



News release

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FOR IMMEDIATE RELEASE

CoolBot Ice Sensor Makes It Possible To Build A Do-It-Yourself Walk-In Cooler

BAY AREA HOUSTON, TEXAS – Many times an invention has worldwide implications, which make it possible for people to lead better lives. CoolBot has done just that. Its inventor, Ron Khosla, and his wife, Kate, since 1999, have owned and operated a 200-family CSA (Community Supported Agriculture) cooperative plus fulfilled orders to several restaurants and one grocery store in southern New York.

As small vegetable farmers, they couldn't afford a commercial walk-in cooler, and the quality of their vegetables suffered because of it. Fruits and vegetables start breaking down, losing nutrients and quality as soon as they are picked. By cooling them down quickly, that break-down period is drastically reduced. The Khoslas were scrambling trying to pick JUST before their customers came to get their produce; however, without a chilling period, the produce just wasn't lasting well.

Khosla knew that window air conditioners put out as many BTUs as larger walk-in cooler compressors, but he couldn't understand why they couldn't cool a room down into the 30s instead of the 60s. He discovered that the problem wasn't the compressor. The front cooling fin area was too small, and the fins were too close together. Also, the fan was too underpowered to move the cold air out fast enough. If the compressor could run long enough to get the room down to 37 degrees, then the whole front fins would become a solid block of ice!

Khosla devised the idea of installing an "ice sensor" that would catch the ice on the fins as soon as it started forming and shut off the compressor for a short defrost cycle. Khosla and Kate used it on their farm with great success. This could have been the end of the story, Khosla said, but one of their farm customers saw it. She was a caterer and thought it could be useful for caterers, as well. Eventually, working with her and a college friend, CoolBot was "perfected." They applied for a patent and started selling the devices through their company, Store It Cold, LLC.

Problems began to develop, though. After one or two years of use, some of the sensors

that were used to detect the ice would break down and result in a system failure. Additionally, through USAID, sales overseas had increased, and, by the third or fourth year, the percentage of problems rose dramatically.

Khosla realized that the sensor problem was beyond his scope of understanding; so, he called the Space Alliance Technology Outreach Program (SATOP). Mohamedi Kalibala, SATOP New York project engineer, put him in contact with Alliance Partner Mike Hamm of es2 technologies in Houston, Texas. Khosla and he brainstormed over the specifics of the problem. Eventually, Hamm's research produced a huge report. Khosla said, "He gave us several solutions - literally down to product numbers of sensors that would NOT have the problem we had. He had even interviewed specific companies about their products to make sure that they would be compatible with our situation. Copies of notes were included. It was unbelievably helpful." Importantly, Khosla used Hamm's research to modify his earlier sensors to get them working again. He now buys raw sensors and builds them out to fit exactly what is needed. The sensors are working flawlessly.

Khosla said that it's difficult to measure the direct impact that SATOP has provided. He explained, "There are a ton of people here in the U.S., and more and more in India, Africa, and Thailand thanks to USAID, who will never know how appreciative they should be of what SATOP did for them as well as us. For a small farmer who only slaughters one pig a year or a person who trusts a significant portion of his vegetable harvest in one of our cooler systems or an outback doctor storing vaccines and medicines somewhere deep in Africa, a failure can be devastating. Mike's help in not just handing us a part that was a solution but also actually explaining the physics behind the problem was invaluable."

Mike Hamm says, "...Now that Store It Cold's CoolBot is functioning with world class parts, I expect they will make a great impact in the lives of many people around the world. It is always very satisfying to be able to help someone and make a direct impact in people's lives...."

www.storeitcold.com

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Ron and Kate Khosla at the door to their cooler.



COOLBOT

Bay Area Houston Economic Partnership is a member-driven organization that provides the leadership to stimulate regional economic development and employment in southeast Texas. Its members include aerospace, petrochemical, and healthcare companies, developers, bankers and real estate brokers, 13 cities and Galveston and Harris counties. Visit www.bayareahouston.com.

Space Alliance Technology Outreach Program is funded by the State of Texas and NASA. The program provides technical assistance to small businesses to solve technical challenges they are unable to solve themselves. Visit www.spacetechnologies.com