NCLifeSci
Advocate. Advance.

Life Sciences Caucus Meeting
June 25, 2025
7:30am

Co-chairs:
Senators Sawrey and Chaudhuri
Representatives White and Reives

Meeting will begin shortly

Agenda

Welcoming remarks by Chairs

Kathryn Polkoff, Co-Founder and CEO, Hoofprint Biome

Cody Firmage, Product Manager – WATCHFIRE, BioMerieux

Laura Gunter, President, NCLifeSci

HOOFPRINT BIOME

Expertise and innovation across bioengineering, animal science, biomanufacturing, and dairy industry.

Kathryn Polkoff

CEO & Co-founder

BS, MS Animal Science
PhD Veterinary Sciences

Scott Collins

CSO & Co-founder

BS & PhD in Chemical Engineering

- 12 FTES
- NCSU spinout est. 2023
- Closed a $15M Series A in 2025

Po Bronson
Board Director

SOSV

David Macdonald
Board Director

AgriZero Fonterra

Mark Luecke
Strategic Advisor

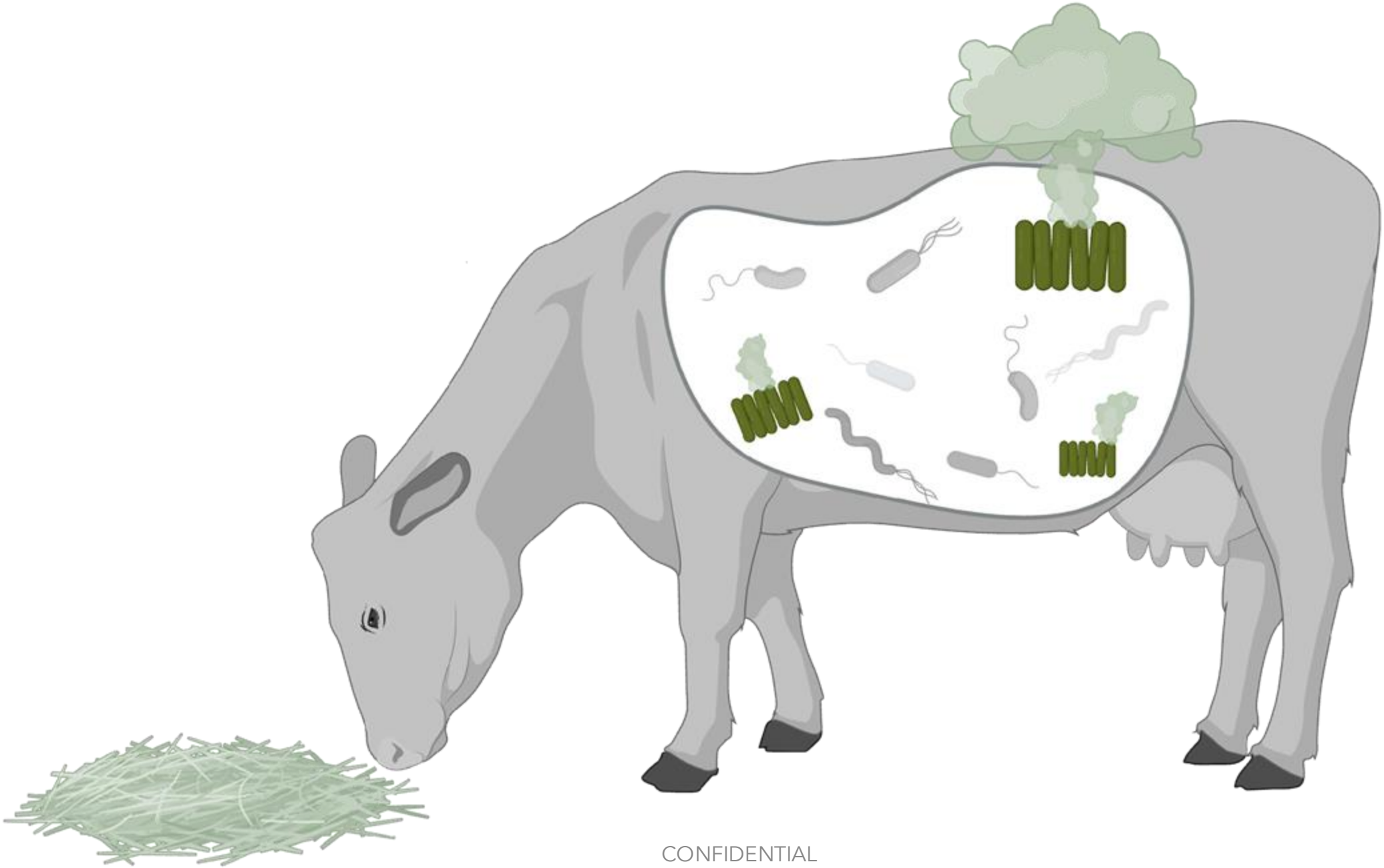
Houdek Medgene

Supported by: AgriZero Breakthrough Energy TWYNAM Ponderosa Good Growth Capital SOSV Climate Pledge Fund NC State University

Methane from cow burps accounts for 30% of global methane emissions.

