Is it safe to eat raw Rhode Island oysters during the summer?

_Vibrio parahaemolyticus in Rhode Island farmed oysters_

Research shows that, if properly handled after harvest, Rhode Island farmed oysters are safe to consume raw, even in the heat of the summer.

Everyone has heard of the old adage not to eat oysters in months without an “R” in it; in other words, do not eat oysters in the months of May, June, July or August. One of the reasons for this saying is that the quality of the oyster meat is reduced during the summer, as summer is their reproductive season and the oyster focuses and releases much of its energy as developing gametes at the expense of their meats. Another reason is that oysters improperly held during the warm summer months can be a higher risk in terms of human health. The increased health risk in summer comes primarily from the proliferation of bacteria in oyster tissue if the shellfish has not been adequately cooled following harvest.

A major culprit in bacterial contamination of shellfish is an organism called _Vibrio parahaemolyticus_ or VP for short. VP is a normally occurring bacterium that lives mostly in seawater. Under normal circumstances, VP is not a problem and does not pose any health risks to individuals consuming seafood. However, like all food items, if a clam or oyster is not handled properly and is held in an environment that is not adequately cooled after harvest, the VP can proliferate in the shell to levels that may pose a health risk to those individuals who are eating the clam or oyster raw on the half shell.

In Rhode Island, 2 cases of illness due to VP have been reported in the last 3 years (1 in 2010 and 1 in 2011). In 2011, the one reported case was a 70-year old person who was infected by VP after eating raw shellfish. The RI Department of Health is investigating the source of the infected shellfish and has not released any more information. The infected individual had symptoms common to VP exposure, including abdominal cramps and diarrhea and he recovered from the exposure, where recovery normally is complete within 72 hours of ingestion.

Without knowing the circumstances by which the two RI consumers were infected by VP, the question is frequently asked as to what is the risk of eating RI farmed oysters? This question has been addressed by a research program currently underway in the laboratory of Marta Gomez-Chiarri, a professor at the University of Rhode Island. Dr. Gomez-Chiarri and her students have been monitoring VP levels in farmed oysters from Rhode Island over the past two years, operating off a grant from the United States Department of Agriculture that was secured by the East Coast Shellfish Grower's Association collaborating with RI Senator Jack Reed. The results of Dr. Gómez-Chiarri’s monitoring for the potentially harmful VP in farmed RI oysters are summarized below.
Oysters were collected from 2 farms in Narragansett Bay and 2 farms in the coastal ponds every two weeks starting in mid-June until mid-September in 2009 and 2010. The researchers also collected oysters from 7 additional farms at the end of July of 2009, making a total of 1,200 oysters tested. Oysters were transported to the laboratory at ambient temperature and processed within one hour. The Gómez-Chiarri team used a sensitive method developed by researchers from the U.S. Food and Drug Administration to measure the levels of potentially pathogenic VP. Although they did detect VP in oysters throughout the summer (as expected), the levels were very low during most of the summer. The maximum levels of VP (a total of about 2 million cells per serving of oysters) were detected in mid-July; these values corresponded to a risk of illness of LESS THAN 1 % (levels would have to be around 100 million cells times to lead to a 50% risk of illness). In oysters left at air temperature (not cooled) for one day, levels increased 10 times.

Levels of VP in Rhode Island oysters. The maximum levels observed in July 2009 corresponded to less than 1% risk of illness. A 1% risk means that 1 out of 100 individuals eating a serving of oysters would get sick. Most samples had values that corresponded to a less than 0.1% risk (1 individual in 1000 would get sick).

To minimize your risk of illness we recommend that consumers:

- Always buy your shellfish from a reputable dealer.
- Ensure that shellfish are cold when purchased and keep them cold until they are consumed.
- Consumers who may be immune compromised have a much higher risk of severe illness from food-borne pathogens. These individuals should avoid raw shellfish and should fully cook their shellfish (as well as their burgers, chicken, crab and shrimp). If you are unsure whether you are immune compromised, consult your doctor. Typical conditions that lead to a compromised immune system include; diabetes, cirrhosis, liver disease, HIV and medications such as corticosteroids or other treatments that suppress immune response.

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