

## Pilot Plant HACCP

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### HACCP Training and Implementation Assistance for the Kansas Meat and Poultry Industry

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To facilitate the implementation of the USDA Pathogen Reduction/HACCP rule, Kansas State University (KSU) has worked cooperatively with the Kansas Department of Agriculture (KDA) and the Kansas Department of Commerce and Housing (KDCH) to provide educational, training, and implementation assistance to Kansas meat and poultry processors of small and very small plants. Basic HACCP training has been accredited by the International HACCP Alliance. Funding from KDCH offsets 50 percent of HACCP training workshop registration fees for Kansas meat and poultry processors. These workshops, developed and offered through KSU, are taught by KSU faculty and staff, faculty from cooperating universities, and Kansas Meat and Poultry Inspection personnel. Using this format, meat and poultry processors and state inspection personnel receive training together. In addition, KDA funded an Extension Associate at KSU to provide hands-on assistance with HACCP plan development and implementation to state meat and poultry processors, and serve as a liaison between processors and the state meat inspection program. To date, representatives from 109 state and federally inspected Kansas meat and poultry plants and distributors have attended HACCP and HACCP related programs. A total of 370 people, not including over 50 Kansas Meat and Poultry Inspection personnel, have participated in these programs. In addition, over 200 hours of one-on-one HACCP technical assistance has been provided to approximately 20 establishments. The KSU Meat Laboratory is developing HACCP plans to be implemented Fall 1999.

Through a USDA Fund for Rural America project, a series of independent modules are being created to assist with the educational needs of HACCP implementation. An innovative distance learning Principles of HACCP course incorporating videos, a training manual, audio lectures, chat room, and on-line study questions is being developed to assist with training requirements.

### Implementation of HACCP Plans for South Carolina's Very Small Meat Processors

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The South Carolina Association of Meat Processors (SCAMP), Meat-Poultry Inspection Service of SC (SCMPID), Animal and Veterinary Science Dept, and Food Science, and Nutrition Dept met to resolve the concerns of HACCP implementation in very small meat processing plants in SC by January 25, 2000.

**Phase I.** Meetings by different industry representatives were held to answer any questions that very small meat processing plants may have, and to acquaint them with the projected plans for implementation. Surveys were performed to determine the best time and place to have HACCP training schools. Eight schools were needed to cover the 115 very small plants in South Carolina, and the SC State Meat Lay Inspectors were also in attendance.

**Phase II.** HACCP schools were three days long at a cost of \$50.00/person. A Federal Grant covered the cost of the manuals. Valuable information about HACCP implementation was learned from the discussions in the breakout groups.

**Phase III.** SCAMP, SCMPID, and Clemson University Meat Laboratory Manager developed generic HACCP plans for implementation in SC plants. Two-day workshops were scheduled to develop the five generic HACCP plans. The five plans needed to cover most of the concerns in the very small plants in SC include (1) raw ground pork, (2) Pork Slaughter, (3) Fully Cooked, (4) Raw not ground, and (5) Beef Slaughter. The purpose of these plans is to give the very small plants all of the information needed to generate the correct HACCP plans specific for their plant.

**Phase IV.** Clemson University Extension Service will assist plants in developing and implementing their new HACCP plans. Several pilot plants will be established throughout the state to demonstrate the HACCP Plans. The Clemson University Meat Laboratory will be one of these pilot plants.

## **Novel Training of Very Small Meat Processors in the Development and Implementation of the HACCP System Concept**

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The purpose of this training program was to use novel methods of training to introduce the HACCP system concept to very small meat processors. Objectives of the program are to provide an educational experience smaller processors which would enable them to design appropriate systems using the University of Kentucky Meat Laboratory as a model for flow diagram development, hazard analysis, and critical control point determination. It has been our experience in the past when working with smaller processors that increased hands-on activities improves concept retention. This program was initiated with preliminary training focusing on prerequisite programs (GMPs and SSOPs) necessary for the development of a sound and functional HACCP program. The initial phase of the program included general food safety training, potential hazards, management involvement and commitment, and the team approach concept. Participants then were divided into product groups and with the aid of facilitators developed flow diagrams by actually walking through the process in the laboratory. In addition, potential hazards were identified during this phase and then significant hazards determined once group meetings were resumed in the classroom. Model programs were then completed with the addition of critical limits, monitoring, corrective actions, record keeping, and verification principles. Processors were allowed access to UK laboratory programs as small scale models. Currently, approximately one-half of the very small processors are underway in developing their programs and the rest will begin with a six month implementation and time frame. We expect this program to be successful in allowing those plants with limited resources and knowledge bases to succeed in HACCP implementation.

