



Vibrio bacteria

What are they?
Politics of Vibrios
Vibrio Management Plans
What can we do?

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Goals

- *Not going to tell you what to do
- or how to do it.*
- *Will try to provide you with
information that will help you develop
ideas that will help you solve your own
problems.*
- *Help you protect your business and
your markets by reducing illnesses.*

The biggest challenge

- *The folks in this room are probably some of the most careful in the business.*
- *Our industry is only as strong as the weakest link. Illnesses kill markets and spawn new regulations.*
- *How do we spread the word?*
- *How do we get those who are careless to clean up their act?*

Vibrios

- Naturally occurring bacteria – not associated with sewage or pollution
- *V. vulnificus*
- *V. parahaemolyticus*

Related to:

- *V. cholera* (sewage related, large outbreaks where sewage treatment is inadequate)

Vibrios

- Chitinolytic bacteria - consume crab shell, zooplankton etc.
- Can be concentrated by filter feeding bivalves
 - Oysters filter more water than clams and have a finer gill structure so they retain more bacteria and viruses than clams
 - Clams (all filter feeders) concentrate vibrios too
- Also cause wound infections

V. vulnificus

- Found in all coastal waters when warm, especially low salinity and high organic matter.
- Infectious dose, not known?
- Are there benign strains?
- Control through high salinity or depuration?

Vibrio vulnificus



Vibrio vulnificus

- Illness very rare – 90 cases in US annually.
- Few infections outside Gulf, but still a potential problem even in New England.
- Only serious for immune compromised individuals (liver failure, diabetes, steroids).
- Half of all illnesses from wound infections.
- **One wound infection in RI.**
- **Half of all illnesses are fatal.**
- ~12-15/yr deaths associated with shellfish.

Rapid onset, primary
septicemia, gastroenteritis,
wound infection, 50% mortality



Vibrio vulnificus Control Plan

- For states that had reported two or more Vv illnesses related to shellfish – since 1995...
- Must instate plans to reduce illness by 40% over 4 years and 60% over 6 years
 - Education of at-risk population
 - Time-to-temperature
 - Closures, shucking, PHP, cook only

What about *Vibrio parahaemolyticus*?

- Sicknesses several thousand people each year
- More common in higher salinity water when temps are over 75 degrees F
- Illnesses more severe in immune compromised individuals
- No mortalities attributed to V.p. alone

