Smarter Udder Health Management

“Vaccines, Dry Cow Therapy, and High SCC Challenges”

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Georgia Dairy Conference

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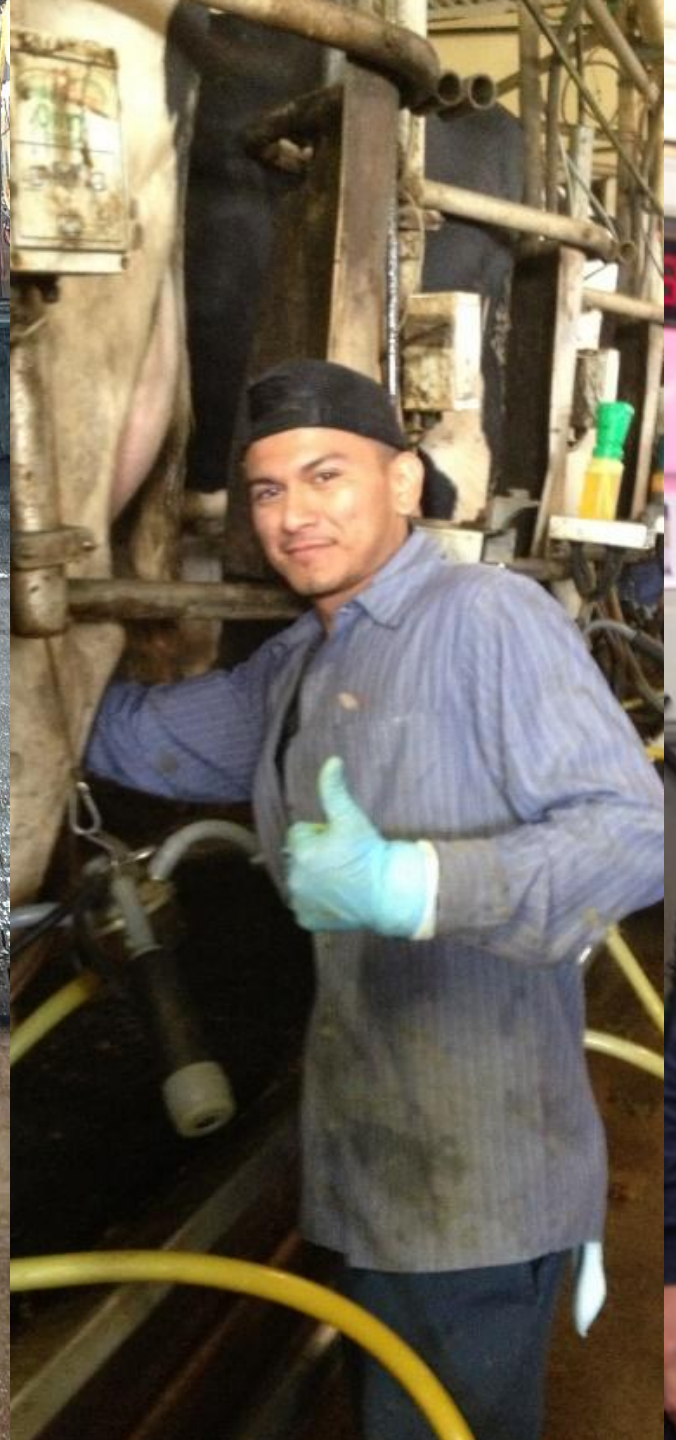
Immunology?

In vet school they tell you *X*% of what we teach you today will be wrong by the time you are 10 years in practice?

- *The rest of your career is essentially "Solve for X!"*

1. *How manage high SCC cows and clinical mastitis cows at freshening*
2. *Blanket Dry treat vs selective Pitfalls and how to monitor*
3. *How to manage chronic clinical and high SCC quarters*
4. *Treat or no treat clinical cases*
5. *Vaccines Is J5 needed if not seeing any coliform cases on dairy*
6. *New immune stimulating products*


What’s in a number?

181,000

How [to] manage high SCC cows and clinical mastitis cows at freshening?

Tale of Two Cows?

- Both cows are fresh 30d
- Cow A had a LOG1 of 2.0
- Cow B had a LOG1 of 4.0
- *Which one do you want to milk and why?*

