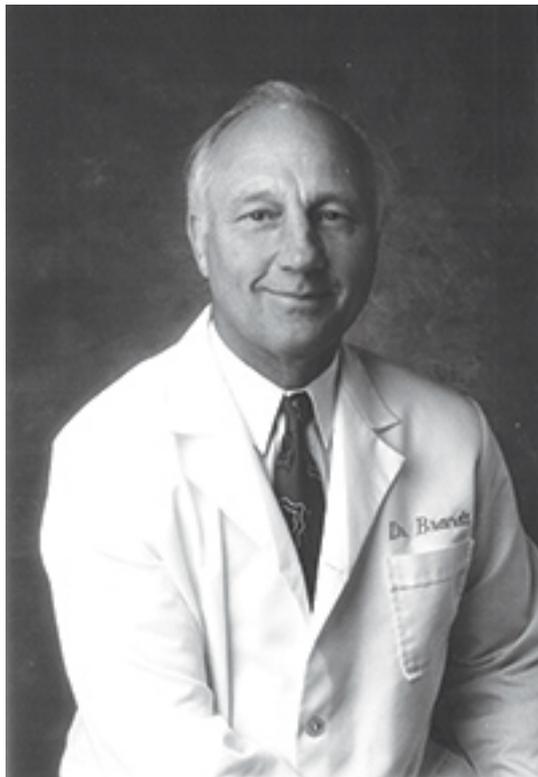


Ozone for Seafood Plant Sanitation

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The clock is ticking. Once food has been processed, there is a finite amount of time to get it to market. Add to the mix worries about product contamination, whether it is from the food itself or the surfaces contacted during processing, and it's no wonder food processors worry and lose sleep.

Improving sanitation is everyone's goal. But it usually comes with trade-offs. Most sanitizing agents can leave a residue on the product. There's also the need to shut down a plant during cleaning. That's coupled with the concern for human exposure or the cost in both labor and chemicals.

This is why many leading food processors have utilized ozone in both aqueous and gaseous forms for the continuous sanitation of their plants and products.

Ozone is very unique due to its extreme effectiveness as an antimicrobial and as a cleaning agent. It leaves no chemical residue, so it can be used continually for a consistent sanitation level throughout production.

What is Ozone?

Ozone is a gas composed of three oxygen atoms and is a very strong oxidizing

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agent. Ozone is much stronger and acts more quickly than chlorine, meaning the contact time necessary to sanitize is lessened.

Chlorine leaves a detectable chemical residue on product and is prohibited on imports into many countries. After acting as an oxidizing agent, ozone reverts to pure clean oxygen. As a result, ozone has received the USDA's Organic Certification.

Ozone is not always a complete replacement for an existing good sanitation program, but rather a complement to that program. In the process, it will reduce sanitation costs in labor, time and chemicals.

The seafood industry is intensely focused on product quality and no sector has embraced ozone more fully. This stems from the fact that seafood is usually sold fresh and product quality and shelf life are paramount.

A program incorporating ozone application onto surfaces and product maintains the cleanest possible environment and product. The bottom line is improved product quality with fewer customer charge backs.

A manager of a North American seafood processing plant once stated that he "slept better" since using ozone at his plant.

Ozonated water is used continuously on product contact surfaces, keeping them sanitized during the production day. This preemptive approach virtually eliminates biofilm formation. Fresh seafood also benefits from a direct application of aqueous ozone, resulting in longer shelf life. Aquaculture operations also use ozone to improve colloid flocculation and nitrite oxidation, and to inject oxygen (the ozone by-product) into the water.

In clear water aquaculture, the goal is to achieve a 95 percent reduction of pathogenic water-borne bacteria in water treatment systems. These benefits all contribute to better survival and faster growth.

Fruit and vegetable storage facilities are maintained with low levels of gaseous ozone to inhibit spoilage. As an added value, ozone also oxidizes ethylene which retards ripening.

Processing plants maintain low levels of gaseous ozone during production and ramp up the levels during times when the rooms or plants are unoccupied to help sanitize difficult to reach areas such as HVAC systems. As part of this room disinfection protocol, ozone also oxidizes odors. These plants no longer have the characteristic smells of seafood or poultry plants.

Ozone is a remarkable molecule and its growing use is making our food supply safer while improving processors' bottom lines.

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