

Current Controversies in Food Safety

Which side of the fence are you on?



Culture Independent Diagnostics

Dr. Robyn Atkinson Dunn, Utah

Dr. Vickie Baselski, UTHSC



Are you familiar with the term Culture Independent Diagnostics (CIDT)?

1. Yes
2. No



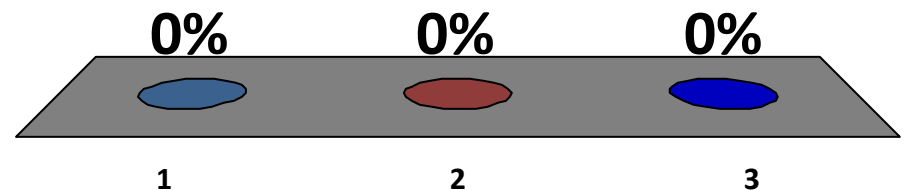
Are you aware of the threat to public health surveillance due to CIDTs?

1. Yes
2. No



Should clinical laboratories maintain the capability to perform culture for foodborne pathogens?

1. Yes
2. No
3. No opinion



Culture Independent Diagnostics

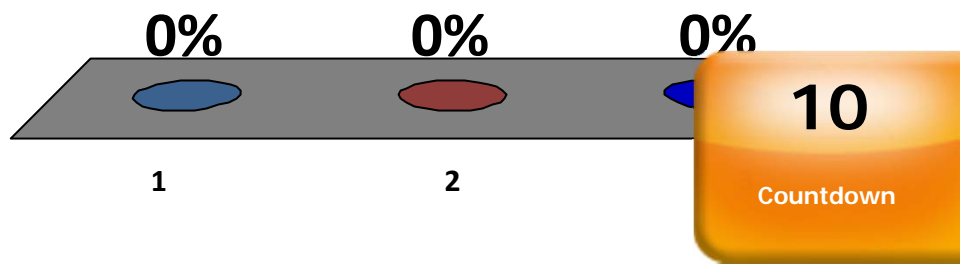


VS.

