An Orientation to the Hazardous Occupations Safety Training for Agriculture (HOSTA) Program

~ formally named Youth Farm Safety Education and Certification (YFSEC) Program~

I. Program History

The program began as a response to the need for resources to inform and support the Youth Farm Safety Education and Certification Regulation (sections 70, 71, and 72 of 29 CFR Part 570), administered by the U.S. Department of Labor, Wage and Hour Division, that addresses the Fair Labor Standards Act as it relates to the employment of youth below the age of 16 in agriculture, except where the employer acts as or in place of the employee's parent.

This regulation names 11 classes of agricultural tasks particularly hazardous to employees younger than 16. The regulation applies the term Hazardous Order (HO) to each class. The term Hazardous Occupation Order for Agriculture describes all eleven HO's. The HO's broadly summarized include:

HO 1:	Tractors > 20 PTO hp	HO 7:	Driving vehicles with passengers
HO 2:	Agricultural Machines	HO 8:	Confining Storage Spaces
HO 3:	Earthworks Machines; Power Saws	HO 9:	Pesticides Handling or Applying
HO 4:	Occupied Animal Enclosures	HO 10:	Blasting Materials Handling
HO 5:	Timber with Diameters > 6 in.	HO 11:	Anhydrous Ammonia Handling
HO 6:	Ladder or Scaffold > 20 ft.		

The regulation exempts employees younger than 16 from HO's one and two when they gain certification using one of three methods (1) Vocational education, (2) Federal Extension Service (which includes self-study and 4-H), and (3) Vocational agricultural training. The employer, then, keeps a copy of the youth employee's certificate with the employee's labor records.

The USDA program is authorized under the Smith-Lever Act of May 8, 1914, as amended, (7 U.S.C. 341 et seq.) with funding provided under Section 3(d) of the Smith-Lever Act (7 U.S.C. 343(d)) line item for Youth Farm Safety Education and Certification in the fiscal year (FY) 2001 and 2002 Appropriations Acts.

Since the early 1970's when the DOL implemented the Hazardous Occupation Order for Agriculture significant changes in agricultural production and in the agricultural workforce have occurred. The U. S. Department of Agriculture, working with the Department of Labor, recognizes the unique position land-grant universities share in having the ability to address the immediate information and resource needs associated with the HO's and hazardous operations on farms.

II. Program Goals

These information and resource needs fall into three broad program goals:

(1) Support Current Standards - Support existing HO's by updating and assessing curricula, testing, procedures, and certification means. Determine resources required to maintain a national certification program.

(2) Conduct Studies to Support Policy and Program Development – Conduct research into the effectiveness of current HO's and into the health, labor, and economic impacts of altering current HO's. Study employment trends in employment of youth and skills needed in agriculture that will impact the education and certification needs of these youth.

(3) Develop Programs for Special Needs – Identify and develop educational program needs to mitigate agricultural hazards to young workers regardless of knowledge, experience, ability, ethnicity, or culture.

III. Funded Projects

During the program's inaugural year in FY 2001, the Request for Applications solicited proposals within the first category with an emphasis on eliminating regional differences in certification curricula and testing procedures.

CSREES awarded one four-year grant to Pennsylvania State University (PSU), "Establishing a National Safe Tractor and Machinery Operation Certification Program" - Jim Hilton, Dennis Murphy, and Tom Bean, with the following chronologically organized objectives:

Objective 1 - Convene eight focus groups, two in each of the four USDA Regions, to determine the competencies, skills and certification requirements for the National Safe Tractor and Machinery Operation Certification (NSTMOC) Program.

Objective 2 - Develop a curriculum for the NSTMOC program using responses from the eight focus groups, research findings, and investigator expertise and experience.

Objective 3 - Pilot test in Pennsylvania and Ohio with selected instructor teams the NSTMOC program materials to determine their utility. Data collected from observing adherence to program procedures will help evaluate, test and validate the developed materials and certification procedures. Trained instructors will in turn teach their local youth requiring certification.