These emissions cost cows up to 12% in productivity.

Lasting methane mitigation requires microbiome reshaping

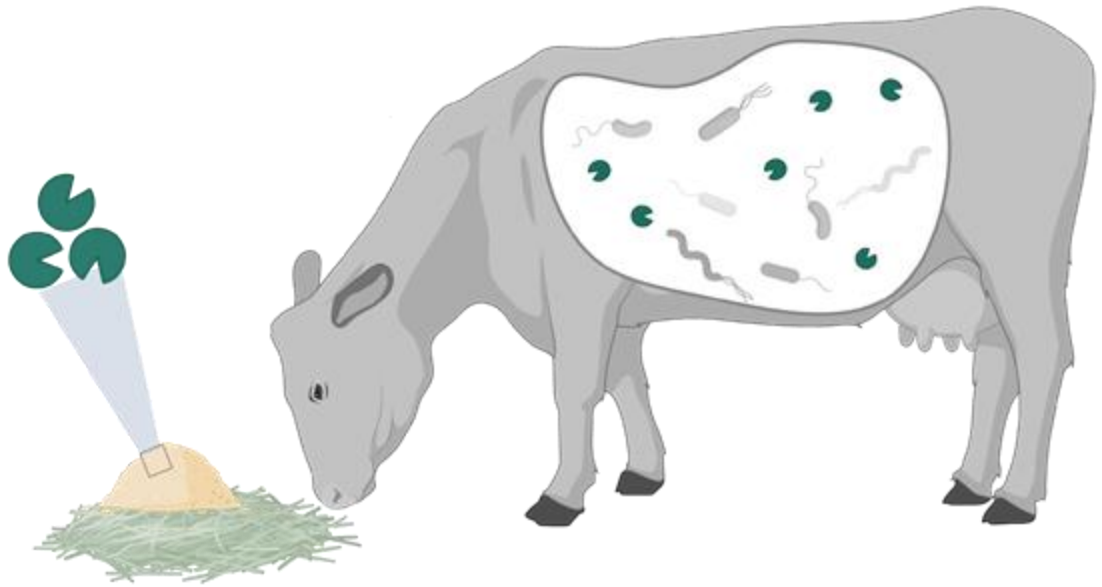


First product – feed supplement

Gen 1:

Fed Enzyme

Best for: feedlots, dairies, starter feed (calves), pasture supplements



- Enzyme product mixed into feed
- >1 mouthful per day
- Fed daily

STATUS: Prototype, scale-up, expected market launch 2027

Hoofprint Gen-1 Feed Additive Product Targets

>80% methane reduction

<5c COGS/dose

>5% Feed efficiency benefit

In a class of their own

Chemical Inhibitors

Algae companies

Rumin8

DSM

Biological Enzymes

HOOFPRINT BIOME

Chemical Inhibitors	Biological Enzymes
• Chemical	• Biological
• Must be fed constantly	• <1 mouthful/ day
• High cost	• Delivers milk/meat yield benefit
• Effects reduce over time (microbial adaptation)	• Consistent methane reduction
• Limited to confined animals	• Compatible with pasture-fed animals

Hoofprint partners with dairy brands and co-ops for efficient sales and distribution

