Why the Changes?

- FDA’s decision to move these drugs to VFD status is to ensure veterinary oversight to promote judicious use of antibiotics.
- The rule affects antibiotics considered medically-important (for humans).
  - In feed... moved from OTC to VFD.
  - In water... moved from OTC to Rx.
  - Injectable/Bolus... remains OTC.
- These medications were being used for weight gain and feed efficiency.
  - Now approved only for prevention or treatment of disease.

Drugs Transitioned from OTC to VFD

<table>
<thead>
<tr>
<th>Category I</th>
<th>Category II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avilamycin (new VFD)</td>
<td>Apramycin (not marketed)</td>
</tr>
<tr>
<td>Chlortetracycline</td>
<td>Hydroxyquin B</td>
</tr>
<tr>
<td>Erythromycin (not marketed)</td>
<td>Neomycin</td>
</tr>
<tr>
<td>Florfenicol (already VFD)</td>
<td>Sulfadimethoxine:Ormetoprim</td>
</tr>
<tr>
<td>Lincomycin</td>
<td>Sulfamerazine</td>
</tr>
<tr>
<td>Oleandomycin (not marketed)</td>
<td>Sulfamethazine</td>
</tr>
<tr>
<td>Oxytetracycline</td>
<td>Tilmicosin (already VFD)</td>
</tr>
<tr>
<td>Penicillin</td>
<td></td>
</tr>
<tr>
<td>Tylosin</td>
<td></td>
</tr>
<tr>
<td>Virginiamycin</td>
<td></td>
</tr>
</tbody>
</table>

Obtaining a VFD

- To lawfully feed certain antibiotics, producers must possess a valid VFD order.
  - Note: Keep documents on file for two years.
- Contact your veterinarian!
- VFD orders can be written only for approved uses (major species) and extralabel use is permitted only for minor species.
  - Note: CTC has never been legal for foot rot or pink eye.

Required Components of a VFD (1 of 2)

- Vet’s name, address and phone number
- Client’s name, address and phone number
- Premises at which the animals are located
- Date of VFD issuance
- Expiration date of the VFD (six months maximum)
- Name of the VFD drug (pioneer or generic, if available)
- Species and production class of animals to be fed the VFD feed
- Approximate number of animals
**Required Components of a VFD (2 of 2)**

- Indication for which the VFD is issued
- VFD drug level in the feed and duration of use
- Withdrawal time, special instructions, cautionary statements
- Number of reorders (refills) authorized, if permitted by the drug approval. If not listed, refills are not permitted.
- The statement: "Use of feed containing this veterinary feed directive (VFD) drug in a manner other than as directed on the labeling (extra-label use) is not permitted."
- An affirmation of intent for combination VFD drugs (three choices)
- Vet's electronic or written signature

**Common Question # 1**

- Do I have to possess a VFD order to purchase CTC 100 (the raw drug)? [Note: CTC is a Category I drug that does not have a withdrawal period for the lowest use level.]
- NO. A raw drug is considered a Type A drug. A producer can legally purchase the raw drug (CTC) to be mixed on farm. BUT… the producer must have a VFD to FEED IT to animals.
- What about AS-700? Can a producer purchase the raw drug? NO. This is a Category II drug that requires a FML to convert a Type A into a Type B or C.

**Common Question # 2**

- How does a distributor estimate an “appropriate amount” of feed to sell the producer?

  - This depends on the indications for use, drug concentration, and feeding rate as described on the label. A calculation can be done and distributors should keep track of sales to ensure they don’t exceed the amount established.

**Common Question # 3**

- Which of three choices is the best option for checking Affirmation of Intent?

  1. This VFD authorizes the use of the VFD drug(s) cited in this order and is not intended to authorize the use of such drug(s) in combination with any other animal drugs.
  2. This VFD authorizes the use of the VFD drug(s) cited in this order with the following FDA-approved drug… __________ (enter drug name).
  3. This VFD authorizes the use of the VFD drug(s) cited in this order and any FDA-approved… combination(s) in medicated feed that contains the VFD drug(s) as a component.

**Common Question # 4**

- The VFD expiration date is 6 months after date of issuance. Do I have to purchase all the feed at once?

  - NO. A producer can purchase small quantities over the time period allowed on the VFD form. The expiration date represents the last day the feed can legally be fed to animals (not the last day a distributor can sell it).