Impact of First Test Day SCC on Cow Outcomes

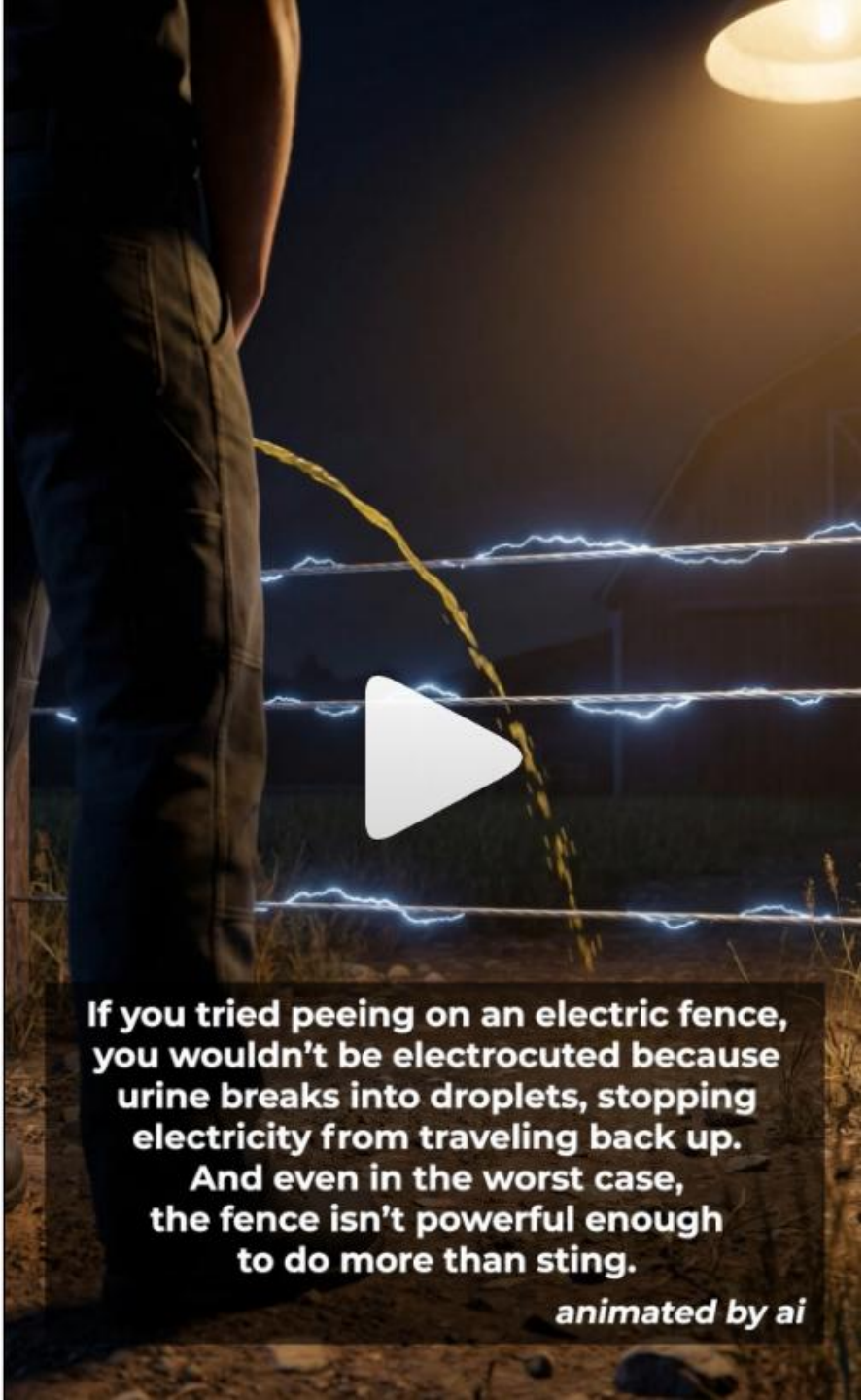
- **In a review of over 165,000 recorded lactations in 22 commercial Holstein dairy herds, cows with a first test day SCC>200,000 cells/mL:**
  - Produced 1,583 pounds less milk over the lactation
  - ***Had 2.5X greater chance of having a clinical mastitis event***
    - 25% with first testday SCC >200,000 cells/mL had a clinical event in the first 60DIM!
  - Had increased risk of being culled in the first 60DIM
    - 2% versus 6.5% for first test day >200,000 SCC
  - Took 17 additional days to become pregnant
- ***Transition Cow Milk Quality Matters!***

Data courtesy of Dr. Mark Kirkpatrick Zoetis Animal Health

How [to] ma… …CC cows and clinical … …shening?

How [to] manage high SCC cows and clinical mastitis cows at freshening?

- ***Stop tolerating poor results!***
  - Transition cow milk quality is a huge driving factor of BTSCC!
  - Lact 1 LOG1 scores higher than L2 and sometimes L3
    - …*the udder never gets higher and the SCC never gets lower*
- **If I was building or remodeling any new facilities, I would be putting my transition and fresh in the best facilities.**
- **Late lactation cows can succeed in less-than-ideal facilities**



Brandon's Verdict?

- **It's not about managing the cows, it's about learning from our mistakes**
  - Pain of change has to be less than the pain of staying the same..It has to hurt!
- **We could theoretically segregate these cows and manage them differently, but practically speaking nobody does that.**

Blanket Dry treat vs Selective: Pitfalls and how to monitor?

Why should we do selective dry cow therapy

- **Decreased antibiotic use…*It is the right thing to do!***
- **Increase in the prudence and judiciousness of the antibiotics we use**
  - How would we justify treating all cows?
  - What does this say to the consuming public?
- **Reduce risk of any residues**
  - If ID recording becomes mixed up, it may actually lead to more risk of residues
- **Lastly, and least importantly, decrease expenses**
  - Selective dry cow therapy increases labor costs and decision making on the farm

Selective Dry Cow Therapy

- **I have had mixed results!**
  - ***Dairies that would have been great candidates did not see value in it***
  - ***Dairies that should not have been considering it were drawn to it***
  - ***When I started the conversation, several dairies just stopped dry treating all together!***

What would this program look like?

- **Cows would be sorted into two groups for dry off**
  - Treatment and Internal teat sealant for all four quarters
  - Teat Sealant only for all four quarters
    - We need to be very clean when infusing teat sealant without any use of IMM dry tube antibiotic
- **How far in advance of dry-off would you sort this list?**
- **Would you have to mark non-antibiotic cows differently?**
- **How would you decide what cows fall into which groups?**
  - Type 1 versus Type 2 error and your risk profile
- **How do we manage risk if using internal teat sealant?**

How should we choose the cows that get treated?