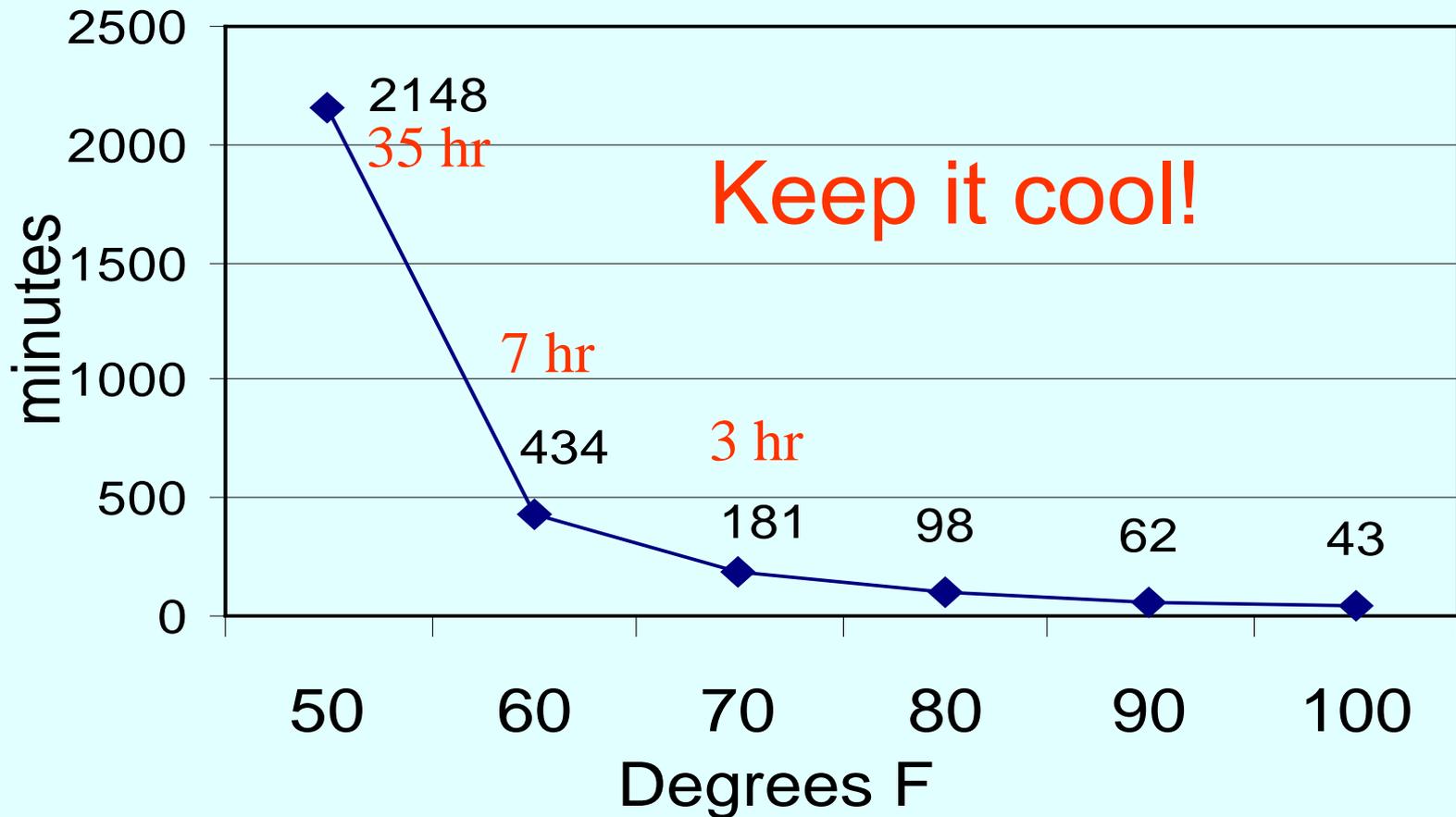
Vibrio parahaemolyticus

- Infectious dose is several thousand cells
- There are benign and infectious strains
- East Coast is different from West Coast
 - Our V.p. tends to be have more benign strains and our correlation with temperature is very clear.
 - West Coast V.p. has been a problem even in low temperature waters (eg. Alaska).

