



Continuous Ink Jet Bell Laboratories Case study

Clear codes help Bell Laboratories control rodent population worldwide

Bell Laboratories, Inc., in Madison, WI (US), manufactures a variety of rodent control products for consumers, as well as the professional pest control and agricultural industries, on six continents.

Humans have always been looking for ways to “build a better mousetrap” to keep the rodent population in check, and nearly everyone has seen a cartoon mouse lured to a trap with a cleverly placed piece of cheese. In reality, rodent control products are designed and manufactured by experts who continuously research products that will attract these animals and effectively control the population.

Bell Labs produces a variety of products to help combat rodent infestation. In fact, they can manufacture 12 tons of bait blocks — a popular type of rodent control product — in a typical eight-hour shift.



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**Josh Biederwolf, Extruder Operator
Bell Laboratories**



Before Bell Labs' products leave the manufacturing facility, each package of bait, bait stations or traps must be labeled with a lot code or other tracking information to meet various requirements, including U.S. Environmental Protection Agency (EPA) regulations, internal quality control mandates and customer special requests.



To meet a demanding schedule and help ensure every package is properly coded, Bell Labs relies on a Videojet 1510 Continuous Ink Jet (CIJ) printer.

Bell's rodent control products are available both commercially and in retail outlets worldwide. The company employs more than 300 people, and approximately 25 of its staff members work on packaging products for distribution during three shifts daily. Bell needs a reliable printer on the line that is easy-to-use and can be switched quickly to different lines within the facility.

"Depending on the day, we can run 10 to 15 production lines of different products, such as bait blocks, bait stations or mousetraps," says Cathy Germain, first shift production supervisor for Bell Laboratories. "All of the lines are set up for different types of product and packaging, so it's important that our people and equipment are flexible."

During a typical week, Bell Labs employees may work on different production lines each day, depending on production needs. In addition, the staff rotates through jobs on a particular production line on an hourly basis, so no one is doing a single job for an entire shift.

For example, on a bait block production line, employees each take turns filling plastic buckets with bait, weighing and sealing buckets, and putting buckets into boxes and onto a skid for shipping.

On the bait block production line, the ingredients for the bait are added to a giant blender within the facility for mixing. Bait ingredients include human-food products, such as flour, sugar, oats and even butter pecan flavoring to make the bait enticing to rodents. The mixture is then sent through an extruder, cooled and moved to the filling area. Next, empty buckets are filled with bait as it comes off the manufacturing line, and the filled buckets are placed on a short conveyor for coding with a Videojet 1510 printer. After the buckets are coded, they are weighed to ensure they contain the correct amount of product and then sealed. Finally, the buckets are placed into cartons that are coded with the same information as the buckets for product traceability. These cartons are placed onto skids and sent to Bell Labs' distribution center for shipping to professional and retail outlets.



“Codes on packaging change several times throughout the day depending on customer needs or changes in orders,” says Dan Hineline, manufacturing manager for Bell Labs. “We need a printer that is easy to use so our operators can change codes quickly and personnel at all experience levels can work with the printer.”

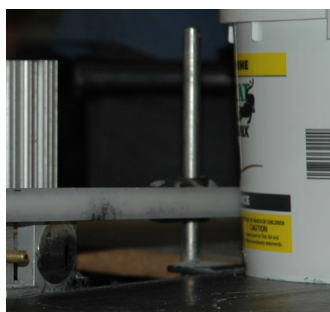
To meet the three-shift demand, the Videojet 1510 printer is often running around the clock, but also may be idle for several hours while other tasks are completed. Frequent starting and stopping can be difficult on a printer, but the Videojet 1510 features a “sleep” mode so the printer does not have to completely restart after every idle period.

Bell Labs has found that the printer performs well whether it is running continuously or is restarted after a couple of hours of non-activity.

The EPA requires coding to track products containing poison in case of product recall or to track the product back to the point of manufacture to identify how much poison the product contains. Clear, crisp codes are important to meet both customer and EPA requirements. However, Bell Labs finds it most often uses the lot code information for its own internal quality control process.

“We want to be able to turn our printer on and get good coding right away without worrying about it. The Videojet printer is easy for our team to use, and it just does its job.”

**Dan Hineline, Manufacturing Manager
Bell Laboratories**



“Our stringent quality control team checks batches of product before they are shipped out,” Hineline says. “If they find any issues with a batch, we can use the lot number to check the rest of the batch and track back to who was working on the production line that day. This capability helps us resolve any issues before products leave the facility.”

If customers request additional code information on the packaging or if products are shipped internationally, Bell Labs also can use the Videojet 1510 to print additional lines of code on the buckets, such as use-by date. For international shipping, a use-by date or a company name may be required for additional levels of tracking.

The Videojet 1510 printhead is designed to stay clean, with no recessed areas that can trap fluid. The printhead also automatically adjusts to changes in the environment to help ensure high-quality print, regardless of ambient temperature and humidity. The Bell Labs facility experiences changes in temperature during the day and throughout different seasons, with cooler temperatures in the morning and evening, and warmer temperatures during the day.

Due to the powdery ingredients used in bait products, such as grains, the facility also can get dusty, which can clog printheads. However, the Bell Labs staff has found that the Videojet 1510 maintains a consistent code quality even in its tough environment.

The simple interface of the Videojet 1510 has resulted in reduced downtime as well. Because production line workers change roles and the printer moves to different lines in the facility, multiple people interact with the printer. The staff has found that everyone can easily use the printer to put codes on products and troubleshoot minor problems to keep the printer running. As a result, Bell Labs has not experienced any unplanned downtime related to product marking and coding.

“It’s just very simple,” says Josh Biederwolf, extruder operator for Bell Laboratories. “Since the printhead stays clean, we don’t need to spend any time cleaning it. With past ink jet coders, we had to clean the printhead at least once in every shift, which could add up to about 30 minutes each day.”



“It takes less than a minute to change the code information because you see your code right on the printer’s screen. The printer notifies us when it needs troubleshooting, and the prompts on the screen tell us exactly what the issue is and how to fix it.” Josh Biederwolf, extruder operator for Bell Laboratories

The Videojet 1510 is designed to run for 9,000 hours — up to 18 months of operation in typical applications — before required preventive maintenance.

Operators receive an alert when it’s time for a new core (which consolidates filters, valves and the pump into a single unit), and it typically takes just 30 minutes to replace. The modular core can be replaced quickly with in-house staff, rather than requiring a service call from a trained technician.

Bell Labs also has found that the Videojet 1510 Smart Cartridge™ fluid containers have reduced downtime due to ink installation errors. The Videojet Smart Cartridge contains an embedded microchip that identifies whether compatible fluid has been installed. This technology eliminates mistakes related to incompatible ink or make-up fluid, which can require a service call to fix.

“The printer won’t let an operator install the wrong ink or make-up fluid,” Germain says. “The printer flashes an alert if an operator installs an incompatible ink or if an ink cartridge was installed where the make-up fluids should go. It’s much easier and less messy than using the bottles of fluid we used to pour into the printer — it’s even easier than changing the ink in an office computer printer.”

To serve its customers worldwide, Bell Labs makes it a top priority to stay on schedule. The company uses a “just-in-time” (JIT) production strategy, so it manufactures and packages products to meet immediate customer orders, reducing inventory. If the production line experiences downtime, customer deadlines may be compromised.

“We want to be able to turn our printer on and get good coding right away without worrying about it,” Hineline says. “The Videojet printer is easy for our team to use, and it just does its job.”

With easy-to-use marking and coding technology that maximizes line uptime, Bell Laboratories foresees a bright future built on a 35-year history as a leader in rodent control technology.



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