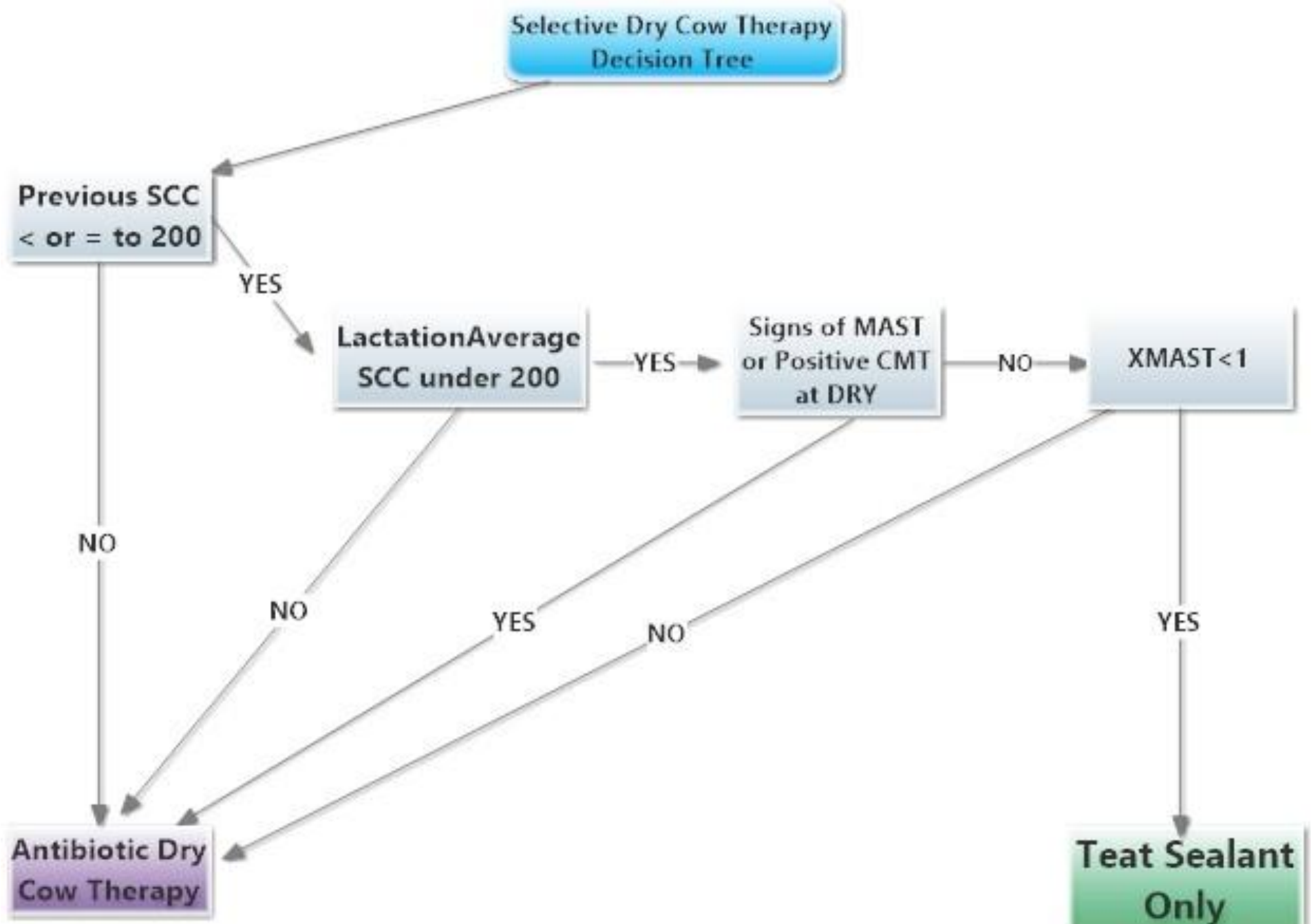
Option 1: All cows with an SCC>200 in the last 3 testdays ***OR*** any clinical mastitis events this lactation

Option 2: Different SCC thresholds for LACT 1 versus LACT 2+ ***AND*** all cows with XMAST>0

- LACT 1 SCC>100,000
- LACT 2+ SCC>250,000

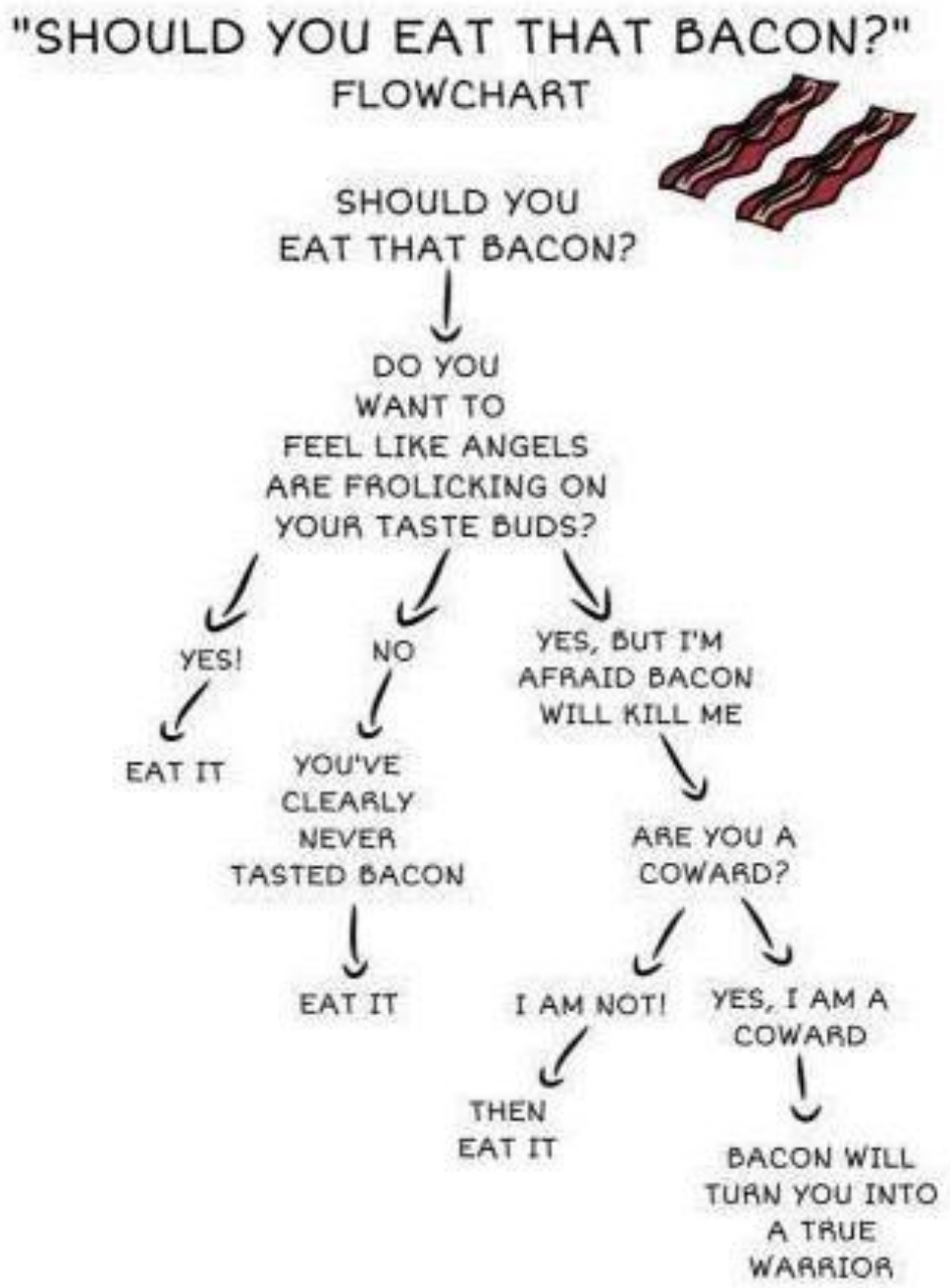
Option 3: Use of culture 24 hours prior to dry off in combination with treating all cows with SCC (>199,000) and/or XMAST>0

- 3 or more colonies with same appearance on blood agar
- Petri-Film with 5 or more colonies (50 cfu/mL)