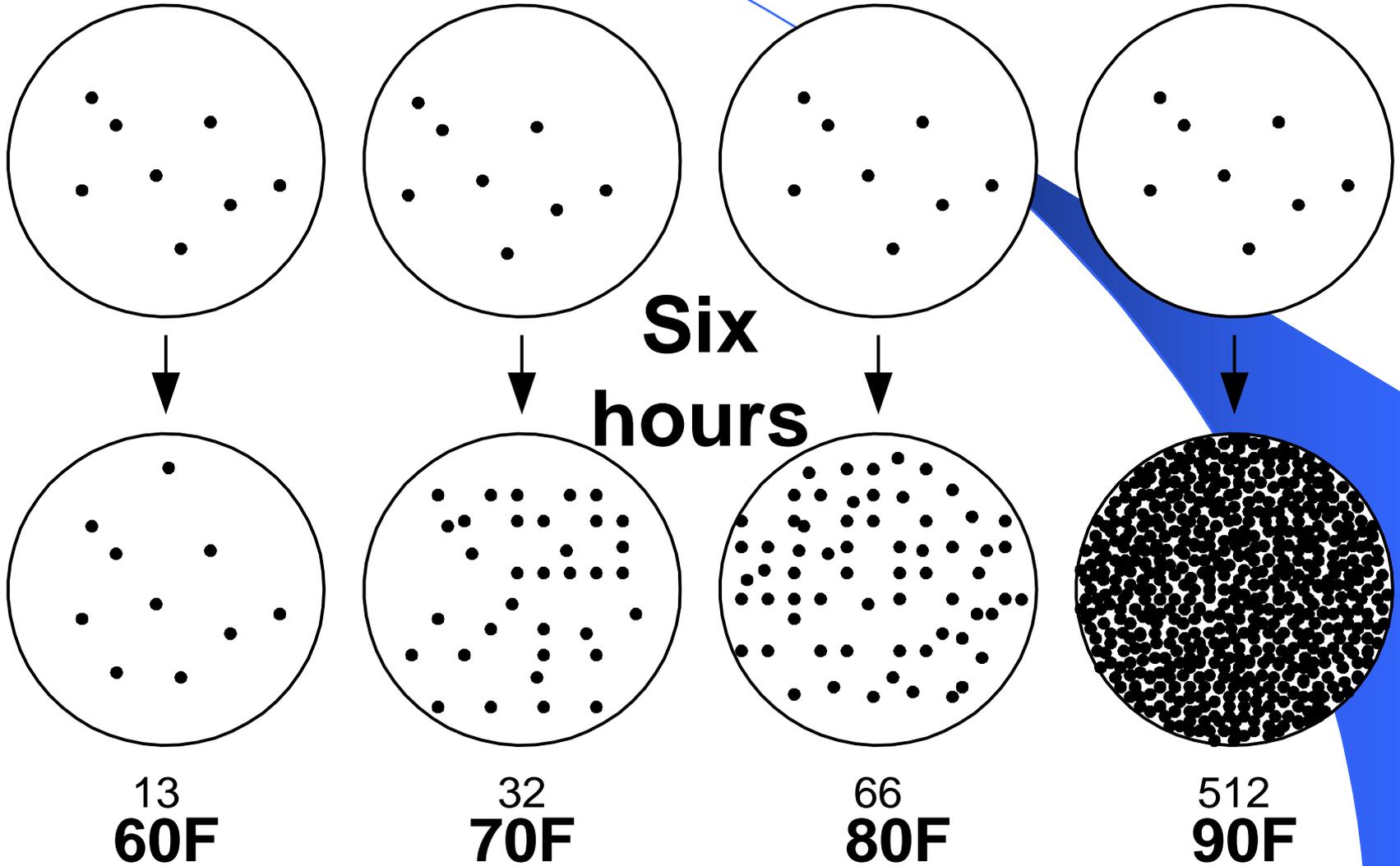
Vibrio parahaemolyticus

- Doubling time for Vp is 60 minutes at 90°F.
- Growth stops below 45°F degrees.
- Prompt refrigeration is proven effective at controlling illness.
- Temperature abuse is still a problem.
- Still cases where the levels at harvest are high enough to cause illness.

V.p. Doubling Time



Vibrio parahaemolyticus growth at various temperatures



V.p. Control Plans

- In states that have had 2 or more illnesses in a 3 year period
- Or one outbreak in the past 5 years
- Or if average water temps exceed 81°F (NJ and south)
- States must have control measures:
 - PHP, closures, label “for cooking only,” limit time to refrigeration to <5 hrs
 - Or other measures based on studies

Questions?

Check the ECSGA.org website

ISSC.org

SaveOurShellfish.org

SafeOysters.org

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FDA's New Approach to Vibrio Management and the industry response

East Coast Shellfish Growers Association
PCSGA, GOIC

What Happened?

- In May '09 the FDA provided the ISSC VMC with a risk calculator designed to help reduce illnesses by decreasing time-to-temperature requirements in Gulf states to one hour.
- In October '09 they proclaimed that they no longer believed this would be effective in achieving the illness reduction targets.

FDA Raw Oyster Ban

- Announced new “guidance” at ISSC meeting October 17th.
- No longer believed the V.v. Control Plan was adequate and other options (PHP) was “proven to be effective”.
- Required Post Harvest Processing or shucking of Gulf oysters harvested during warm months April-November.
- Initially to be enacted May 2011.

Why did this happen?

- New administration – new leadership
- New national ethic –
We don't want to take responsibility for our actions, we expect the government to protect us.
- New patriarchal governmental attitude –
Anyone stupid enough to expose themselves to any risk needs to be protected from themselves.
- “If we can prevent one illness, we must – at any cost.”
- We have a challenging history to overcome and relatively small political clout.

