

Air Conditioning | Heating | Refrigeration

# the NEWS

## CUSTOMER CARE Drives IAQ Sales



By B. Checket-Hanks Of *The News Staff*

**F**or many contractors in the Midwest and in the northern and eastern parts of the United States, the 2003 cooling season started off chilly and damp. Most cities whose "Cooling Degree Days" are tracked by the National

Weather Service's Climate Prediction Center show 2003 figures with a minus sign in front of them compared to last year.

While cool, damp weather is not ideal for cooling sales, it can be a boon for products that address indoor air quality (IAQ, which suffers when mold and fungi are in

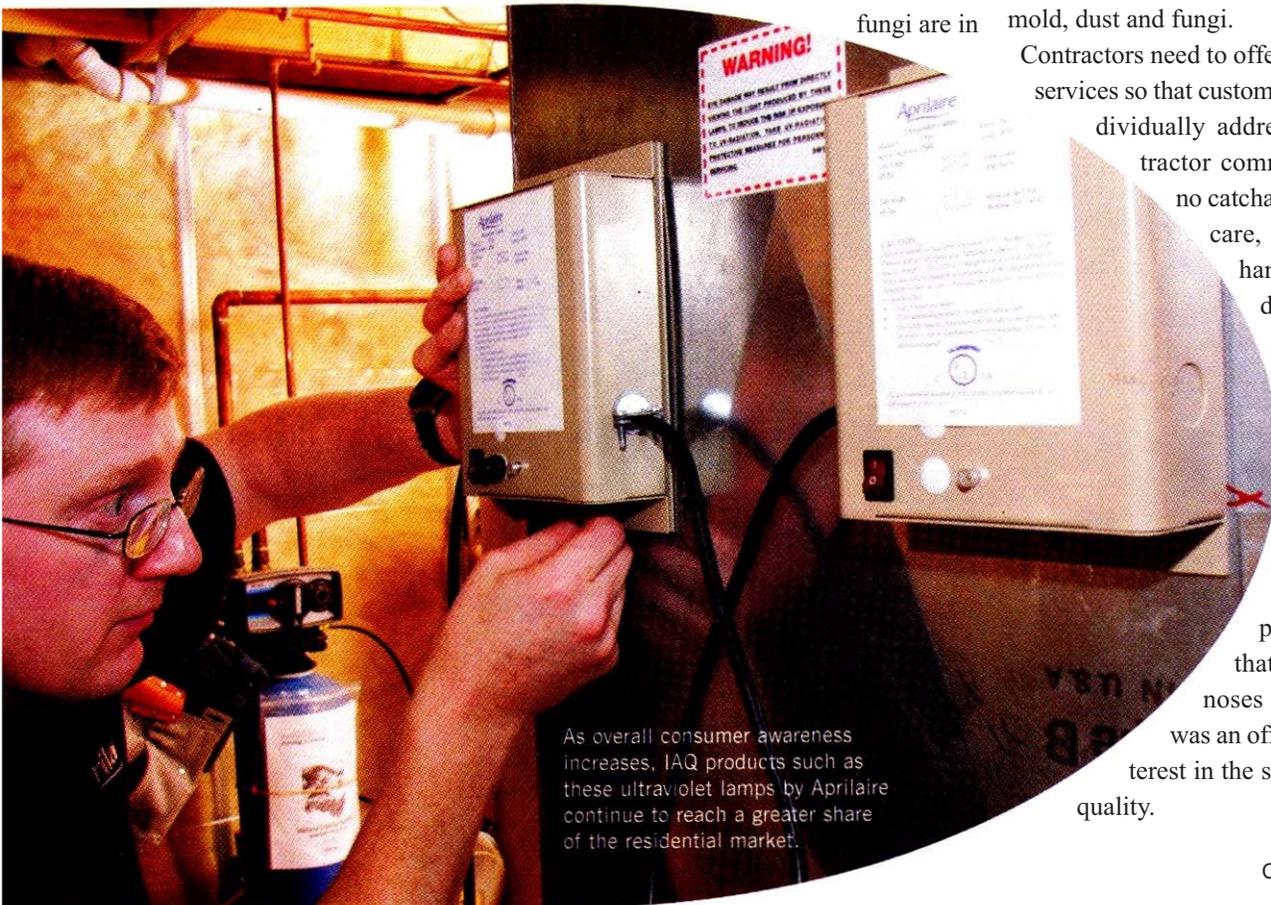
bloom.)

An estimated 20.3 million Americans suffer from asthma, according to the American Lung Association. Still more people suffer from upper respiratory problems that do not fall under the asthma diagnosis, but that are similarly triggered by pollutants such as mold, dust and fungi.

Contractors need to offer IAQ products and services so that customers' concerns are individually addressed. As one contractor commented, "There are no catchalls." The customer's care, not the product in hand, needs to be the driver.