Selective Dry Cow Therapy Decision Tree
Previous SCC < or = to 200
YES
NO
LactationAverage SCC under 200
YES
NO
Signs of MAST or Positive CMT at DRY
YES
NO
XMAST<1
YES
NO
Antibiotic Dry Cow Therapy
Teat Sealant Only

Additional Odds and Ends

- **We have to give some thought to how we would record and mark cows**
  - Different color leg bands for sealant only cows
  - Must be accurate at recording which cow gets which protocol in DC305
- **How can we monitor our results**
  - All indicators are lagging indicators!
  - Monitor LOG1's or LS1 overtime for the herd
  - Could we incorporate use of CMT
    - *DRY versus FRESH, true NEW INFECTION and CURE*
    - *CMT only consistently flags higher SCC levels (SENSITIVITY?)*
    - *Many dairies struggle to interpret CMT and accurately perform the test.*



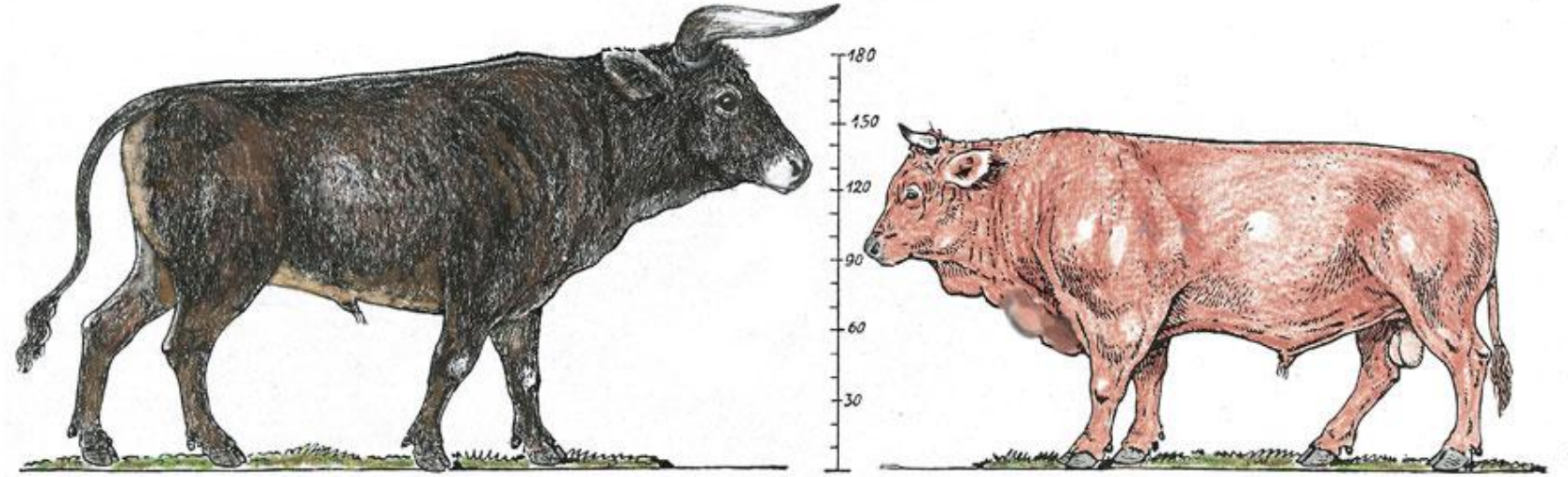
Brandon's Verdict?

- **It's about the people making the decisions**
- **Do you trust your people?**
- **Does it make sense for your dairy**
  - Current milk quality
  - Honest assessment of the risks you are currently taking and plan to undertake in the near future!

Treat or no treat clinical cases?

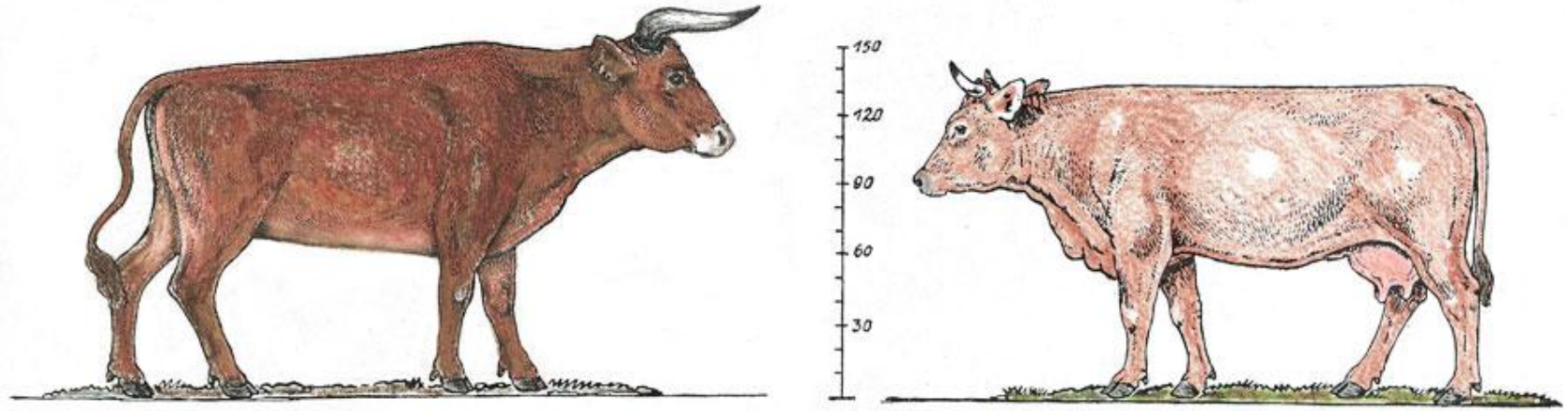
What is the best mastitis tube?

What happened approximately 9000 years ago?



Auroch

Bos Taurus



Antibiotics were invented in the late 1920's

Effective Treatments?

- No such thing as a stronger tube
  - Either it is effective or it is not!
  - Issue is frequently getting the drug to the bug!
- Duration of Therapy may be an important factor in success?
- Not All Treatments Come in a Tube
  - Mint Udder Creams
  - NSAID's and Pain Management
- Primarily Ineffective Treatments
  - Systemic Antibiotics***
  - Frequent Milking/ Oxytocin

Your Paradigm Shifted…

- **Choosing the right cases to treat will mean more than choosing the right mastitis tube!**

- ***It's not the drug the dairy chooses but the people who guide the cow level decisions that dictates success***

We need to shift the thinking from treating mastitis to managing mastitis!