ISSC Response

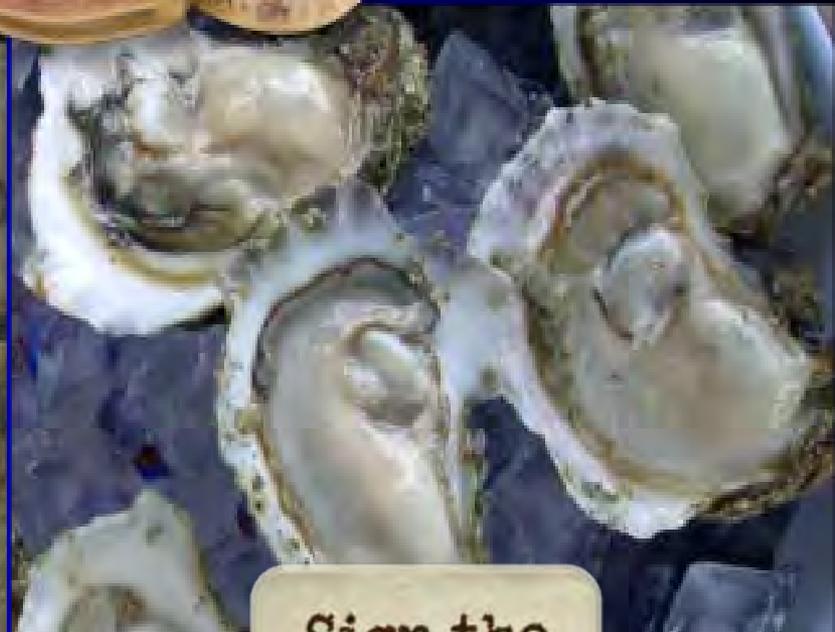
- FDA wanted ISSC to scrap plans to require one hour to refrigeration – 6 hours to an internal temp. 45 °F due to be in place this spring.
- ISSC BOD went ahead with plans to require refrigeration for 2010
 - Broad agreement that not to do so would cause more illness in 2010 – even though this investment will be wasted if the raw oyster ban is implemented

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SeaFood

BUSINESS

Your Authority on Buying and Selling Seafood

The FDA's plans to restrict raw Gulf oyster sales has the industry and oyster lovers saying ...

Back off!

Page 18 | By James Wright

Industry Response

Several Bills submitted in the House and Senate to strip FDA funds for enforcement, do more education, force a cost analysis.

A contentious hearing in House chambers where members challenged the FDA ruling.

Clear message that the FDA needs to go back and work with the ISSC and perform a cost analysis.

FDA Delayed Implementation – promise to do a cost analysis and to work with the ISSC and increase dialog with industry.

FDA wanted to mandate PHP to control V.p. on all coasts

- Industry lawyers did a Freedom of Information Act request - draft documents dated just days prior to the ISSC meeting that clearly mandated PHP for **any states with V. parahaemolyticus issues.**
- Documents detailed the rationale
- **Implementation date was Spring of 2012**
- For some reason they decided to limit their mandate to V.v. in the Gulf – **but stated recently other states will be affected.**

Impacts of FDA ban

- “Guidance” would impose restrictions on states with two “Vv occurrences” since 1995
- Most states have had some issues
- Cost of PHP machinery prohibitive
- Raw bars will not serve dead oysters
- PHP doubles the cost – kills the value
- FDA wanted to include *V. parahaemolyticus*

Impacts of FDA ban

- The slippery slope where we are mandated to eliminate all risk ... we end up with sterilized shellfish products.
- This opens the door to imports of cheap sterilized shellfish from nations where they may be grown in filth. (they are already here)
- Our only market advantage is that we can serve fresh, live shellfish.
- We will lose that market advantage if we cannot keep our product safe.

ECSGA Action

- Work with Gulf and West Coast producers
- Stay positive
 - We have the safest shellfish on the planet and we continue to work hard to improve our industry at all levels
- Letters and calls to Legislators
 - Emphasize jobs and economic impact
- See www.ECSGA.org for sample letters, background info., petition etc.

What not to do

- Put your head down, keep working and hope the problem is going to go away.
- Easy comparisons between *Salmonella* (which sickens thousands and kills about 500 each year) or other diseases will not get traction with public health professionals.

Tagging issues

- Many (especially in the northeast) prefer to pretend that we don't have an issue - that any illness attributed to our product was mislabeled.
- This may be an issue for some cases, but we have problems of our own and must continue to improve product safety.
- At the same time – those who are committing tag fraud need to be prosecuted. The economic damage to your state could be devastating.

