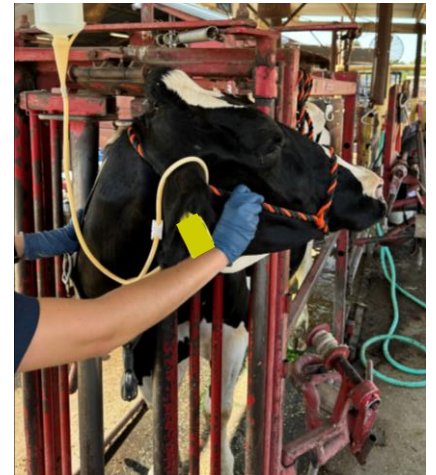


Improving cow's health management on the dairy: new tools for on-farm training of farmworkers



Introduction: On-farm training for farmworkers



ATB Stewardship Training

Antimicrobial stewardship on the dairy: Evaluating an on-farm framework for training farmworkers. Garzon et al., 2023

Aims: Develop and evaluate an on-farm educational training program for farmworkers in antimicrobial stewardship in adult dairy cattle



Funding:



United States Department of Agriculture
National Institute of Food and Agriculture
no. 2018-68003-27466

Antimicrobial stewardship on the dairy: Evaluating an on-farm framework for training farmworkers. Garzon et al., 2023

Methods:

Study population: 12 Conventional dairy farms:

- 6 Ohio
- 6 California

Didactic and hands-on 12-week educational training program

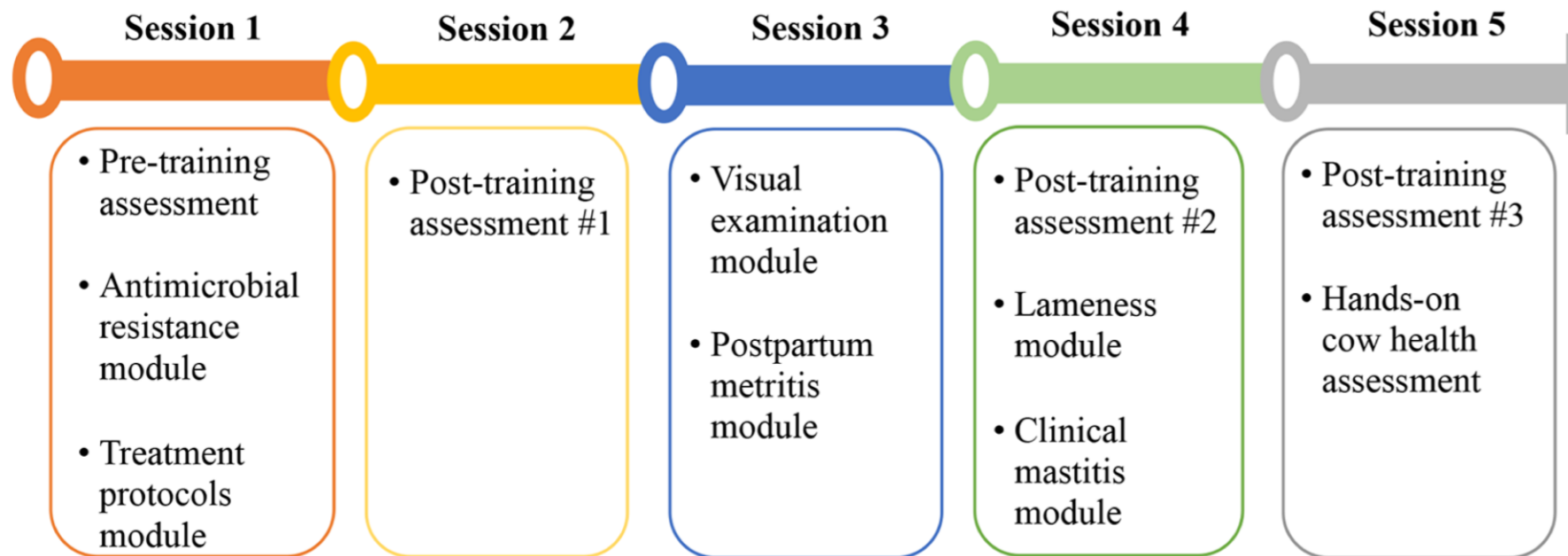
- Case-base teaching – short videos
- English & Spanish
- Pre and post-knowledge and attitude assessments
- Hands-on cow health assessment session



Antimicrobial stewardship on the dairy: Evaluating an on-farm framework for training farmworkers. Garzon et al., 2023

Methods:

Figure 1. Timeline for the on-farm AST for farmworkers. The program was delivered in 5 sessions during 12 weeks, with an on-farm visit every two weeks.