Treatment of Mastitis

- There are three types of mastitis cases:
  - Those that are likely to cure no matter what we do
    - Simply do not make these worse
  - Those that will never cure no matter what we do
    - Don’t waste time and resources on these
  - Those that we can improve the outcome with treatment
    - We should be focused on these cases!
- How should we decide which category a cow falls into?

Cow Sense: What other factors affect cures?

- **Age**
- **Stage of Lactation**
- **History of prior treatment**
- **History of prior clinical or sub-clinical mastitis**
  - Including first test day
- ***Number of Quarters Involved***

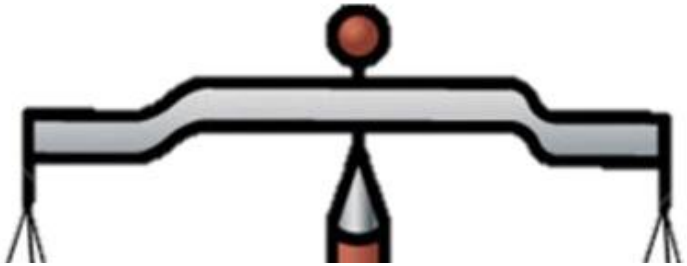
Diagnostics

Brandon's Verdict

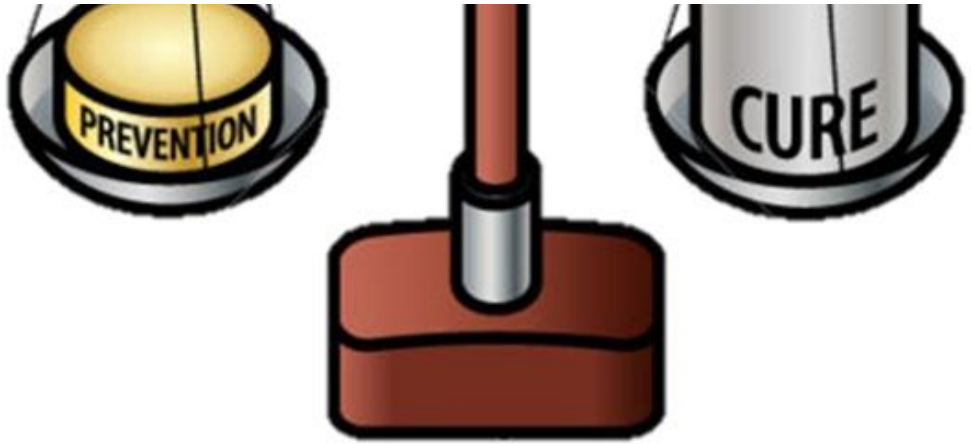
- **Treating some select cows is beneficial**
  - *ALL or NONE are not the right answer!*
- **Extended duration therapy outside of select cases is also probably not the answer**
- **Selective Treatment works best with culture results, but it takes more than a culture result**
- **If you do or do not culture clinical cases, you still need some pathogen surveillance**

How to manage chronic clinical and high SCC quarters?

An ounce of prevention is worth a 100lbs. of cure



We Never Cure 100% of Cases We Create!



How to manage Chronic Cows and Quarters

- **Chronic cows and quarters happen on every dairy!**
  - We can never cure 100% of infections we create!
    - Regardless of treatment or not
- **The secret to managing Chronic cows is create less New Infections!**
  - That takes being ***consistently*** good at the common things
- **Outside of that there are few options**
  - All are band-aids…that's our only option after messing up
  - ***Do nothing, Treat, Cull the Cow, Cull the Quarter, Dry Period Cure?***

Famous Veterinary Quotes

- In food animal medicine, we EAT our mistakes!

Dairies tend to have the same approach!...

What is involuntary culling?

Why do cows leave dairies?

1. Infertility 23.3% +/-1.8
2. Mastitis 18.6% +/-1.3
3. Poor production 18.3% +/-2.2
4. Lameness 9.1% +/-0.7

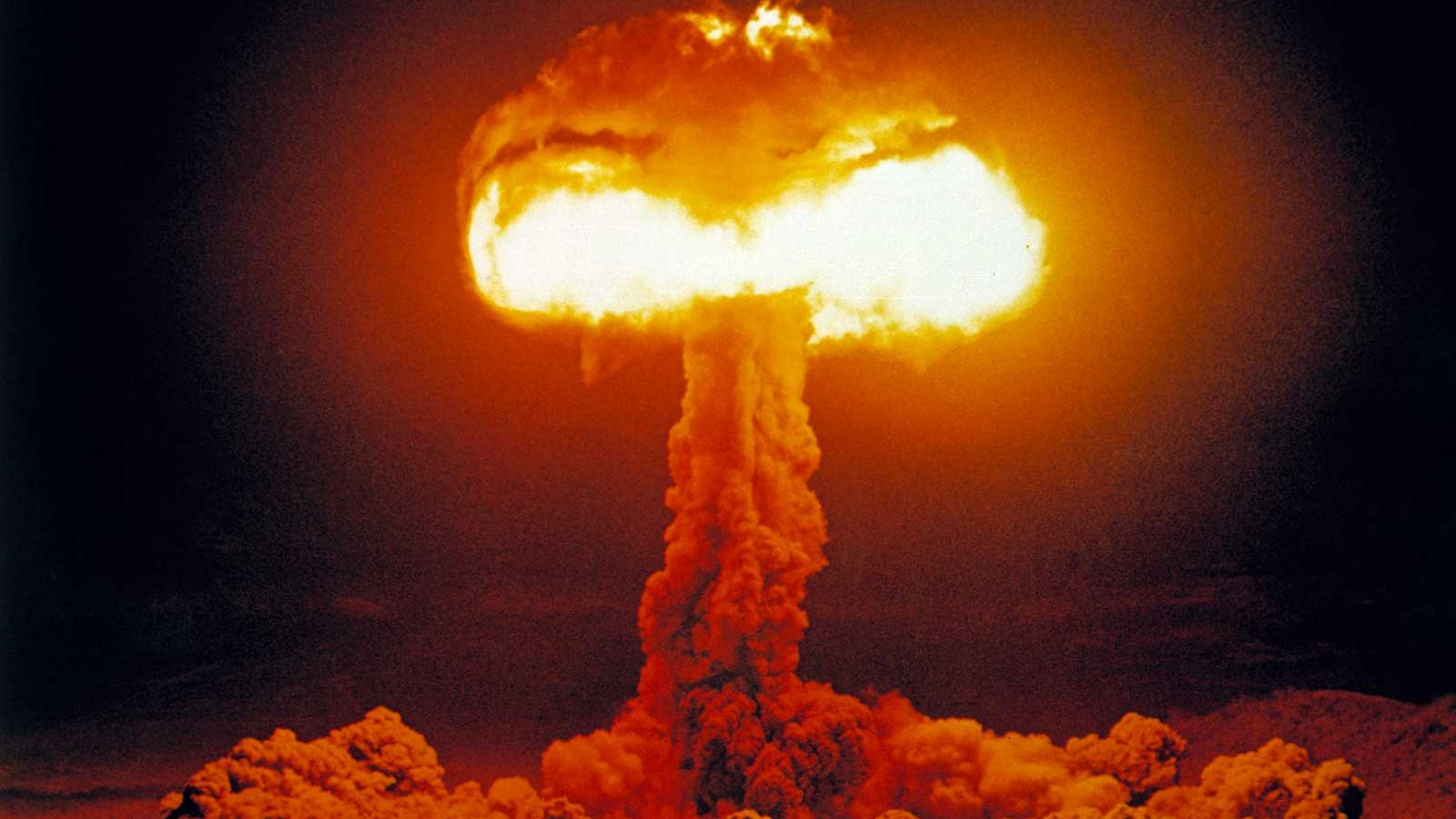
- But we are fooling ourselves!