Industry Action

- Avoid getting people sick!
- Aggressive education plan
 - Entire supply chain needs to improve temperature controls from farm to fork.
 - Immune compromised folks should not be eating any raw food – esp. oysters in summer.
- Peer pressure or enforcement to bring this home to the few bad actors.

For the 6 weeks when VP is an issue

Keep it cool

- *Leave it in the water until the last minute*
- *If harvested inter-tidally - leave in deep water overnight (for lease holders)*
- *Shade on the boat and in the truck*
- *Ice !*
- *Spray cool water from approved source*
- *Get it to the cooler*
- *Talk to your dealer and your trucker*

Regulations and Options

- *Containers with drainage*
- *Shade*
- *Ice from approved sources*
- *If 2 *V. vulnificus* cases or
3 *V. parahaemolyticus* in 3 years
then more stringent time to
refrigeration controls will be
implemented*

Wet storage

- *In water or on land requires special permits*
- *Growers can hold product in water until needed*
- *On land flow thru or recirculating (or depuration) requires special permits*

Be Creative

- *Ice, coolers, shade*
- *Swamp coolers*
- *Spray with cool water from approved source*

- *Ideas?*

"CHAIN OF CUSTODY" TEMPERATURE CONTROLS

Temperature abuse of shellfish can cause low numbers of vibrio present at time of harvest to multiply to dangerous levels. Therefore, it is important for growers to educate everyone who handles shellfish about the importance of temperature control. This includes dealers, wholesalers, truckers, retailers, foodservice workers and consumers. Everyone in this chain needs to be educated about the importance of keeping shellfish under temperature control at all times. Ask them about their protocol and what measures they have in place to assure strict compliance with temperature requirements.



TRANSPORTATION

Temperature data loggers can be used to track changes in temperature throughout the transportation process, allowing receivers to see if and when temperature abuse occurred during transit. Many dealers use them to tell whether shippers are abiding by temperature requirements.



In the case of refrigerated trucks that are frequently opened to add other food items, ensure that shellfish are positioned so they stay cool during transport.

EDUCATE YOUR DEALERS AND BUYERS

Make sure your shellfish are handled properly as soon as they are turned over to the dealer. They can start the cooling immediately by spraying the shellfish with cold water. Don't let the dealer delay putting your harvest into refrigeration, and ensure that they have proper temperature controls in place.

BE A SHELLFISH PROFESSIONAL

By working proactively to ensure that everyone in our industry is keeping shellfish cool we can reduce illnesses, keep harvest areas open and avoid additional costly regulations.

FOR MORE INFORMATION CONTACT:

East Coast Shellfish Growers Association
(401) 783-3360 or bob@ECSGA.org
Visit our website: www.ECSGA.org
or contact your state
Shellfish Control Authority
listed at www.ISSC.org

