

Veterinary Feed Directive: Welcome to 2017

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Overview

- Why the Changes?
- VFD Form required components
- Issues in the marketplace – answering common questions

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

Category I	Category II
Avilamycin (new VFD)	Apramycin (not marketed)
Chlortetracycline	Hygromycin B
Erythromycin (not marketed)	Neomycin
Fiorfenicol (already VFD)	Sulfadimethoxine:Ormetoprim
Lincomycin	Sulfamerazine
Oleandomycin (not marketed)	Sulfamethazine
Oxytetracycline	Tilmicosin (already VFD)
Penicillin	
Tylosin	
Virginiamycin	

List of affected products:
<http://www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/JudiciousUseofAntimicrobials/ucm390429.htm>

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 (extralabel 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.
 - ** Let's discuss this... is there any flexibility here?

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.



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



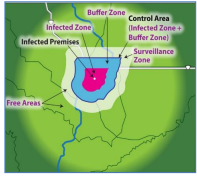

Business Continuity Planning

- 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



USDA FMD Response Plan

- 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

Why do we need the SMS Plan?



Frequent milk movements



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Frequent milk movements

Just-in-time product



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Just-in-time product

Limited capacity, time



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Why do we need the SMS Plan?



Frequent milk movements

Just-in-time product

Limited capacity, time

Maintain income, business



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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

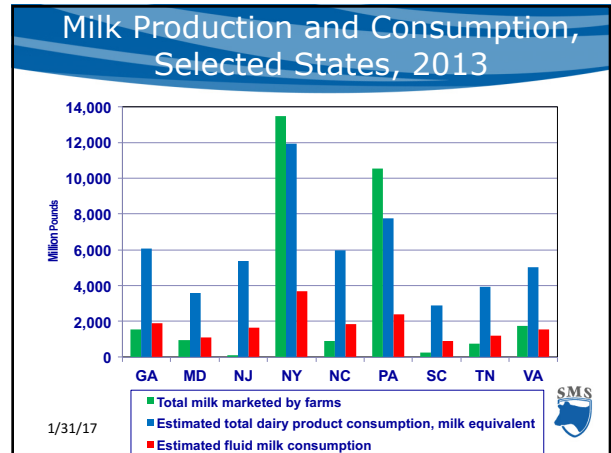
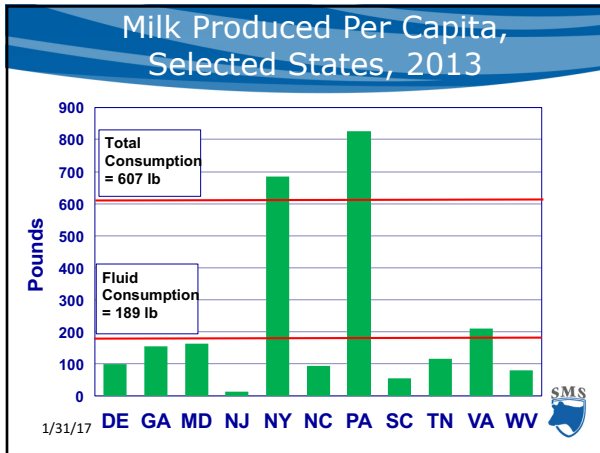
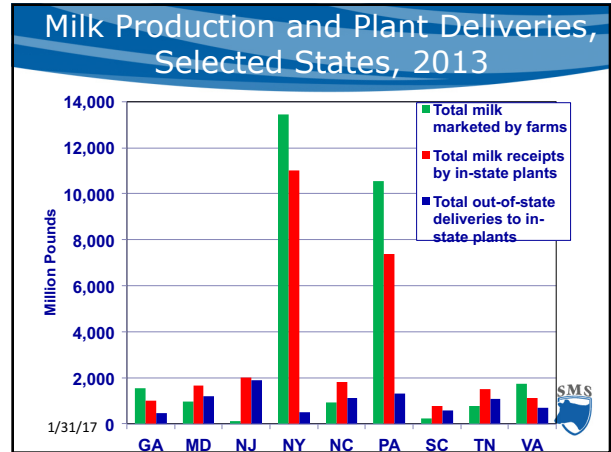
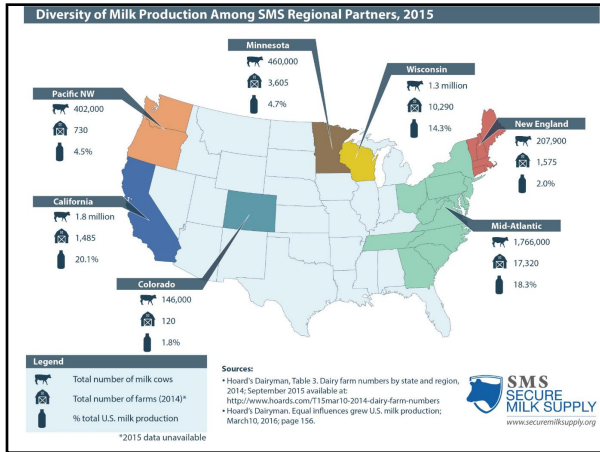
- Industry
 - Working groups, topic experts
- Academia
 - Iowa State University
 - University of California, Davis
 - University of Minnesota
- USDA-APHIS-VS
 - National Preparedness and Incident Coordination Center (NPIC)
 - Centers for Epidemiology and Animal Health (CEAH)

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



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

From \ To	DE	GA	MD	NJ	NY	NC
Delaware	R		R			R
Georgia		533				59
Maryland	2		470	53	13	25
New Jersey	29			116	1	
New York		R	.3	610	10,479	
North Carolina		R	1.8			718
Pennsylvania		R	1,129	1,260	481	37
South Carolina			12			33
Tennessee			4			107
Virginia		R	19			498
W. Virginia			2			

R = Restricted information


Major Suppliers of Raw Milk, mil .lb

From \ To	PA	SC	TN	VA	WV
Delaware					
Georgia		97	10	R	
Maryland	199	R	296	116	
New Jersey					
New York	327			3	
North Carolina	R	130	R	1	
Pennsylvania	6,052			531	
South Carolina		210		R	
Tennessee			441	R	
Virginia	R	45	37	420	
W. Virginia	9		R	51	R