Objective 4 - Hold a national workshop/training session to introduce the NSTMOC Program to safety professionals in conjunction with the annual meeting of the National Institute for Farm Safety. Participants will evaluate the technical materials and certification procedures.

Objective 5 - Conduct three national NSTMOC introduction workshops at the National Education Center for Agricultural Safety (NECAS) Headquarters and Training facilities in Peosta, Iowa, totaling approximately 100 agents, teachers and dealer representatives . Participants will evaluate the technical materials and certification procedures.

Objective 6 - Determine the extent of liability borne by teachers, machinery suppliers and manufacturers, and employers with roles in the training and testing of NTMOCP students.

Objective 7 - Different clientele groups in each of the four USDA Regions will evaluate the technical materials and certification procedures.

Objective 8 - Determine the need for supplemental training materials covering topics such as skid steer loaders, self-propelled combines, and cotton pickers.

Objective 9 - Establish guidelines that will maintain the NSTMOC program nationally.

Objective 10 - Promote the NSTMOC program through workshops and professional meetings.

During the program's second year in FY 2002, the Request for Applications (RFA) solicited proposals within all three priority categories. The RFA asked applicants to address:

"(a) how the changing workforce will impact this program; (b) how current and anticipated hiring practices of agricultural employers and trends in the agricultural industry will impact this program; (c) development of a tracking and data base system for certification; [or] (d) development of training methods and materials that address knowledge, ethnic and cultural differences of youth that may seek certification."

CSREES awarded three multi-year grants and provided supplemental funding to the PSU project as follows:

(1) "Graphics-Based YFSEC Curriculum," (2 year project) – Bill Field, Roger Tormoehlen, Gary Bertoline (Perdue U.)

"The . . . project will focus on the development of graphics-based training methods and materials . . . . This alternative curriculum resource will build on the updated curriculums being developed by Purdue University and Pennsylvania State University for providing training to youth seeking certification as specified by Federal regulations and recommended by agricultural safety professionals. The project will "translate" written instructional material for critical operator and worker safety competencies into graphical or pictorial format for youth (and adults) with limited reading and reading comprehension skills or who use English as a second language. Graphics, including pictorials, signal words, and color combinations published by standards organizations such as ASAE, SAE, and ANSI, will be used in the translation process.

"The materials will be pilot-tested in hard copy and audio-visual formats in instructor-led settings involving agricultural education students and adult farm and horticultural workers who use English as a second language. Levels of knowledge gained by participants will be compared with prior data gathered on students utilizing traditional and computer-aided farm safety instruction. The project team will consist of specialists in the field of agricultural safety, youth, curriculum development, and communication graphics.

"In addition to the supplemental curriculum material, outcomes will include a better understanding of strategies for removing literacy barriers in the farm worker training process, and how graphics could be more effectively used in existing training material."

(2) "Implementation of a National Youth Farm Safety Certification Database," (2 year project) – Roger Tormoehlen (Purdue U.)

"The . . . project will design, develop and implement a national database program . . . . This project will build upon prior and ongoing efforts by Penn State, Ohio State, Purdue University and others to enhance the effectiveness of tractor and machinery certification training for youth. The database program developed will focus on the following three key areas: 1) development and implementation of a system to track youth certified, leaders/volunteers trained and state safety contacts identified; 2) development and implementation of an educational training database of static and online interactive questions for the tractor and machinery safety certification program; and, 3) development of an educational resources data of materials/programs for use with the tractor and machinery safety certification program.

"The tracking system will be designed with maximum flexibility and versatility for data entry. For instance, key individuals or organizations such as the state safety contacts or the certifying agency(ies) will be able to enter certified leaders/volunteers who in turn will be authorized to enter data on youth certified). For the educational training and resources databases, anyone will be able to suggest questions for input into the database, but the questions will only be released for use by the certified instructors and youth being trained when they have been approved by a national questions and resources certification committee/board.