**Summary**

- The regulatory environment changed January 1, 2017 for producers who wish to continue to use certain antibiotics in feed & water for animals.
- Education is key to understanding the rules and how to maintain compliance.
- Southern States Cooperative has a VFD Booklet available for customers, dealers and veterinarians.
Thank You

Angela Mills, Manager, QC & Regulatory Compliance
Southern States Cooperative Inc. – Feed Division
Secure Milk Supply Plan: Federal, State, Industry, and Academic Partnership

Eric Paulson

Introduction

- FMD = National animal health emergency
  - Animal, product movement restrictions
- Dairy industry: Just-in-time supply
  - Disrupted movement will impact normal business and raw milk supply
- Pre-event planning critical to maintain dairy industry survival and control FMD

“Secure Milk Supply Plan”

Why Should We Be Concerned?

World Organization for Animal Health (OIE) has 178 member countries
- 66 countries free of FMD
- 96 countries are endemic and have never been free of FMD
- 11 countries have free zones either with or without vaccination
- 5 countries were free and recently suffered from a re-emergence of FMD

Leon, E. A. Transboundary and Emerging Diseases. 59 (Suppl. 1) pages 1-14, 2012

Business Continuity Planning

- Minimize unintended negative effects of disease and disease response, while achieving response goals
  - Control or eradicate disease without “destroying” the industry
- Provide risk-based solutions derived from scientific data, national and international standards
  - Ability to continue key operations of production of safe, high quality food

Business Continuity Planning

- Establish FMD Control Area
  - Infected and Buffer Zone
  - Quarantine
  - Movement by permit, only, based on risk
  - Movement controls in place until Control Area released
- Secure Food Supply Plans working on business continuity for affected, not infected premises

USDA FMD Response Plan
Why do we need the SMS Plan?

- Frequent milk movements
- Just-in-time product
- Limited capacity, time
- Maintain income, business

Secure Milk Supply Plan

- Partnership
- Voluntary participation
- Continued shipment of milk and milk products
- Provides tools to help protect cattle from FMD
- Guidance for issuing permits

SMS Partners

National Partners
- Industry
  - Working groups, topic experts
- Academia
  - Iowa State University
  - University of California, Davis
  - University of Minnesota
- USDA-APHIS-VS
  - National Preparedness and Incident Coordination Center (NPIC)
  - Centers for Epidemiology and Animal Health (CEAH)

Regional Partners
- California
- Colorado
- New England States Animal Agricultural Security Alliance (NESAASA)
  - CT, MA, ME, NH, RI, VT
- Mid-Atlantic States
  - VA, MD, TN, NC, SC, DE, WV, NJ, NY, PA, GA, OH
- Michigan
- Pacific Northwest
  - WA, OR
  - WI, MN
### Milk Production and Plant Deliveries, Selected States, 2013

- **Total milk marketed by farms**
- **Total milk receipts by in-state plants**
- **Total out-of-state deliveries to in-state plants**

### Milk Produced Per Capita, Selected States, 2013

- **Total Consumption = 607 lb**
- **Fluid Consumption = 189 lb**

### Milk Production and Consumption, Selected States, 2013

- **Total milk marketed by farms**
- **Estimated total dairy product consumption, milk equivalent**
- **Estimated fluid milk consumption**

### Raw Milk Sources within the 11-State Area, mil .lb

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>DE</th>
<th>GA</th>
<th>MD</th>
<th>NJ</th>
<th>NY</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
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<tr>
<td>Georgia</td>
<td>533</td>
<td>59</td>
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<tr>
<td>Maryland</td>
<td>2</td>
<td>470</td>
<td>53</td>
<td>13</td>
<td>25</td>
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<td>New Jersey</td>
<td>29</td>
<td>116</td>
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<tr>
<td>New York</td>
<td>R</td>
<td>610</td>
<td>10,479</td>
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<tr>
<td>North Carolina</td>
<td>R</td>
<td>1,129</td>
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<tr>
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<tr>
<td>Virginia</td>
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</tr>
<tr>
<td>W. Virginia</td>
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</tr>
</tbody>
</table>

**R = Restricted information**

### Major Suppliers of Raw Milk, mil .lb

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>PA</th>
<th>SC</th>
<th>TN</th>
<th>VA</th>
<th>WV</th>
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</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Georgia</td>
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<tr>
<td>Maryland</td>
<td>199</td>
<td>R</td>
<td>296</td>
<td>116</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
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<td>North Carolina</td>
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<td>R</td>
<td>130</td>
<td>R</td>
<td>1</td>
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<td>Virginia</td>
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<td>R</td>
<td>45</td>
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<td>420</td>
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<tr>
<td>W. Virginia</td>
<td></td>
<td>9</td>
<td>R</td>
<td>51</td>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>