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



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Daily Milk Sales, 2013


Item	PA	SC	TN	VA	WV	11 States
Dairy cows, 000's	533	16	48	95	10	1,500
Dairy farms	7200	75	390	640	80	14,485
Herd size, cows	74	213	123	148	125	104
Milk/cow, lb	19,822	16,500	15,959	18,337	15,200	20,431
Farm price, \$/100 lb	\$21.60	\$23.00	\$21.50	\$22.90	\$20.30	\$21.40
Milk Income /cow/day	\$11.73	\$10.40	\$9.40	\$11.50	\$8.45	\$11.92
Milk Income /herd/day	\$868	\$2,218	\$1,157	\$1,708	\$1,057	\$1,244
State milk prod., mil. lb	10,565	264	767	1,742	152	30,647
Milk Income /state/day	\$6,252,239	\$166,356	\$451,224	\$1,092,935	\$84,537	\$18,024,700



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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



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Moving Milk During FMD Outbreak

Guidance




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



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Proactive Risk Assessments



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



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Risk of Raw Milk Movement

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

Moderate to High Risk






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Risk Decreases with Biosecurity

Negligible to Moderate





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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

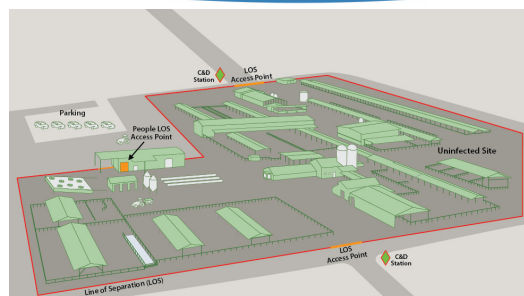



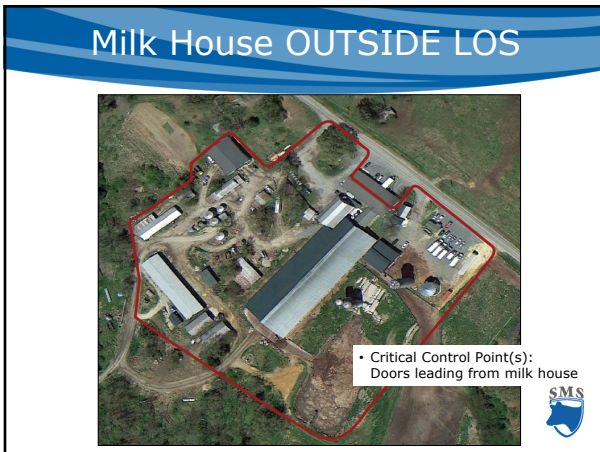
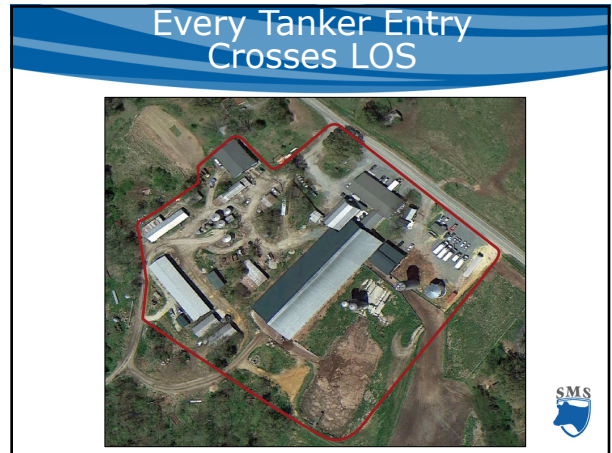
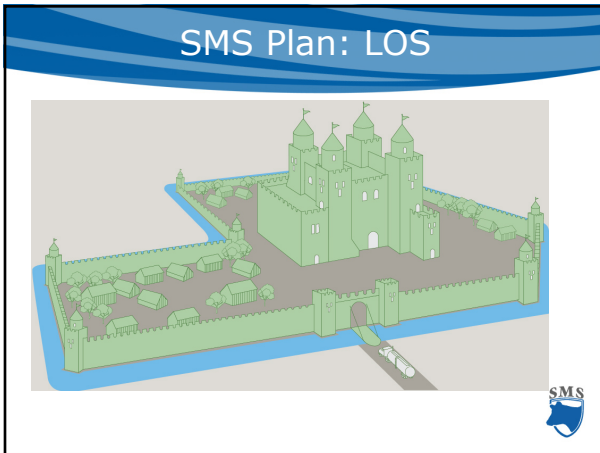
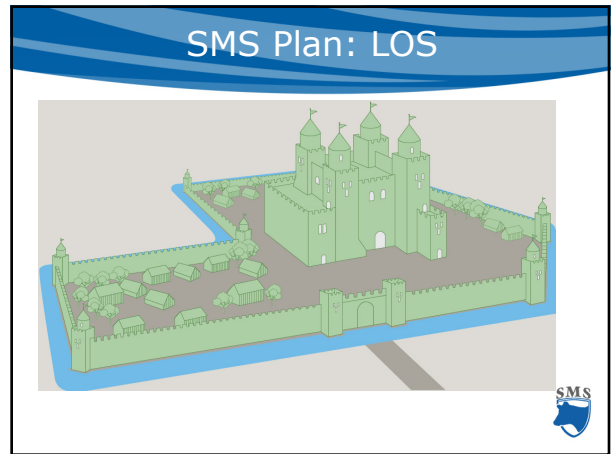
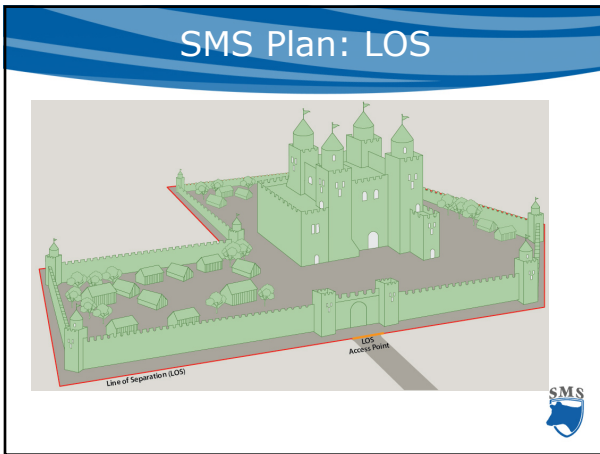
Line of Separation (LOS)

- 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



- ### 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...
- The SMS logo is in the bottom right corner.

