K-STATE RESEARCH AND EXTENSION

Kansas State University

FOCUS ON PROCESSED AGRICULTURAL PRODUCTS

VOLUME 11 ISSUE 2

AUGUST 2000

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Special Points of Interest:

Plan to attend the Better Process Control School October 3-6, 2000 Lincoln, Nebraska

Dr. Fadi Aramouni and his staff are in Call Hall (785) 532-1668

Better Process Control School

The Better Process Control School will be held October 3-6 2000, in Lincoln, Nebraska. The purpose of the school is to provide certification for supervisors of thermal food processing operations, acidified food processing operations, and food container closure operations. Each processor of low-acid or acidified foods is required to operate with a certified supervisor on hand at all times during processing.

The Better Process Control School is co-sponsored by the University of Nebraska Food Processing Center and Kansas State University. The school is approved by the FDA and follows the prescribed course of instruction for certification. The four day course will include: operations of retorts, processing systems, aseptic processing and packaging systems, and container closure inspection.

Examinations will be given for each section and are standardized by the Food Processors Institute with the approval of the FDA who specify 70% as a passing score.

Various faculty members from the University of Nebraska, Kansas State University and industry experts will conduct the BPCS.

For a brochure, please contact Tom B. Lindquist at 785-532-1667. For more information, including fees,* registration and schedule, please call the University of Nebraska at (402) 472-9751.

*Fee: $375 per person
($425 after September 15.)

Thermal Processing Lab Available

The Thermal Processing Laboratory, located on the Kansas State University campus, is essentially a pilot plant for food processors. The facility is available to clients for test-market and batch production. The fees are based on the amount of help that a processor provides.

Supervision and training are provided by Yangsoo Kim, Ph.D., K-State Research Associate, manager of the Thermal Processing Laboratory and Tom B. Lindquist, M.S., K-State Extension Associate, manager of the Kansas Value-Added Foods Lab. Both individuals completed the Better Process Control School last fall in Lincoln, Nebraska, and are certified supervisors of thermal food processing.

In the past, the following amounts have been made in an 8 hour day: 1,000 (12 fl. oz.) bottles of salad dressing, 2,400 pints of salsa (300 gal.), 40 bushels of apples into applesauce, and 300 pounds of mashed sweet potatoes. The client is responsible for making all arrangements for the containers, ingredients, labels, shipping, etc.

For more information on the Thermal Processing Laboratory or to make arrangements to utilize the facilities, please call Tom B. Lindquist at 785-532-1667.

Short Course Successful

The Food Processor's Short Course was held May 15 -16, 2000, at Kansas State University. Two separate conferences were held back to back and the first day was "HACCP (Hazard Analysis Critical Control Point) and Food Safety Help for Small Meat and Food Processing Operations." This workshop reviewed the basics of sanitation and good manufacturing practices with special emphasis on procedures and monitoring for pathogens. Day 1 was attended by **22** individuals representing **14** separate companies in Kansas and **6** presenters.

Day 2 sessions included product development and marketing. This session was attended by **38** individuals representing **23** separate companies in Kansas and **10** presenters. Both sessions were designed to allow interaction between presenters, participants, and especially entrepreneurs and young companies.

It was an enjoyable two days, and we look forward to putting on a similar event next year. We have had several calls from individuals that attended the short course and who mentioned that the conference "jump-started" their businesses into improving their products, sanitation methods, marketing, etc.

Suggestions Please

If you have suggestions to improve the FOCUS Newsletter, or ideas for articles, please call: (785) 532-1667.

Chemical Preservatives

One of the most important functions of chemical additives is in the preservation of foods. Chemical preservatives help provide foods to the consumer with "fresh" flavor and appearance and with increased resistance to the growth of microorganisms. It has been estimated that one-fifth of the world's food supply is lost by spoilage; thus, extending the importance of chemical additives to the shelf-life of foods.

Preservatives may be classified into four types: anti-microbials and antibiotics, which control the growth of microorganisms; and antioxidants and sequestrants which help preserve flavor and color. Preservatives cannot improve poor quality foods, they only arrest the deterioration of good quality foods and are not a substitute for good sanitation and manufacturing practices.

Antimicrobials are added to prevent or retard the growth of yeast, molds and bacteria during storage, distribution and use in the home. These organisms are a common source of food spoilage and some are a potential danger to health if they grow in the food in large numbers.

Common antimicrobial agents used in foods are: Benzoic acid and sodium benzoate, methyl and propyl p-hydroxbenzoates (Parabens), sorbates - sorbic acid and potassium sorbate, propionates - sodium propionate and calcium propionate, sulfites, sulfur dioxide and nitrites.

Antibiotics are much more potent than other chemical preservatives. Although they are used in other countries, there is a concern that their use can create strains of resistant toxic organisms. In the past, antibiotics were used in this country to help inhibit bacterial decomposition in uncooked poultry and seafood and extend shelf-life. However, they are now prohibited by the FDA for being used as a substitute for good manufacturing practices. Another reason for the ban is that, although certain antibiotics are heat labile, a residue may remain in treated foods after cooking.