**R = Restricted information**
Other Sources of Raw Milk

- 17 States outside the 12-State area supplied unpasteurized milk to cooperating state plants: AL, AR, FL, IL, IN, KS, KY, LA, MA, MI, MS, MO, NM, OH, OK, TX, WI
- 11 cooperating states + 17 other supply states = a supply area of 28 states
- Milk moves among the 11 states
  - Primarily from North to South (but sometimes from South to North)
  - Milk moves among the 11 cooperating states, even for deficit states

Summary

- If there were total movement restrictions for 48 hours in all 12 states and all milk was lost:
  - ~ $2,450 per farm in lost milk sales
  - ~ $36,000,000 in lost farm milk sales
- Longer term losses depend on the size and location of control areas
- Farms in control areas may be prevented from shipping milk for several days, threatening viability

Complex Issue

- Control Areas established around Infected Premises
  - Manage animal, animal product movement within, into, out of Control Area
- Regulatory Officials balance risks
  - Allowing raw milk movement
  - Not allowing movement, on-farm disposal of raw milk
- Decision based on risk, outbreak, Control Area characteristics

Daily Milk Sales, 2013

<table>
<thead>
<tr>
<th>Item</th>
<th>PA</th>
<th>SC</th>
<th>TN</th>
<th>VA</th>
<th>WV</th>
<th>11 States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy cows, 000's</td>
<td>533</td>
<td>16</td>
<td>48</td>
<td>95</td>
<td>10</td>
<td>1,500</td>
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<tr>
<td>Dairy farms</td>
<td>2,000</td>
<td>75</td>
<td>390</td>
<td>640</td>
<td>80</td>
<td>14,485</td>
</tr>
<tr>
<td>Hard size, cows</td>
<td>74</td>
<td>213</td>
<td>123</td>
<td>148</td>
<td>125</td>
<td>104</td>
</tr>
<tr>
<td>Milk/cow, lb</td>
<td>19,822</td>
<td>16,500</td>
<td>15,959</td>
<td>18,337</td>
<td>15,200</td>
<td>20,431</td>
</tr>
<tr>
<td>Farm price, $/100 lb</td>
<td>$21.60</td>
<td>$23.00</td>
<td>$21.50</td>
<td>$22.90</td>
<td>$20.30</td>
<td>$21.40</td>
</tr>
<tr>
<td>Milk income Farm/day</td>
<td>$11.73</td>
<td>$10.40</td>
<td>$9.40</td>
<td>$11.50</td>
<td>$8.45</td>
<td>$11.92</td>
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<tr>
<td>Milk income Herd/day</td>
<td>$968</td>
<td>$2,218</td>
<td>$1,157</td>
<td>$1,708</td>
<td>$1,057</td>
<td>$1,244</td>
</tr>
<tr>
<td>State milk prod., lb</td>
<td>10,565</td>
<td>264</td>
<td>767</td>
<td>1,742</td>
<td>152</td>
<td>30,647</td>
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<tr>
<td>Milk income State/day</td>
<td>$6,252,239</td>
<td>$166,356</td>
<td>$451,224</td>
<td>$1,092,935</td>
<td>$84,537</td>
<td>$18,024,700</td>
</tr>
</tbody>
</table>

Moving Milk During FMD Outbreak

Guidance

- Risk of moving raw milk from an FMD infected, but undetected, dairy farm to processing
- Shed the virus 2 to 4 days before clinical signs appear
- FMD is NOT a public health or food safety concern

Proactive Risk Assessments
Risk of Raw Milk Movement

- Current industry practices
- Grade A Pasteurized Milk Ordinance (PMO)

Moderate to High Risk

Risk Decreases with Biosecurity

Negligible to Moderate

Biosecurity Protection

- Routine level of biosecurity is not sufficient to protect from a newly introduced, highly contagious disease (e.g., HPAI, FMD, CSF, ASF)
  - No herd or flock immunity
  - High levels of pathogen shedding and low levels of resistance
  - Recognize biosecurity is expensive, inconvenient for people
  - Losses from FMD infection expensive, inconvenient for cattle

