

A model agricultural health promotion systems program for building state-based agricultural safety and health infrastructures

by David L Hard, PhD, John R Myers, MSF, Nancy A Stout, EdD, Timothy J Pizatella, MS¹

The Agricultural Health Promotion Systems (AHPS) is a cooperative agreement program administered by the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research, through land-grant universities and the Cooperative Extension Service (CES). According to data from the National Traumatic Occupational Fatalities (NTOF) data base maintained by NIOSH, agriculture, forestry and fishing is one of the most hazardous industrial divisions in the United States (US). While only 2% of US workers are employed in this sector, it has the fourth highest injury fatality rate (19.1 deaths/100 000 workers) and ranks third in the number of deaths (NIOSH, NTOF in-house data). Farmers, loggers and fishermen, as an occupation, has the second highest rate of deaths from work-related injuries (21.2/100 000 workers). In addition, during 1989, the agricultural industry ranked third (10.4 injuries/100 workers) among the 10 industrial sectors for occupational injury rates (1). Others have concluded that the industry of agriculture, forestry and fishing and the occupation of farming are indeed hazardous (2, 3). The hazards of this industry and occupation cut across international boundaries (4, 5).

Because of the hazardous nature of agricultural work, NIOSH has instituted an intervention program with the goal of reducing the incidence of fatal and nonfatal traumatic injury, chronic injury, and occupational diseases among the 3.4 million agricultural workers and their families in the US. Currently 18 states are conducting programs during fiscal year 1992 (figure 1).

Materials and methods

The information and data collected for this descriptive analysis of the AHPS program were obtained from the original proposals, on-site visits conducted by the project officer to each of the 15 first-year AHPS recipients, and mid-year reports.

Results

All of the state programs indicated an increase in agricultural safety or health programming and information dissemination activities. State programs in agriculture, forestry and fishing were in evidence (table 1). Thirteen (67%) programs indicated increased efforts to monitor agricultural fatalities, injuries, and illnesses (table 1). Fourteen (93%) programs have initiated activities to expand agricultural safety and health topics through colleges, courses, or in-service training for professionals (table 1). The use of volunteers, the development of a hazard assessment for farms, health service personnel training, and special "model" or innovative programs were components of the various state programs (table 2). The compilation of agricultural safety and health resource directories for the state and national level were major activities (table 2). Several states identified special areas for agricultural safety and health emphasis, such as youth, older farmers, and bilingual programs or materials development (table 2). The program highlights of the 15 land-grant universities that have completed one year of the AHPS project are as follows, by award region:

Northeast — Vermont has agricultural and forestry program areas. A farm hazard checklist has been developed and implemented for use on farms. Training of emergency medical techniques in farm victim extrication has been accomplished, and forest woodlot safety campaigns have been conducted.

North Atlantic — New Jersey is developing a "model" horse farm and has developed a horse safety video. Forestry components are woodlot management and Christmas tree production. Fishing-vessel safety training has been conducted, and bilingual materials have been developed as well. Pennsylvania has targeted the farmer, over 65 years of age, for intervention efforts. Several innovative displays have been developed (eg, respiratory protection and power take-off safety).

South Atlantic — North Carolina has developed educational modules on agricultural safety and health for use in agricultural college classes and in the School of Medicine for training physicians. Virginia has used

¹ Centers for Disease Control, National Institute for Occupational Safety and Health, Division of Safety Research, Morgantown, West Virginia, United States.

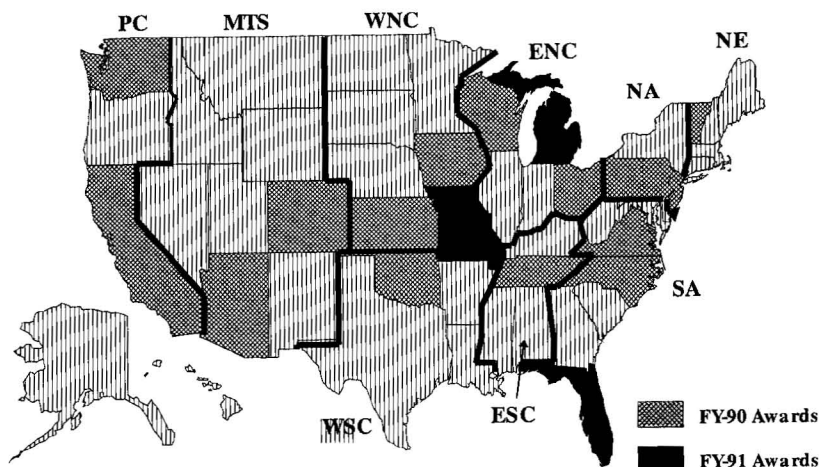


Figure 1. Agricultural health promotion systems — awards by fiscal year (FY) and census bureau region. (NE = northeast, NA = north Atlantic, SA = south Atlantic, ENC = east north central, ESC = east south central, WNC = west north central, WSC = west south central, MTS = mountain, PC = Pacific coast)

Table 1. Program summary — cooperative agreements of the agricultural health promotion system, year 1.

