

# NASA air purifying technology to prevent spoilage of fresh produce in India

Being one of the largest importers of Indian produce, the UAE stands to benefit as well

NASA's air purifying technology, Airocide, was recently showcased at Post Harvest 2008, the third international summit on logistics, storage, packaging and marketing of fresh produce in Bangalore, India. The event brought together, technology experts, equipment suppliers, service providers to discuss important issues related to the grading, sorting, cold storage and logistics, ripening, preservation, packaging and quality control of fresh produce.

The Airocide technology was well-received by all the players in the supply chain, right from the growers of fresh produce to the buyers and those involved in storage, transportation and distribution, said Tareque Pirzada, President (International Business) of Akida Holdings, the company responsible for marketing the technology worldwide.

The ministry of agriculture, under the aegis of Sharad Pawar, the minister of agriculture, consumer affairs, food and public distribution, was very interested in deploying the product to arrest the spoilage and has asked Akida Holdings to demonstrate the efficacy of the product.

## Economic Loss

India is one of the world's largest producers of food-grains, fruits and vegetables. However, around forty percent of the fresh produce is lost to spoilage which is a substantial economic loss to the nation.

"The Airocide technology has the potential to reduce produce and perishables shrink which not only adds money to the bottom line of the food industry but also

helps reduce waste. This way more food can be put on the table and the pricing of food can be controlled with the savings being passed on to the consumer. Food safety and security are added bonuses to this industry that is seeing an increased awareness of food safety in India," said Pirzada.

Being one of the largest importers of Indian fruits and vegetables, the UAE is subjected to problems arising from the molds that grow on Indian vegetables, especially on onions. "Once the onions are offloaded, the mold spores escape in the air and re-settle on other fruits and vegetables, causing spoilage and contamination."

The high humidity level and the high temperatures in the UAE are very conducive for bacterial growth. Pirzada said that the implementation of the Airocide technology in storage facilities, transportation vehicles, refrigerated coolers, loading and unloading areas, food processing units, supermarkets etc can help produce growers, wholesalers and distributors to slow down deterioration and extend the shelf life of fruits, vegetables and other perishable foods. "The technology is the only air purifying technology that completely destroys airborne bacteria, mold, fungi, mycotoxins, viruses, volatile organic compounds (VOC's) and odors in any environment."

## Benefits of technology

Citing a case study conducted by the US-based food production and distribution company Del Monte, Pirzada said that the presence of ethylene gas was brought



*Globalizing Airocide technology: Tareque Pirzada President (International Business) of Akida Holdings*



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down by 99.8 percent within 66 hours by deploying the Airocide technology in the storage areas, after which the level was constantly maintained. The US army was also able to verify that fruits like bananas could keep for 35 days by deploying this technology following complaints of spoilage from soldiers.

"The Airocide technology which

was recently introduced in the UAE has met with a lot of success," said Pirzada, adding that, "clients are in the final stages of testing and that the implementation process in supermarket chains would begin soon."

The Airocide technology is a photocatalytic oxidation technology that removes ethylene gas, a natural gas that triggers the ripening process in food that leads to spoilage. In combination with the usage of ultraviolet light, the photocatalytic oxidation (PCO) technology can destroy harmful airborne microbes and pathogens as well.

KES Science & Technology was chosen by NASA to develop the new photocatalytic oxidation technology to the food industry because of its long history with the supermarket industry. KES' affiliate company, KesAir Technologies, now has sole licensing rights and full marketing responsibility for the Airocide technology. Airocide is a trademark product of US-based KesAir Technologies LLC with global distribution rights given to Akida Holdings.