Principles of Biosecurity

Producer’s responsibility to keep their animals from becoming infected

1. Operation-specific enhanced biosecurity plan
2. Biosecurity Manager
   - Develop, monitor plan
3. Line of Separation (LOS)
   - Nothing should cross LOS that can introduce virus
   - Outdoor housed animals more difficult to protect from infection, but LOS concept can help

Line of Separation (LOS)

- A clearly identified boundary around or within a dairy premises to separate off-farm traffic from on-farm movements of vehicles, items, people, animals
- Only cross LOS through a controlled access point following appropriate biosecurity measures

SMS Plan: LOS
Every Tanker Entry Crosses LOS

Milk House OUTSIDE LOS

Biosecurity Impact

- Risk assessment = Negligible
- Industry, Officials = Acceptable
- Dairies in a Control Area
  - Move raw milk until told to stop?
  - Stop raw milk until permitted to move?
- Balance the risks...
Milk Movement from Control Areas in FMD Outbreak

Dairy premises that are NOT Infected, Suspect, or Contact Premises will be informed by Responsible Regulatory Officials:

**EITHER**
- Continue moving milk to processing
  - May require a Premises Identification Number (PIN) and some form of pre-certification by state

**OR**
- Stop moving milk, become a Monitored Premises
  - Requires having a valid PIN, be inspected to ensure adequate biosecurity and surveillance, and obtain a milk movement permit

[Milk Processor Recommendations]

FMD Virus in Dairy Products

- Animal health issue: Cows can shed FMD virus in milk before showing clinical signs
- Standard milk pasteurization (HTST) and some cheese processing times and temperatures used in the US are not sufficient to completely eliminate FMDv from dairy products
  - No research on higher times/temps ability to fully inactivate FMD virus
- FMD is not a public health or food safety concern

[Milk Processor Recommendations]

Inactivation of FMDv in Milk, Cream

- **Animal Consumption**
  1. HTST process applied twice; or
  2. HTST combined with another physical treatment
     - Maintaining a pH 6 or lower for at least 1 hour
     - Additional heating to at least 72°C (161°F) combined with desiccation;
  3. UHT combined with another physical treatment referred to in point 2 above

- **Human Consumption**
  1. A process applying a minimum temperature of 132°C (270°F) for at least 1 second (UHT), **OR**
  2. Milk with pH less than 7.0, a process applying a minimum temperature of 72°C (161°F) for at least 15 seconds (HTST), **OR**
  3. Milk with pH of 7.0 or over, the HTST process applied twice

[Remaining Challenges]

Management of Infected Premises

- Large or prolonged outbreak
  - Depopulation no longer an option
- Acceptable options for milk from infected farms
  - Infected, Suspect, Contact Premises
  - Not a public health or food safety concern
  - Work with processors, communications
- Managing infected animals through to recovery

[Remaining Challenges]
Special Thanks

• Danelle Bickett-Weddle, DVM, MPH, PhD, DACVPM
  Center for Food Security and Public Health
  College of Veterinary Medicine, Iowa State University

• Geoff Benson
  Professor Emeritus
  Dept. of Agricultural & Resource Economics
  North Carolina State University

www.securemilksupply.org

Questions?

smsinfo@iastate.edu

Welcome input and engagement!
**THE ROAD AHEAD: SMOOTH OR ROUGH**
Todd Olney, ARM
Transportation Risk Management Services, LLC

**Topics**
- Driver Recruitment and Retention
- Hours of Service and Electronic Logs
- Technology
- Regulatory Influences

**Driver Recruitment and Retention**
- More drivers are leaving the field than coming in. (retirement, disqualification, lack of home time and control)
- Competition for drivers (sign-on incentives, pay, benefits, dedicated routes)
- Good drivers can find a new job within 3 days of deciding they want to change employers
- Biggest challenge - Enticing new drivers to obtain CDL’s

**Hours of Service and Electronic Logs**
- Electronic logs are to be in all over the road trucks by December 2017
- Will monitor movements of trucks closer and force drivers to more accurately record duty status
- Excellent management tool and most drivers feel it is a beneficial tool once they start using them
- There are some exemptions for local operations and older model trucks

**Technology**
- Electronic Logs
- Collision Avoidance Systems
- Roll-over Prevention Systems
- Lane Departure Systems
- Speed Limiters
- Video Cameras in trucks

**Hours of Service**
- Detention or wait time during loading or unloading process
- Availability of locations to obtain required rest breaks
- Electronic logs will capture every movement of the wheels of the vehicle as drive time

