Controlling the Dry-Off Procedure on Your Dairies – Getting Involved, Monitoring, and Training for Improvement

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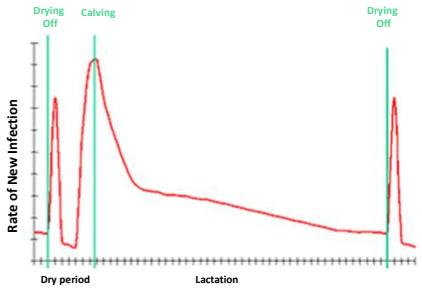
Learning Objectives

- Develop an understanding of the critical areas of the dry-off procedures that are being performed incorrectly by employees
- Gain familiarity with an e-learning system for training farm employees in dry-off procedures
- Explore the possibilities for new assessment, training, and monitoring methods for farm employees to improve the on-farm situation.

Rate of New Infections by Stage of Lactation



Bradley and Green 2004, Vet Clin Food Anim 20 (2004) 547–568:

Dry-Off Procedure

- Who is performing this on your dairies?
- Are you observing the procedure?
- If so, how are you evaluating what is happening?

Dry-Off Procedure

Dry-Off Procedure

Dry-Off Procedure

- Why the lack of research and observation of the actual dry-off procedure?
  - Assumption that qualified personnel are completing it?
  - Not a set time each week or month?
  - Inconvenient time?
  - Too detailed to analyze?
  - Lack of priority

2021 Grant

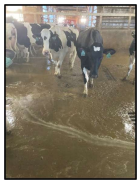
- Phase 1 – Development of E-learning system
- Phase 2 – Baseline Survey on 15 NNY herds and pre-training assessment
- Phase 3 – Completion of E-learning by milkers
- Phase 4 – Post-training assessment
- Phase 5 – Data analysis and presentations at local and national meetings

Dry-Off Procedure

- Multiple areas to consider:
  - Dry-off environment
  - Preparing the cow
  - Training of the employees
    - Written SOP
  - Evaluating the employees
  - Monitoring of the employees

The Environment

- Prepping the area for dry-off procedures
  - Holding area scraped out
  - Deck and units sprayed off and dry
  - Cart or other conveyance to hold supplies
  - Clean aprons for employees
  - Gloves and clean sleave protectors



Preparing the Cow

- Preparing the cow
  - When are cows sorted for this and in what environment?
  - Where are they housed prior to dry-off?
  - When have they been milked last and does the milking routine support good letdown?
    - Think about short term teat damage with short milking interval or use of manual mode

Pre-Training Assessment

- Objective Structured Clinical Examination (OSCE)
  - 15 statements that were weighted with 1 or 2 points and covered the major critical control points covered in the section
  - Majority of participants were scored on two different cows
  - Score was totaled for each cow and then averaged

Pre-Training Assessment

OSCE Assessment **Dry Cow Treatment**

Milker:

Pos	Step	Points		Max	NA
		Rep1	Rep2		
1	Milker organizes all materials well			1	
2	Milker double checks cow ID			1	
3	Milker keeps tubes clean			1	
4	Milker applies appropriate leg band prior to administering treatment			2	
5	Milker puts on a new pair of gloves			1	
6	Milker inspects teats and implements appropriate action			1	
7	Milker cleans teats in the right order			1	
8	Milker disinfects and inspects teats and gauze and if need be disinfects again			2	
9	If the cow kicks at the teats milker disinfects teats again			1	
10	Milker treats teats in the right order			1	
11	Milker prevents the tip of the tube from touching any surface			2	
12	Milker gently inserts the tip into the teat canal 1/8 inch			2	
13	Milker massages the product out of the teat cistern			1	
14	Milker post-dips entire teats			1	
15	Milker records treatment in the appropriate paperwork			2	

Pre-Training Assessment Results

- Pre-training assessment OSCE scores of treating a cow at dry off on 29 employees
  - 12.4 (±0.79) out of 20 (range of 5 to 18)
- Pre-training assessment OSCE scores of administering internal teat sealants on 19 employees
  - 11.4 (±0.95) out of 20 (range of 6 to 18)

Heuwieser, W., Moody, R., Zurakowski, M., Virkler, P. 2024. CHECKLIST-BASED APPROACH TO MEASURE MILKER BEHAVIOR BEFORE AND AFTER TRAINING. JDS Communications. doi:10.3168/jdsc.2023-0454 https://doi.org/10.3168/jdsc.2023-0454

What Can We Do Better?

- Largest opportunity areas for treating a cow at dry-off:
  - Massaging product out of teat cistern (29% correct)
  - Putting leg bands on cows (31% correct)
  - Adequately disinfecting teats (34% correct)
  - New gloves prior to starting (37% correct)
  - Correct order of treatment (54% correct)

What Can We Do Better?

- Largest opportunity areas for administering internal sealant:
  - Putting leg bands on cows (21% correct)
  - Squeezing off the teat base during administration (25% correct)
  - Adequately disinfecting teats (25% correct)
  - New gloves prior to starting (29% correct)
  - Partial insertion of tip of sealant tube (38% correct)

Training Course Design

- Five modules covering five basic tasks as part of pathogen-based treatment or selective dry cow treatment
- Spanish and English version accessible on cellphone and with option for video playback
- Three knowledge check questions at the end of each module

Training Course Modules

- The 5 modules are:
  - Collecting an aseptic milk sample
  - Administering intramammary treatment
  - Deciding on saleable milk
  - Treating a cow at dry off
  - Administering teat sealants

Training Module Access

- Directly to:
https://dairyroutines.jimdoweb.com/

Training Module Design

Data Analysis

- Comparing pre and post-training OSCE scores for 29 employees for treating a cow at dry off:
  - Improved from 12.4 (±0.79) to 15.3 (±0.49) ($p<0.001$)
  - Mean difference was 3.0 (±0.49)
  - For individual participants 83% improved

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Data Analysis

- Comparing pre and post-training OSCE scores for 19 employees for administering internal teat sealants:
  - Improved from 11.4 (±0.95) to 13.7 (±0.93) ($p<0.001$)
  - Mean difference was 2.4 (±0.51)
  - For individual participants 90% improved

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Next Steps

- Participants improved but still not perfect
  - Need for hands on training
- Help farms develop written SOP of their procedure
- Managers rotate out as evaluators every few weeks
- Developed training package for managers, consultants, and vets

Any skills that are still incorrect at the post-training are then immediately covered hands-on with the employee

Action Item for Everyone

- Go home and within the next few weeks schedule in a visit to analyze the dry-off procedure (with an OSCE type checklist) on your own dairy or a dairy that you work with

Summary

- Large opportunity area to reduce risk of mastitis at dry-off
- Online training can help improve skills
- Still needs hands-on training which means the industry needs all of you to be the "**Boots on the Ground**"

Acknowledgments

- Participating farms and employees
- Jesse Beiler
- Dr. Wolfgang Heuwieser, Dr. Valeria Gallardo, Dr. Michael Zurakowski, and Rachel Moody