

# **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**

**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**





# Choke<sup>®</sup>



Official Soft Drink  
of





**1970-2024:**

**THIS SEASON:**

**306-1      6-3**

PACKERS RECORD WHEN LEADING BY 10+ POINTS  
IN THE FINAL 5 MIN, INCLUDING PLAYOFFS



# 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](http://www.tundracomics.com)

**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**

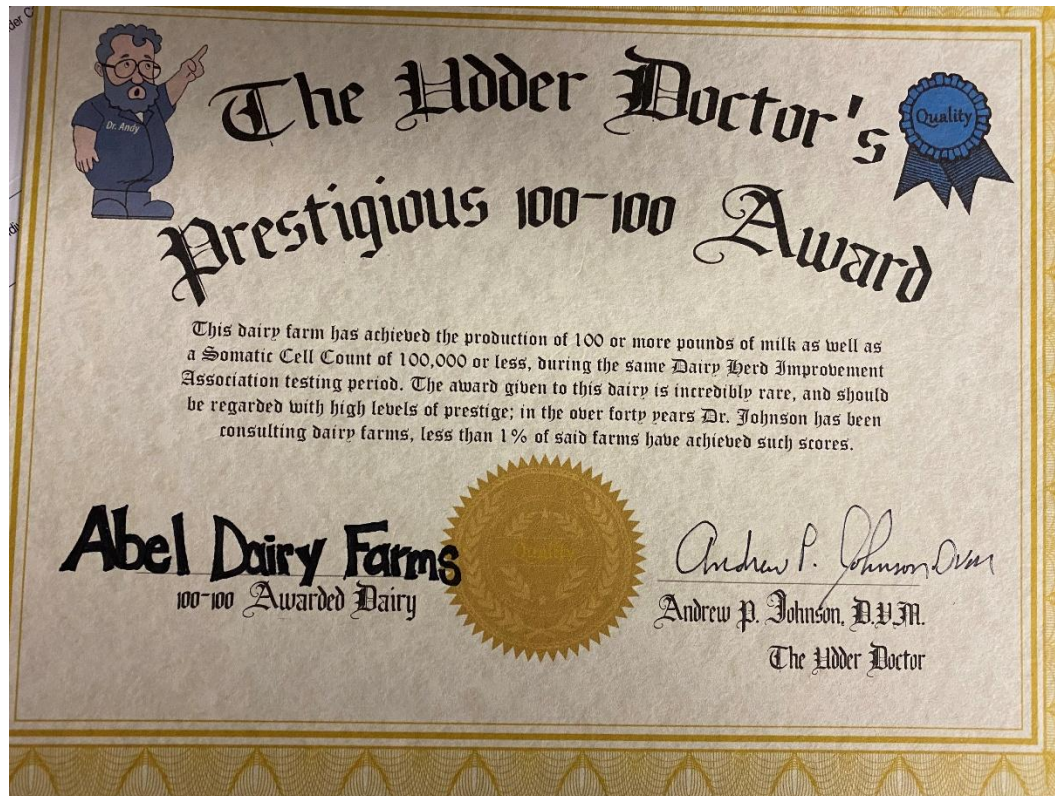
**So many mistakes have been  
made for too many dairies**