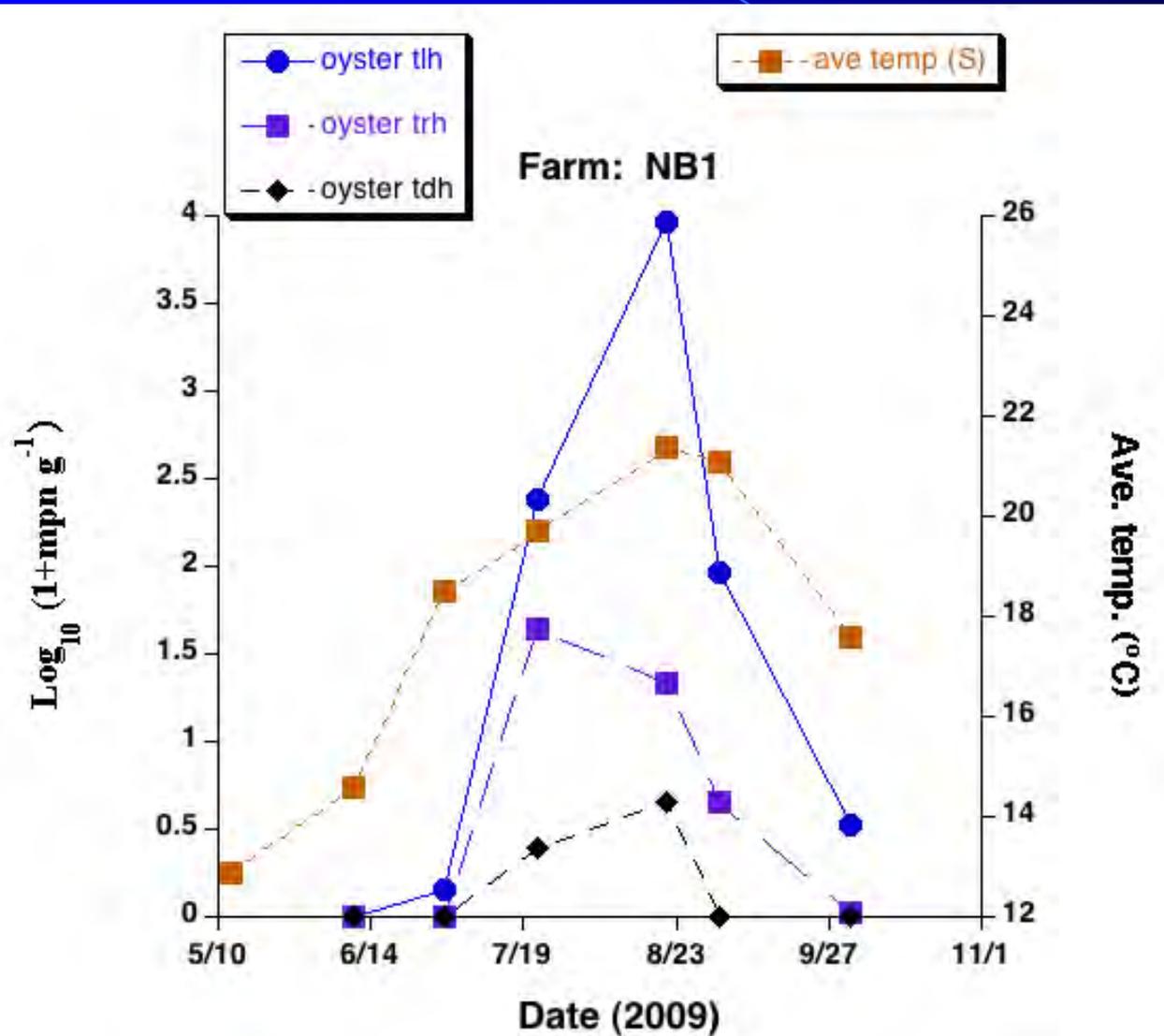
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From Harvest to Table THE PERFECT SHELLFISH



In Rhode Island V.p. is only a problem mid-July to early September



FDA data show we are not doing it right

- *Between harvest and retail bacteria levels are increasing by 100X.*
- *This means that a perfectly safe shellfish can become toxic.*
- *If everyone does their job right and the shellfish are held at 45F, Vibrios do not grow.*

Industry Leaders met with Mike Taylor at FDA headquarters in Silver Spring.

No indication that FDA is backing off on *V. vulnificus* – just delaying a year.

Lots of talk about “dialog”, “listening sessions” and working with ISSC.

Recent FDA letter

- *FDA agreed to do an economic impact study - delay implementation 1 year - see if 1 hour to refrigeration was working.*
- *Moving to risk analysis instead of counting illnesses*
- *Re-stated that they were not currently considering mandating PHP to control Vp.*

Food Safety Act S.510

Sen. Reed amendment requires the FDA provide a comprehensive report on the economic and public health impact of any new HACCP guidance produced by the agency (without industry consent).