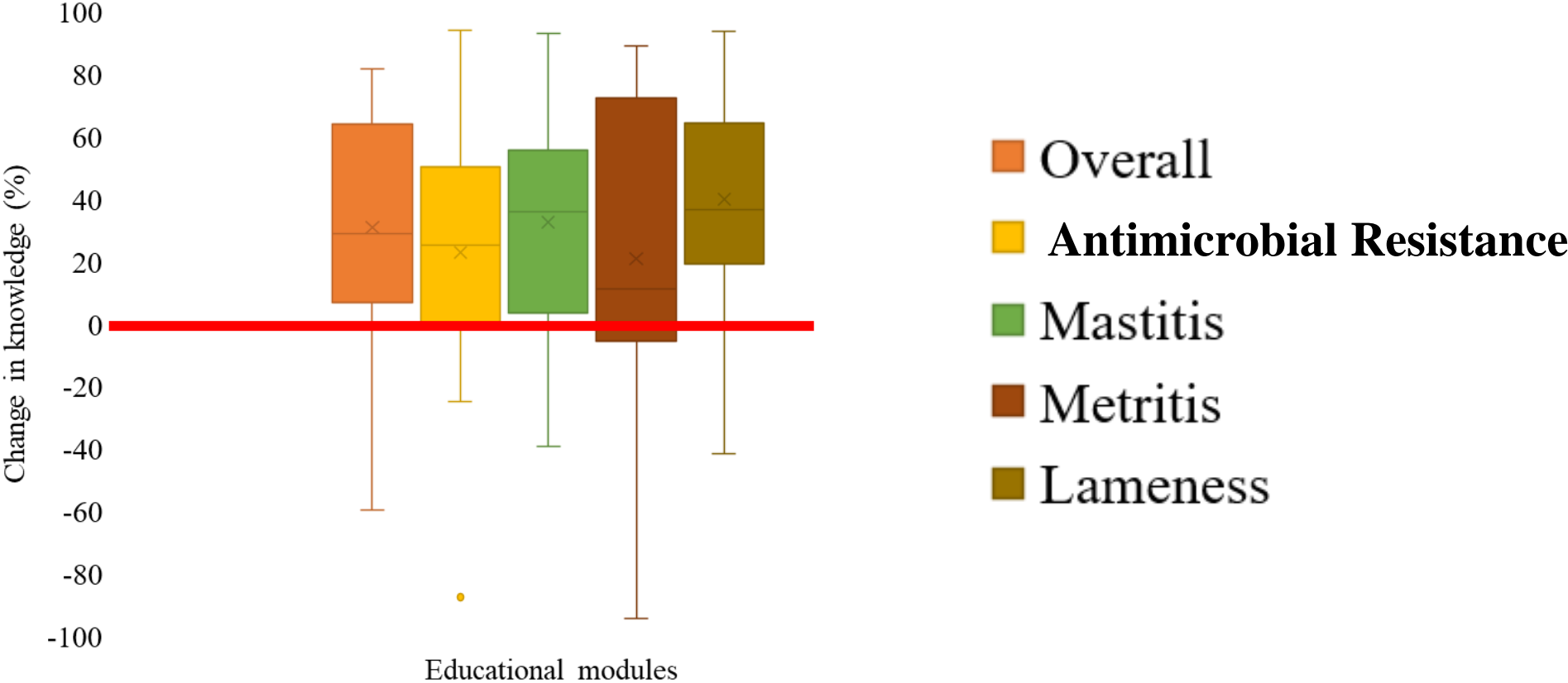


Main Goal: Train farm workers to understand basic antibiotic use concepts and increase accuracy for disease identification.