# 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

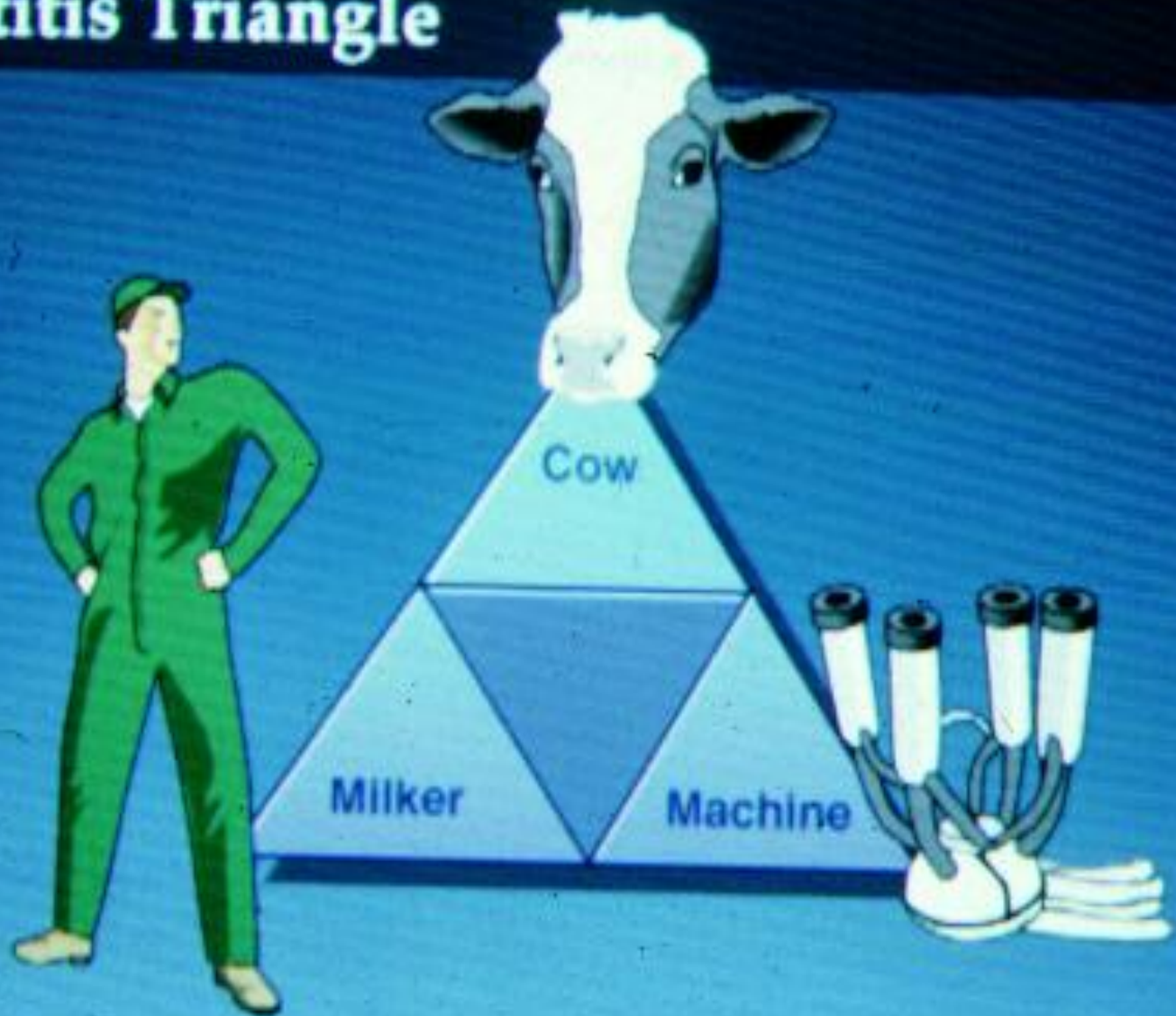
These dairies focus on doing the little things correctly every milking