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

http://securemilksupply.org/Assets/SMS-Milk-Movement-FMD-Control-Areas_FINAL.pdf



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**



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 or
 - 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

www.oie.int/index.php?id=169&L=0&htmfile=chapitre_fmd.htm



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

- Pre-certification process
 - Farms, processors
- Information management and timely, scalable permitting
- FMD vaccine surge capacity
- Consumer outreach and education
- Mitigation of risk to rapidly growing dairy export market



Special Thanks

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- Geoff Benson
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Dept. of Agricultural & Resource Economics
North Carolina State University



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www.securemilksupply.org



Questions?
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Welcome input
and engagement!



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THE ROAD AHEAD : SMOOTH OR ROUGH

Todd Olney, ARM
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- ## 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

- ## 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

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

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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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?

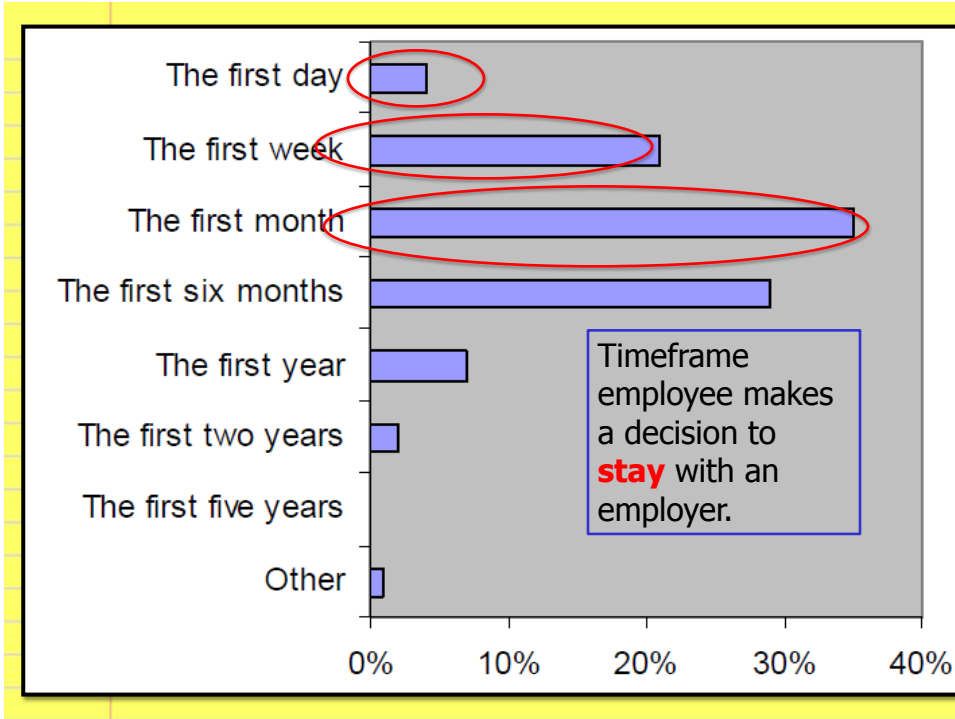
All dairy producers **should** give due attention to working conditions, communication, employee motivation - to retain workers.



But **when** do employees make a decision to leave?



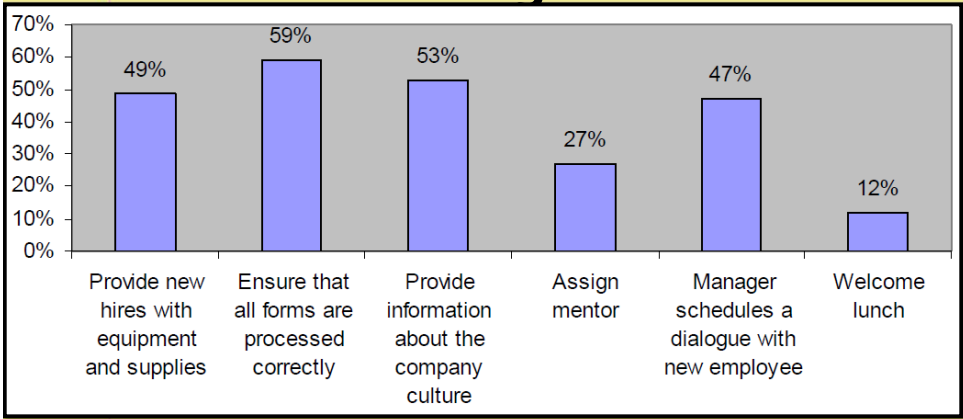
- Research: 90% of employees make their *stay-or-go* decision within the **first six months**.



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?



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?



*18 to 33 years old,
born 1981-1996

- 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 . . . ?

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.

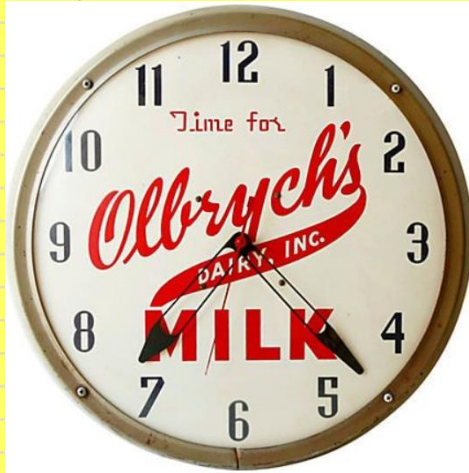


Before that start date . . .

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.

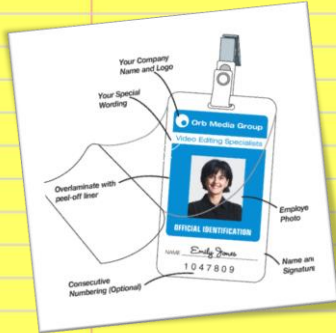


Who is on the Orientation Team?

- 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.



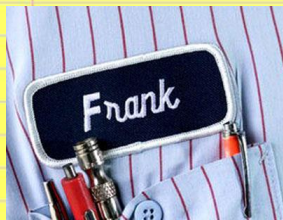
Name Tags-Employee Badges



- 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.**

Melissa O'Rourke B.S., M.A., J.D.