2/15/17
Olney | Transportation Risk Management Services, LLC.
Technology
- Engine Regeneration Systems
- Self-driving trucks
- Platooning of trucks
- All of these changes are going to require companies to spend more time training the driver on the systems

Regulatory Impacts
- CDL Licensing Requirements – will have to attend certified training institute
- EPA mileage rules
- Emission Rules
- Legalization of Marijuana by some states for recreational and medicinal use
- Closer scrutiny of medical conditions and prescribed medication use

Questions
?
FIRST FRESHENERS: FINDING NEW TEAM MEMBERS AND GETTING THEM OFF TO A GOOD START

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IOWA STATE UNIVERSITY
EXTENSION AND OUTREACH
Attorney -and- Farm & Agribusiness Management Specialist
ISU Extension Dairy Team Member
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morourke@iastate.edu      563-382-2949
@MelissaISU

Topics – Highlights:

• Importance of job analysis and descriptions
• Recruitment and selection considerations
• Orientation and onboarding
Top challenges on the dairy?

- Difficulty of hiring and retaining qualified employees.

Dairy Farm Challenge:

- Increasing cost of labor.
- Second greatest expense – just behind feed expense.
**Dairy Farm Challenge:**

- Increased labor productivity = Increased cow productivity.

**Before hiring . . .**

- Consider labor needs.
- Analyze jobs on the farm and how they fit together.
- Write good job descriptions—and let these guide the hiring processes.
Dairy Job Analysis

• Gather information about duties, responsibilities and context in which jobs are performed on the dairy.

Key Job Analysis Inquiries:

• Identify all positions, including owner & manager tasks
• List every task, from most minor to major and complex
• Include length of time required plus frequency
• List equipment, tools required
• Conduct individual or small group interviews
Assemble Job Descriptions based on Job Analysis - Why?

• Job descriptions help workers know what is expected of them.
• Job descriptions serve as a fundamental basis for employee communication and development.
• Key to effective recruitment, selection and onboarding.

Job Descriptions—Elements:

• Job title and overall summary of major responsibilities
• Qualifications: knowledge, education, experience necessary
• List all tasks—from most- to least-frequently performed
• Relationships
• Conditions
Job Descriptions:
Recruitment, hiring, selection

• More likely to recruit appropriate applicants.
• Essential aid in interviewing and selection process.
• Keeps interviewer “on-task” – reviewing necessary qualifications and duties of the position with applicants, asking about training and past experience.
• Communicates requirements with potential employees.

Job Descriptions: Training and Employee Development

• Basis for understanding past experience and future training needs.
• As experienced employees move into advanced work, employers can continue positive training and employee development experiences.
• Increases employee satisfaction and productivity.
Recruitment: Best source for new employees (applicants)?

- Current employees.
- Research: Up to 45-50% of new employees are recommended by current employees.
- Many offer the current (referring) employee a bonus if (for example) the new employee remains successfully employed for 6 months.

Other recruitment sources?

- Word-of-mouth
- High school ag programs; 4H & FFA
- Area technical and community college programs
- University dairy & animal science programs.
- On-line, social media
Interview questions?

- Using the **job description** as a guide ensures that questions are related to a BFOQ (bona fide occupational qualification).
- Assumes well-written job descriptions!
- BFOQ = a quality or attribute reasonably necessary to the normal operation of the business or occupation.

Interview Process – Questions:

- Consider regular screening interviews even without an immediate opening
- Ask about challenges applicant faced in prior employment
- Ask questions designed to learn about how to get along with co-workers
**Challenge to Dairy Labor Productivity?**

- **Turnover** is the single factor with the most significant impact on dairy labor productivity.

**Costs of Turnover?**

Losses measured in multiple categories:
- Productivity
- Recruitment
- Selection, hiring
- Safety issues
- Investment in orientation and training
Turnover rates?

- Employee turnover = # of employees leaving divided by the average total number of employees, multiplied by 100 (to arrive at a percentage value).

Turnover Cost Calculations:

- Estimates are 150 to 250 percent of an employee’s annual wage.
- Employee making $10-12/hour
- Turnover cost = $37,500 to $45,000 at 150%
Example:

- Dairy with 20 employees and 10% turnover...
- Cost = $75,000 to $90,000 per year.

Reasons for Turnover?