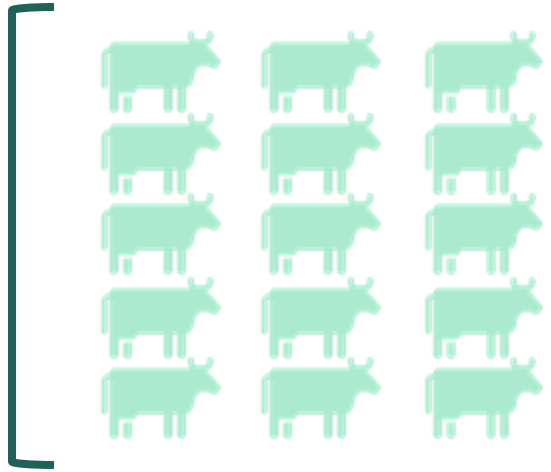
Bulk sales & distribution

Facilitate commercial pilots, partnership with key personnel

[Dairy Cooperatives]

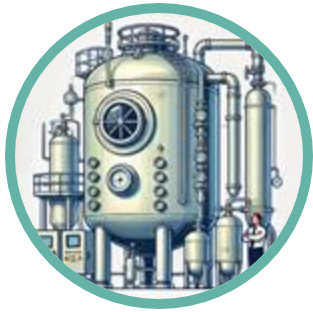
[Brands]

Market push



Decarbonize production & increase productivity – 10,000 farms at a time

Scaling up enzyme biomanufacturing



A. Product Development & Strain Engineering	B. Pilot Scale Process Development	C. Large Scale Fermentation and DSP	D. Packaging and Distribution Partner	E. Farm Sales

CMO-Driven Scaling (Initial)

Hoofprint → CMO → Milk Co-op Channels or Regional Distributor → Dairy Brand/Co-op Driven

+40% COGS

+/-20-30% MSRP

In-house Manufacturing (Long-term Optional)

Hoofprint → Milk Co-op Channels or Regional Distributor → Dairy Brand/ Co-op Driven

+20-30% MSRP

Takeaways

- Innovative and fast-growing start-up based in RTP
- The opportunities are only in the beginning for biotech innovation, Hoofprint's tech platform has numerous applications downstream
- Looking for help or incentives to build or manufacture at scale here
  - Incentives / support to scale up
  - Low interest capital or loans for biomanufacturing
  - Incentives for CMOs to build here?

We are looking for partners who share our vision for global impact.

Dr. Kathryn Polkoff, Co-Founder & CEO

kpolkoff@hoofprintbiome.com

INTRODUCTION TO BIOMÉRIEUX

A BRIEF LOOK INTO BIOMÉRIEUX'S HISTORY

A family-owned company, bioMérieux has grown to become a world leader in the field of *in vitro* diagnostics. Our entrepreneurial adventure began over a century ago and is driven by an unrelenting commitment to **improve public health worldwide**.

MARCEL MÉRIEUX

Student of Louis Pasteur, founder of Institut Mérieux in 1897

CHARLES MÉRIEUX

Took up the reins of Institut Mérieux in 1937

ALAIN MÉRIEUX

Founder of bioMérieux in 1963

ALEXANDRE MÉRIEUX

Chairman of the Board

Since 1963, we've been paving the way in the field of *in vitro* diagnostics and have contributed greatly to improving public health and **making the world a healthier place**.

The solutions our teams imagine, develop, and manufacture are key to enable healthcare professionals and industry players to make confident decisions to **improve patient outcomes and ensure consumer safety**.

FAMILY-OWNED COMPANY

FOUR GENERATIONS

LONG-TERM VISION

We pioneer, develop and produce high quality *in vitro* diagnostics to improve public health worldwide – to **fight against infectious diseases**.

We help **clinicians** identify the cause of a disease and avoid guesswork

We help **health systems** address public health challenges

We help **laboratories** improve lab efficiency so that patients receive their treatment in time

And for 30+ years, we've helped manufacturers ensure their food and pharmaceutical products meet the highest quality and safety standards

WASTEWATER SURVEILLANCE AND WATCHFIRE™

WHAT IS WASTEWATER MONITORING?

Microorganisms shed into sewers prior to symptoms + signs

A correlation between wastewater testing and clinical testing to warn Public Authorities

Clinical Symptom

A physical or mental feature that is apparent to the patient

Example: “I have flu”

WATCHFIRE™
TREND FASTER. ACT EARLIER.