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EXTENSION AND OUTREACH
Attorney -and- Farm & Agribusiness
Management Specialist**

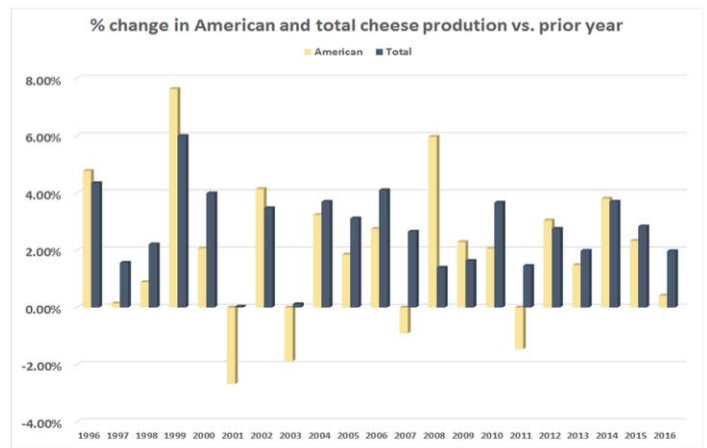
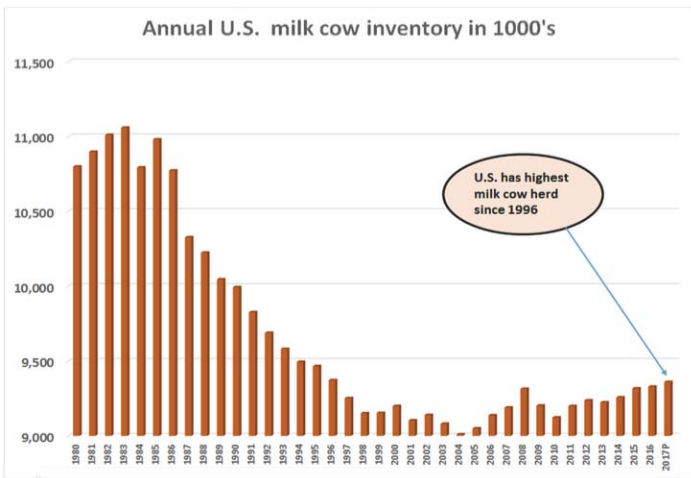
ISU Extension Dairy Team Member

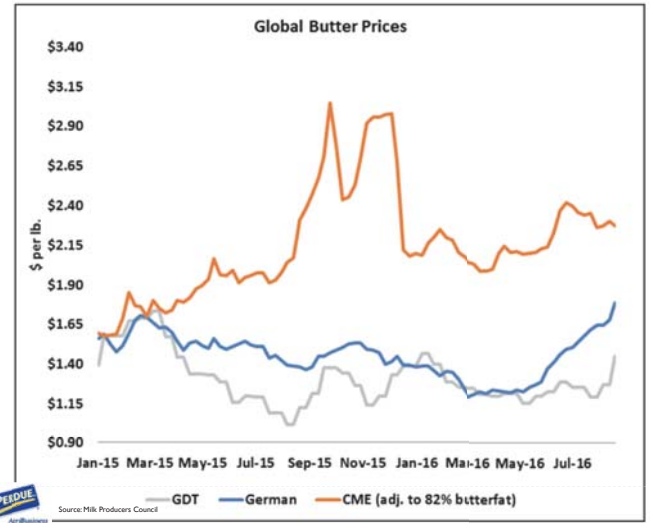
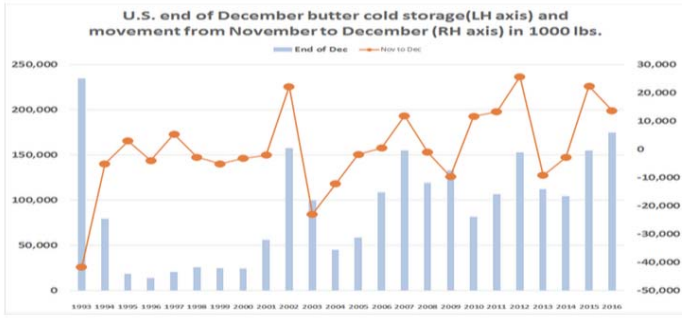
www.extension.iastate.edu/agdm

morourke@iastate.edu 563-382-2949

 @MelissaISU



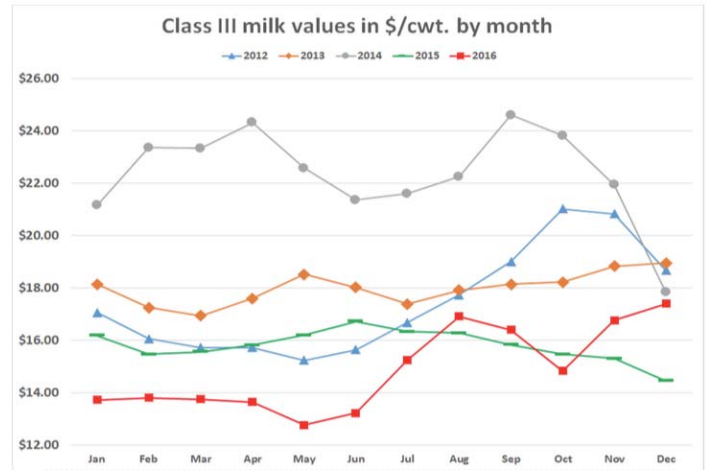




PERDUE Agribusiness Source: J. Karlin

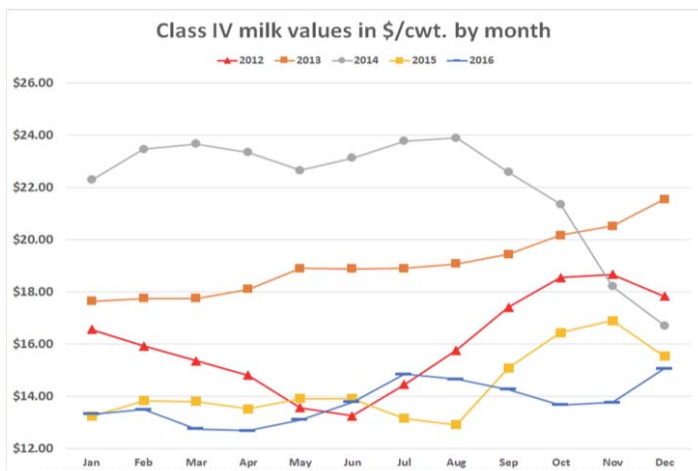
PERDUE Agribusiness Source: Milk Producers Council

	Average 2016 value	Average 2015 value	Five yr average
Class III, \$/cwt.	\$14.87	\$15.80	\$17.69
Class IV, \$/cwt.	\$13.77	\$14.35	\$17.05
Block cheese, \$/lb.	\$1.5812	\$1.6109	\$1.7525
Butter, \$/lb.	\$2.0824	\$2.0815	\$1.8978
Non fat dry milk, \$/lb.	\$0.8348	\$0.8908	\$1.3058
Dry whey, \$/lb.	\$0.2831	\$0.3602	\$0.4801