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



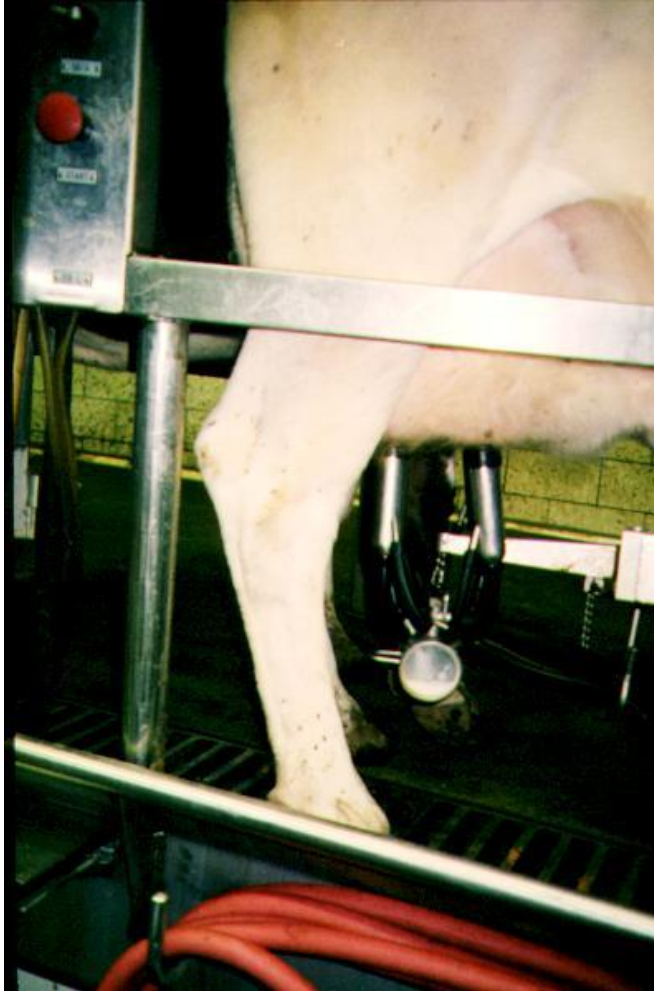


# **LISTEN TO THE COW!**



**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

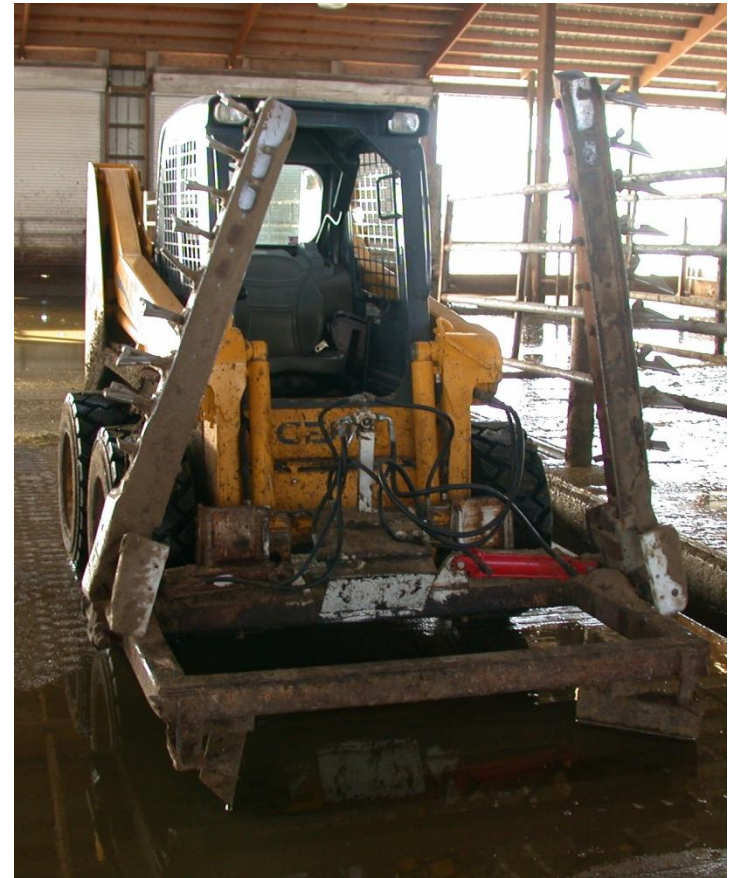
Many dairies find that grooming stalls also increases milk production by 1 to 3 pounds (0.45-1.36kg) per cow per day