Our WATCHFIRE™ Solution - Not For Diagnostic Use

FILMARRAY®
TORCH

WATCHFIRE™
Panels

FIREWORKS™
Cloud-based

PRODUCTION SITE
SALT LAKE CITY, UT

MADE IN USA

OTHER MANUFACTURING US SITES

- USA Chicago
- USA Durham: RDU
  USA Durham: Rodolphe
- USA Lombard
- USA Philadelphia
- USA Saint Louis
- USA Salt Lake City
- USA San Jose

BIOFIRE® FILMARRAY® TORCH SYSTEM

2

Available WATCHFIRE™ Molecular Panels

- ANY TECH, ANY SHIFT
- PROVIDES TRENDING
- LOW PREPARATION TIME
- RESULTS IN 1 HOUR
- NEAR SOURCE

PRODUCTION SITE
SALT LAKE CITY, UT

MADE IN USA

THE WATCHFIRE™ SOLUTION PANELS

424922 WATCHFIRE™ R

WATCHFIRE™ R Panel Menu - 22 Targets

Viral

Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2)
Influenza A virus (FluA) (Pan1 &Pan2)
- Influenza A virus A/H1
- Influenza A virus A/H3
- Influenza A virus A/H1-2009

Influenza B virus (FluB)
Respiratory syncytial virus (RSV)
Adenovirus (Type F)
Human Metapneumovirus (hMPV)
Seasonal Coronavirus 229E
Seasonal Coronavirus HKU1
Seasonal Coronavirus NL63
Seasonal Coronavirus OC43
Human Rhinovirus/Enterovirus (HRV/EV)
Parainfluenza virus 1
Parainfluenza virus 2
Parainfluenza virus 3
Parainfluenza virus 4

Bacterial

Mycoplasma pneumoniae
Bordetella parapertussis
Bordetella pertussis
Chlamydia pneumoniae

WATCHFIRE™ G 424923

WATCHFIRE™ G Panel Menu - 22 Targets

Bacterial

Campylobacter
Clostridioides (*Clostridium*) *difficile (toxin A/B)*
Plesiomonas shigelloides
Salmonella
Yersinia enterocolitica
Vibrio spp.
Vibro cholerae

DIARRHEAGENIC ESCHERICHIA COLI/SHIGELLA:

Enteroaggregative *E. coli* (EAEC)
Enteropathogenic *E. coli* (EPEC)
Enterotoxigenic *E. coli* (ETEC) lt/st
Shiga-like toxin-producing *E. coli* (STEC) stx1/stx2
- *E. coli* O157

Shigella/Enteroinvasive *E. coli* (EIEC)

