

Food Safety

Is Your Incoming Water Safe?

“Consider the source.”

When determining the safety and quality of your water supply and the testing and controls you may need to implement, it is critical to know and consider its source and the needs of your product, said Tom Seechuk, market manager for LaMotte Co.

Prior to his current position, Seechuk worked as quality control chemist for a major beverage company. Although the company used city water, it ran its own water plant at which it re-chlorinated then de-chlorinated the water to reduce bacteria. Then it optimized the water for the beverage—which included additional tests such as those for alkalinity and pH, which are critical to the quality of the final product.

While such testing is fairly standard for beverage manufacturers, many food manufacturers who use city water can minimize tests, because such water must conform to EPA standards. This is less true for those who source water from their own wells. More tests and controls generally need to be implemented to meet EPA requirements, such as ensuring nitrates remain within required limits. In addition, wells have more bacteria and Seechuk said, “Many wells require pH adjustment. You have to pay more attention to well water.”

Recent concerns have centered around coliform, which Seechuk said is the easiest bacteria to find, but test results usually take 24 hours. Thus, those who are having problems with this, “are either not doing the testing or are releasing the product before the results are in,” he said. “The biggest question is: ‘If you ran the test, why is the food sickening people?’”

Although more rapid tests are being researched, “it’s just not out there yet, or it’s too expensive for many operations,” he said. There is, in fact, an ATP test which shows results within five minutes, however ATP meters currently cost \$1,000 or more.

“Can you make something fast, simple and cheap for the everyday worker to use?” Seechuk said he is often asked. “The answer is ‘Not yet.’ The technology is there, but you have to pay a bit of money for it.”

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Growing Trends in Foreign Object Detection

Efficacy, design, power, detectability. All are key elements of metal detection and all are areas in which improvement is continually sought by suppliers and food processors alike.

As a result, said Bill Dudenhoeffer, Eriez separation products manager,

“There is an ongoing trend to maximize the power of the magnets” with manufacturers continually seeking to improve upon their existing magnetic designs. In conjunction with this continued improvement is that of the increasing detectability of supplies and equipment—including

those made of plastic or rubber.

Detectable additives can be integrated during manufacturing to “ever so slightly magnetize some of the plastics, so they can be separated by magnetic separators or detected by metal detectors,” Dudenhoeffer said. “That’s really a new trend and some-

thing that will continue to gain strength.”

It is important, however, that proper ratios be maintained with minimal amounts of the material added to make it magnetic, he added. “You really don’t want to change the properties of the plastic itself.”

But the technology significantly increases the magnetic “power” in a plant, by adding detectability to items which are not naturally detectable or separable.

While it is a growing trend in the U.S., the technology itself is not new, said Jim Elliot, President, Detectapro. Originating in Europe, the first uses were in ear plugs and bandages in the 60s and 70s.

Since then, the technology has been “tweaked” and is expanding to uses in more products, but even today, Elliot said, “Europe is probably three to four years ahead of us in regard to object detection.”

Prior to the incorporation of detectable additives, color was used for easier de-

tection of non-metallic supplies. Because blue is an uncommon food color, many rubber and plastic items were created in that color. In order to allow for initial visual detection of a contamination, the blue practice tends to continue for both detectable and non-detectable items.

Regardless of the process used, metal detection and separation are frequently CCPs in plants. “Most of the time they have a metal detector, and 99 percent of the time there is also a magnetic separator,” Dudenhoeffer said. The magnetic separator is often placed before the metal detector so that the foreign object is removed prior to tripping the detector.

The three most common areas that separators are placed, he added, are:

- at the beginning to detect foreign objects in incoming raw materials;
- just prior to very sensitive machinery to prevent damage;

- just before the finished product goes out the door, as a final checkpoint.

Some plants place metal detectors or separators at every CCP, Elliot added. But if a plant can afford only one, it will usually place it at the end; if a second is added, it will generally be at the beginning.

Metal detection—through the use of equipment or detectable objects—is not cheap, Elliot affirms, noting that a detectable pen will cost at least two to three times more than a regular pen. “But if it avoids a recall incident, it more than pays for itself!”

He equates the use of metal detectors and detectable supplies in food plants to consumer insurance. “It’s like you and I buying insurance. We don’t like signing the insurance check, but when you have an accident, you are glad you did.” ☞