

69,000 SCC

Very few cows being treated for
mastitis (less 0.5%)



Milk quality starts with the
Cow and her environment

Cows in a dirty environment will
Have a higher risk to new infections
Keep the cow clean, dry and
Comfortable 24 hours a day!



Most SCC and Clinical Mastitis
issues are coming from the
cow's environment

Not the milking routine or
milking equipment



Most dairies do not like to admit
their cows are dirty

My number one challenge is
getting dairies to focus on
Cow cleanliness



Most common issue with
dirty cows is Strep species
clinical mastitis cases

Strep species equals feces
Yes, it that simple

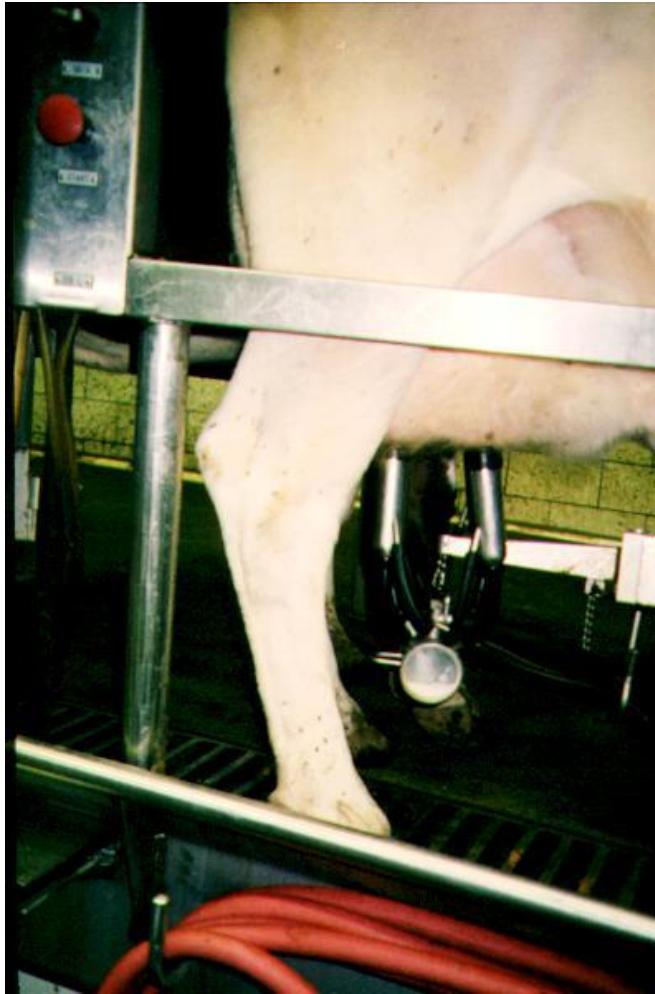


LISTEN TO THE COW!



They always tell the truth or the real story!!

Dirty Legs, Do They Matter?



Clean Legs



Very Dirty Legs





Does a dirty foot really matter?

Where is the leg located?



Right By the Udder!!

