

**BIOZONE**<sup>®</sup>  
SCIENTIFIC INTERNATIONAL

# IceZone<sup>®</sup> saves restaurant operator millions!

## Case Study



## *Executive summary*

### ***Problem:***

When SUBWAY®'s largest franchisee, the Rottinghaus Company, investigated opportunities to reduce operational expenses they were startled to discover how much money they were spending on their ice machines. Specifically, Rottinghaus was spending an alarming amount on ice machine sanitation. Ice machine cleaning costs were in excess of 10x more than the initial cost of the ice machines themselves. Further, they discovered that because operators were not specifically tracking ice machine cleaning and maintenance costs that they were also significant "hidden costs" associated with the running of the ice machines; such as, employee time spent away from other duties, downtime, and maintenance calls.



### ***Solution:***

They tested every known method of sanitizing an ice machine, and were unsuccessful in reducing costs while maintaining standards, until they discovered IceZone®, a true automated, chemical-free cleaning process.

### ***Results:***

Once IceZone® was implemented to automate ice machine sanitation, there were immediate, measurable, and significant results which included:

- Accrued cost savings on ice machine cleaning of over \$1,000,000 as of 2013
- Projected additional cost savings on ice machine cleaning of over \$2,500,000 over the life span of the existing fleet
- Reduced ice machine cleaning time by over 80%
- Expected life span of ice machines increased by 30%
- Reduced service calls relating to ice machines by 70%
- An elimination of the threat of health code violations for unsanitary ice machines causing damage to their brand and reputation

### *The challenge of keeping ice machines clean*

The Rottinghaus Company, headquartered in La Crosse, WI, owns SUBWAY® restaurant stores throughout the Midwestern United States. Rottinghaus is the largest single franchise owner of SUBWAY® stores in the world, owning over 400 of the 40,000 stores in the SUBWAY® system.



*Typical untreated ice machine (images are not of Rottinghaus units)*

Like many restaurant owners, who are a part of the SUBWAY® chain, Rottinghaus is dedicated to providing customers with the highest quality products and services available, at an affordable price. While reviewing their operational expenses, Rottinghaus grew concerned with the operational costs and burdens associated with keeping their fleet of ice machines clean.

Although ice machine manufacturers only recommend cleaning ice machines once or twice per year, in most restaurant environments, that cleaning schedule is inadequate. Rottinghaus needed to schedule cleanings, every 5 weeks, for each of the ice machines, in order to properly maintain the equipment and keep the ice machines clean and free of contamination. Rottinghaus saw that their manual cleaning process was a drain on their team's resources –in terms of both time and money. Unfortunately, they didn't have an alternative solution. Rottinghaus had to keep their ice machines clean at

<b><i>Problems posed by contaminated ice machines</i></b>
Expensive to outsource
Time consuming and demotivating to staff to clean
Can cause equipment malfunction
Potential spread of infection to customers
Risk of health inspection infraction
Bad publicity
Can ruin the taste of beverages

any cost, period. A contaminated ice machine is a problem not only because it is a common health inspection infraction, it is also a public relations nightmare, ruining the taste of beverages, and, worst of all, can cause harm to customers. Dirty ice machines are a huge concern, and Rottinghaus was actively searching for a solution to this challenging problem.

### *Ice machine contamination: a constant and serious threat*

Ice machines installed in common settings, such as restaurants, can become contaminated by bacteria, fungus, mold, and yeast in both the air and water. This cocktail of contaminants is known as biofilm, or slime. Biofilm can foul equipment to the point of malfunction, and can pose a serious health risk to employees and customers who handle or consume the ice produced by the equipment.

One of the biggest challenges in performing proper maintenance is that the process typically involves dismantling the ice machine and temporarily relocating the equipment to a place where a pressure washer can be used to penetrate into the ice machine. Several layers of the ice machine are disassembled to expose the individual compartments, cracks and crevices that need to be cleaned. A chemical-based sanitizing solution, such as bleach, is often used to help treat the surfaces throughout the ice machine.