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

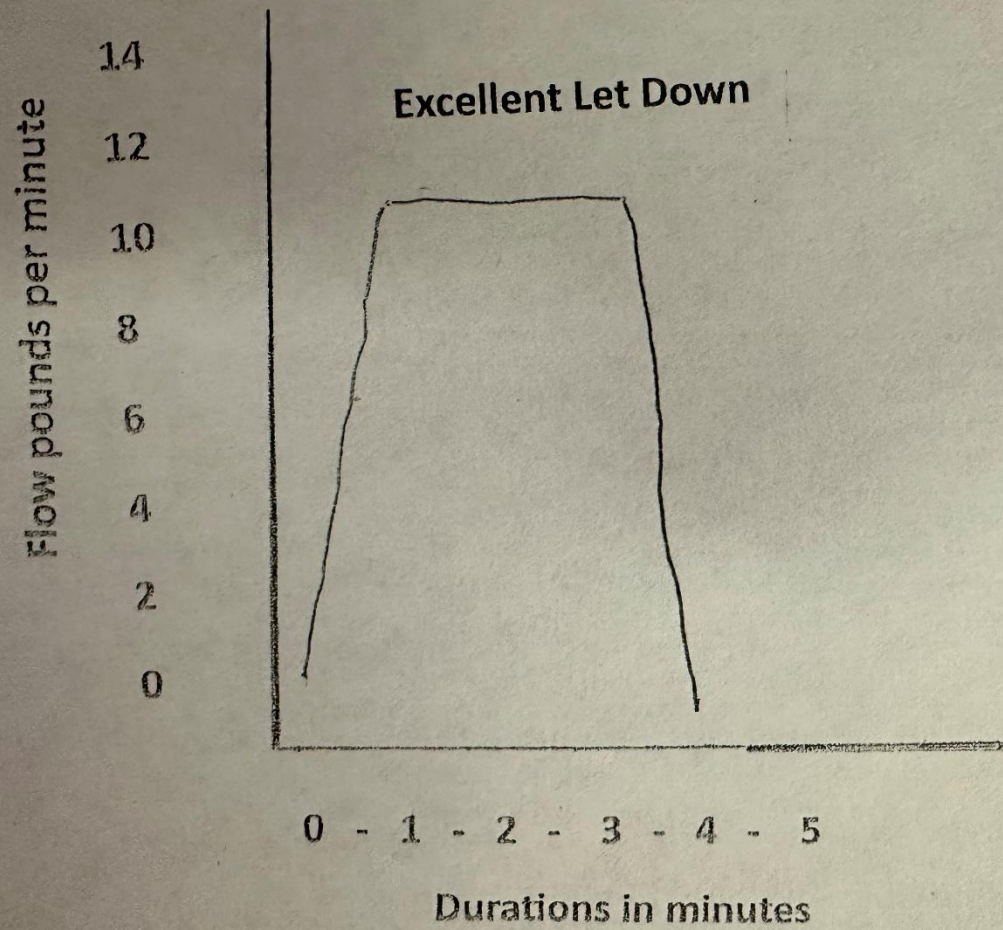
- Proper drying yields the best return to milk speed and lower clinical mastitis
- Wipe all four teats one side towels, then flip and dry all four teats again with rub across teat ends
- Focus here yields more positive results