Antioxidants are used as additives to prevent two other types of food spoilage - the development of off-flavors from the oxidation of fats and the deterioration of flavor and color. They prevent the oxidative destruction of many of the vitamins and essential fatty acids in foods.

Antioxidants are extremely important to the food manufacturer for the purpose of extending the overall freshness and shelf-life of many products. Antioxidants will not enhance the quality of a deteriorated product, but will only aid in retarding deterioration. Common antioxidants used in this country include BHA, BHT, and PG.

The antioxidants BHA and BHT are widely used in fat-containing foods other than meats.

Sequestering agents, also known as chelating agents, have the ability to bind to unwanted trace metals that occur naturally in all food products and processing water. Sequestering agents are able to inactivate trace metals found in foods which may produce off-colors, such as the surface darkening of yams and cauliflower (iron). Common sequestrants used in food include: EDTA, lecithin, citric acid and citrates, phosphoric acid and phosphates, and tartaric acid.

From: A Complete Course In Canning - And Related Processes. Thirteenth Edition, Book II, Microbiology, Packaging, HACCP & Ingredients. Revised and Enlarged by Donald L. Downing, PH.D., Cornell University,1996

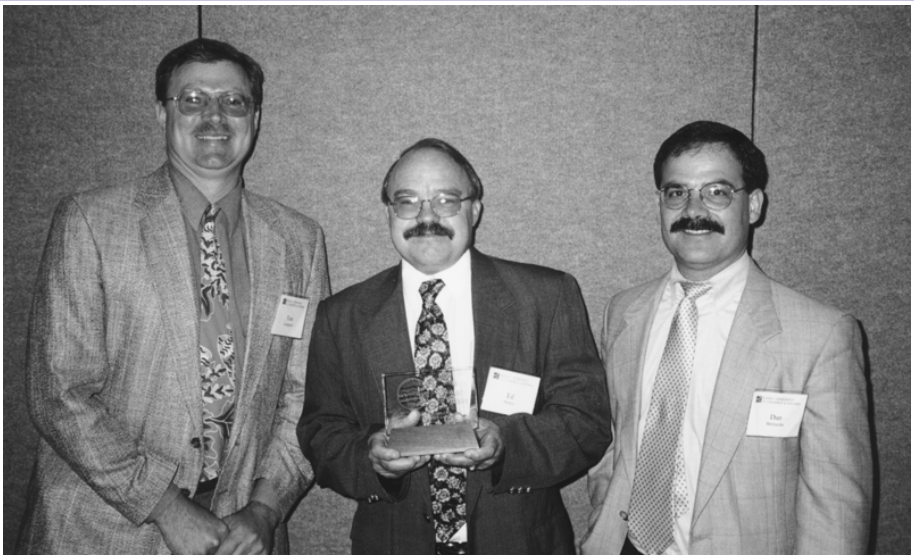
Twin Valley Receives Award

Twin Valley Developmental Services, Greenleaf, was chosen as the "Merit Award Recipient-Manufacturing Category" during the Kansas Business Appreciation Awards Program, June 15, 2000, at the Kansas State University Student Union. The awards program, sponsored by the Kansas Department of Commerce & Housing Business Development Division, was co-hosted by the Kansas Cavalry and the Manhattan Chamber of Commerce.

Ed Henry, C.E.O. of Twin Valley Developmental Services, was presented the award by Lieutenant Governor, Gary Sherrer. The company was nominated by the Kansas State University Research & Extension Value-Added Program, where Twin Valley is a food processing client.

Twin Valley produces popcorn products under of the labels of Twin Valley and Big Top Popcorn and has been in operation since 1976. The company employs 84 people, while providing services for citizens with developmental disabilities. Over the last ten years, Twin Valley has expanded by 12,000 square feet and invested $300,000.

According to Tom B. Lindquist, Manager of the KSU / Kansas Value-Added Foods Laboratory in Manhattan, "It's a pleasure working with Ed Henry and the Twin Valley Developmental Services company. The company has great food products available in grocery stores throughout Kansas, and they provide an invaluable service as a training facility for those with developmental disabilities."



Pictured left to right: Tom B. Lindquist, KSU/Kansas Value-Added Foods Laboratory Manager; Ed Henry, C.E.O. of Twin Valley Developmental Services, recipient of the "Merit Award -Manufacturing Category," sponsored by the Kansas Department of Commerce & Housing Business Development Division; and Dr. Daniel Bernardo, Department Head, Agricultural Economics, Kansas State University.

Reference Guide Update

The "Reference Guide for Kansas Food Processors" is being updated at this time. This 3-ring notebook is the result of a joint effort between the Kansas Department of Commerce & Housing and K-State Research and Extension. The information provides a fingertip reference that will help answer the day-to-day questions encountered by food processors. If you would like to have your company listed as a supplier of ingredients or equipment, call the Kansas Value-Added Foods Lab at 785-532-1667. Help us to help you promote your Kansas business.

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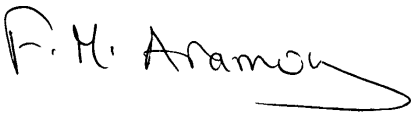

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