- Research = Exit interviews and follow-up surveys
- Top reasons:
  - Compensation and benefits top the list
  - Working conditions
  - Lack of time off
How accurate are these reasons?

All dairy producers should give due attention to working conditions, communication, employee motivation – to retain workers.

But when do employees make a decision to leave?

• Research: 90% of employees make their stay-or-go decision within the first six months.
Onboarding and Orientation – what do these terms mean?

- Often used interchangeably
- **Onboarding** = broad process of building new worker engagement – from first contact to commitment
- **Orientation** = early stage of onboarding
What activities do orientation or onboarding include?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide new hires with equipment and supplies</td>
<td>49%</td>
</tr>
<tr>
<td>Ensure that all forms are processed correctly</td>
<td>59%</td>
</tr>
<tr>
<td>Provide information about the company culture</td>
<td>53%</td>
</tr>
<tr>
<td>Assign mentor</td>
<td>27%</td>
</tr>
<tr>
<td>Manager schedules a dialogue with new employee</td>
<td>47%</td>
</tr>
<tr>
<td>Welcome lunch</td>
<td>12%</td>
</tr>
</tbody>
</table>

Is this enough to ensure the new employee is making that early decision to stay at the dairy?

Recruitment and Hiring?

Significant investment in the processes of recruitment, interviewing, reference checks, evaluation, selection --
Without a good start on Day One . . .

. . . all those hiring efforts can quickly go “down the drain.”

What difference does effective Onboarding really make?

• They were hired to do a job – just get them working and productive as quickly as possible – right?

Research says otherwise:
Orientation Group A:

- Senior Leader and a lead worker spent 15 minutes talking about why this is a great place to work.
- New employees spent 15 minutes writing answers to questions such as, "What did you hear about our Company today that you would be proud to tell your family about?"
- They discussed their answers.
- New employees received fleece sweatshirts embroidered with the company name, along with a badge. They were asked to wear them throughout training.

Orientation Group B:

- Senior leader spent 15 minutes discussing ways in which "working here will enable you to express your individuality."
- New employees ranked individual strengths they would exhibit if stranded on a life raft at sea; spent time discussing /considering how their responses might differ from colleagues.
- New employees answered questions about individual strengths such as, "What is unique about you that leads to your happiest times & best performance at work?" - then spent time discussing and sharing this.
- New employees were given fleece sweatshirts embroidered with their individual names, along with a name badge. They were asked to wear them throughout training.
Seven Months Later . . .

- Turnover rate in Group A was 47.2% higher than that of Group B.
- Group B earned higher customer satisfaction scores during the seven months than those in Group A.

What difference could it make to the cows? - to the KPIs on the dairy? Productivity?

What Four Questions do Millennials* ask after the First Day on the Job?

- Why did they hire me for this job?
- Will I enjoy working here?
- Are any of my coworkers friend material?
- Who can I talk to about . . .?

*18 to 33 years old, born 1981–1996

2/15/17
Onboarding Starts Early: Establish the Start Date

When the employment offer has been accepted, a start date should be agreed upon as soon as possible.

Before that start date . . .

Inform the new employee of what will happen on the first day of work.
Clearly Communicate:

What time they are expected to arrive – plus other basics!

It may seem fundamental to the producer -- but, focus on the new worker.

► Reduce nervousness, apprehension.
► New employees have common questions.
► Provide a “Frequently Asked Questions” (FAQs) document by regular mail and/or email or in-person.
What should I wear?

- Many new employees do not have farm background, need guidance.
- Footwear, gloves, other appropriate attire.
- Biosecurity guidelines - some items may be provided.

⇒ Inform new worker that they will be trained on biosecurity procedures.

Lunch, snacks, beverages?

- Noon or evening meal provided?
- Snacks, beverages?
- Go to town for lunch?
- Inform the new employee of farm practices and what they should/may bring to work.

- “Welcome” lunch?
Vehicles and Parking

- Vehicle required for job?—should have been communicated during the pre-employment process.
- Where do I park?
- Areas reserved for visitors, vendors, family?
- Employee of the month?

What documents should I bring?

- Documents needed for new employee forms – as required by the jurisdiction.
What else should I bring (or not bring) to work?

- Cellphone?
- Other electronic devices?
- Tobacco-free workplace?
- Weapons?

What will I do on my first day?