Specialist Fred Kobie is the owner of Kobie Cooling, Inc., Fort Myers, Fla. In addition to HVAC, the company has a division that offers IAQ diagnoses and solutions. This was an offshoot of Kobie's interest in the science of indoor air quality.

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As overall consumer awareness increases, IAQ products such as these ultraviolet lamps by Aprilaire continue to reach a greater share of the residential market.

## Shedding Light On Germicidal Ultraviolet

By B. Checket-Hanks  
Of *The News Staff*

**M**any contractors have been wary of recommending germicidal ultraviolet lamps in systems up to 5

tons. Many of the latest ultraviolet germicidal irradiation (UVGI) products seem to be aimed at this market, but some HVAC contractors seem to feel that it's safer to wait until somebody else starts doing more residential UVGI installations.

Robin Pharo is product manager for Apri-

laire's UV products, Madison, Wis. She agreed "absolutely" that some contractors are skeptical. This could be because "A lot of companies weren't straightforward about UV when it first came out, when it works and when it doesn't," she explained.

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## Customer Care

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IAQ products account for roughly 10 percent of sales for Kobie Kooling. The company's philosophy is to incorporate IAQ into every job. However, product recommendations are not taken lightly. "Our philosophy is to sell a complete air conditioning system including IAQ."

Kobie is a Certified Indoor Environmentalist (CIE) through the Indoor Air Quality Association (IAQA), Rockville, Md. He also has CIAQ Professional certification pending through the Association of Energy Engineers. At the time this article was completed, he was awaiting board approval (part of the association's certification process) for a certification number. These are not fluff tests, he stated. They measure a person's professional IAQ knowledge.

**"Our philosophy is to sell a complete air conditioning system - including IAQ."**

which must be added to regularly. IAQ is "ever-changing," Kobie states.

His role is not to treat asthma; he is quick to point out. "I'm not a doctor." However, "the air quality problems we see routinely can trigger asthma and other breathing problems."

Kobie recently built a new house for himself and has what he calls "IAQ experiments" going on in it. There are three separate heating cooling systems with filtration and ultraviolet (UV) add-ons and one ERV on the main system. As a result, "I couldn't measure or smell off gases (from the construction)," he said.

**"In spring and fall we send out tune-up fliers. We always include some sort of IAQ products."**

## How It's Handled

IAQ referrals are made when one of the company's typical HVAC techs sees what could be a potential IAQ problem (possible mold and/or wetness); he refers these cases to Kobie's IAQ division, which opens up an IAQ investigation at the customer's request.

"I don't let salespeople out for mold inspections," Kobie said. "My role is to investigate. My dignity doesn't have a price on it."

"It's too easy to scare somebody," he added. "I don't want people to lose confidence in this industry."

Contractors need to make sure they are using IAQ products that are appropriate for specific problems, he continued. Sometimes simple solutions are sufficient, sometimes as simple as a new, higher MERV-rated filter. Sometimes solutions are more complex, such as the photocatalytic system from Lennox that is said to break down VOCs and other chemical products that cause odors, Kobie explained.

Just make sure the recommendation is appropriate for the situation. UV lights, for instance, have been found to be better applied to shine on the indoor coil, not to try to clean the air stream, particularly in residential and light commercial applications; air stream use requires intense UV saturation. Electrostatic filters, Kobie continued, also serve a purpose, but they are not recommended for mold-sized particles.

"IAQ is a specialty, not a hobby," Kobie said. "I'd advise people not to get into it if they're not serious."

## Product Showroom

Kevin Multauf handles inside sales for Harker Heating and Cooling, Madison, Wis. The company built an entire building for the operation of demo systems. Multauf said five complete systems are installed, including radiant heating, six humidifiers, four air cleaners, and one air exchanger.

"It's the place to go when you want to kick a tire," he said.

The company performs commercial, residential, add-on, and new construction work. The new showroom, and the education customers receive because of it, has had a big impact on the bottom line. "Whenever we quote a replacement, seven out of 10 times people take the quote," said Multauf. "If we do 400 installs per year, maybe 300 have an IAQ product." The company carries Aprilaire lines.

The high numbers, he said, are probably due to two-fold progress. "You need a good foundation in sales skills," he said. "Get a feel for listening to people and meeting their needs. There also needs to be a paradigm shift" in the minds of servicers and installers, he said. "Most guys who go for a furnace replacement just replace the furnace."

"We have extremely cold winters, so there is a real need for humidifiers," he continued. Also, particulate blows from farms in this rural area, so there is a need for air cleaners.

As for mold, "You've got to be really careful what you say to customers," Multauf said. "You don't want to assume responsibility for the outcome," especially since mold problems may occur due to construction-related problems that fall outside the realm of the HVAC system, he said.

