

## **Rapid Molecular Diagnostics Video Transcript**

### **UNC ROI: Research Opportunities Initiative**

#### **Jeff Styron**

President of NC Shellfish Growers Association

Owner of Carolina Mariculture Co.

#### **Rachel Noble, PhD**

Professor of Microbiology and Marine Microbial Ecology

UNC Institute of Marine Sciences

**Jeff Styron:** The best time of day is first thing in the morning. You can hear all the waves lapping on the boat, you can hear seagulls, you can hear everything. The sun's coming up. It's hard to beat that experience out there. My family has been on this island for about 300 years, so I guess you could say I'm kind of ingrained in the coast and the coast in me. You know I just love being on the water, under the water, around the water. And it's just such a unique experience it's in my blood. So, this is where I came to start an oyster lease because I knew the area, I grew up here, I knew the waters, knew it grew great wild oysters, so I figured we could grow great cultured oysters. Generally people tie warm weather with more diseases, so they basically shy away from shellfish like oysters during the summer months. If we are going to increase this industry, the summer months is a great for us because that's when all the tourists are here. So we need to get the public perception shifting to know that southern oysters are safe to eat during the summer. And as we grow the industry, again another facet, we don't want to get people sick because if you get people sick off of your product then that is going to hurt the industry probably more than anything else. And people get a disproportional sense of the real risk.

**Rachel Noble:** Regardless of whether that person is an oyster consumer or not, that information to the public is very damaging to industry. We hope to actually make a positive impact on that statement that you see at the bottom of every menu in the United States these days which says something about raw or undercooked seafood products, and allow the development, potentially, for a tool that can improve the safety and lower the risk to the public.

In today's world, in most states, when they take a water sample on a Monday morning the sign to actually warn the public does not appear until sometime late Tuesday morning. That's the period of time that it takes to get the results from the test. But if anybody knows anything about oysters and clams, they want to eat them fresh, so a test for any sort of shellfish must be rapid just by nature.

Vibrio bacteria are basically found globally in waters that are called brackish, so they are found in ports and bays and estuaries around the world. These are the areas where a major portion of our seafood is grown and harvested. It's very uncommon to get a vibrio infection compared to the sheer number of vibrios that are out in the water. It can rarely be life threatening, but that's typically to people that already have an underlying medical condition. So developing a kit for vibrio bacteria is actually complex. There are pipets and white lab coats involved, but there's a lot of work in the field, there's a lot of work with our stakeholders or oyster producers, people that are actually in the industry. And we're out and we're actually doing our work with people of a range of different backgrounds.

We're excited to be able to offer a kit that will help protect public health globally, that is our goal, but in particular we could actually produce a kit that would allow oysters from North Carolina to be marketable so the public can feel safe in their consumption.

**Jeff Styron:** Right now about 75% of the oysters eaten in North Carolina don't come from North Carolina. We've got the largest estuary system retained within one state on the east coast, we've got about 15 growers. But, if you look towards Virginia, they have about 1500 growers. We've got the resources here, we've got the potential. To me it just seems like a business waiting to happen. I could go out on my lease, take a sample of water, run it through her test, and then know immediately whether there are pathogens in that water that could cause harm. So to be able to assure people that your product is safe, it's reliable, your waters have been tested, would be a great benefit to the industry, for the environment, for people and for the state as a whole.