



# Consumer Focus

► by the *Food Safety Consortium*

## Ensuring a safe food supply

*In its report for the 2005-2006 fiscal year, the Food Safety Consortium (FSC) summarized the multiple research projects across three cooperating universities that are demonstrating the progress made to ensure American producers, processors and consumers provide a safe food supply.*

### Consortium summarizes work

The FSC is a federally-funded alliance of food safety researchers at the University of Arkansas (UA), Iowa State University (ISU) and Kansas State University (K-State). It supervises numerous research projects in different academic departments at each university that examine specific animal product food safety problems. The three universities' research covers different areas of meats: UA emphasizes poultry research, ISU concentrates on pork research, and K-State works with beef.

"Foodborne illnesses due to meat and poultry foods are decreasing, according to Centers for Disease Control statistics," explains Michael Johnson, UA food science professor who recently completed several

years of service as the FSC's faculty program director. "We in the academic arena, partnering with food processors, distributors and retailers, will continue to work on further improving the safety of our food supply."

Research personnel from the three universities presented summaries of their work at a symposium and annual meeting in October 2006 hosted by UA that also included guest speakers from other universities and the industry discussing current issues in food safety.

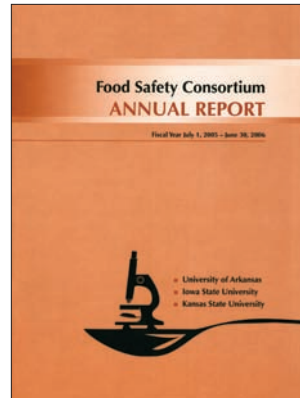
Arkansas' research projects covered a wide span of work, which Johnson summarized as illustrating three general truths.

"Pathogenic bacteria can be killed and controlled," Johnson said. "However, if the physical and chemical methods of destruction are inadequate to kill all the cells, the surviving bacterial pathogens have

evolved several mechanisms by which they can persist in both the pre- and postharvest arenas. The need for good detection methods for pathogens to confirm adequate destruction and control will remain with us as long as these pathogens persist in our biosphere."

Detection methods being researched at

Arkansas include development of an immunosensor to rapidly detect *Listeria monocytogenes* in poultry. Yanbin Li, a poultry science research investigator, is pursuing that project, which is reducing the time it takes to find small levels of pathogens on poultry carcasses.



## Beef Steaks with Tangy Corn Relish

### Ingredients:

4 boneless beef chuck top blade steaks, cut ½ inch thick (about 1 lb.)

¼ tsp. garlic salt

### Corn Relish:

1 tsp. vegetable oil

½ red or green bell pepper, cut into ½-in. pieces

1 can (8¾ oz.) corn, undrained

1 Tbs. distilled white vinegar

⅛ tsp. ground red pepper

¼ cup sliced green onions

### Instructions:

Heat oil in large nonstick skillet over medium heat until hot. Add bell pepper; cook and stir 3 minutes. Stir in corn, vinegar and ground red pepper; cook 2-3 minutes. Remove.

Heat same skillet over medium-high heat until hot. Place beef steaks in skillet; cook 3-5 minutes for medium rare to medium doneness, turning once. Remove; season with garlic salt.

Return corn relish to skillet. Add green onions; heat through. Serve with steaks.

Makes 4 servings.

*Nutrition information per serving: 229 cal.; 10 g fat (3 g saturated fat; 5 g monounsaturated fat); 51 mg cholesterol; 253 mg sodium; 11 g carbohydrate; 1.6 g fiber; 24 g protein; 4.0 mg niacin; 0.4 mg vitamin B<sub>6</sub>; 3.0 mcg vitamin B<sub>12</sub>; 2.7 mg iron; 17.4 mcg selenium; 7.9 mg zinc.*

## Beef Pot Roast with Maple Sweet Potatoes and Cider Gravy

### Ingredients:

1 boneless beef chuck shoulder pot roast (3-3½ lb.)

2 tsp. olive oil

1¾ tsp. salt, divided

¾ tsp. pepper, divided

1 cup chopped onion

2 tsp. chopped fresh thyme

1 cup ready-to-serve beef broth

¾ cup apple cider

3 lb. sweet potatoes, peeled, cut crosswise into 1-1½-in. pieces

4 cloves garlic, peeled

2 Tbs. maple syrup

1 tsp. minced fresh ginger

2 Tbs. cornstarch dissolved in 2 Tbs. brandy or water

ISU also supported several research projects for the FSC. “The research projects encompassed many aspects of food safety as it is currently viewed, from the farm to the consumer,” said Jim Dickson, an ISU animal science professor and FSC program director.