Grooming Stalls

Mechanical Grooming

**Needed for sand and bio-solid
Stalls to keep dry and comfortable**

**Minimum 1X day while some
dairies groom 3X a day**

**Grooming works great
Brush for mattress herds**



Grooming Stalls

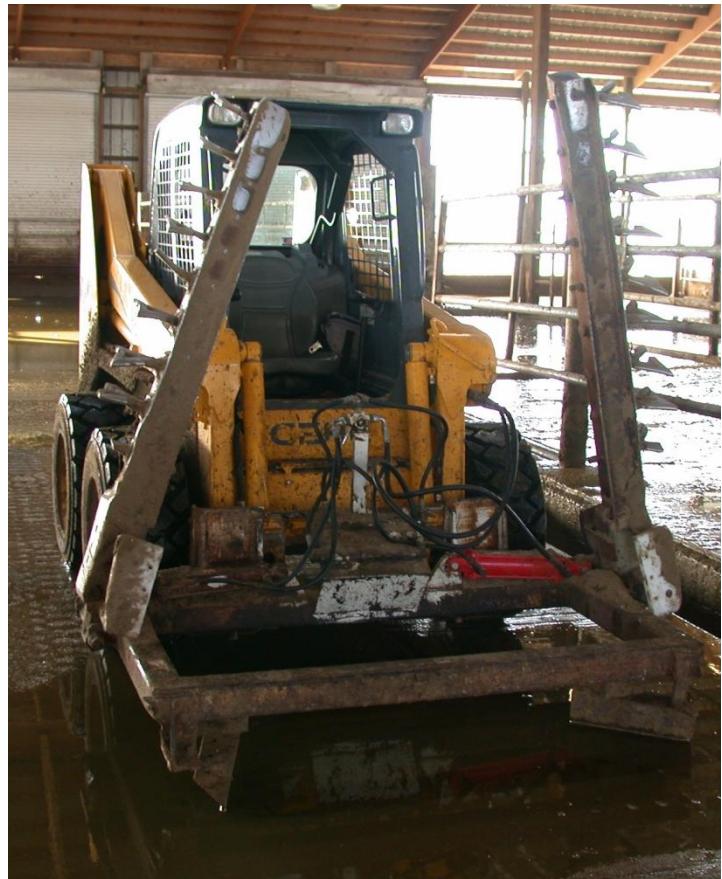
Mechanical Grooming

Many dairies find that grooming stalls also increases milk production by 1 to 3 pounds (0.45-1.36kg) per cow per day

That alone makes grooming worth thinking about



Free Stall Grooming



Mechanical methods work great





Heavy Bristle Broom



Best for Mattress Stalls



Proper Bedding Storage



Covering sand at least 1 week prior to going into the stalls will decrease clinicals. Wet sand a definite problem. Most SE dairies now doing this



Milking Routine

**Huge impact on how fast and
complete cows milk**

**It is not just about milking more
cows but also producing
excellent quality milk**

Milking Routine

Proper training is the key

Not just one time

Continual training

Milking Routine

Consistency is key

Inconsistency is the problem

Best Milking Routine

What I recommend

- ❖ Step 1: Dry wipe and Predip
- ❖ Step 2: Strip and dry
- ❖ Step 3: Attach and Align

❖ Highest flow rates, fastest milking, and best milk quality



Best Milking Routine

The more physical time you put on the teat, the faster she lets down her milk and the shorter her total duration will be.

Common now for 100 pound (46kg) cows to have durations less than 4 minutes (Best 3.2 minutes)



Best Milking Routine

In my experiences, NO dairy can justify not stripping cows. Every farm that stops stripping sees an increase in SCC and less cows milked per shift

Florida dairy example



Best Milking Routine

What I recommend

- ❖ Stripping teats a must because starts the let down clock the best and detects abnormal milk
- ❖ EVERY dairy will benefit by stripping, it just takes an attitude change
- ❖ Lowest SCC herds with most cows milked per shift STRIP teats



Best Milking Routine

Proper drying of the teat is the biggest reason for lower clinical cases, lower SCC and faster milking.

Time spent here rewards the dairy more than most other steps of the milking routine



Best Milking Routine

I have many large rotary parlors that have added a person so they have two people drying

The results higher flow rates and more cows milked per hour

Huge return on the extra person investment

Not how few people but correct number of people



Best Milking Routine

The biggest buzz word in dairy industry at this time is eliminating people milking cows.

Great idea as long as the results are same or better

Most cases the results are much worse.



Best Milking Routine

What I recommend

- ❖ Proper drying yields the best return to milk speed and lower clinical mastitis
- ❖ Wipe all four teats one side towels, then flip and dry all four teats again with rub across teat ends
- ❖ Focus here yields more positive results