Antimicrobial stewardship on the dairy: Evaluating an on-farm framework for training farmworkers. Garzon et al., 2023

Findings:

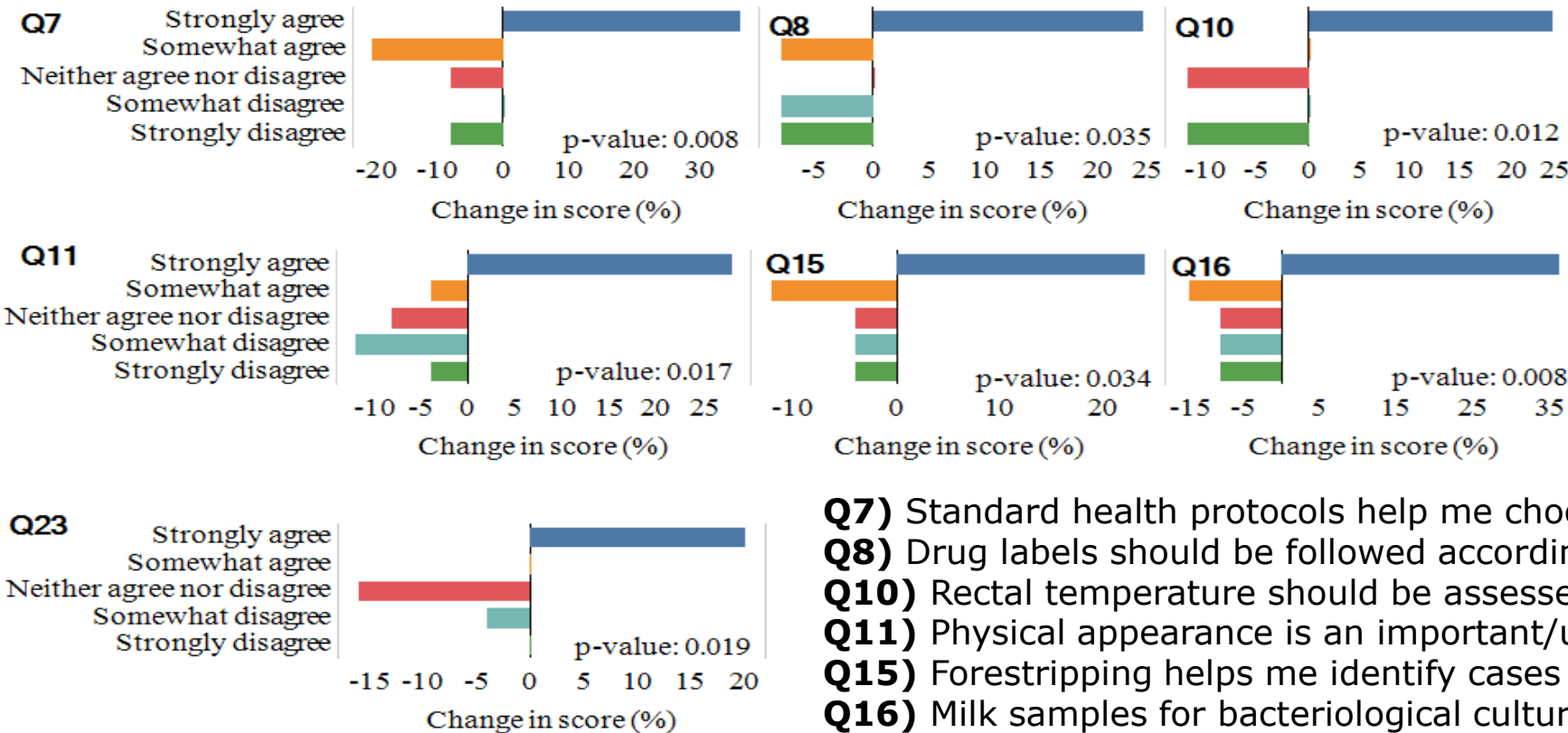
Figure 2. Percentage of change between the pre- and post-training assessment of the knowledge section of the intervention.



Antimicrobial stewardship on the dairy: Evaluating an on-farm framework for training farmworkers. Garzon et al., 2023

Findings:

Figure 3. Percentage of change in the 5-point score scale between pre and post-test



- Q7)** Standard health protocols help me choose proper treatments
- Q8)** Drug labels should be followed according to the veterinarian’s indication
- Q10)** Rectal temperature should be assessed daily in cows after calving
- Q11)** Physical appearance is an important/useful indicator of animal health
- Q15)** Forestripping helps me identify cases of mastitis
- Q16)** Milk samples for bacteriological culture can help avoid the unnecessary use of antimicrobials
- Q23)** Rectal palpation of the uterus after calving helps me identify cows with metritis.