Because of the chemicals used and the debris that is agitated in the cleaning process, any stored ice needs to be either relocated to a temporary storage container, or melted down and disposed. All in all, the process of sanitizing an ice machine typically takes about 2 hours and at a cost of over \$200 per cleaning.

This is why Rottinghaus was spending an alarming amount on ice machine sanitation. They tested every known method of sanitizing an ice machine, and were unsuccessful in reducing costs while maintaining standards, at least until they discovered IceZone®.

### *The solution at last: IceZone®*

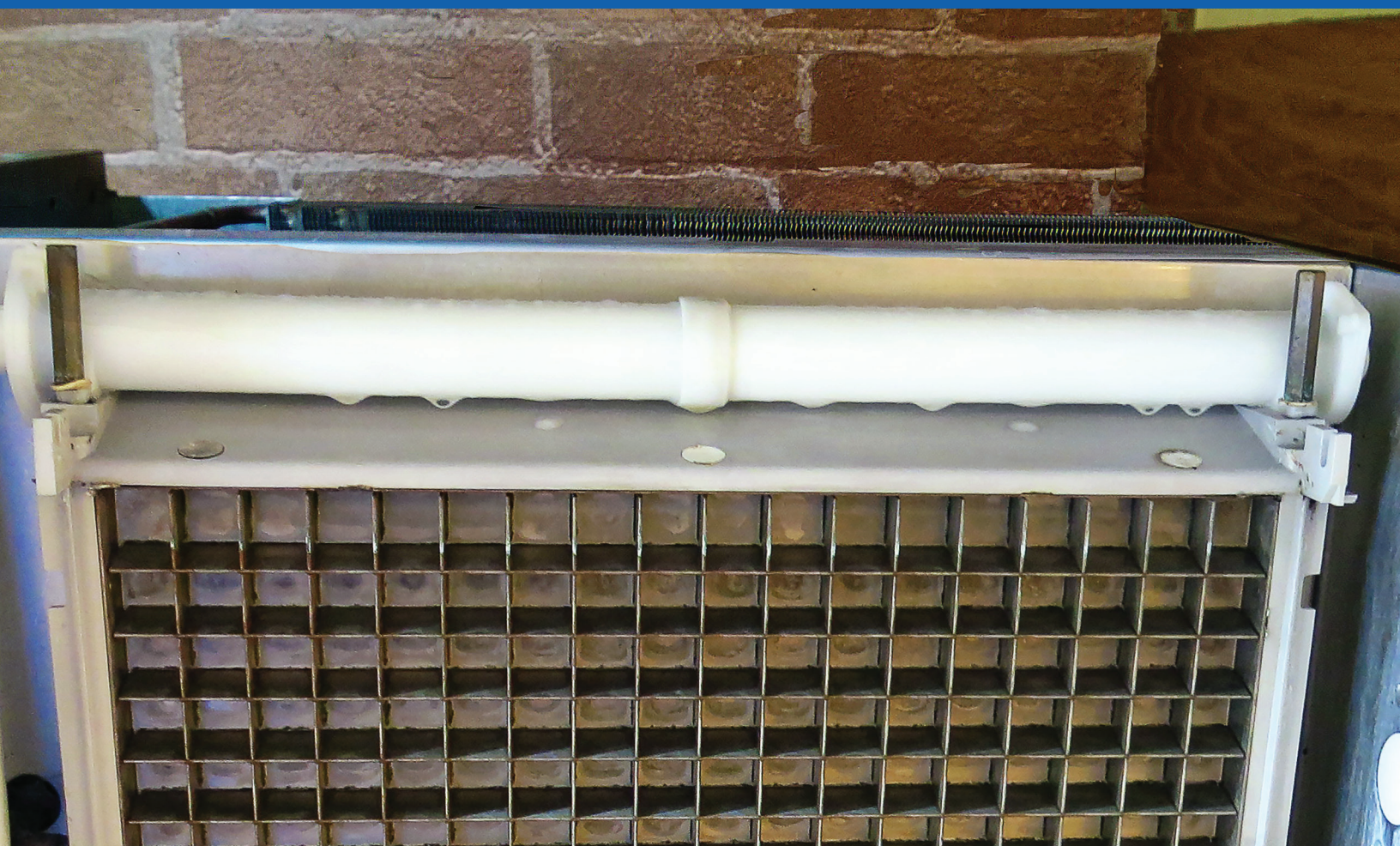
Rottinghaus was introduced to IceZone® at a SUBWAY® franchise owner exhibition, where the product was presented as an automated ice machine sanitation system. Right away, Rottinghaus loved the idea of IceZone®!