Industry Action

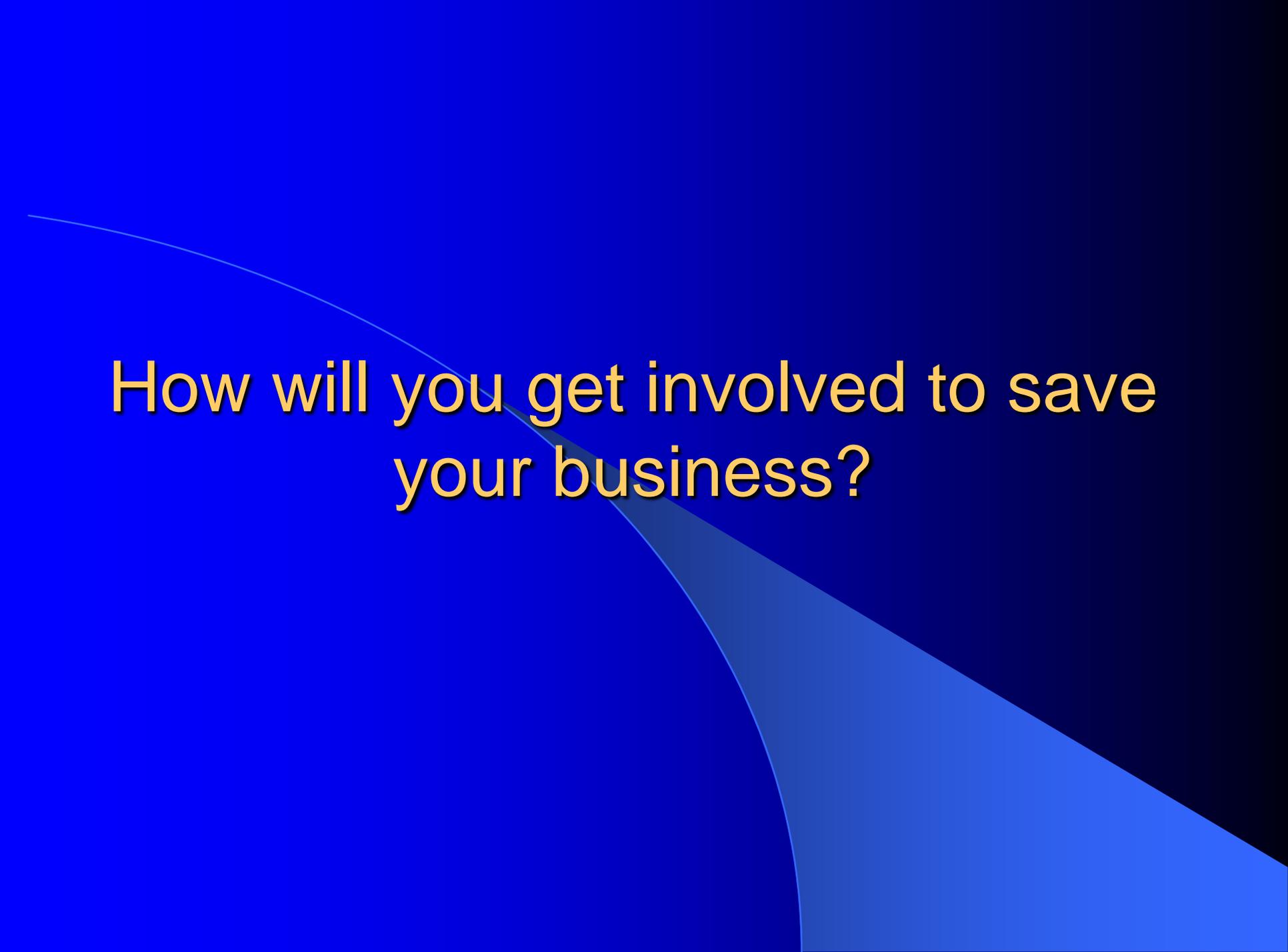
- Support Research efforts – we have many challenges and unanswered questions.
- We need better tools to differentiate virulent from benign strains.
- We need rapid detection methods so we can intercept tainted product before it hits the market.
- We need to know if there are depuration treatments that can quickly reduce *Vibrios*.

Industry Action

- Spread the word
- Educate your representatives about the **economic impact** an FDA mandate for PHP would have on your firm.
- Other groups need to be aware of FDA's plans. (restaurants, local food groups, sustainable seafood movement, dealers).
- Get involved or help the Industry Associations who are spending thousands to preserve the industry.

One of the biggest challenges

- *The folks in this room are probably some of the most careful in the business.*
- *How do we spread the word?*
- *How do we get those who are careless to clean up their act?*
- *What else can we do?*

The background is a dark blue gradient. A thin, light blue curved line starts from the top left and arcs across the middle of the slide. A larger, semi-transparent blue shape, resembling a spotlight or a fan, originates from the bottom left and points towards the center of the text.

How will you get involved to save
your business?

If you have questions:

Contact bob@moonstoneoysters.com

(401)783-3360

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ISSC.org

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