- First day(s) or week
- Clearly communicate work hours, break policies
- General outline of initial orientation/training.
- Decreases apprehension or confusion
- Helps to prepare worker for planned orientation program as well as initial training.
The First Day

- Greet & Welcome Promptly
- Introductions – with connections
- Nametags, list, organizational chart
- Restrooms, break areas
- Key supervisor, mentor, partner
- Safety, biosecurity? New employee accompanied by a trained person.

Who is on the Orientation Team?

- Consistency: Have the same person(s) conduct orientation.
- Identify supervisors or more experienced co-workers to participate in the process.
- Assign key Mentor(s)
- All orientation team members should share a positive attitude.
- Constructive, upbeat messages geared toward positive, early impressions.
Name Tags - Employee Badges

- Consider laminated clip-on photo ID badges for owners & employees.
- ID fosters worker socialization
- Farm security and biosecurity protocols are enhanced

Shirts - Uniforms or other printed wear?

- Identifies employees
- Pride
- Farm publicity!
At the end of the first day . . .

- Any questions?
- Offer assurances.
- Offer information, reminders about the days to come.
- Ask: Good answers to those 4 Questions?

Are there good answers to those Four Questions?

- Why did they hire me for this job?
- Will I enjoy working here?
- Are any of my coworkers friend material?
- Who can I talk to about . . . ?
After Day One: Do you have an Orientation program in place?

- Enhances socialization, reduces natural anxiety.
- **Research**: Orientation results in an employee who develops and maintains a positive attitude toward the employer.

- Positive attitude = earlier & higher productivity, longer retention, less turnover.
- Less stress = better concentration, learning, absorbing substantive information about job tasks

Planning & Content of Orientation Program

- Planning may seem overwhelming, but resources are available.
- **Ask current employees for input.**
- “What do you wish you had been told when you first started working here?”
- “What do you view as important information for newcomers?”
Job Descriptions

- Orientation: Use job description as a guideline for discussion.
- Discuss tasks including future training.
- Emphasize basic safety & importance of ongoing safety training, awareness.
- Discuss relationship and importance of position to other jobs & functions on the farm.

Onboarding & Orientation: From Day One

- Well-planned program requires time & effort.
- Sets the tone for a positive employment relationship.
- Employees treated with respect have greater job satisfaction.
- Translates into productive, long-term employees - good for the farm, good for the cows!
THANK-YOU!
PLEASE feel free to contact me with any questions.

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@MelissaISU
Milk Price Recovery or Not?

Normand St-Pierre, Ph.D., P.A.S.

Things to understand (or not)

› Domestic Markets

Big Factors Affecting Milk Prices

Supply

- Production
  - Domestic
  - International

- Stocks
  - Domestic
  - International

Demand

- Domestic
  - Season Trends

- International
  - Exports

Yr to yr % change in U.S. milk production adjusted for leap years
(2016 is Jan-Nov vs. Jan-Nov 2015, 2017 is USDA projection)

Percent change in 2016 vs. 2015 milk production in top states through November
Things to understand (or not)

- Domestic Markets
  - When you got burned you are weary of anything looking hot!
Things to understand (or not)

- Domestic Markets
- World Markets
  - European production is down and not likely to recover soon
  - Oceania production is contracting
    - Moderately in NZ
    - Severely in Australia
  - WMP prices at Global Dairy Trade generally up
  - US NDM competitive with world price for Skim Milk Powder

$17/cwt is the new $12/cwt

- National break-even price is at ~ $17/cwt Class III,
- or $18.50 - $19.00 /cwt mailbox price

... You have to be able to make money at these prices!

... which is why we cannot forecast milk prices!
An Update on Protein and Amino Acid Feeding

If you want this much protein, feed this much MP.

Any Questions?

Efficiency???

N Conversion Efficiencies are Relatively Poor for the Ruminant

NRC 2001 Least Cost Rations

NRC 2001 Predictions of Milk Yield

Milk Protein vs Metabolizable Protein

Milk Protein Responses to Digestible Lysine and Methionine

Efficiency???

Thank you for your attention!
Dietary N
Mammary
Ruminal CP N
Duodenal True P N
Urea and NH₃ N Excretion
Blood AA-N
Other Tissues
Fecal N
Hair & Skin
Milk N
286 g
1158 g
444 g
236 g
1263 g
98 g
346 g
413 g

N Metabolism in Dairy Cows
Arriola et al., 2014. JDS.

Extraction
69%
13%
44%

24%

Cell Signaling and Protein Synthesis
Arriola, 2014.