Antimicrobial stewardship on the dairy: Evaluating an on-farm framework for training farmworkers. Garzon et al., 2023

Conclusions:



Knowledge and attitudes of participants on antimicrobial stewardship and identification of sick animals improved after completing the program



Farmworker focused: value of educational training programs targeting farmworkers

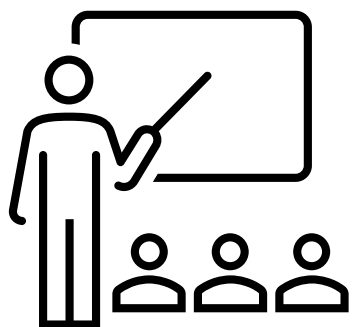


Tailored learning: Individual and farm-specific factors should be considered when designing training programs



Program success: The veterinarian plays a crucial role, during the training, as well as defining farm protocols to guide treatments to be used.

Antimicrobial Stewardship on the Dairy: Development and Implementation of On-Farm Training for Farmworkers



Funding and Support:



Main Objectives:



1. Use professional services to increase accessibility, learning, and relevance through **interactive online learning modules**, in both English and Spanish.



2. Provide **easily accessible online educational** materials that serve as a guideline for on-the-job training of farmworkers on antimicrobial stewardship principles and cattle disease identification and management.



3. **Promote these materials to California dairy farms** for training of new and existing workers, as well as to educate the dairy industry and veterinarians on how these opportunities fit into their VCPRs.

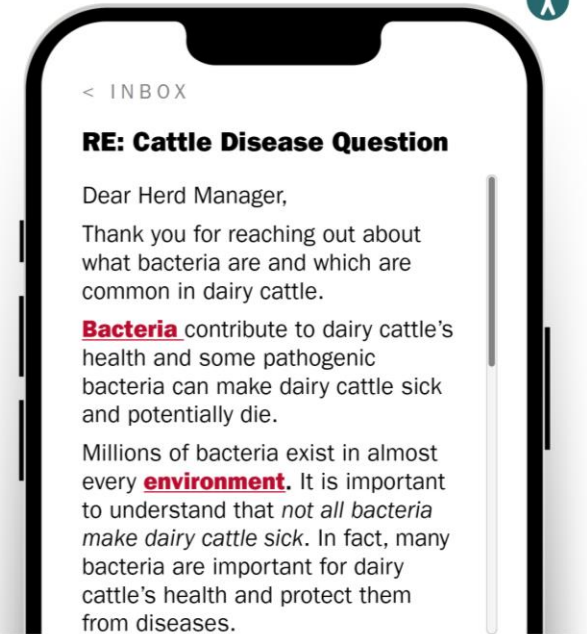
Training Modules

- **Module 1:** Antibiotic Resistance
- **Module 2:** Visual Exam
- **Module 3:** Lameness
- **Module 4:** Mastitis
- **Module 5:** Metritis
- **Module 6:** Treatment Protocols

A Message from the Veterinarian

Understanding the Triangle

Read the email from Dr. G. Select the four **red bolded words** to review key terms used in herd health management.



Training Modules Editing – *in progress*

Examining from the Front

Select each  marker to learn more.



Training Modules Editing – *in progress*

Examining from the Front

Select each  marker to learn more.



Training Modules Editing – *in progress*

How to Identify Mastitis

Parts of Visual Inspection

Select each number to reveal steps for evaluation.