## **HACCP Training at Michigan State University**

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The purpose of the HACCP training program at Michigan State University is to assist meat and poultry processors in Michigan and within the Great Lakes Region in developing and implementing their plant's HACCP plan. The objectives of our pilot plant HACCP training program are to increase meat and poultry processors knowledge and understanding of HACCP concepts and principles in order to successfully develop and implement their HACCP plans. Our efforts focus on risk assessment, identification of critical control points, and intervention strategies. We are accomplishing our objectives through development of HACCP specific training, use of mobile training teams to make on-site plant visits, and development of strategic alliances with state meat associations, universities, state, and federal agencies within the Great Lakes region. Due to the recent completion of our state of the art meat laboratory facilities we have only completed our sanitation standard operating procedures (SSOPs) and are currently working on our good manufacturing practices (GMPs). Preliminary work has begun on development of product flow charts. We anticipate being on-line with our HACCP program prior to the January 2000 implementation date for very small meat and poultry processors. We have conducted several basic HACCP shortcourses jointly sponsored by the Michigan Meat Association, American Association of Meat Processors, USDA, and Food Processors Institute. Additional shortcourses have been conducted on sanitation SOPs and GMPs. Recently, we conducted two workshops that focused on what the inspectors were looking for on the first day of HACCP implementation by reviewing the HACCP checklist (FSIS directive 5000.1). Conducting these training programs benefit our meat and poultry processors within the state of Michigan and the Great Lakes region. We anticipate our efforts to enhance the success of small and very small meat processors in implementing, developing, and sustaining their respective HACCP programs.

## **Pilot Plant HACCP Plan Development and Utilization at Texas A&M University**

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The Rosenthal Meat Science and Technology Center (RMSTC) HACCP Team, consisting of 15 faculty, graduate students, and staff members, has been developing the HACCP plans for RMSTC since the fall of 1998. Through the center's HACCP plan development process, team members have become acutely aware of the issues and problems facing very small meat processors as the year 2000 HACCP implementation date draws near. Furthermore, through the RMSTC HACCP team's discussions of how to effectively carry out the action steps involved with the HACCP plan, innovative solutions to problems dealing with items such as standard operating procedures, critical control points, recordkeeping, and verification have been achieved. Thus, the intent for RMSTC's final HACCP plans are not only to meet the implementation HACCP requirements for the RMSTC facility, but to also assist small and very small processors in Texas develop and implement their HACCP Systems. With an allocation of funds to the RMSTC HACCP team, a variety of recordkeeping and monitoring devices are being purchased and evaluated to find the most efficient and cost effective methods to monitor and verify RMSTC's HACCP program. By testing a variety of time and temperature recording devices, the RMSTC HACCP team will be able to assist small processors with obtaining the most cost effective equipment. Copies of the RMSTC's HACCP plans (along with standard operating procedures and good manufacturing practices) for 11 process categories will be disseminated to Texas meat industry representatives via the Internet on Texas A&M University's Meat Science Section web site (<http://meat.tamu.edu>) and by Texas A&M University meat scientists at subsequent conventions and association meetings. The Rosenthal Meat Science and Technology Center will also serve as a hands-on teaching center for industry and state inspectors to help make the transition to HACCP as smooth as possible.

## **HACCP Training at Colorado State University**

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Since 1992, the faculty in the Center for Red Meat Safety in the Department of Animal Sciences at Colorado State University have participated in teaching more than 50 short courses on HACCP for the meat industry. These courses were sponsored by Colorado State University, the Colorado Association of Meat Processors, the American Association of Meat Processors, the National Meat Association, the American Meat Institute, the National Association of Meat Processors, the American Meat Science Association, the American Sheep Industry Association, Monfort, IDEXX, McDonalds, Keystone, Golden State, OSI, Caravelle Foods, IBP, Bryan Foods, Sara Lee, MOPAC and others.

The first materials for HACCP were developed by Larry Holcomb, John Sofos and others in 1993 entitled, "Food Safety Assurance In Small and Medium Sized Meat Plants With Hazard Analysis and Critical Control Points." Subsequently, additional written materials were developed for a series of courses taught for the Mc Donalds Beef Team to all of the beef slaughterers that supplied trimmings to the grinders who manufactured ground beef patties for McDonalds. These materials were modified to fit the needs of each course and were further modified as the USDA/FSIS developed their program after the Pathogen Reduction; Hazard Analysis and Critical Control Point Systems Final Rule was passed and began to be implemented. John Sofos teaches a 3-credit course (AN 567) titled Meat Safety, HACCP and TQM.

In 1993, Colorado State University purchased a USDA/FSIS inspected, privately owned, 4,000 sq. ft. meat processing plant and remodeled it for use by the University. This facility is 5 miles from the campus and is utilized approximately 2 days per week to slaughter and process cattle, pigs, and sheep. A HACCP plan has been developed for this facility and is available for review by any plant operator.