AA Deficiencies in Mammary Tissue Slices
Appuhamy et al., 2009

mTOR-P

Cell Signaling

P-mTOR/T-mTOR
P-4eBP1/T-4eBP1
P-S6K1/T-S6K1
P-eEF2/ T-eEF2
P-eIF2α /T - eIF 2α
P-Akt/ T-Akt

Liu et al., in press, JDS

Gene Expression

β-casein
mTOR
S6K1
eEF2
eIF2α
Akt

AA Effects on αS1-Casein Synthesis
Liu et al., in press, JDS

Mice Litter Weight Gains in Response to EAA
Dietary Protein

15% 21%

Food Intake (g/d) 13.0 a 12.5ab 13.1a 12.1b 12.1b 12.8ab 1.3 0.07
Birth weight (g) 15.4 15.4 15.4 14.9 15.5 14.8 1.4 0.54
Litter weight gain (g) 67c 78b 77b 78b 69c 85a 9.6 <0.001
Infanticide rate (%) 5.6 6.9 1.9 5.0 6.9 1.2

Cell Signaling

P-mTOR/T-mTOR
P-4eBP1/T-4eBP1
P-S6K1/T-S6K1
P-eEF2/ T-eEF2
P-eIF2α /T - eIF 2α
P-Akt/ T-Akt

AA, % of MP Sufficient Diet

Ile
Leu
Met
Thr

AA Imbalance??

Aguilar et al., unpublished

DMI and Milk Protein Yield Responses to RPAA Supplementation
Aguilar et al., unpublished

Dry Matter Intake, kg/d

AA, % of MP Sufficient Diet

Ile
Leu
Met
Thr

2017 Virginia State Feed Association & Nutritional Management Cow College
2/16/17

Hanigan | Virginia Tech Dairy Science
Page 2 of 3
N Metabolism in Dairy Cows

- Dietary N (13%)
- Ruminal CP (69%)
- Duodenal True P (286 g)
- Urea and NH3 Excretion (1158 g)
- Blood AA-N (44%)
- Other Tissues (236 g)
- Fecal N (98 g)
- Hair & Skin (346 g)
- Milk N (413 g)
- Splanchnic Tissues (55 g)

Milk Protein Yield

\[ MPY = p\text{ArgUp} + p\text{HisUp} + p\text{IleUp} + p\text{LeuUp} + p\text{PheUp} + p\text{ThrUp} + p\text{ValUp} \]

- No Met
- No Lys
- Variance & lack of independent variation

Myers Milk Protein Model Prediction Errors

- Observed Mean: 0.883
- Predicted Mean: 0.883
- RMSE, kg/d: 0.068
- RMSE, % mean: 7.71
- Mean Bias, % MSE: 0.00
- Slope Bias, % MSE: 0.00
- RSR: 0.349
- CCC: 0.935

Empirical Predictions of Milk Yield

<table>
<thead>
<tr>
<th>Item</th>
<th>NRC 2001</th>
<th>NRC 2001 + Digestion Corrections</th>
<th>NRC 2001 + Ener &amp; AA Efficiency</th>
<th>MinEval Eval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Mean, kg</td>
<td>29.61</td>
<td>29.8</td>
<td>30.7</td>
<td></td>
</tr>
<tr>
<td>Predicted Mean, kg</td>
<td>31.19</td>
<td>31.2</td>
<td>27.6</td>
<td>28.2</td>
</tr>
<tr>
<td>CCC</td>
<td>0.83</td>
<td>0.88</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>RMSEPE, % mean</td>
<td>23.69</td>
<td>20.8</td>
<td>17.3</td>
<td></td>
</tr>
<tr>
<td>Mean Bias, % MPE</td>
<td>5.33</td>
<td>5.0</td>
<td>24.7</td>
<td>26.7</td>
</tr>
<tr>
<td>Slope Bias, % MPE</td>
<td>13.06</td>
<td>1.3</td>
<td>0.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Slope Bias, kg/kg</td>
<td>-0.27</td>
<td>-0.1</td>
<td>&lt;0.1</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

Summary

- AA are very, very important!
- Representation of effects is complicated
  - Multiple AA
  - Energy
  - Hormones
  - Integrated response
  - Nyet on the barrel with broken staves
- Can’t be done by guess and by golly
- Excellent modeling progress
- USDA funding was renewed
- Look for a new model soon in theaters near you
- Upgrade your optimizer skills