One example cited by Dickson was work by Qijing Zhang examining *Campylobacter*'s resistance to antimicrobials in swine. Dickson said Zhang's findings plus ongoing studies “reveal new information on the epidemiology of antibiotic-resistant *Campylobacter* in swine, which will be useful for reducing the occurrence and transmission of antibiotic-resistant foodborne pathogens.”

Curtis Kastner, K-State FSC program director and director of the K-State Food Science Institute, said his university's mission continues to focus on detection and elimination of microbial hazards that contaminate food.

“That research has also most recently resulted in significant information and technology transfer relative to risk assessment, economic policy and trade information, and has laid the foundation

for reaping additional insights in those areas,” Kastner said. “Furthermore, our food safety work has prepared us to address food security issues that may be the result of bioterrorism and/or natural disasters.” Kastner emphasized the FSC's current work in food defense research with the National Agricultural Biosecurity Center at K-State.

During the October symposium in Fayetteville, Ark., the FSC also hosted several outside speakers who reviewed emerging issues in food safety that will likely become areas of future research interest. Topics covered included consumer attitudes, retail issues, legal regulations and defense against bioterrorism.

During the conference, Joan Menke-Schaenzer, Wal-Mart Stores vice president for food safety and security, recounted Wal-Mart's rapid response to remove fresh and frozen packaged spinach from store shelves shortly after several states reported an outbreak of *E. coli* foodborne illnesses from fresh spinach.

Jenna Anding of the Texas Cooperative Extension service told the conference her

agency is training restaurant personnel across the state to become certified food managers so their establishments can better guard against risk factors that lead to food safety problems.

Doug Powell, an FSC researcher at K-State who is scientific director of the Food Safety Network web site, emphasized that food safety communication depends upon institutions providing rapid, relevant, reliable and repeated information. “It's about advancing the culture of safe food, from farm to fork,” Powell said.



**Editor's Note:** This column is adapted from a press release provided by the FSC. A full report is available online at [www.uark.edu/depts/fsc/anrprt.pdf](http://www.uark.edu/depts/fsc/anrprt.pdf). The “Consumer Focus” column features insights into consumer demand by addressing retail and restaurant trends, food science issues, and what consumers want, need and expect from the beef products they purchase. Beef nutrition, new products, food safety issues and more will be addressed in this monthly column.

#### **Instructions:**

Heat oil in stockpot over medium heat until hot. Place beef pot roast in stockpot; brown evenly. Remove pot roast; pour off drippings and season with 1 tsp. salt and ½ tsp. pepper.

Add onion and thyme to stockpot; cook and stir 3-5 min. or until onion is tender. Add broth and cider; increase heat to medium-high. Cook and stir 1-2 min. or until browned bits attached to stockpot are dissolved. Return pot roast to stockpot; bring to a boil. Reduce heat; cover tightly and simmer 2½ hrs.

Add sweet potatoes and garlic to stockpot; continue simmering, covered, 30 min. or until sweet potatoes and pot roast are fork-tender.

Remove pot roast; keep warm. Remove sweet potatoes and garlic with slotted spoon to large bowl, leaving cooking liquid in stockpot.

Add maple syrup, ginger, remaining ¾ tsp. salt and ¼ tsp. pepper to sweet potatoes. Beat until sweet potatoes and garlic are mashed and smooth; keep warm.

Skim fat from cooking liquid; stir in cornstarch mixture. Bring to a boil, stirring constantly. Cook and stir 1 min. or until thickened.

Carve pot roast into slices; serve with mashed sweet potatoes and gravy.

Nutrition information per serving: 342 cal.; 7 g fat (2 g saturated fat; 4 g monounsaturated fat); 60 mg cholesterol; 511 mg sodium; 42 g carbohydrate; 5.3 g fiber; 26 g protein; 5.2 mg niacin; 0.7 mg vitamin B<sub>6</sub>; 2.6 mcg vitamin B<sub>12</sub>; 3.9 mg iron; 26.2 mcg selenium; 6.2 mg zinc.

#### **Cook's tips:**

Sweet potatoes may also be mashed using a food processor.

Fresh apple cider is sold filtered and unfiltered. Filtered cider looks clear and is lighter in color than unfiltered cider, which is deep brown and cloudy due to apple pulp particles. Unlike apple juice, fresh cider is perishable and must be refrigerated before opening. Always purchase pasteurized cider.

To easily skim fat from cooking liquids, use a fat or gravy separator. The spout on this special pitcher is positioned at the bottom so as fat rises to the surface the liquid below can be poured off separately.

Recipes courtesy of the National Cattlemen's Beef Association (NCBA) on behalf of the beef checkoff. For these and other tasty beef recipes, visit [www.beefitswhatsfordinner.com](http://www.beefitswhatsfordinner.com).