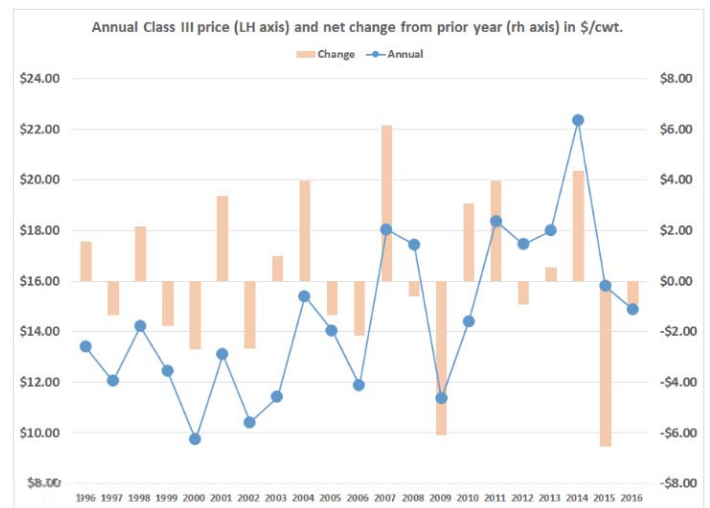


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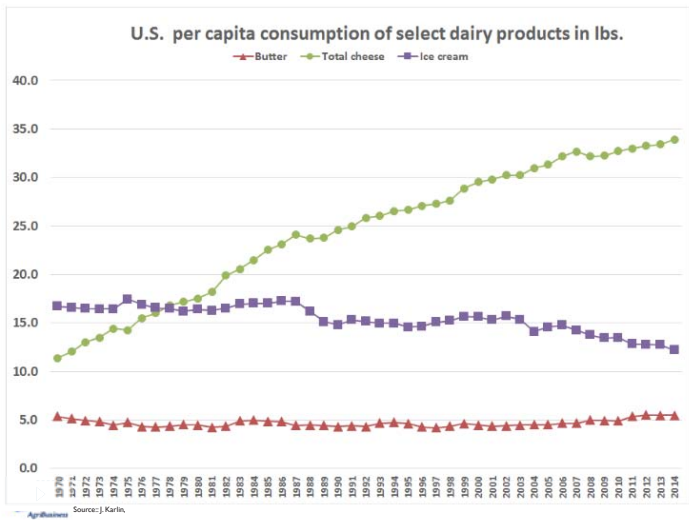
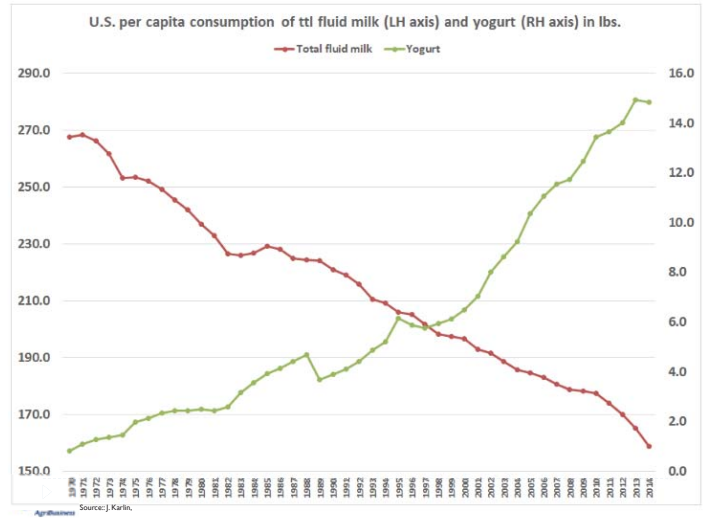
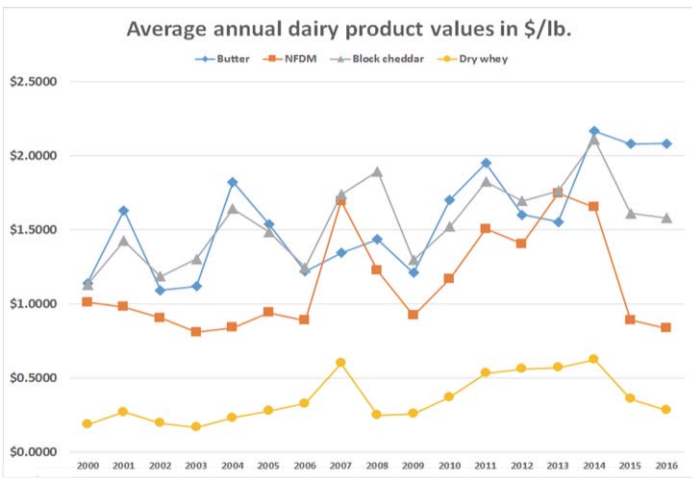
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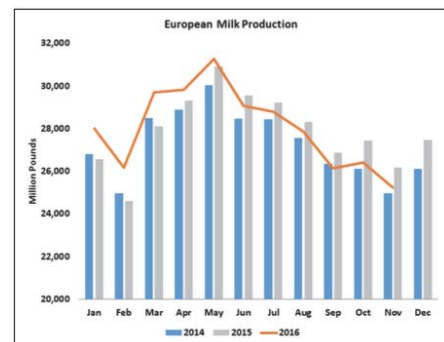
Things to understand (or not)

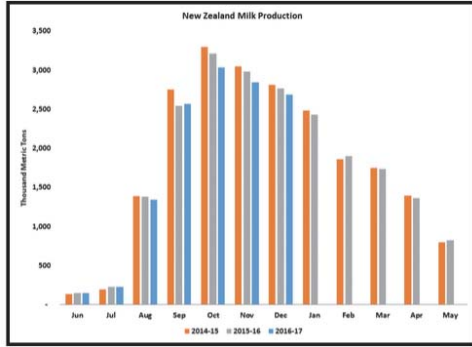
- ▶ Domestic Markets
 - ▶ When you got burned you are weary of anything looking hot!