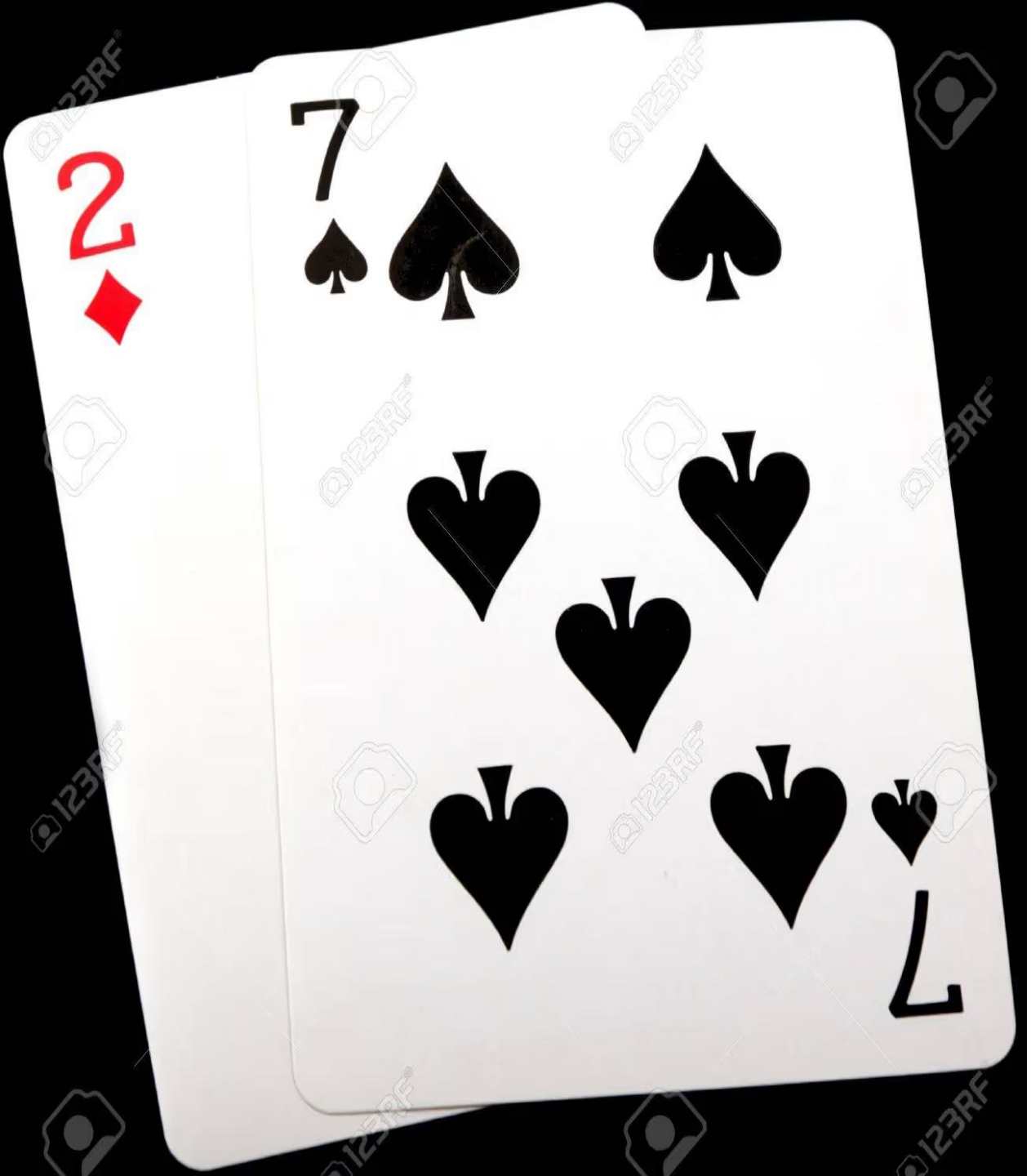
TOPICS

NEWS

NO DAIRY COW CULLING IN SIGHT

January 16, 2026 By Larry Lee Filed Under: 2026 Events, Beef, Dairy, Dairy, News





Brandon's Verdict

- Based on the unique economics, we are probably going to make a lot of decisions against the traditional odds
- That means taking calculated risk
- That means we have to get better at not breaking cows!

Vaccines: Is J5 needed if not seeing any coliform cases on dairy?


Vaccines
cause bad milk
prices!

If you had to give up a vaccines except one, which one do you keep?

But Seriously….

- **Who has no coliforms?**
- **And if so, how hard are you looking?**
  - Many will be no-growth
- **Does your bulk tank agree?**

Dairy Life Happens!