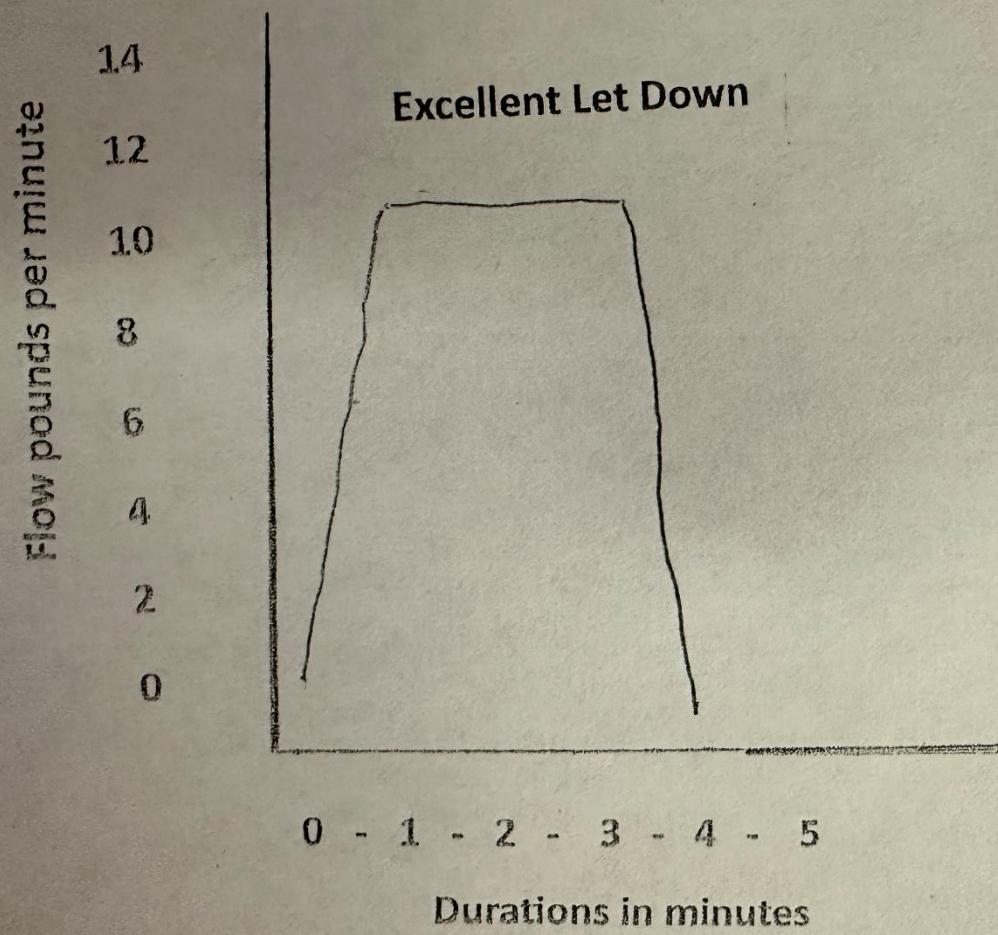


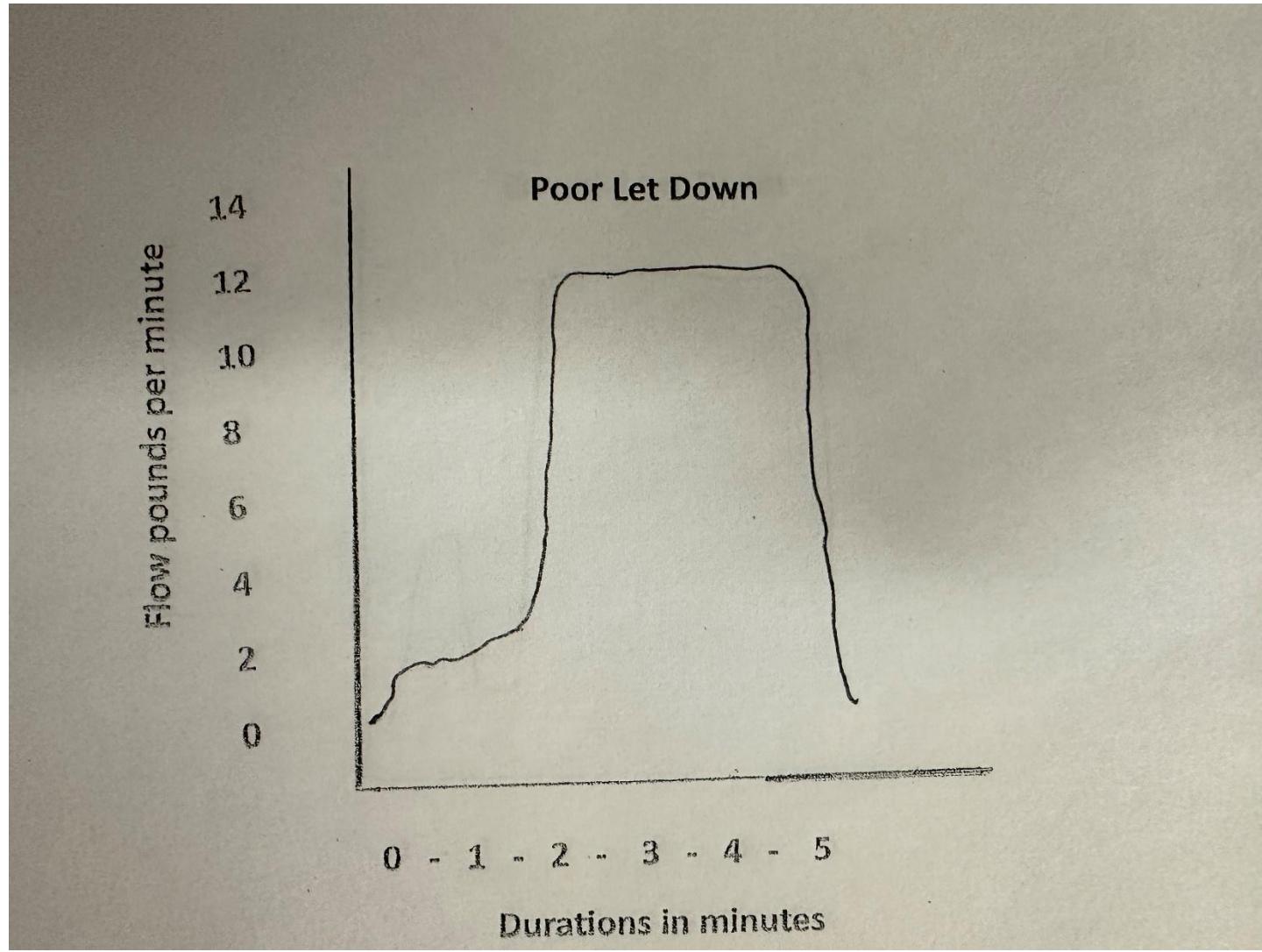
Proper Milking Practices

