

DAIRY HERD MANAGEMENT ISSUES AND STRAY VOLTAGE

**DR. ROGER MELLEBERGER
PROFESSOR EMERITUS
MICHIGAN STATE UNIVERSITY**

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OBSERVATIONS; STRAY VOLTAGE

- **VOLTAGE OR CURRENT HAS TO BE AT COW CONTACT; SOURCE NO CONCERN**
- **“STRAY VOLTAGE” LESS THAN 10 VOLTS**
- **3 TO 6 mA TO AFFECT BEHAVIOR ON MOST SENSITIVE COWS**
- **GREATER THAN 3 TO 4 VOLTS TO AFFECT SOME COW'S FEED OR WATER INTAKE; SOME ADAPTATION**
- **SIGNIFICANT COW CONTACT VOLTAGE/CURRENT TRIGGERS AVOIDANCE BEHAVIOR**

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OBSERVATIONS ON STRAY VOLTAGE

- **MAJOR POTENTIAL AREAS AFFECTED BY SV; FEED INTAKE, WATER INTAKE AND ENTERING PARLOR**
- **EASIEST VARIABLE ON DAIRY FARM TO MEASURE, DRAW A CONCLUSION AND CORRECT**
- **RESPONSE TO CORRECTION OF PROBLEM IS MEASURABLE WITHIN HOURS AND DAYS**

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REVIEW ISSUES/COMPLAINTS

- **MASTITIS**
- **INCREASED SOMATIC CELL COUNT(SCC)**
- **COWS NOT MILKING OUT**
- **COWS NOT ENTERING BARN OR PARLOR**
- **COWS “STEPPY/KICKY” DURING MILKING**
- **COWS NOT RESPONDING TO THERAPY**

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REVIEW ISSUES/COMPLAINTS

- **FEED INTAKE DOWN**
- **COWS FED FOR X POUNDS MILK AND PRODUCING LESS THAN X**
- **COWS EATING BUT NOT DRINKING**
- **WATER INTAKE LESS THAN EXPECTED**
- **COWS LAPPING WATER**
- **COWS STANDING AT WATERERS AND NOT DRINKING**

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REVIEW ISSUES/COMPLAINTS

- **MILK PRODUCTION LESS THAN EXPECTED**
- **REPRODUCTION SUBPAR; ABORTIONS**
- **COW DEATHS**
- **METABOLIC DISORDERS**
- **FOOT AND LEG PROBLEMS**
- **DEAD AND DEFORMED CALVES**

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REVIEW ISSUES/COMPLAINTS

- **DEPRESSED IMMUNE SYSTEMS**
- **RESPIRATORY DISEASES**
- **SWITCHING TAILS**
- **POOR USE OF FREESTALLS/STALLS OR
USE OF FREESTALL BARN**
- **OTHER BEHAVIORAL CONCERNS**

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ISSUE: MASTITIS

- **MASTITIS CAUSED BY PATHOGENIC ORGANISM ENTERING THROUGH TEAT END OF COW/HEIFER**
- **RELATED TO TEAT END CONDITION AND PATHOGEN EXPOSURE**
- **CANNOT BE CAUSED BY “STRAY VOLTAGE” OR GROUND CURRENTS OR ANY ELECTRICITY**

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SCC

- **RELATED TO MASTITIS STATUS; 90% NON-CLINICAL**
- **RELATED TO INJURY 5% OF TIME**
- **MILK SCC RELATED TO MAMMARY GLAND ONLY; NOT OTHER DISEASES**
- **LESS THAN 200,000 PER CC MILK IS GOAL FOR COW OR TANK**
- **NOT RELATED TO ELECTRICAL EVENT**

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POOR MILK OUT

- **MASTITIS IN ONE OR MORE QUARTERS**
- **PULSATOR MALFUNCTION**
- **HOLES IN SHORT AIR TUBES OR AIR HOSE**
- **TEAT INJURY**
- **MISALIGNED MILKING UNIT**
- **POOR MILKING PROCEDURES**
- **TWISTED INFLATIONS, BENT FERRULE**
- **GENETICS**

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RELUCTANCE TO ENTER PARLOR OR BARN

- **PARLOR ENTRANCE DESIGN FLAW**
- **PEOPLE OR OTHER BARRIERS**
- **EQUIPMENT LINKED TO PAIN**
- **CROWDING IN HOLDING AREA**
- **FEET AND LEG PROBLEMS**
- **NEW COWS OR TWO YR. OLDS**
- **PARLOR DESIGN; STALLS, FLOORS**

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COWS STEPPY/KICKY; MILKING

- **FEET AND LEG INJURIES**
- **PAIN BOTTOM INCH OF TEATS**
- **ONLY DURING PREP OR UNIT ATTACH**
- **MILKING EQUIPMENT PROBLEM**
- **FLOOR/MILKING STALL DESIGN**
- **AGGRESSIVE PERSON MILKING**
- **MASTITIS; TEAT INJURIES**
- **NEW COWS; FRESH TWO YR OLD**

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COWS; NO RESPONSE TO THERAPY