- Bedding Issues
- Manure Issues
- Water Issues
- Employee Turnover
- Overstocking
- Heat Stress

Core Antigen Vaccine Pro/Con Analysis

Pro

- ***Value of a cow has never been higher!***
- *Relatively Effective****
- ***ROI is relatively strong, even in low incidence herds***

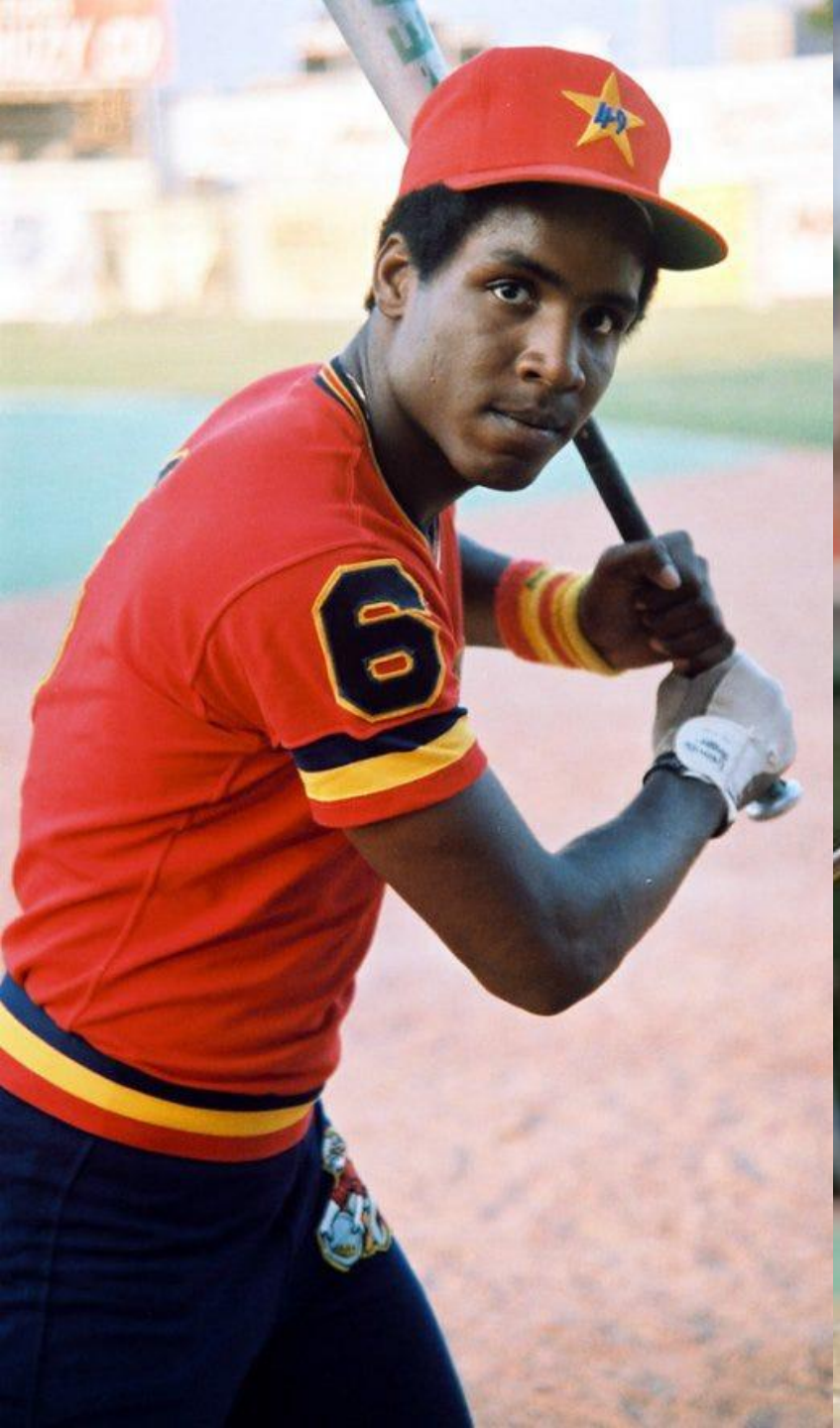
Con

- ***Cost***
  - Dose plus labor
- ***On Average, we likely tend toward over vaccinating cattle***
- ***May be hard to incorporate in your vaccine protocol***
- ***Definite Milk Drop!***

Brandon's Verdict?

- If I had one cow, I would still vaccinate her with core antigen vaccine
- But I am not sure I would do 4-5 shots/ hyper-immunity?
- And I might focus on fresh and peak only…

New immune stimulating products?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GIANTS


GIANTS

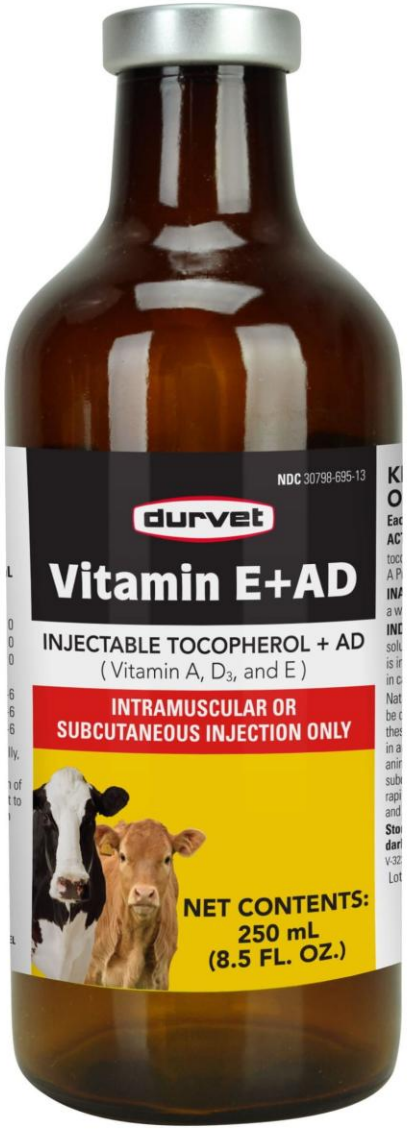
*I*mmune *E*nhancing *D*rug?

Been there..Done that?

- **Idea was and is sound…put more immune cells into circulation**
- **But it is obviously more complex**
  - How do we direct them toward the udder?
  - And if the low hanging fruit is more leukocytes in the udder then…
    - ***Are we wrong that SCC can get too low?***


DNA
Immunostimulant
50 DOSES
BAYER
ZELNATE
INDICATION: ZELNATE™ is indicated for use as an aid in the treatment of Bovine Respir
in cattle 4 months of age or older, when administered at the time of, or within 24
FOR VETERINARY USE ONL
First Sterile Rehydration
ZELNATE
2 DNA Immunostimulant
ZELNATE
3 Final Sterile Solution
ZELNATE

Immune Supplement?