IceZone® works by using UV oxidation to create an environment inside the ice machine that inhibits the growth of contaminating slime that would otherwise spread throughout the ice machine. IceZone® is manufactured by BioZone Scientific International, an Orlando, Florida-based company that specializes in ultraviolet light products for the foodservice, healthcare, and hospitality industries.





*Ice machine 30 days after the previous professional cleaning without IceZone® (image is not of a Rottinghaus unit)*

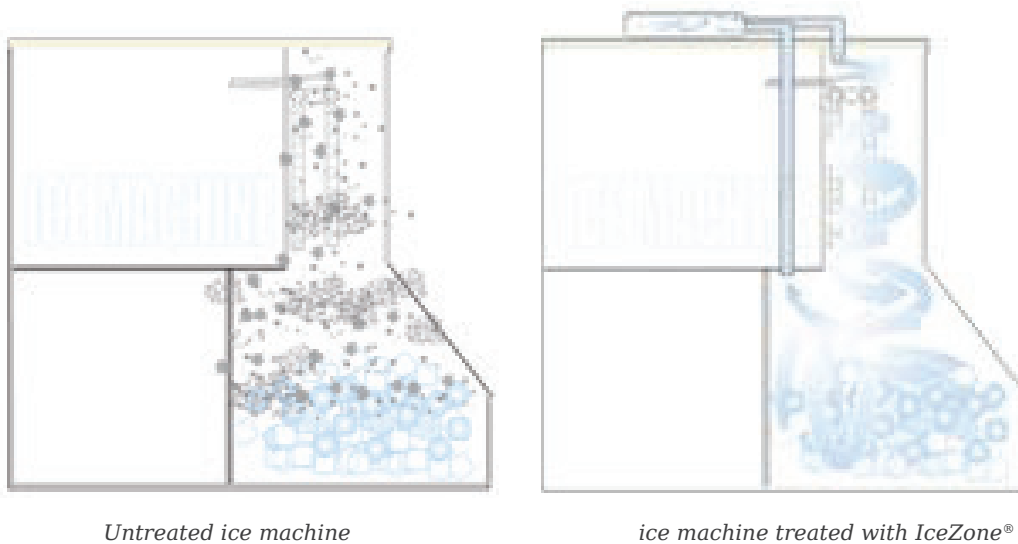


*Ice machine 30 days after the previous professional cleaning with IceZone® (image is not of a Rottinghaus unit)*



Because ice machine sanitation was such a costly and exhausting resource drain for Rottinghaus, they loved the fact that by installing IceZone®, they could reduce the required ice machine cleanings. IceZone® would keep the ice machine clean and clear of contamination for several months at a time. This could potentially save Rottinghaus thousands of dollars per year in monthly manual sanitations.

Rottinghaus also loved that IceZone® is chemical-free, and is certified by UL<sup>4</sup>, NSF<sup>5</sup>, and HACCP for food safety. Ice is a food, after all, and there are several well documented cases of infection breakouts that have been traced back to a contaminated ice machine<sup>6,7,8,9,10</sup>. Rottinghaus also loved that IceZone® is independently tested and proven to be effective in significantly reducing bacteria and yeast inside ice machines. They also loved that IceZone® is approved to be installed on nearly any ice machine model from the major manufacturers in the field today. IceZone® comes with a universal installation kit and typically takes less than 30 minutes to install.



### *Putting IceZone® to the test*

Rottinghaus purchased one IceZone® to put to the test in an ice machine in one of their stores. They selected a test site, and after the next scheduled cleaning, Rottinghaus' service technician installed IceZone® on the ice machine, a process that only took about 20 minutes. Then, they waited.