Results in:

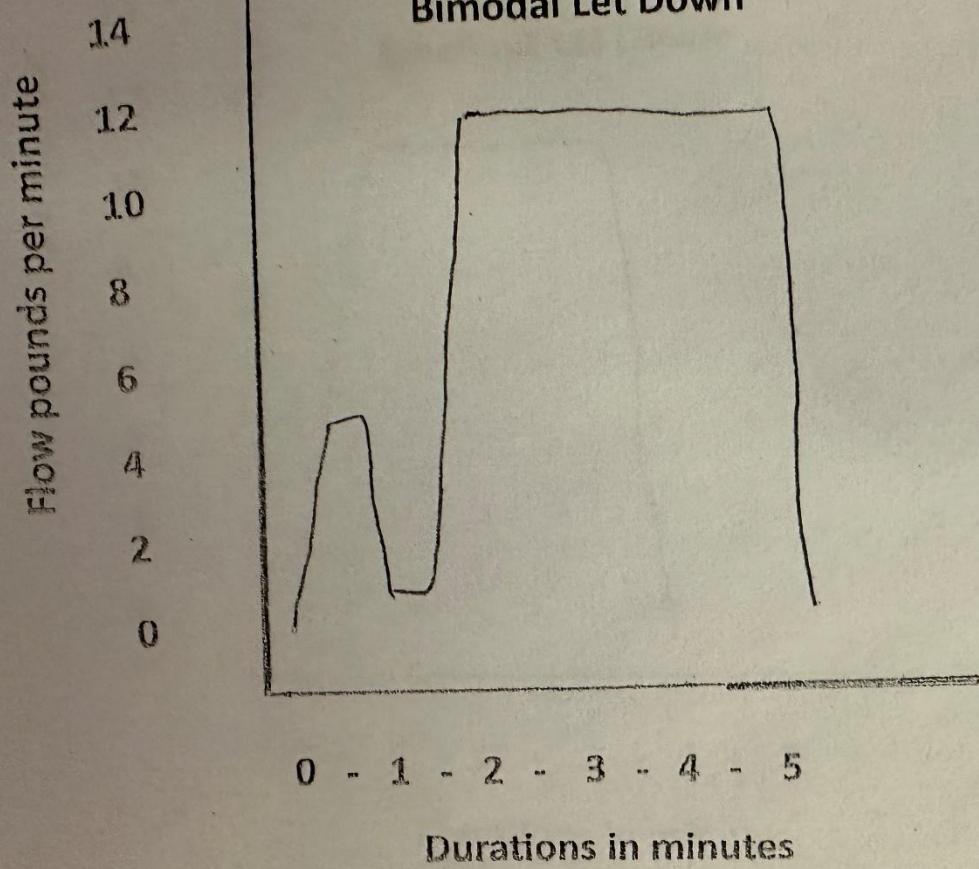
- ➡ Faster Milking
- ➡ More Milk Production
- ➡ Better Milk Quality