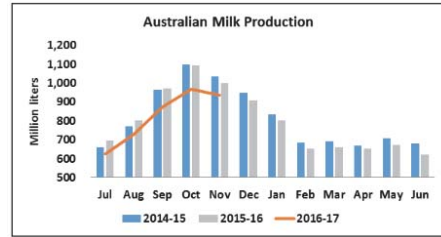
Things to understand (or not)

- ▶ Domestic Markets
- ▶ World Markets





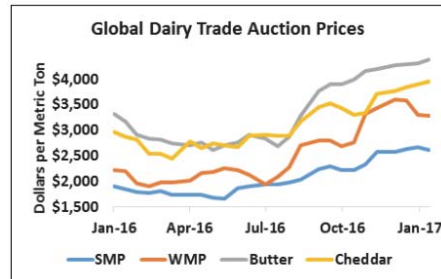
PERDUE Agribusiness Source: Milk Producers Council



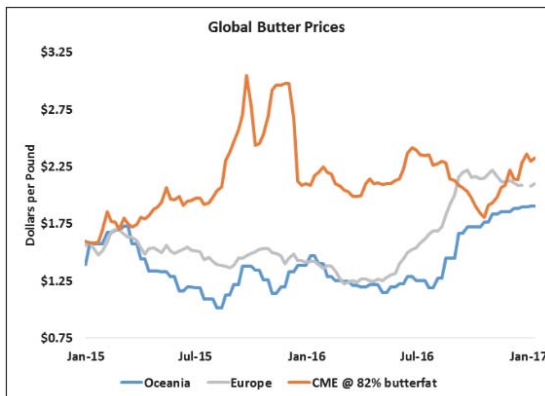
PERDUE Agribusiness Source: Milk Producers Council



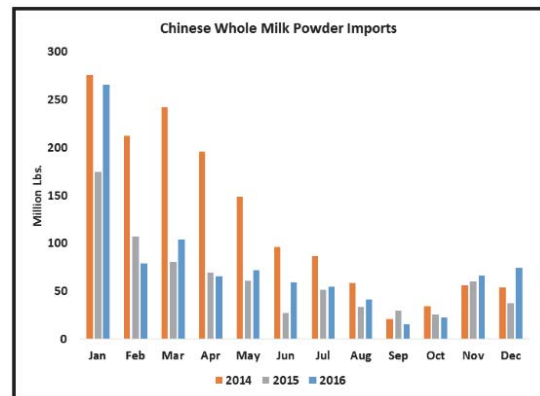
PERDUE Agribusiness Source: Milk Producers Council



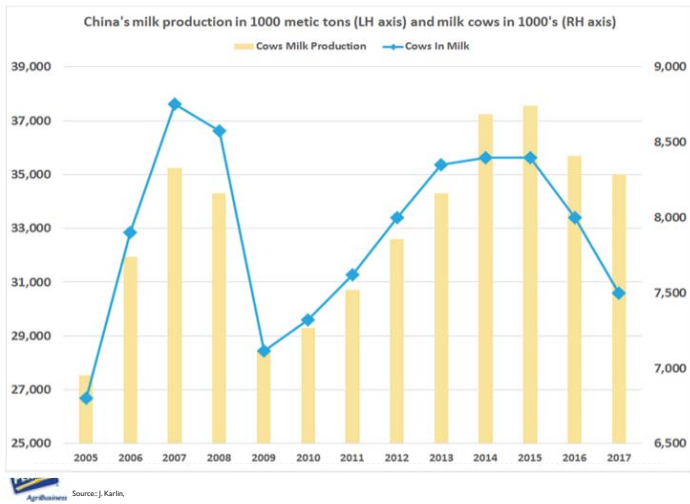
PERDUE Agribusiness Source: Milk Producers Council



PERDUE Agribusiness Source: Milk Producers Council



PERDUE Agribusiness Source: Milk Producers Council



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



Things to understand (or not)

- ▶ Domestic Markets
- ▶ World Markets
- ▶ US Exports

- ▶ US Outlook

\$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!


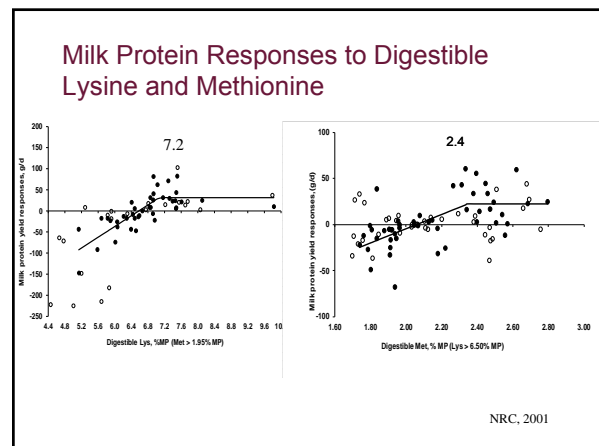
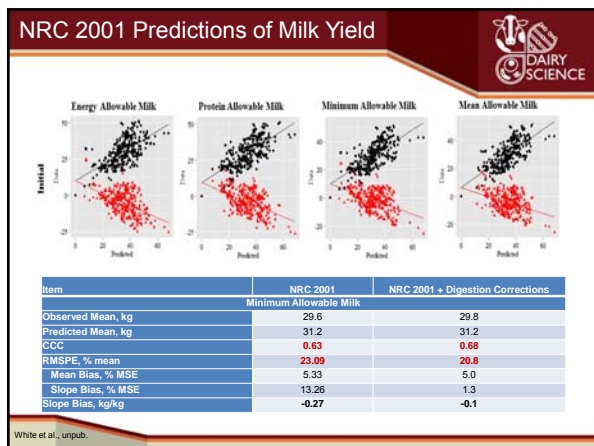
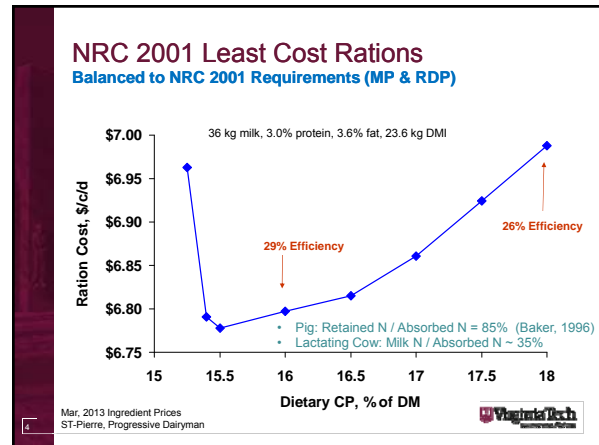
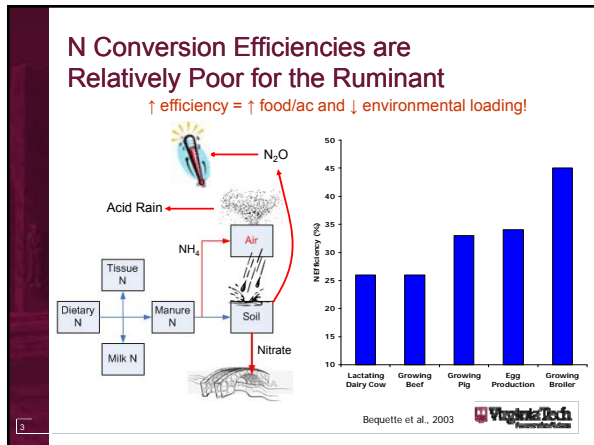
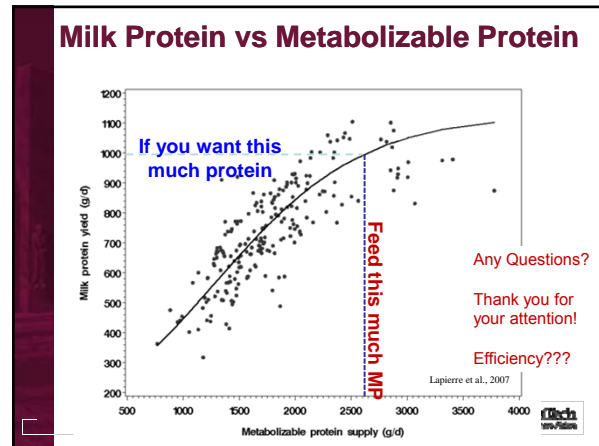