Step 1

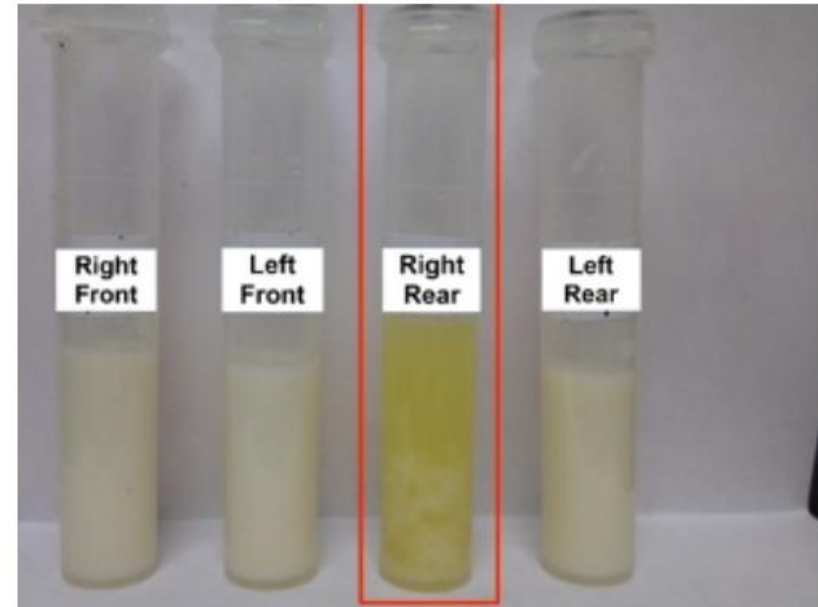
Step 2

Step 3

Step 4

EVALUATE THE MILK

KEY TERM



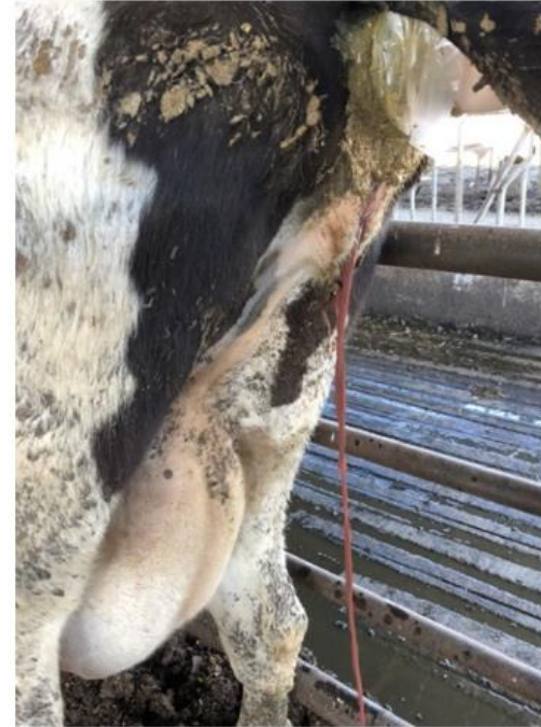
Observe for clots, flakes, serum-like or watery milk, discoloration, or purulent (containing pus) material.
Blood may be normal.

Training Modules Editing – *in progress*

Let's Practice

Scenario #2

- This cow calved 5 days ago, and it's evident that she appears unwell.
- When you examine the cow, you notice the vaginal discharge has a foul smell.
- Further examination reveals that she has a fever with a rectal temperature of 104°F (40°C).
- Additionally, she exhibits prolonged skin tent.
- Her udder does not appear adequately filled,
- She is not eating at all, and
- She displays clear signs of depression.



Training Modules Editing – *in progress*

Let's Practice

Scenario #2

QUESTION 1 of 2

Based on this information, how would you describe the vaginal discharge?

- Clear
- Mucopurulent
- Foul watery red-brown
- Non-existent



Need to review the scenario?
[Read it again by clicking here.](#)

Training Modules Editing – *in progress*

Let's Practice

Scenario #2

QUESTION 1 of 2

Based on this information, how would you describe the vaginal discharge?

- Clear
- Mucopurulent
- Foul watery red-brown
- Non-existent



Correct!

This vaginal discharge can be described as **foul-smelling and watery red-brown**. You observe the color and note that it has a foul smell. These observations should give you a clue of what decision to take.

Outreach Efforts: Key Next Steps



**CERTIFICATE
OF PROGRAM
COMPLETION**



**STEP-BY-STEP
MODULE
GUIDELINE**



**WEBSITE OF
PUBLISHED
MODULES &
MATERIALS**



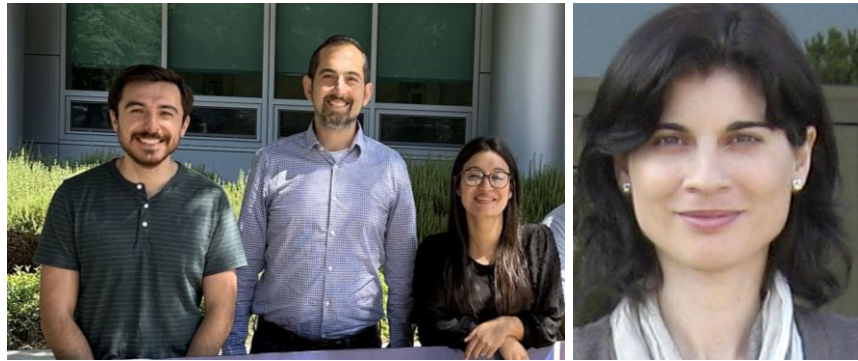
**VETERINARIAN
WEBINAR**



**PRODUCER
WEBINAR**



Questions



UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources



**Stakeholder
Working Group**

