

Technology Down on the Farm - The 'Crackless Egg'

New tools to help you sharpen your operation

by TREENA HEIN

Farmers who are looking to reduce or eliminate inherent losses in their operations, trim unnecessary expenses or gain extra farm income need look no further than some new technologies available in Ontario, which are aimed at helping them do just that.

Take the benefits Chris Monden is reaping from wireless sensor technology. Monden raises over 61, 000 layers, and every egg he produces counts. That's why Monden calls the Crackless Egg "a great investment for a farmer."

Monden has been using the Crackless Egg at Unicorn Farms, his chicken layer and pullet operation in Dutton, near London, for about a year and a half and is one of the first to use it Ontario. Simply put, the Crackless Egg, a technology created by [Sensor Wireless Inc.](#) of Charlottetown, PEI, mimics a real egg in shape, size and weight as it travels from the chicken to tray, ready for shipping.

The Crackless Egg transmits real-time (immediate) sensor data on a given factor, such as impact, which farmers can use to decrease the chance of real eggs cracking.

More specifically, the Egg wirelessly transmits data on the level of impact it senses (as it moves along conveyor belts and elevators) to the farmer's Palm Handheld PC device. The Handheld displays a graph indicating every instance that the Egg receives an impact jar above a certain threshold versus time. "I then make adjustments by adding foam for cushioning or slowing transfers," says Monden. The data can later be downloaded from the Handheld to a computer for permanent record keeping.

In Monden's operation, the Egg picks up on impacts at three main potential problem points along conveyors and elevators before moving into the packing machine, where it assesses four more transfers before the eggs are placed into shipping trays. "You can't always see these points," he notes, "or you can see these points, but can't always tell what the stresses are."

Monden says he will achieve payback for his Crackless Egg, handheld device and software - about \$4,000 - in under five years. He notes that on average, at the end of each flock's production, his egg losses because of cracks range from 3.2 to five per cent, and adjustments he is able to make based on Crackless Egg feedback allow him to improve that by a minimum of 0.25 per cent every flock.

"That's very significant," he says. "It's the difference between having a good flock and a very good flock... It gives a little more control over what happens in your barn."

In addition, Monden says the Egg will become more important as his equipment ages, since this tends to contribute to egg breakage. "That, to me," he says, "is where it really will make the difference." Using the Egg is also critical in minimizing impact each time he gets the conveyors and elevators running again as he sets up for each new flock: "I run it through as a set-up precaution and then use it two to three times per run." Overall, he sums up the Egg as "a great investment because it goes on forever."

David McNally, agricultural product specialist for Sensor Wireless, says that the company has about 20 customers so far within the Ontario agricultural market. In addition to Crackless Eggs, these customers are using Smart Spuds and other sensor devices - shaped like apples, for example - designed to help reduce bruising. Sensor Wireless also offers models which detect pressure and temperature changes.

Additionally, the company is working on new systems, which will provide remote tracking and condition checking of grains and cereals in storage and remote tracking of temperatures in livestock housing and transportation. Sensor Wireless also provides sensor technology for the assembly line and transportation of goods, both inside and outside Canada, for companies such as Campbell's Soup, McCain Foods and Coors.