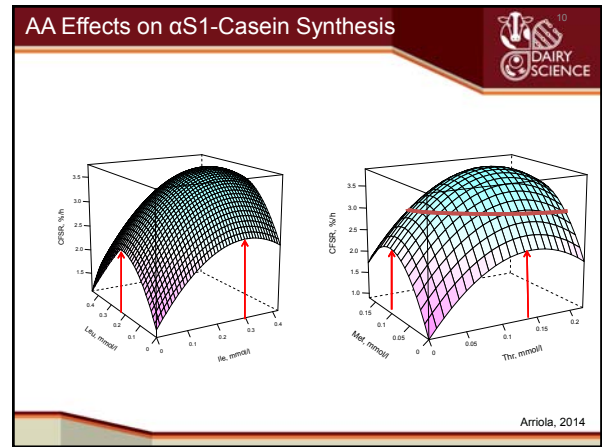
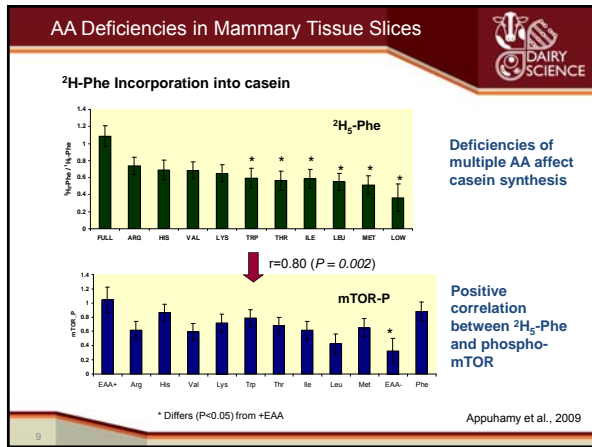
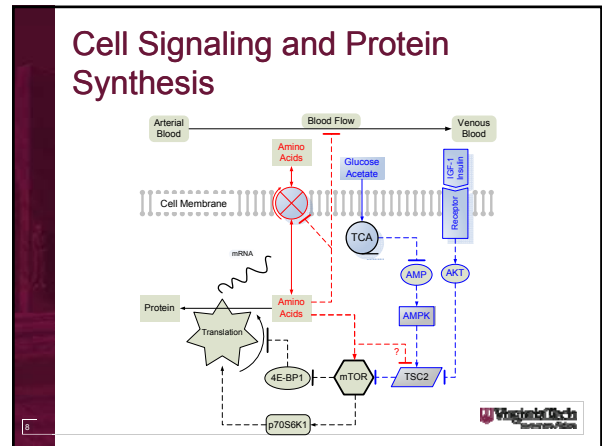
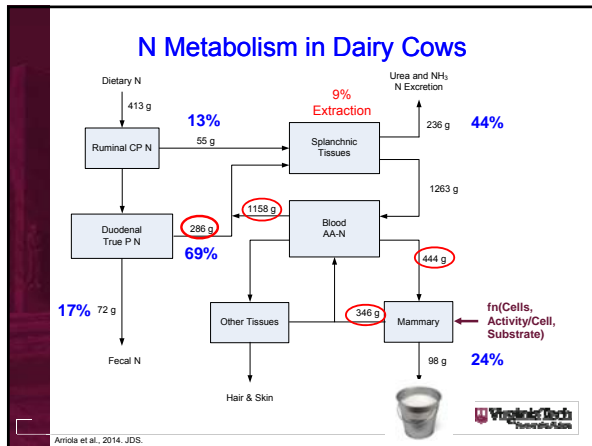
An Update on Protein and Amino Acid Feeding

USDA: AFRI Grant: 2012-67016-19464, 2017-??, & Hatch
 Pratt Foundation & VT College of Ag and Life Sciences
 VA State Dairymens, VA Ag Council, Canadian Dairy Farmers
 Balchem, Perdue Ag, Papillon, Purina, Poultry Profit/Fat Res Council, AFIA iFeeder
 Evonik, Adisseo



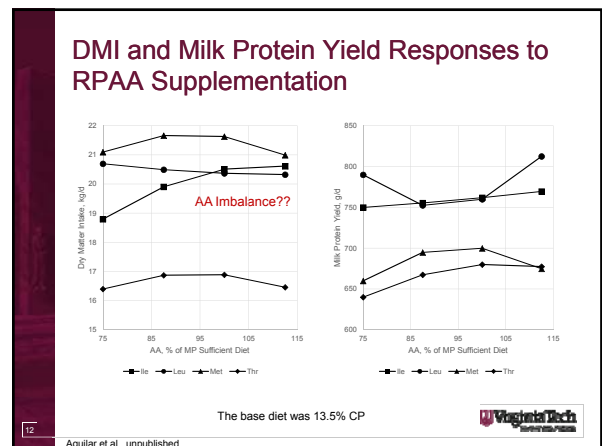
M. D. Hanigan, R. R. White, S. Ariola, M. Aguilar, J. Castro, K. Estes, A. Myers, X. Feng
 Dept. of Dairy Science