"The database programs developed will be delivered via the web. As an option, individuals with . . .Windows-based PDA will be able to upload and download data from the databases."

(3) "Development of a Tracking and Database System for a Youth Farm Safety Education and Certification Program" (3 year project) – Tom Bean and Samuel Steel (OSU and NSC)

"This project will develop, implement and evaluate an electronic system for tracking information and test results from tractor and machinery certification training being conducted by certified instructors in the United States. Further, a database will be established and maintained that will contain information about certified training instructors; certification training sites and dates of

instruction; certification status of trained students; on-line versions of task sheets and tests; and, it will offer the flexibility of downloading reports on student test results and certification levels."

(4) "Establishing a National Safe Tractor and Machinery Operation Certification Program - Supplemental Funding for the National Steering Committee" (3 year project - extendable to 4) – Jim Hilton, Dennis Murphy, and Aaron Yoder (PSU)

Originally granted to fund annual meetings of a National Steering Committee to advise PSU's project, CSREES has reorganized the governance of the National Steering Committee so that it can provide direction to the HOSTA program as a whole through annual meetings that PSU will continue to organize through this supplemental grant while CSREES will manage membership and agendas. Project representatives will provide project updates at each annual meeting.

For the program's third year, in FY 2003, the RFA had a narrow focus:

"[A]pplicants should propose at least two survey instruments targeting youth and agricultural producers, or subsets of these populations, within defined commodity industries and geographic regions, as appropriate to project goals. The following minimum survey requirements will apply:

"1. Youth
   (a) Select children and adolescents who have reached their 12th birthday but not their 20th birthday and have garnered experience in agricultural production while employed by persons other than their legal guardians or who desire this experience;
   (b) Collect gender, age, ethnicity, level of education attained, county of residence, and country of citizenship data;
   (c) Determine the extent of the youth's current skill set in agriculturally related tasks, while determining the means through which the youth acquired their skills; and
   (d) Gauge these youth's long-term interest in agriculturally related work.

"2. Agricultural Producers
   (a) Select agricultural production operations that directly, or through subcontractors, employ children and adolescents who have reached their 12th birthday but not their 20th birthday and who are not legal dependents of any of the operations' proprietors;
   (b) For each agricultural production operation, record: (1) the county of base operations, (2) the acres under production, (3) the operation's gross revenue, (4) the number of persons employed during any twelve month period, (5) the number of these employees under the age of 20 who were employed at least 40 hours per week but for less than six months, and (6) the number of these employees under the age of 20 who were employed less than 40 hours per week for less than six months;
   (c) Assess the employers' perceptions of youth training deficiencies;
   (d) Determine which experiences or skills make youth desirable employees for

particular agricultural production operations;

(e) Determine which tasks employers assign their youth employees, include minimum ages for each task;

(f) Determine typical durations and intensities for each task; and

(g) Determine typical sequences of task assignments within a single workday.

“Each applicant must propose to develop a standard for classifying, and later for coding, task categories reported by survey respondents. Standards should group equivalent or related task descriptions and apply an intensity measure for each task category in the form of production per time unit. Before distributing surveys, each grantee must submit this standard to the CSREES program office for approval. Applicants should propose to store data in comma separated values (CSV) or Microsoft format so that, if requested, grantees can electronically share the data, without personal descriptors, with the CSREES program office.”

CSREES awarded one three-year grant to PSU project "Determining Agriculturally Related Skills Twelve to Twenty Year Olds Need . . . ." John Becker, Dennis Murphy, Jim Hilton, Tasha Snyder, and Fern Willits.

Objective 1 - Develop surveys

Objective 2 - Participant Candidate Pools

Objective 3 - Carry out the Survey

Objective 4 - Analyze the data obtained from the surveys

Objective 5 - Communicate project results to stakeholders, the HOSTA Steering Committee and the public