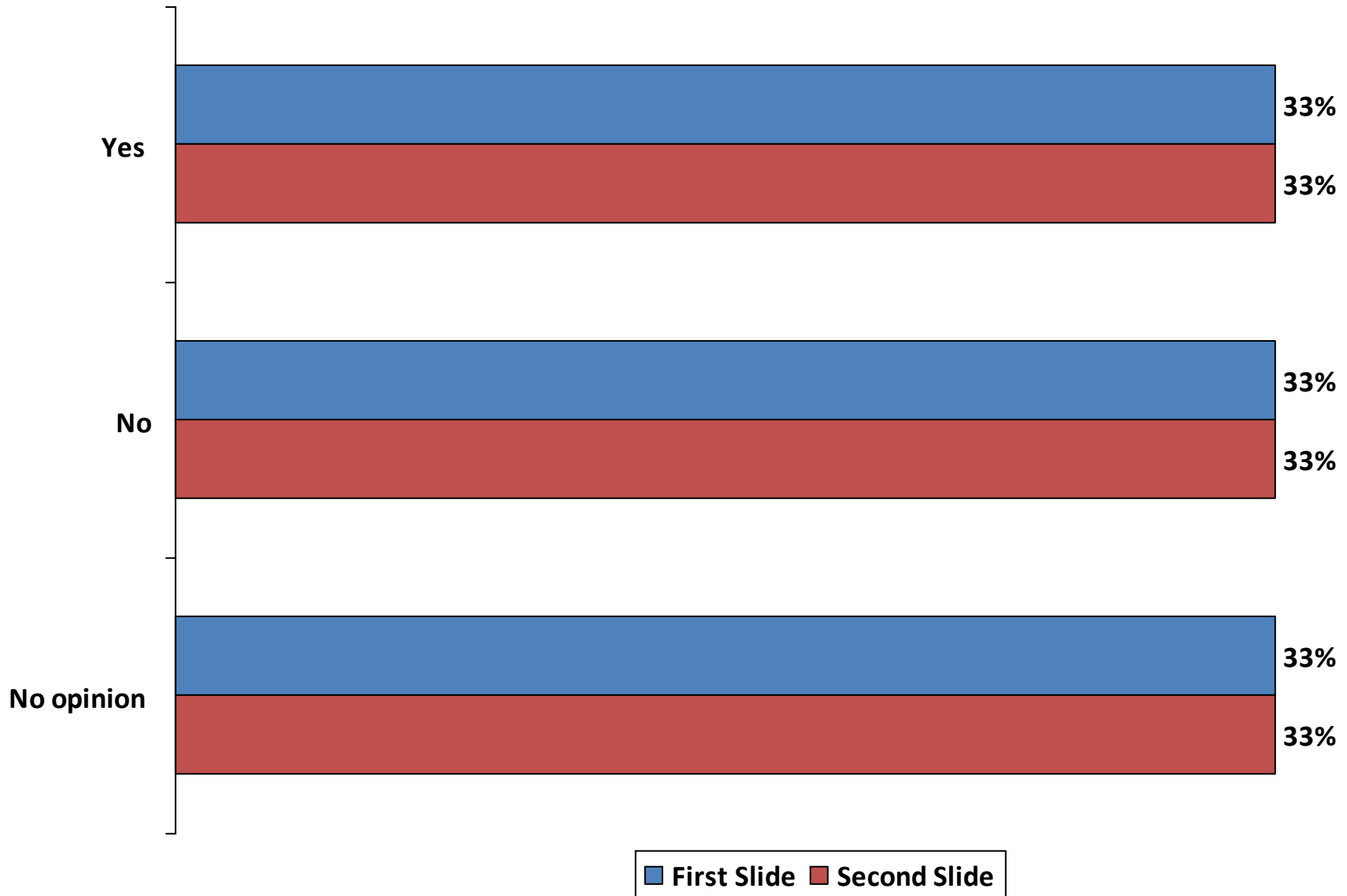


Should clinical laboratories maintain the capability to perform culture for foodborne pathogens?

- 1. Yes
- 2. No
- 3. No opinion



Should clinical laboratories maintain the capability to perform culture for foodborne pathogens?



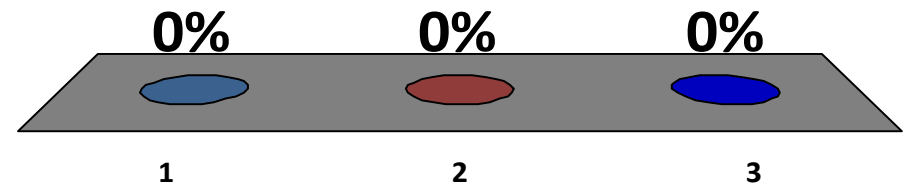
Raw Milk Testing

Audrey Pilkington, North Carolina

Dan Rice, New York

Is regulatory testing of raw milk for pathogens a good use of public health resources?

1. Yes
2. No
3. No opinion



NC Dairy Law and Regulations

- Do not allow sale of raw milk for human consumption
- Allow raw milk sales for animal feed if labeled “NOT FOR HUMAN CONSUMPTION”
- Adopted PMO for Grade A Milk
- Adopted USDA AMS Recommended Requirements for Manufactured Milk



Farmstead – A milk or milk product processing facility that uses only milk from its own animals in its products and has no other source of milk.

Farmsteads in NC

- 2012 – 31 farms
- 2013 – 47 farms



- ~75% Goat
- ~25% Cow
- A few sheep

Products

- Cheese – pasteurized & raw milk
- Butter – pasteurized milk
- Frozen Desserts – pasteurized milk

Consumer base = 1,000's
On farm, retail,
restaurants, farmer's
markets and online
sales

Raw milk cheese & food safety

- **1950 – FDA 60-Day Rule**
 - age cheese a minimum of 60 days
 - > 30 natural cheeses that can be made legally from raw milk in the US under this rule

Raw milk cheese & food safety

- **Feb 2013** - FDA published “Draft Risk Assessment of Listeriosis from Soft-Ripened Cheese”
 - Joint effort between USFDA and Health Canada
 - Comment period closed 4/29/13
 - Outcome may impact the 60-Day Rule

“The 60-day aging rule is based on the theory that pathogens, if present, will die-off to levels below the infectious dose during the aging process. However, the effectiveness of this system depends on the initial microbiological quality of the milk and other ingredients used, and the hygienic practices used during cheese processing.”

(Donnelly, Catherine 1990. Concerns of microbial pathogens in association with dairy foods. J Dairy Science 73:1656-61.).

