

EcoQuest Air Purification Systems Installed In Four County Schools

Professor Says His Research Shows Their Effectiveness

By BILL JONES
Staff Writer

Technology used in air purification systems marketed by Greenville-based EcoQuest International also has been shown to be effective in reducing bacterial organisms counts on stainless-steel surfaces, a Kansas State University professor says his research shows.

Dr. James Marsden, regents distinguished professor for food safety and security at Kansas State University, spoke about his research during an April 17 meeting here that was attended by local government and education leaders and EcoQuest International officials.

The meeting was held in the office of Greene County Mayor Roger Jones and also was attended by Dr. Joe Parkins, Greene County's director of schools, and EcoQuest International President Mike Jackson.

Mayor Jones noted that EcoQuest air-purification systems were donated by the company for use in improving the air inside offices in the Greene County Courthouse that have been affected by flooding in the past.

Dr. Parkins said that EcoQuest air-purification systems, which were donated by the company, are in use in four county schools: Glenwood, Baileyton, Camp Creek and DeBusk elementary schools.

"It hasn't cost us anything, except what little electricity the units have used," he said.

Parkins said the movement over recent decades to air-conditioning of schools and, thereby, to limit entrance of fresh air, may have contributed to air-quality problems.

"Although we have become more comfortable, we have created an indoor-air (air) problem," Parkins said. "If we can find ways to constantly bring fresh air into our buildings while maintaining comfort levels that we require,

it would be great. That seems to be what this process (EcoQuest technology) is doing."

EcoQuest President Jackson pledged during the meeting to work toward equipping all county schools with EcoQuest air-purification systems.

RCI Technology

Jackson also said his company had purchased "Radiant Catalytic Ionization (RCI)" technology from a Florida firm that developed it for use on the International Space Station.

"Really, what we're doing is bringing nature's power indoors to make a fresher environment," Jackson said.

Dr. Marsden said the RCI technology used in EcoQuest systems does almost the same thing that the Sun does.

"Sunlight is the ultimate purifier," he said, noting that the Sun creates ionization (in the Earth's atmosphere). "If you have (an event like the eruption of Mt. St. Helens volcano) those (dust) particles don't stay in the air forever. Ionization brings the (dust) particles back down in a relatively short period of time."

The Sun's ultraviolet light also serves as an anti-microbial agent, Dr. Marsden said.

Similarly, he said, the ultraviolet light technology in the EcoQuest systems converts water vapor, temporarily, into "very aggressive anti-microbial compounds."

The water vapor in the air that passes through EcoQuest systems, he said, is oxidized into hydrogen peroxide vapor, which is "a very effective anti-microbial agent."

After killing infectious agents that it comes in contact with, the hydrogen peroxide vapor generated by the EcoQuest systems reverts back to harmless water and oxygen.

"It's a very natural way to kill bacteria and other infectious agents," Dr. Marsden said.

In the past, he said, homes and buildings were much more open to sunlight and fresh air from the outside.

"Because of energy concerns, we've sealed off our buildings, now," he said.

But EcoQuest's technology can overcome the lack of fresh air inside homes and buildings by cleaning the existing air.

"This is a preventative system," he said.

Viruses Targeted Too

Dr. Marsden said that under laboratory conditions, the EcoQuest's systems had been able to eliminate the Norwalk Virus from a metal test surface within 30 minutes.

"We're trying to get the whole family of viruses," he said. "We're in the process of validating each and every virus individually."

Dr. Marsden said the new EcoQuest units don't increase ozone concentrations inside buildings where they are in use.

He added that a major Florida-based entertainment company with which he worked was "very surprised to find out that ozone levels were actually lower with EcoQuest equipment operating in the (air-conditioning) duct work."

Asked how that was possible, Dr. Marsden said that while the EcoQuest equipment produces "a small amount of ozone," ultraviolet-light technology used in the units actually decomposes ozone.

"So what it tends to do is regulate the ozone level," he said.

EcoQuest's Jackson said the RCI technology used in EcoQuest systems had been shown to be able to "destroy on surfaces, mold, mildew, bacteria and viruses without having ozone levels go up."