IAQ products can help even out the seasonal fluctuations contractors often contend with. Multauf agreed. "In spring and fall we send out tune-up fliers. We always include some sort of IAQ products. We moved more air conditioners and humidifiers last fall than we ever have." In addition, sales from January through April - sluggish months typically - were all up, he said. "They were our biggest months ever."

So what's the system? "I'm kind of an inside sales guy," Multauf explained. "I talk to consumers who call in and come into the showroom." He also does prequalifying for outside salesmen. "Our closure rate is up around 70 percent," he said.

"With this kind of setup, consumers can take their time. They don't feel the pressure. It's much easier to sell accessory items." Customers take their time and get what they want. More importantly, they get the products they need.

"There are a lot of contractor questions on the application," she said. Many contractors, for instance, wonder what types of applications would benefit from UV lights and where they should be placed for ideal performance.

### Residential Placement

The biggest questions from contractors are on placement, Pharo said. For instance, should UVGIs be installed in the return or supply?

For air stream coverage, the study "Defining the Effectiveness of UV Lamps Installed in Circulating Air Ductwork," from the Air-Conditioning & Refrigeration Technology Institute (ARTI), recommends placement in the return side, with six lamps for optimum effectiveness, Pharo pointed out.

Due to space and financial constraints, however, "Most homeowners won't have that

after only short periods in the sun. Her husband, on the other hand, has skin that needs a lot more exposure in order to burn.

According to the ARTI study, "vegetative bacteria were most susceptible to UVGI, bacteria and fungal spores being substantially more resistant."

Even with the smaller configuration at the indoor coil, space availability "is a concern," Pharo said. "Installation depends on system design. In most cases, one or two units can be placed for adequate coverage."

Pharo had UVGI installed in her home before Aprilaire's product was released for general sale. "We had to put one horizontal and one perpendicular," she said. No one has allergies per se in Pharo's household, but there are three dogs and three birds.

### Residential Usage

The installation of new coils is an ideal time to install UVGI lamps. It can also be recommended and installed ideally at coil cleaning time during seasonal preventive maintenance calls. "Clean the coils first, then install the UV lamp," Pharo said.

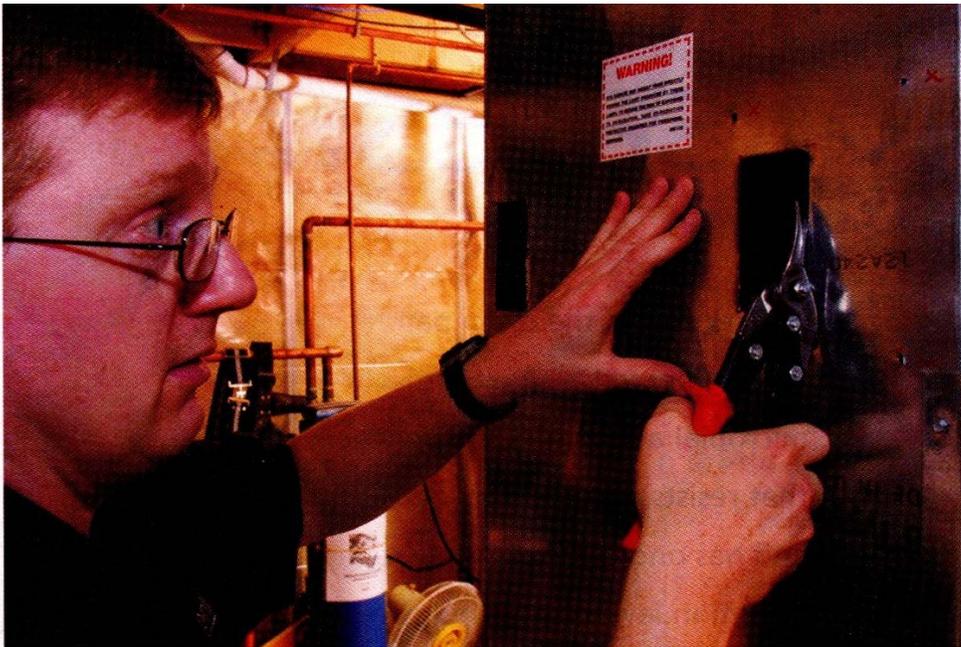
She offered one product caution: "Some heat pumps have an antimicrobial coating on the coils, this is not recommended for use with UV products."

Overall consumer awareness of IAQ products is high and getting higher, she concluded. Contractors may be concerned that consumers aren't aware of the validity of today's UVGI products for smaller applications, but, "This is why we also offer third-party recommendations," Pharo said.

It's also critical that anyone selling or recommending UVGI products not promise too much, especially regarding protection against bioterrorism.