State	Program efforts			Surveillance			Agricultural safety and health information dissemination	Agricultural safety and health curriculum development	Safety and health courses	
	Agriculture	Forestry	Fishing	Fatalities	Injuries	Illnesses			New	Existing
Arizona	x						x			x
California	x			x	x	x	x		x	
Colorado	x			x			x			x
Iowa	x						x	x		x
Kansas	x			x			x	x		x
North Carolina	x			x	x		x	x		x
Ohio	x			x	x	x	x	x	x	x
Oklahoma	x			x			x			x
Pennsylvania	x			x			x			x
New Jersey	x	x	x	x			x			x
Tennessee	x			x			x			x
Vermont	x	x		x	x		x			x
Virginia	x			x	x		x	x	x	x
Washington	x			x	x	x	x		x	x
Wisconsin	x			x			x	x		x

Table 2. Program summary — cooperative agreements of the agricultural health promotion system, year 1.

State	Volunteers	Hazard assessment	Agricultural, safety and health resource		Health personnel training	Model or innovative programs	Special emphasis		
			State	National			Youth	>60 years of age	Bilingual
Arizona		x			x	x	x	x	
California			x			x			x
Colorado		x	x			x			
Iowa	x	x	x	x					
Kansas	x							x	
North Carolina	x				x	x			x
Ohio			x		x		x		
Oklahoma		x	x	x			x		
Pennsylvania			x					x	
New Jersey	x	x				x	x		x
Tennessee			x				x		
Vermont	x	x			x				
Virginia							x		
Washington							x		x
Wisconsin		x	x		x				

results from a farm incident survey to identify areas for intervention and is developing the supporting materials. Computer programs on tractor safety and agricultural respiratory safety for use with high school programs in agriculture are near completion.

East north central — Ohio has compiled a list of updated agricultural safety and health resources for the state and developed additional CES fact sheets in this area. Training in farm victim extrication for rescue personnel has been completed, and a special safety project is in progress with the Amish sect. Wisconsin developed a statewide resource directory of agricultural safety and health materials for dissemination. Better agricultural fatality reporting is being promoted. Agricultural safety and health training has been conducted for a variety of clientele.

East south central — Tennessee has updated training material on personal protective equipment and provided proper personal protective equipment to county CES agents. An agricultural fatality data base has been instituted. Agricultural safety and health training has been conducted at summer youth camps.

West north central — Iowa is developing an agricultural safety and health information data base, in cooperation with Oklahoma, which will be national in scope. Iowa is developing agricultural safety and health curricula for college courses and has produced additional CES fact sheets in this area. Kansas has targeted farmers, over 60 years of age, for intervention efforts. A county system which uses volunteers to deliver agricultural safety and health programs has been implemented with dissemination of agricultural safety and health information through monthly newspapers.

West south central — Oklahoma, in conjunction with Iowa, is developing a national data base of agricultural safety and health resource materials. They have produced three videos on youth safety in agriculture and are developing the supporting written materials for these videos.

Mountain — Arizona has identified "model" agribusiness and agricultural education programs throughout the state. These programs must develop a safety program, allow a hazard assessment, and provide in-

formation on occupational injuries and illnesses. Training for rescue personnel in farm accident victim extrication was completed. Colorado has developed an agricultural safety and health resource directory and distributed personal protective equipment to county offices for the demonstration of correct pesticide application procedures. Retrofit rollover protective structures for tractors is a major component.

Pacific coast — California has developed bilingual training packets for farm workers for use in the field to teach safety practices to farm laborers. Grants for promoting community safety and health programs for farm workers and their families are underway. Washington has implemented a course in agricultural safety and health at the college level. Surveillance activities include injuries, illnesses, and fatalities. Development of bilingual materials and work on a "smart" sprayer system is progressing.

Concluding remarks

The preceding program activities took place during the first year of an anticipated three-year program. Because of differences in what each state recipient proposed to accomplish in their program, the results vary. No implication should be drawn from the results as to the progress or worthiness of a program since each is on their own timetable and plan. The results should be viewed as a "snapshot" in time. However, when summarized, they indicate progress toward the fulfillment of the objectives of the AHPS program, which is to promote expansion of the existing CES safety and health programs to serve the agricultural worker better by providing information dissemination, education, and referral services to these workers through the CES network.

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