Goal: Break Infection Cycle

Dr. Marsden said he feels the EcoQuest systems, when combined with "an aggressive hand-washing program" could reduce transmission of many infectious diseases in schools by 98 percent.

The EcoQuest equipment and hand-washing, he said, could help eliminate contamination on desks, door handles and other surfaces.

"It could break the infection cycle," he said.

An advantage of using the EcoQuest equipment, incorporating RCI technology, is that it remains in operation 24 hours a day, seven days a week, Dr. Marsden said.

That, he said, leads to the

establishment of an equilibrium in the home environment.

Dr. Marsden said that in his own home, he has EcoQuest air-purification systems on each level of the residence.

He noted his studies were presented during the U.S. Department of Agriculture's Food Safety Consortium meeting last fall.

"The paper was published in the proceedings of that meeting, and USDA is doing an article about the technology in their newsletter," Dr. Marsden said.

EcoQuest President Jackson said he had attended a Space Symposium conference last month in Colorado and noticed that RCI technology was featured in a magazine article as having been originally developed by NASA for use on the International Space Station to combat the causes of allergies.

"What happened was that this company in Florida developed it (RCI technology) to a higher level using four rare metals, and we bought that technology and have now brought it into our core technologies," Jackson said. "It's much more advanced than what we sold 10 years ago."

"Now, with the help of the University of Cincinnati and Kansas State University, we're getting the validation studies to show what it does."

School Use Cited

Jackson said that EcoQuest equipment was donated for use in four Greene County schools.

"Dr. Parkins, we're just thrilled to be able to give something back to this community that has given us so much in the form of a good place to work, good workers and a good place to live," Jackson said. "We're looking forward to getting the rest of the schools outfitted (with EcoQuest air-purification equipment)."

Dr. Parkins replied: "We appreciate it. Anything that you can do to help us make a safer environment for our students, we appreciate."

Courthouse Use Cited

Greene County Mayor Jones said EcoQuest units that include the RCI technology have been in use for some time at the Greene

County Courthouse, portions of which were affected by flooding in June 2004.

Jones said mold grew in portions of the courthouse after the flooding and was removed by an environmental clean-up firm. Jones said he subsequently contacted EcoQuest's Jackson to see if any of his company's products might help keep the air inside the courthouse clean after the mold was removed.

"Immediately, Mike got us in touch with their (EcoQuest's) technical people," Jones said.

EcoQuest technicians subsequently installed air-purification equipment in the courthouse, mostly in its heating, ventilation and air-conditioning ducts, according to Jones.

"It (the EcoQuest equipment) has worked great," Mayor Jones said. "I know some of the employees down there would miss a lot of work in the past because of (previous) respiratory problems."

Jones said the EcoQuest equipment installed at the courthouse apparently had kept mold from regrowing in the lower level of the courthouse after it was cleaned up by the environmental firm.

"It was just phenomenal," he said. "With what you have done now, I guess it's been technically proven that it (the EcoQuest equipment) does work. 'But we've known that it works for a long time here.'"

Jones also noted that he had

installed an EcoQuest unit in his home because his daughter suffered from allergies and asthma.

"Before we got the unit, I was having to take her to the hospital three or four times a year," he said. "Once we got a unit in our home, that was almost completely eliminated."

The mayor noted that his belief in the effectiveness of the EcoQuest unit was reinforced after he turned it off for a few weeks and his daughter's symptoms returned.

However, EcoQuest President Jackson emphasized that EcoQuest "absolutely makes no health claims" on behalf of its products.

"What we do say is that we can clean the environment," he said. "Healthy, fresh air is better for people than not having healthy, fresh air. We're happy that people get good results, but we don't make any claims about allergies or any health conditions."

Dr. Marsden said he was aware of similar situation in the business office at Kansas State University, where mold spores had been linked to respiratory illness that affected an employee.

"We cleaned it (mold) up and installed two of these (EcoQuest air-purification) units in the main office area and haven't had a problem since," he said.