Over the ensuing 5 week period, the ice machine at the test site was monitored until it was time for the pre-scheduled sanitation cleaning. The Rottinghaus service technician visited the test site and inspected the ice machine. They discovered that the ice machine was as clean that day as it had been when it was cleaned 5 weeks earlier. Rottinghaus was pleased, and they decided to expand their evaluation from

the single test site to 8 additional sites throughout their 9 region area. After the end of the second 5 week period, the results were the same – clean ice machines, including the ice machine from the original installation.

### *Doing the Numbers: IceZone®'s Clear Return on Investment*

Rottinghaus reviewed their operating expenses and quickly realized that by eliminating just two ice machine cleanings, IceZone® would pay for itself. That was two ice machine cleanings ever, not two cleanings per year! Every cleaning session afterwards that is negated by IceZone®'s continuous protection becomes money in their pockets. Because of this, Rottinghaus decided to install IceZone® on 100% of the ice machines in their fleet.

Contamination is only one of the problems that ice machines face. Another serious problem that affects ice machines is lime scale buildup<sup>11</sup>. Lime scale, sometimes just called scale, is a mineral deposit that accumulates on ice machine surfaces (especially the evaporator) as a result of hard water. IceZone® does not treat or provide any relief for scale.

Ice machines, periodically, require a de-scaling treatment. For Rottinghaus, the de-scaling process is scheduled quarterly, and the marginal cost of an onsite service technician cleaning an ice machine when the ice machine is already dismantled, open, and accessible, is quite low. Rottinghaus was more than happy to accept a shift in the ice machine cleaning cycle from once every 5 week to a once per quarter event. In areas where scale is not an issue, the intervals between scheduled ice machine cleanings can be extended for even longer.

By using IceZone®, Rottinghaus has produced impressive results.

- Accrued cost savings on ice machine cleaning of over \$1,000,000 as of 2013
- Projected additional cost savings on ice machine cleaning of over \$2,500,000 over the life span of the existing fleet
- Over 20,000 employee hours saved
- Reduced technical malfunctions of the ice machines by an average of 70%
- Expected lifespan of all ice machines increased by an average of 30%

Rottinghaus truly demonstrated that by automating ice machine sanitation with IceZone®, restaurants can have significant savings in both time and money. As Rottinghaus continues to grow and add restaurants and more ice machines they will realize additional savings with their IceZone® program.

### *What does Rottinghaus have to say about IceZone® today?*

When asked about the impact of using the IceZone® technology on their ice machines, top executives of Rottinghaus said that:

IceZone® has significantly changed our business and made us more profitable. This amazing device inhibits the organic growth of yeast which significantly reduces the frequency of required cleanings saving our stores time and money. Additionally we have seen a 30% increase in the operational life of our equipment due the lack of mechanical failures associated with harsh tear downs of equipment as a result from significant yeast infiltration. I would highly recommend this maintenance and chemical free solution to any franchise owner within the SUBWAY® Corporation. —  
*Thomas Schindler, VP of Development, Rottinghaus Company*

Unlike other devices available on the global market we finally have a product which carries out the function it was designed to do. IceZone®, a chemical and maintenance free ice machine sanitation system significantly reduces the time and money associated with maintaining your equipment. Over the past five years IceZone® has saved our organization over \$1.0M in costs attributed with ice machine maintenance. We insist on having IceZone® installed on 100% of our equipment, we would highly recommend the same to any store owner with the Subway Corporation. —  
*Cory Cook, VP of Development, Rottinghaus Company*

We love the product and the increase in machine operating life is truly substantial! —  
*Earl Wood, VP of Development, Rottinghaus Company*

### *More information about IceZone®:*

IceZone® is designed to be installed as a factory-installed option or field-install retrofit on all major brand ice machines including Hoshizaki, Ice-O-Matic, Follett, Manitowoc, Scotsman and more. IceZone® is certified by the following:

### *What can you and your organization do to benefit from IceZone®?*

Experience for yourself what thousands of other satisfied customers know about IceZone®. Contact BioZone Scientific International today to learn more about IceZone®:

Phone: 407-876-2000

Email: [info@biozonescientific.com](mailto:info@biozonescientific.com)

Web: [www.biozonescientific.com](http://www.biozonescientific.com)





## References

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