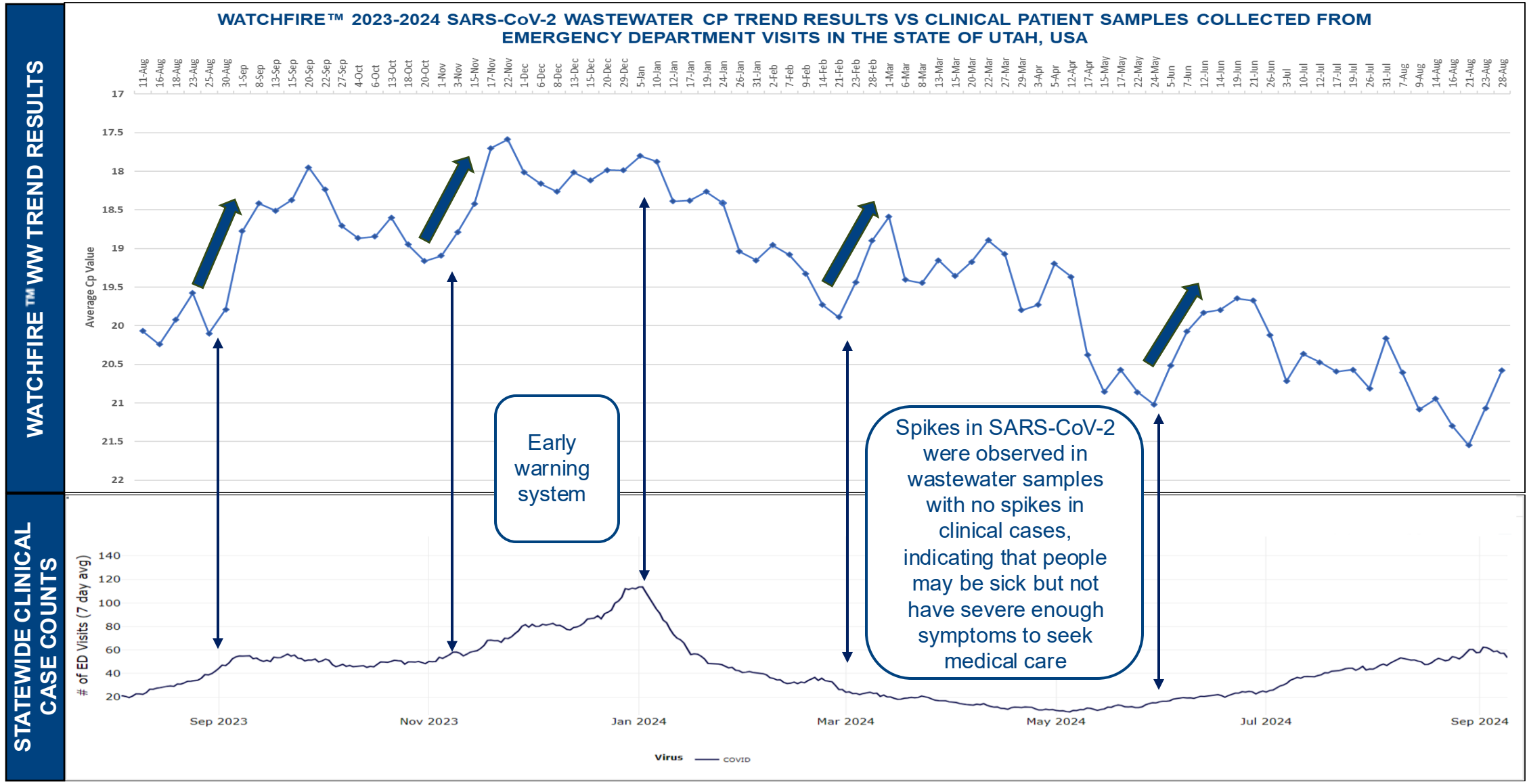
Parasites

Cryptosporidium
Cyclospora cayetanensis
Entamoeba histolytica
Giardia lamblia

Viral

Adenovirus F40/41
Astrovirus
Norovirus GI/GII
Rotavirus A
Sapovirus (I, II, IV, and V)

TREND FASTER. ACT EARLIER.



BIOFIRE® FIREWORKS™ EASY TO USE, EASY TO MANAGE WEB PORTAL

An intuitive, easy to use web portal that is simple to access and puts you in control

- FIREWORKS can be **accessed remotely** from any web-enabled device (e.g., phone, tablet, computer)
- FIREWORKS customers receive their own **unique subdomain** and **user credentials**
- Ability to add **unlimited users** across your institution and manage permissions

THANK YOU!

NC Life Sciences Organization

Advocate. Advance.

NCGA Life Sciences Caucus Meeting
June 25, 2025

Laura Gunter, President

Recap of the NSCEB report and recent visit to NC

Recap of the NSCEB

Pillar 1: Prioritize Biotechnology at the National Level

Pillar 2: Mobilize the Private Sector to get U.S. Products to Scale

Pillar 3: Maximize the Benefits of Biotechnology for Defense

Pillar 4: Out-innovate our Strategic Competitors

Pillar 5: Build the Biotechnology Workforce of the Future

Pillar 6: Mobilized the Collective Strengths of our Allies and Partners

Pillar 2: Mobilize the Private Sector

- Congress must
  - Direct federal agencies to create simple pathways to market and exempt familiar products from unnecessary regulation
  - Establish and fund an Independence Investment Fund
  - Authorize DOE and DOC to develop a network of manufacturing facilities across the country for precommercial bioindustrial scale-up

Pillar 3: Maximize the Benefits of Biotechnology for Defense

- Congress must
  - Direct the DOD to work with private companies to build commercial facilities across the country to biomanufacturer products that are critical for DOD needs

Pillar 5: Build the Biotechnology Workforce of the Future

- Congress must
  - Maximize the impact of domestic biomanufacturing workforce training programs

The Future of Biotechnology

If the United States seizes the moment, the future has immense potential:

- Defend
- Build
- Nourish
- Heal

NSCEB Roadshow in NC – June 5

Commissioners visited with Life Sciences Caucus Co-chairs

Sen Benton Sawrey addresses the crowd of stakeholders assembled at Novonesis to discuss the opportunities for the Bioeconomy in NC.