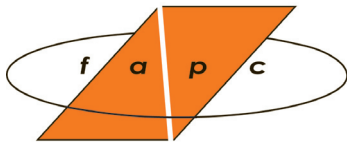


# Food & Agricultural Products Center



# FLASH!!



April 23, 2007

## FAPC Engineer Develops Small-scale Jerky Dehydrator

STILLWATER, Okla. – An engineer at the Food & Agricultural Products Center on the campus of Oklahoma State University has developed a jerky dehydrator specially tailored for the needs of smaller meat processing operations.

Nearing completion is a comprehensive construction and operation manual for an inexpensive, reliable and simple dehydrator that processors can construct themselves, said Tim Bowser, FAPC food process engineer.

“We are currently working to finish the construction and operations manual for the dryer,” Bowser said. “The manual will eventually be available for downloading from the FAPC Web site free of cost or as a CD that can be purchased for a small handling fee. The dehydrator is constructed of materials that are readily available from home improvement and mail-order stores.”

Commercially available dryers are often too large or too expensive to be a viable option for small processors. Their only alternative is to build their own dryer, and these homemade dryers can be unorthodox, difficult to clean and maintain and are more likely than commercial dryers to produce unsafe food products, Bowser said.

“The dryer we developed at the FAPC is built from off-the-shelf components that are reliable, inexpensive and simple,” Bowser said. “Anyone with some com-



mercial building skills can fabricate the dryer. The complete system has been tested to ensure safe food products.”

The approximate cost for the parts required to build the dehydrator is about \$8,500. The dryer is a walk-in unit that accommodates six mobile drying racks. Each rack holds 20 perforated trays that collectively can be loaded with up to 300-pounds of raw product, depending on product thickness and how it is arranged on the drying trays.

All equipment and ductwork are fully accessible for inspection and cleaning. To ensure food safety, the dryer uses a small steam generator and a water mister to increase humidity to around 140-145 degrees Fahrenheit (wet-bulb temperature) during the micro-biological kill step.

“This development is important for meat processors in Oklahoma because here is a novel concept in meat processing that has been tested and validated and, perhaps, offers processors an easier opportunity to enter the jerky market,” said Jake Nelson, FAPC value-added meat processing specialist. “The USDA’s actions regarding jerky manufacturing have dramatically changed, and this system can help processors meet the processing criteria in the current compliance guidelines.”

A prototype has been installed and tested in the FAPC food engineering laboratory. The exterior of the dehydrator has been left unfinished to reveal construction

details. An appointment can be made to view the jerky dryer by calling 405-744-6071.

Funding for this project came from the 2005 U.S. Department of Agriculture Food Safety and Inspection Service Cooperative Agreement program.

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