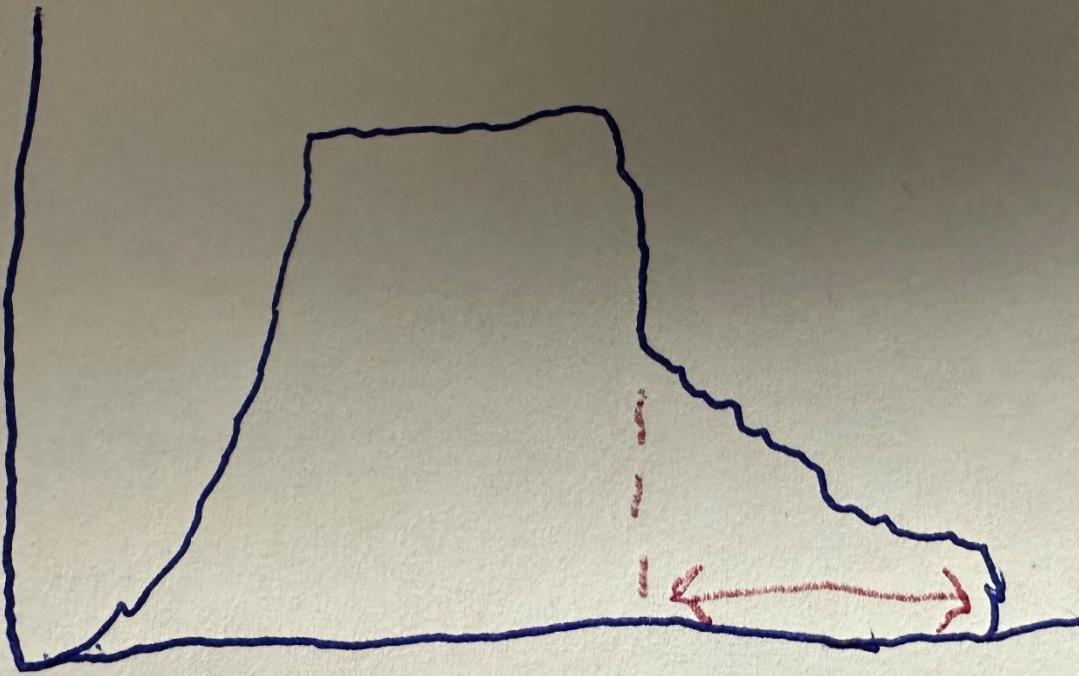






Bimodal Let Down





Over milking



Poor Advice

Is as worthless as a parachute that
opens on the second bounce!



Proper Lag Time

The single biggest factor
to rapid and complete milk outs.

GOAL = 90+ SECONDS

(Fore Strip to Unit Attachment)



Proper Lag Time

Goal: 90-180 seconds

Research shows up to 5 minutes without negative issues



Over Milking

Greater than 75% of
all over milking occurs
at the beginning of milking

NOT THE END OF MILKING!!



DIPS

- Proven products
- Right product for right job
- Right product for right bedding
- Predips different needs than post dips
- Results