- **MOST MASTITIS PATHOGENS DO NOT RESPOND TO LACTATION THERAPY**
- **MAJORITY OF DAIRYMEN CAN'T MEASURE RESPONSE; GOOD OR BAD**
- **NEED TO HAVE UNDERSTANDING OF EACH DISEASE AND WHAT CAN BE EXPECTED WITH CORRECT THERAPY**
- **POOR DIAGNOSTICS ON FARM**

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FEED INTAKE

- **PROPER NUTRITION IS FINE BALANCE OF QUALITY INGREDIENTS FED AS BALANCED RATION TO CORRECT GROUP OF COWS; LB DRY MATTER**
- **PROTEIN, ENERGY, FIBER, MINERALS, VITAMINS, MOISTURE, PARTICLE LENGTH, DIGESTIBILITY, NO TOXINS**
- **AFFECTED BY FEED SPACE PER COW**
- **FEEDING FOR X LB ONLY GUIDELINE NOT ACTUAL EXPECTED RESULT**

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FEED INTAKE

- **TIMES FED; GROUPING; PALATABILITY**
- **FEET AND LEGS**
- **HEIGHT OF FEED BUNK**
- **FED FOR 5% EXCESS**
- **FEED PUSHED UP FREQUENTLY**
- **SOCIAL FEEDERS**
- **FEED AREA COVERED**
- **WATER ACCESS**

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FEED AND WATER INTAKE

- **FEED INTAKE DRIVES WATER INTAKE**
- **CAN'T HAVE NORMAL FEED INTAKE AND LOW WATER INTAKE**
- **MOST DAIRYMEN OVERESTIMATE WATER INTAKE NEED; 8.6 LB PER GAL**
- **LAPPING WATER NORMAL**
- **WATERERS ARE COOLEST LOCATION IN SUMMER; BOSS COWS GUARD**
- **IF SV ON WATERERS COWS WILL SELECT LOWEST VOLTAGE OR CLOSEST ONE**

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FEED AND WATER INTAKE

- **FLOOR SURFACE CRITICAL TO FEED AND WATER ACCESS; FOOTING**
- **FEED INTAKE GREATER ON SMOOTH SURFACE**
- **LOCATION OF WATER; 2 LINEAL FEET FOR 15 TO 20 COWS; MORE IN SUMMER**
- **WIDE ALLEYS; LOW CURBS**
- **WATERERS CLEANED FREQUENTLY**

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FEED AND WATER INTAKE

- **FEED DELIVERED ON CONCRETE HAS HIGH IMPEDANCE. NEED GREATER THAN 4 TO 6 VOLTS AT COW CONTACT TO AFFECT ANY COW'S FEED INTAKE.**
- **FROST FREE WATERERS, PVC WATER LINES, PLASTIC OR RUBBER WATER TUBS; WHERE IS SV SOURCE OR CONTACT?**
- **COWS SHORT ON FEED OR WATER WILL BELLOW UNTIL SHORTAGE CORRECTED. COWS COULD DIE IN 2 TO 5 DAYS; NO H₂O**

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MILK PRODUCTION

- **ON DAILY BASIS MORE THAN 25 VARIABLES WILL AFFECT A COW'S OR HERD'S PRODUCTION**
- **NUTRITION IS GREATEST VARIABLE**
- **MUST DO FULL ANALYSES OF DAIRY HERD MANAGEMENT TO DETERMINE CRITICAL VARIABLES**
- **STRAY VOLTAGE ONE VARIABLE; EASIEST TO MEASURE AND MITIGATE**

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ADDITIONAL ISSUES

- **REPRODUCTION; MANAGEMENT AND DISEASE CONCERN. LINK TO SV; ONLY IF FEED AND WATER INTAKE DRASTICALLY AFFECTED FOR EXTENDED PERIOD**
- **SV DOES NOT KILL COWS OR CALVES**
- **METABOLIC DISORDERS; NUTRITION**
- **FEET AND LEG PROBLEMS; OTHER**

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ADDITIONAL ISSUES

- **FREESTALL USAGE DICTATED BY STALL DESIGN INCLUDING SURFACE, TYPE AND AMOUNT OF BEDDING, VENTILATION; NUMBER OF STALLS AND COWS**
- **COWS SWITCH THEIR TAILS FOR MANY REASONS**

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DEPRESSED IMMUNE SYSTEM

- **SARA-SUBACUTE RUMEN ACIDOSIS; NOSE BLEEDS**
- **INFECTIONS; BLV, BVD, IBR, ETC.**
- **METABOLIC DISORDERS; MINERAL DEFICIENCIES**
- **TOXINS**
- **HEAT STRESS; CORTISOL**
- **LACK OF VACCINATIONS**
- **NORMAL AT CALVING; CORTISOL**

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THE FINAL WORD

- **DAIRY HERD MANAGEMENT IS A VERY COMPLEX AND INTERWOVEN SET OF MANAGEMENT PRACTICES AND COW BEHAVIORS. A MISTAKE OR MISUNDERSTANDING OF ONE OR MORE VARIABLES CAN TRIGGER A CASCADE OF NEGATIVE EVENTS. ONE MUST UNDERSTAND AND EVALUATE EACH VARIABLE AND BEHAVIOR. SV IS EASILY MEASURED AND ANSWER IS BLACK AND WHITE COMPARED TO OTHER VARIABLES SUCH AS MASTITIS, REPRODUCTION, NUTRITION AND DISEASES**

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