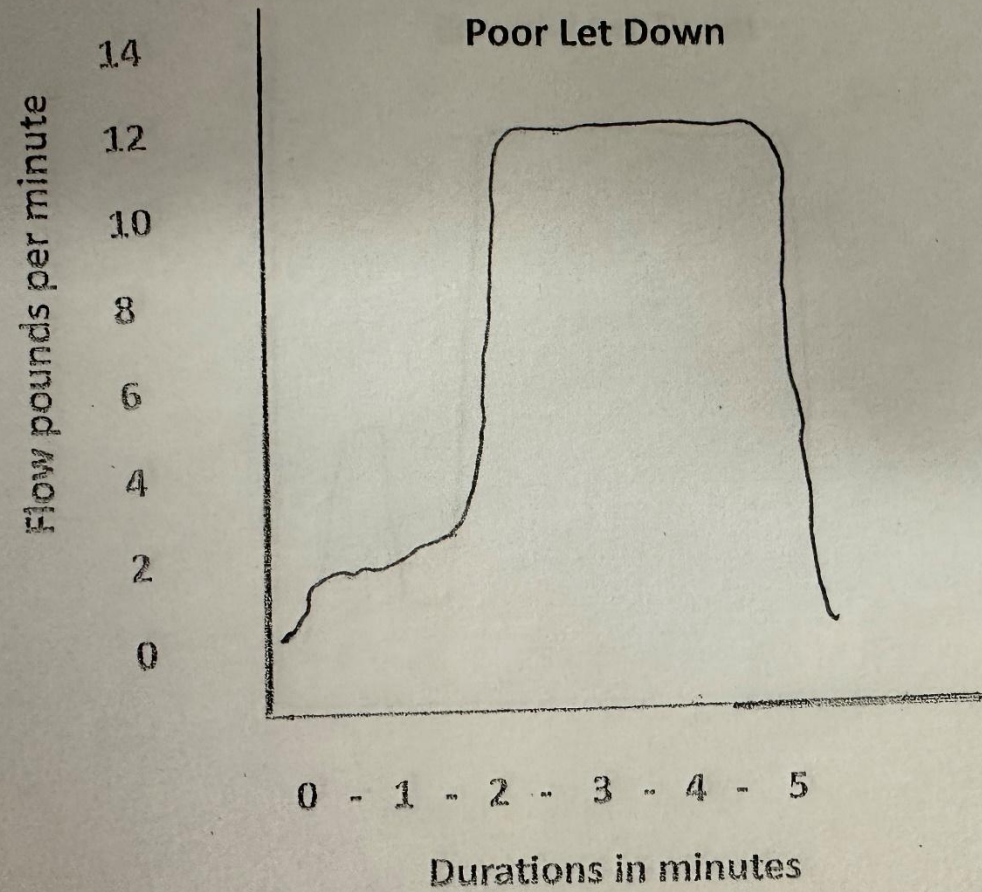


# Proper Milking Practices Results in:

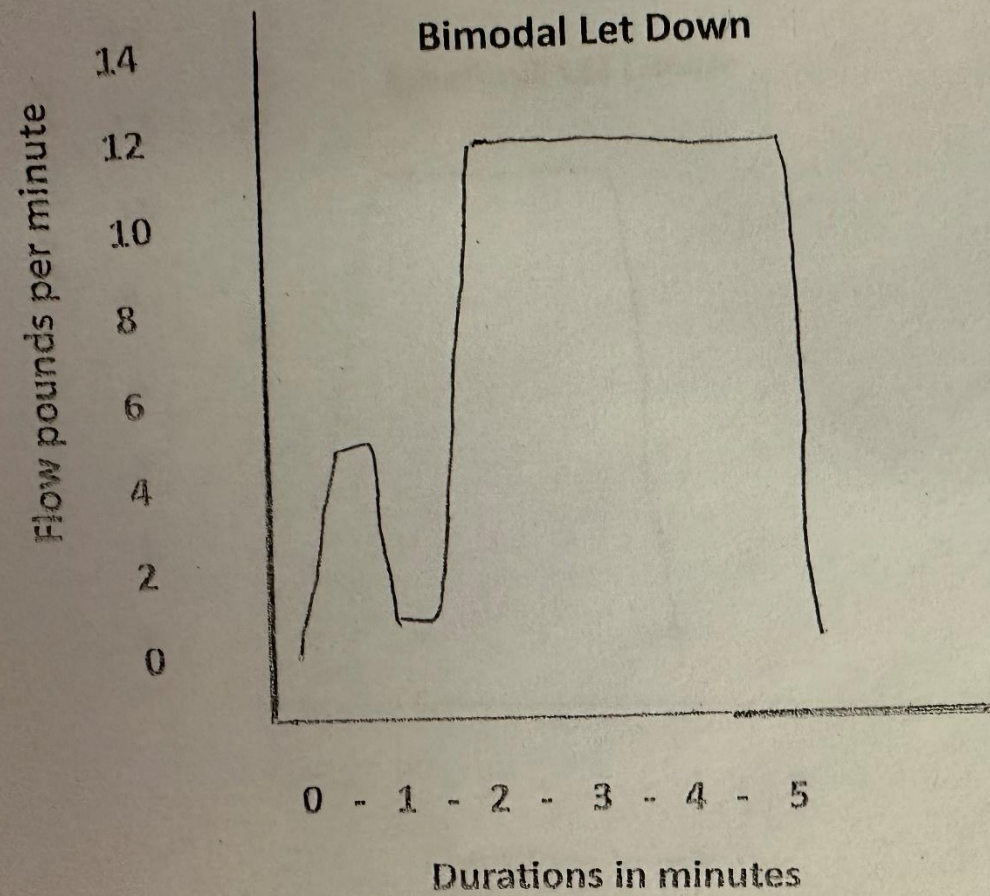
- ➡ Faster Milking
- ➡ More Milk Production
- ➡ Better Milk Quality