DIPS

- Proper mixing
- Proper storage
- Proper Age of product

DIPS

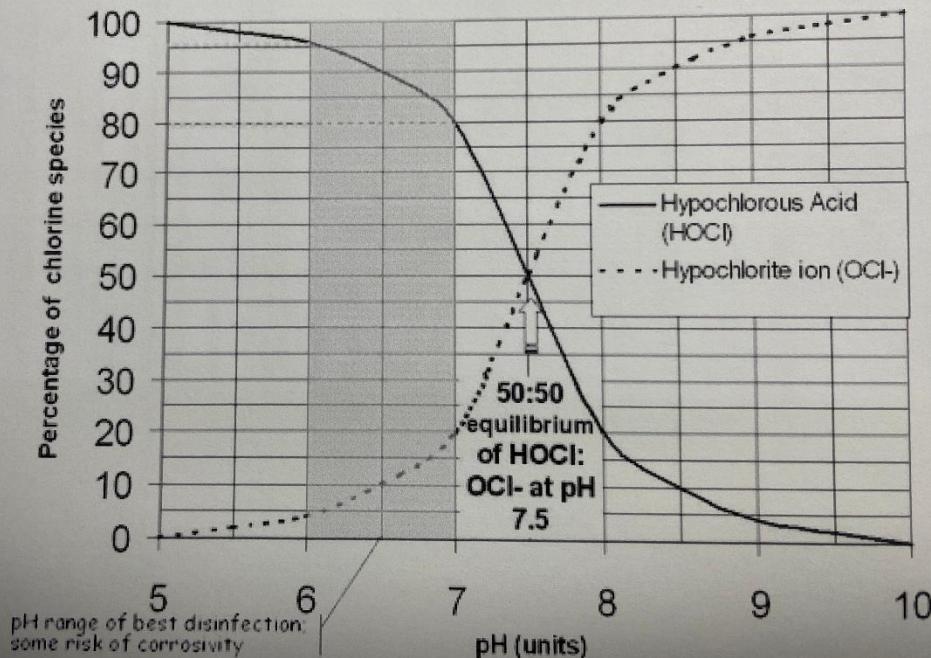
- Dip prices are going crazy due to raw ingredient supply
- Many low price products available but may not be correct for your situation
- Select products based on results NOT just on price

DIPS

- 90% of my clients predip with chlorine
- Key is it must have correct pH to have best killing power
- Storage is critical Sunlight bad
- Sealed containers

DIPS

Household Bleach: Effect of pH on Biocidal Activity



pH must be 6.5 to 6.8 for best killing power Most important!

DIPS



Improper mixing = poor results
Must be used by 24 to 48 hours

DIPS



Sunlight damages many types of
Dips. Total coverage important

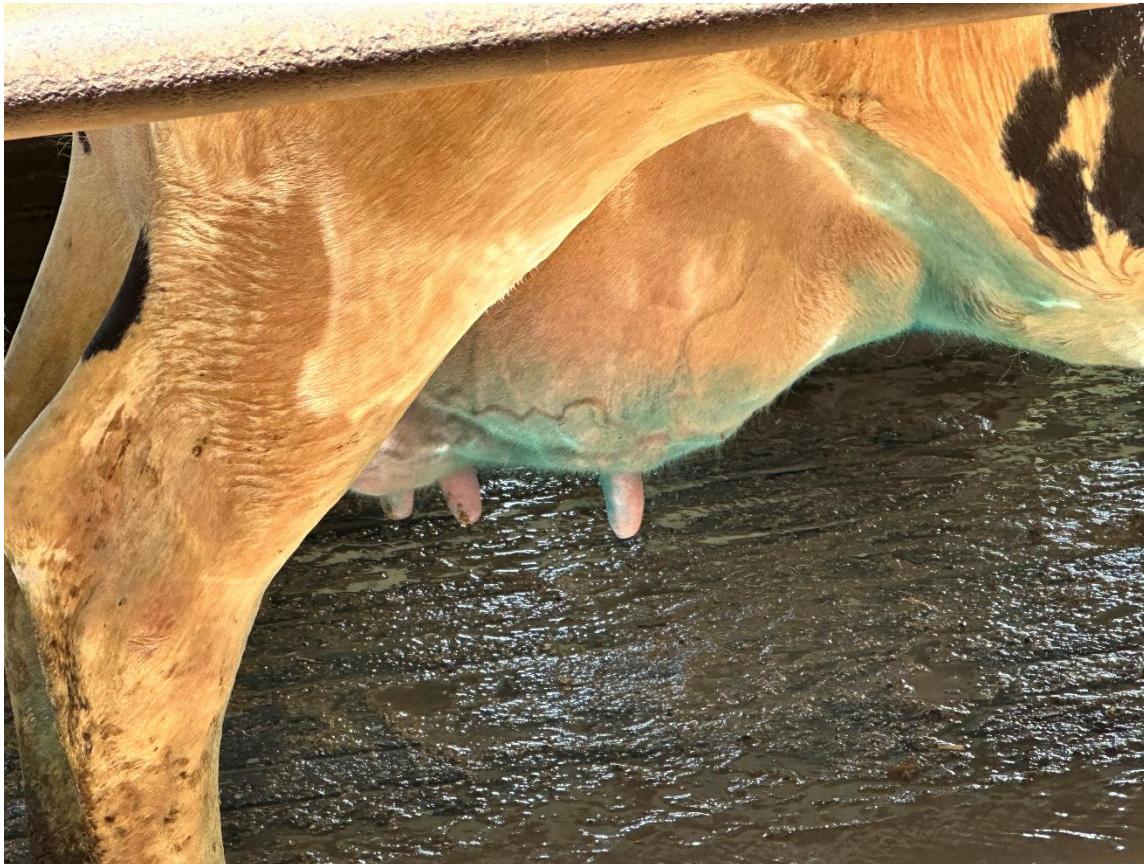
DIPS

- Robot predip and post dip can work but most DO NOT accomplish the basics of proper teat coverage yet use more dip
- Yes, they replace a person but over 50% of dairies I work with have shut them off and did not reduce people