Support for NC Farmsteads

- Educate then Regulate
- 2 POCs
 - Dairy Compliance Officer
 - Field Inspector
- Pre-startup Inspections
- Facility and Process Inspections 4x/yr

Support for NC Farmsteads

-  **Milk Testing**
 - Farmer pays shipping costs only

-  **Supplies**
 - Insulated shipper
 - Sampling containers
 - Labels

- **Unofficial Samples**



Sample Collection & Analysis

■ Raw Milk

- ✓ Somatic cell count - DMSCC
- ✓ Bacterial count - APC
- ✓ Drug residue - Beta-Lactams
- ✓ Sediment
- + Pathogen Screen
- + Aflatoxin M1

■ Frequency

~ monthly

■ Finished Product

Pathogen Screen

■ Operations Water

Coliform

APC

2012	# samples tested	% violations		Lab testing cost/year
Raw Milk	125	20%	DMSCC [14] APC [10] drug residue [1] <i>Salmonella</i> [1]	~ \$25,000
Cheese *	31	7%	<i>E.coli</i> [2]	~ \$6,000

* Finished product collected during inspections or follow-up to violative raw milk samples.

Should regulatory agencies test for pathogens in raw milk used for the mfg of cheese? **Yes**

- Cost of testing is low vs. cost of foodborne illness
- Large consumer base - wide distribution of farmstead products
- Cheese consumer may not be aware the cheese they are purchasing is made from raw milk

Should regulatory agencies test for pathogens in raw milk used for the mfg of cheese? **Yes**

- 60-Day Rule may not be an adequate food safety control
- Pathogen testing....
 - is not a silver bullet
 - one key component of the services provided in a partnering, educational relationship between regulatory agency and farm



2013
APHL
ANNUAL
MEETING &
7TH GOVERNMENT ENVIRONMENTAL
LABORATORY CONFERENCE

Raw milk in NY State

- Sales of raw milk for human use are legal in NY only at the farm of production
- Farms must have a permit from NY State Dept. of Agriculture and Markets (NYSDAM)
- > 40 permitted farms
- Customer base = 1,900 consumers statewide

Raw milk in NY State

- NYSDAM inspect permitted farms monthly
- Collects raw milk samples quarterly
- Samples tested for foodborne pathogens
- Positive samples initiate a recall, implicated product destroyed
- Point of sale have prominent sign warning consumers of risk

Testing results

- < 2 % are pathogen positive
- Most common pathogen is *L. monocytogenes* followed by *Campylobacter coli* and *jejuni*
- Raw milk implicated in less than 1 outbreak/year in NY State

What happens when a sample is positive?

- Positive samples initiate a recall, implicated product destroyed, permit to sell suspended
- Weekly samples collected and tested until 2 negatives in a row – permit to sell reinstated
- Many recalls result in lawsuit by producer against NYSDAM

Resources commitments

- NYSDAM has one attorney who works on raw milk litigation full time
- ~ 180 samples/year tested, 10 % of total samples tested for pathogens
consumer base = ~ 1,900
- Remaining 90 % of samples represent a consumer base > 18 Million
- Raw milk is tested for pathogens 10,000 X more intensively than other high risk foods

Statement against testing

- Raw milk consumers generally aware of the public health professions evidence-based assertion that consuming raw milk is dangerous to one's health – choose to ignore warnings

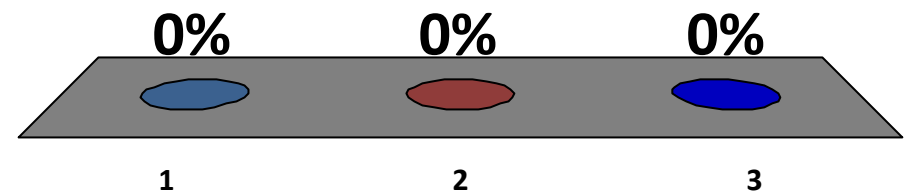
Statement against testing

- Testing raw milk 10,000 times more intensively than other high-risk foods is hard to justify
- Limited laboratory surveillance resources should be dedicated to high-risk foods consumed by the general population

Discussion

Is regulatory testing of raw milk for pathogens a good use of public health resources?

1. Yes
2. No
3. No opinion



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