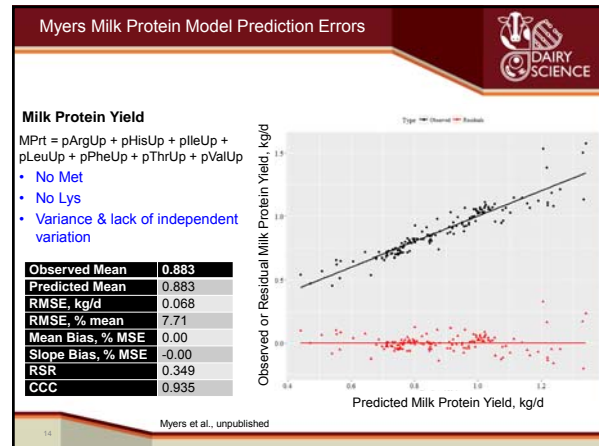
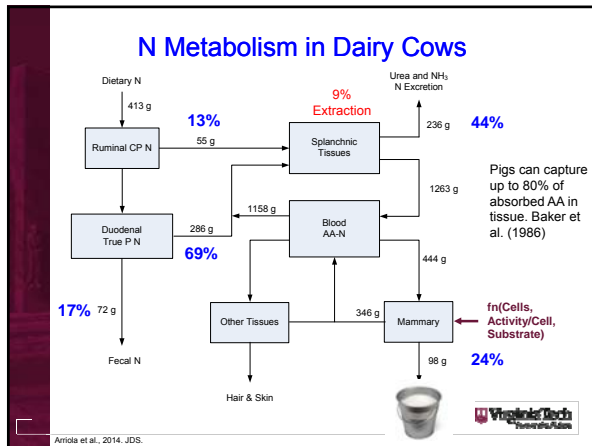





Mice Litter Weight Gains in Response to EAA

Dietary Protein	15%	15%	15%	15%	15%	21%	SEM	P
Amino Acid Supplement	-	+Leu	+Ile	+Met	+Thr	-	1.3	0.07
Food Intake(g/d)	13.0 ^a	12.5 ^{ab}	13.1 ^a	12.1 ^b	12.1 ^b	12.8 ^{ab}		
Birth weight(g)	15.4	15.4	15.4	14.9	15.5	14.8	1.4	0.54
Litter weight gain (g)	67 ^c	78 ^a	77 ^a	78 ^a	69 ^c	85 ^a	9.6	<0.001
Infanticide rate(%)	5.6	6.9	1.9	5.0	6.9	1.2		
Cell Signaling								
P-mTOR/T-mTOR	0.73 ^b	1.15 ^a	0.98 ^a	1.07 ^a	1.06 ^a	1.13 ^a	0.09	0.03
P-4eBP1/T-4eBP1	0.75 ^b	0.82 ^b	1.2 ^a	1.05 ^{ab}	1.13 ^a	0.91 ^b	0.09	0.007
P-S6K1/T-S6K1	0.91	0.97	1.1	1.3	0.99	1.22	0.10	0.31
P-eEF2/T-eEF2	0.93	0.94	0.85	0.95	0.83	1.04	0.10	0.68
P-eIF2 _α /T-eIF2 _α	1.08	1.07	1.03	0.96	0.93	1.03	0.09	0.83
Gene Expression								
β -casein	1.0 ^c	5.1 ^{bc}	1.8 ^c	7.9 ^{ab}	1.4 ^c	9.8 ^a	2.26	0.001
mTOR	1.0 ^c	7.3 ^b	1.6 ^c	13.1 ^a	1.9 ^c	7.7 ^b	1.3	<0.001
S6K1	1.00 ^{bc}	1.22 ^b	0.24 ^c	0.60 ^c	0.31 ^c	3.87 ^a	0.47	<0.001
eEF2	1.00 ^a	0.43 ^{ab}	0.17 ^{bc}	0.32 ^{bc}	0.47 ^b	0.13 ^{cd}	0.17	<0.001
eIF2 _α	1.00	0.34	1.15	0.34	0.27	0.82	0.51	0.20

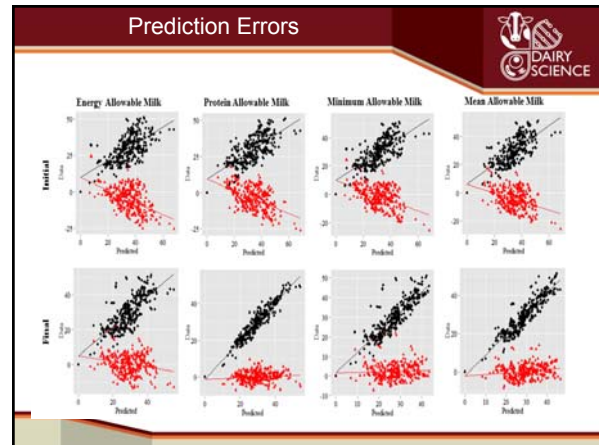




Empirical Predictions of Milk Yield

Item	NRC 2001	NRC 2001 + Digestion Corrections	NRC 2001 + Ener & AA Efficiency	Indep Eval
Minimum Allowable Milk				
Observed Mean, kg	29.61	29.8	29.8	30.7
Predicted Mean, kg	31.19	31.2	27.5	28.2
CCC	0.63	0.68	0.86	0.75
RMSPE, % mean	23.09	20.8	16.6	17.3
Mean Bias, % MSE	5.33	5.0	24.7	26.7
Slope Bias, % MSE	13.26	1.3	0.7	4.0
Slope Bias, kg/kg	-0.27	-0.1	<0.1	-0.2
Mean Allowable Milk				
Observed Mean, kg	29.61	29.8	29.8	30.7
Predicted Mean, kg	33.58	34.4	29.8	30.4
CCC	0.61	0.63	0.93	0.84
RMSPE, % mean	25.25	22.7	10.8	12.6
Mean Bias, % MSE	28.27	34.3	<0.1	0.5
Slope Bias, % MSE	8.43	2.8	5.1	4.4
Slope Bias, kg/kg	-0.24	-0.17	0.1	-0.1

White et al., unpub.



Summary

- AA are 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