Robot Dippers

- Very few get good coverage
- Use less dip but unfortunately to a point of terrible teat coverage
- Many automatic dip systems put dip everywhere but where you want it
- Must have a good monitoring system

Robot Dippers



Monitor the Results of Good Udder Prep





Might be some issues with teat cleaning??

Equipment Three Main Factors

Vacuum Setting

Pulsation Settings

Automatic Take Off Settings

Parlors Crowd Gate Operation is Critical Too



Equipment Three Main Factors

Vacuum Setting

**Claw vacuum at peak milk flow the key
11.8 to 12.7 inches (38.2-42.3 Kpa)
Based on inflation being used**



Equipment Three Main Factors

Vacuum Setting

REMEMBER: If your milking equipment has not been tested while cows are milking, it has NOT BEEN PROPERLY tested.

Production huge impact on this



Equipment Three Main Factors

Pulsation Setting

B phase 475-550 milliseconds

D phase 220 or higher milliseconds

When higher B phase, raise D phase

Changing rate and ratio to achieve



Equipment Three Main Factors

Pulsation Setting

We used to only pay attention to the pulsation ratio and rate

Now I only care about B and D phase and make changes to get proper numbers



Equipment Three Main Factors

ATO Settings

**Huge changes based on milking routine
and milk path**

Now most dairies 2.2 lbs. (1kg) or higher

Some now 3.5 lbs. (1.6 kg)

Delay setting 3 seconds or less

Goal: Less 20 seconds low flow



Equipment Three Main Factors

ATO Settings

Every dairy different

Only ways to know if correct setting

Cow behavior end of milking

Teat end health

Strip yields



Equipment Three Main Factors

ATO Settings

Strip yields are important to check

**Ideally 250-400 cc milk left evenly in
the entire udder**



Take Off Settings

Mainly helps improve
milking efficiency and
rarely a cause high SCC

Milk Flow Guidelines

- ⚡ Flow rates increase across all time sets
- ⚡ Average flow per minute >7.0 lbs. (3.2kg)
- ⚡ Duration Less 4.0 minutes
- ⚡ Peak Flow >9.0 pounds (4.1 kg)
- ⚡ Time in Low Flow 20 seconds or less
- ⚡ At least 15lbs. (6.8kg) milk in first 2 minutes



Milk Flow Guidelines

- ⚡ Average flow per minute >7.0 lbs. (3.2kg)
- ⚡ May be most important number, better than peak flow because better indicator of what goes on during entire milking
- ⚡ Tells you about the entire milking process
- ⚡ Prep, equipment, cow handling



Parlor Performance

- Turns Per Hour 4/hour now
5.5 to 6.5
5 new minimum goal
- Pounds Per Hour 125 lb.
(56.8 kg) but now 165-200 lbs.
(75-91 kg)
New goal >150 lb. (68 kg)

These are all dependent on the people and
their milking routine!



Parlor Performance

- Turns Per Hour now
4 turns vs. 5.5 turns
- 33 lb. (15 kg) milking
- \$0.18/lb. (\$0.396 kg)
- Double 12 parlor 3X
- \$1,616,630 more milk per year
- Huge for profits



Parlor Performance

- Turns Per Hour now
4 turns vs. 5.5 turns
- Labor costs same
- Equipment same
- Changing attitudes the key
- Achieving using a FULL milking routine



One of Top Three Things affecting profitability

**Pounds of milk harvested
per stall per hour**
Huge impact



Parlor Performance

Keys Are:

Milk clean cows

Good Milking Routine

Proper Equipment settings

Pay attention to Details



MOTTO FOR SUCCESS

“When ever you lose interest
in being better at something,
chances are you have
already stopped being good
at it!”



Days End

Sit down and enjoy a good cigar



Days End

Relax with your best buddy



Days End

OR my wife's idea





The end!!

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