In its report, ARTI calls UVGI "a low-pressure-drop, nonintrusive technology that has real potential." However, "ARTI recommends, as a result of this research, that test methods and guidance for performance claims regarding bioaerosol and bioterrorism agents be developed by an experienced and broadly based group of technical experts, users and manufacturers.

"Until rigorous and adequate tests have been developed and performed, claims regarding protection against aerosol bioterrorism agents are suspect." The institute said it will be working with the appropriate federal agencies "to encourage further the development of a complete empirical database of UVGI effectiveness."



Space is always a consideration when installing residential IAQ add-ons, such as UV lamps. Aprilaire recommends that installers determine a proper mounting location so that each lamp assembly is at least 3 inches away from the evaporator coil. Use the installation template to mark the location and cut a rectangular opening in the duct.

many lamps installed. So we recommend the concurrent installation of a really good filter, with the UV lamp placed over the indoor coil," Pharo said. "Air conditioning systems are great inventions, but the moist environment (at the coils) creates a microbial breeding ground."

Additionally, when UV lamps are shining directly on the coils, they are hitting a stationary target. When moving targets (VOCs and microbes) pass UV lights, the more sensitive microbes may be damaged, but the hardier ones will pass unharmed. Pharo compared this to her own fair skin, which burns even

"We recognize that it's not suited for all applications," she said. The company's UVGI is better suited for climates where air conditioning is run frequently, she indicated.

"When I run my air conditioning, the UV lamp prevents microbial growth on the coil," she stated. "It doesn't allow the opportunity for mold to grow, so my coils look as new as they did the day they were installed."



To continue the work preceding a successful UV lamp installation, make sure the unit base can be placed through the rectangular opening in the duct.

# UVC Emitters Help Out Down On The Farm

**M**aintaining a clean indoor environment - whether to satisfy HACCP (Hazard Analysis and Critical Control Point) guidelines and/or to optimize product shelf life - is a concern of every produce grower and packer. John B. Martin and Sons Farms, Inc. (Brockport, NY)

maintaining a clean indoor environment - whether to satisfy HACCP (Hazard Analysis and Critical Control Point) guidelines and/or to optimize product shelf life - is a concern of every produce grower and packer. John B. Martin and Sons Farms, Inc. (Brockport, NY) automatically as a result." Before arriving at this solution, Martin Farms was experiencing high mold and yeast counts based on weekly product sampling performed by Primus Labs as part of the company HACCP program. Yeast occurs naturally in the squash

**"We wanted to find a way to reduce mold counts in the room where we process butternut squash, but our facility did not lend itself to a true clean room environment."**

is no exception.

"We wanted to find a way to reduce mold counts in the room where we process butternut squash, but our facility did not lend itself to a true clean room environment," said Peter Martin, production manager for Martin Farms. "Instead, we have had excellent success using a surprisingly simple solution: We pressurized the space and installed ultraviolet-C (UVC) lights to function as an air-cleaning mechanism. Our mold counts have dropped dramatically, our air quality has improved, and our shelf life has increased dra-

itself but can multiply to undesirable levels if ambient conditions allows.

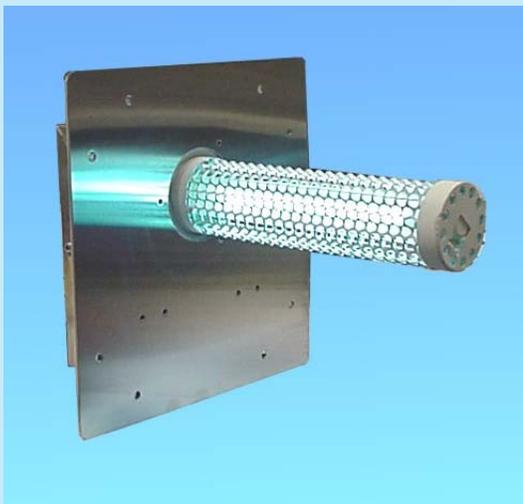
High mold and yeast counts from puree sample tests were confirmed when a technical consultant, FP Technologies, Inc. (North Tonawanda, NY), performed both air sampling and swipe (surface) sampling in the process area. Both types of samples showed very high counts of airborne and surface mold spores and yeast - about 20,000 - plus colony-forming units per cubic meter of air.

"We suspected the cause to be cross-contamination from the far end of the building,



where we produce raw cabbage product," said Martin.

Working with FP Technologies, Martin learned of a new generation of devices that use UVC energy to eradicate both surface and airborne mold and bacterial contamination. The UVC wavelength targets the DNA of microorganisms, causing cell death or making replication impossible. The new-generation devices are designed to produce optimum energy output in environments with cold and moving air, making them ideally suited for food and beverage processing lines, cold storage areas, air conditioning systems and similar applications.



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