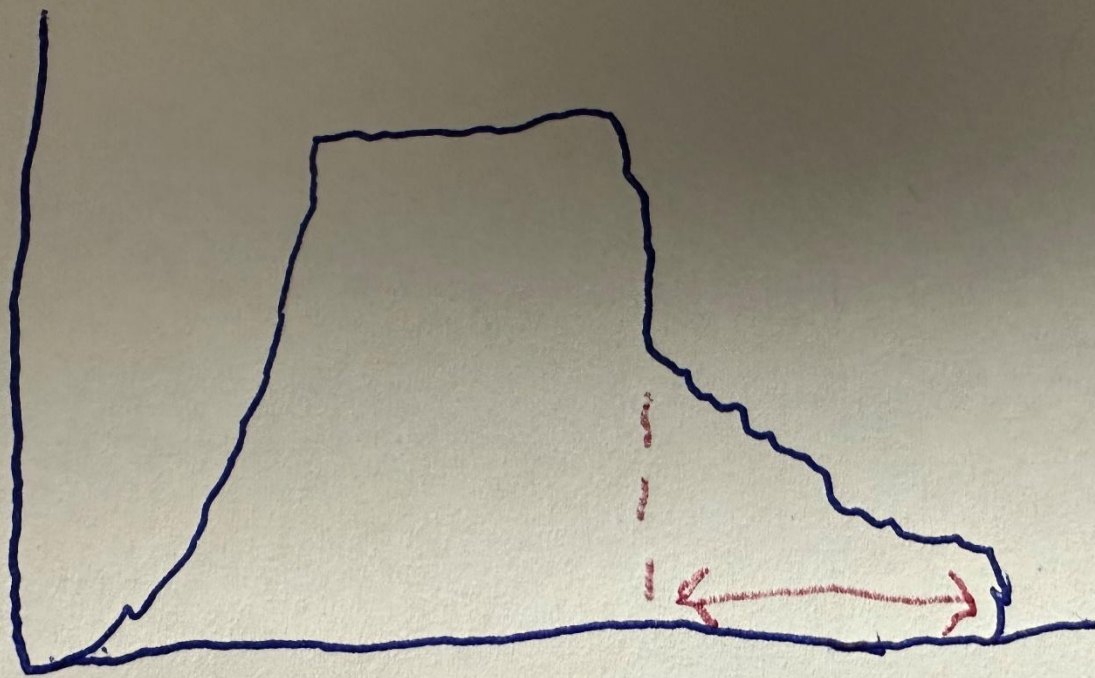












Overmilk



# 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

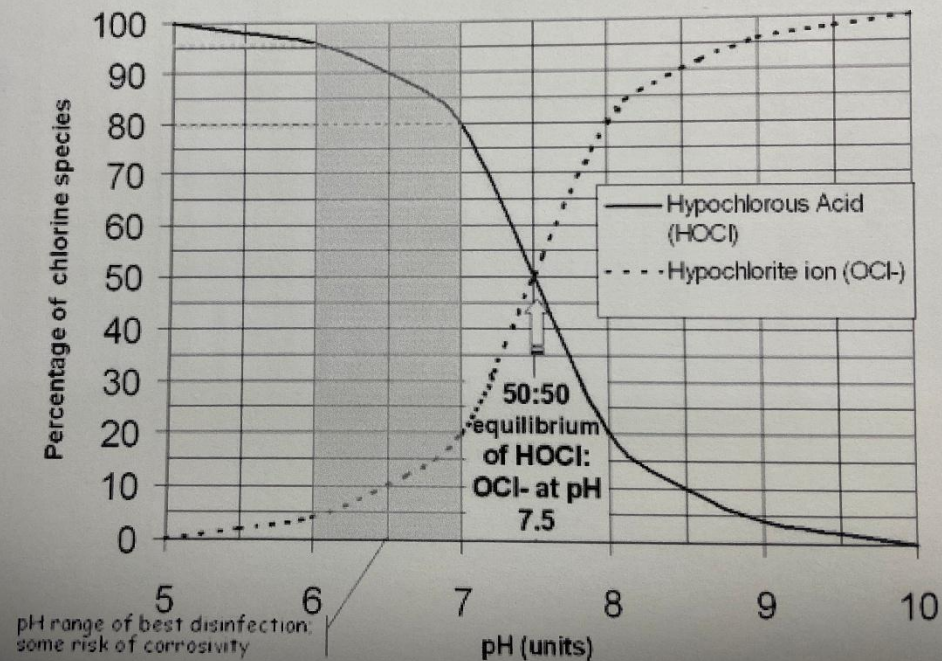
- Dip prices are going crazy due to raw ingredient supply
- Many low price products available but may not be correct for your situation
- Select products based on results NOT just on price

# 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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# QUESTIONS

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