Supplement Facts

Serving Size 1 Tablet

	Amount Per Serving	% Daily Value
Calories	5	
Total Carbohydrate	1 g	<1%*
Vitamin A (as retinyl acetate)	2000 IU	40%
Vitamin C (as ascorbic acid)	1000 mg	1667%
Vitamin E (as dl-alpha tocopheryl acetate)	30 IU	100%
Magnesium (as magnesium oxide and magnesium sulfate)	40 mg	10%
Zinc (as zinc sulfate)	8 mg	53%
Selenium (as selenium amino acid chelate)	15 mcg	21%
Manganese (as manganese gluconate)	3 mg	150%
Sodium (as sodium bicarbonate)	150 mg	6%
Potassium (as potassium bicarbonate)	80 mg	2%
Proprietary Herbal Blend Maltodextrin, *Lonicera japonica* (flower), *Forsythia suspensa* (fruit), *Schizonepeta tenuifolia* (aerial), *Ginger* [*Zingiber officinale* (root)], *Vitex trifolia* (fruit), *Isatis tinctoria* (root), Echinacea purpurea (aerial)	350 mg	†
Proprietary Amino Acid Blend L-Lysine hydrochloride, L-Glutamine	50 mg	†

*Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

Airborne Agrees to Pay $23.3 Million to Settle Lawsuit Over False Advertising of its "Miracle Cold Buster"

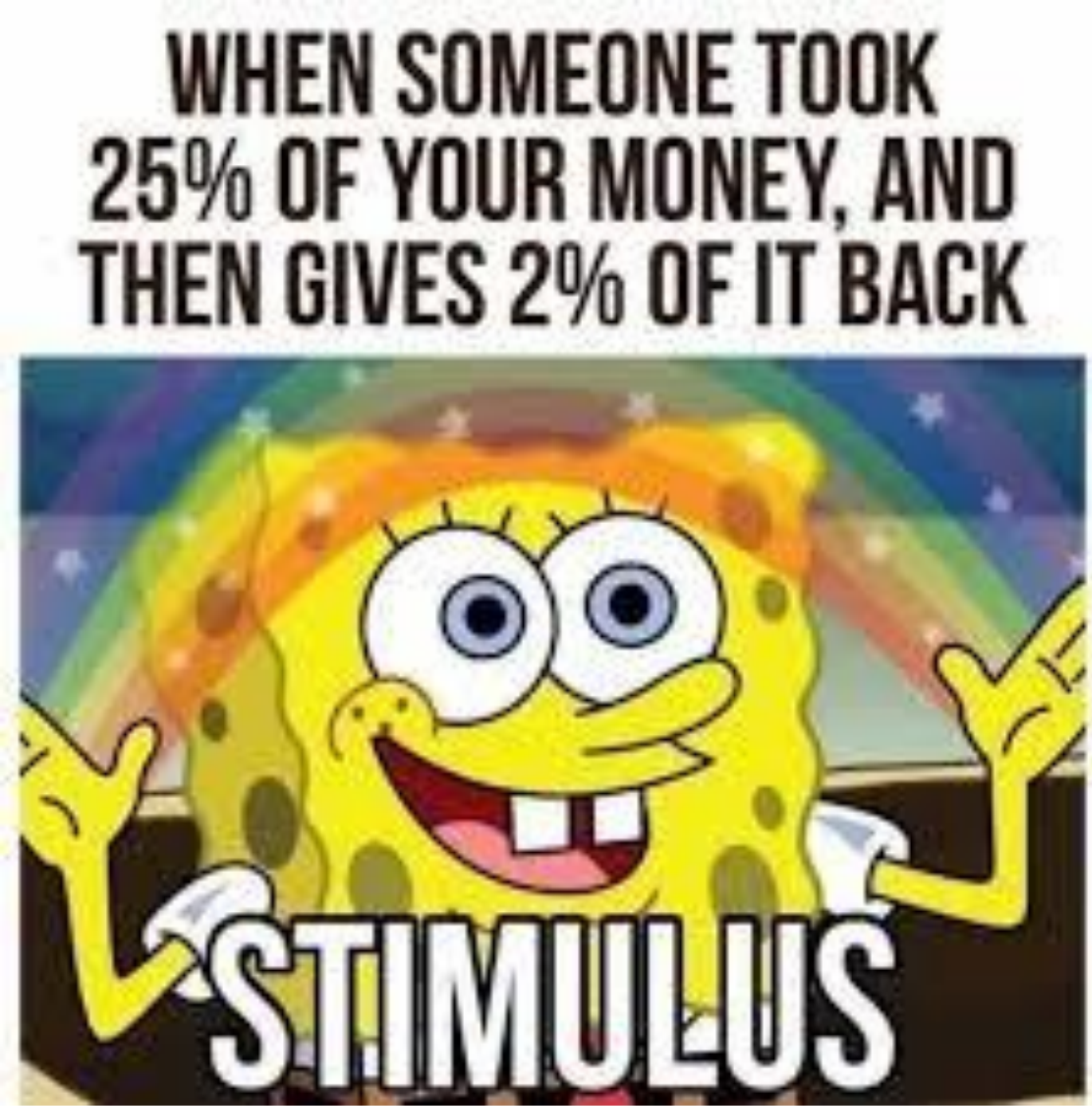
Updated: April 27, 2016

Disease by and large is a function of stress!

Our own experience proves this!

- **Ration Changes**
  - Time Off Feed
  - Dehydration?
- **Pen Moves**
- **Environmental**
  - Heat Stress
  - Cold Stress
  - Drought
- **Overcrowding**
- **Transportation (Shipping Fever)**

- ***What do Bred Heifers and late lactation cows have in common?***
  - Periods of the life cycle where there is little to no disease pressure due to being some of the lowest stress periods
- ***When in the dairy life cycle do we see the most disease occur?***
  - Weaning
  - Co-Mingling
  - Dry-off
  - Freshening



Verdict?

- ***If we don't break it in the first place, we won't have to stimulate it later!***
- ***If you want to improve mastitis immunity, include health metrics in your genetic plan!***

Questions?

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