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Overcoming Language and Literacy Barriers in Safety and Health Training of Agricultural Workers

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Abstract

The workforce in all areas of United States agriculture and forestry is becoming increasingly diverse in language, culture, and education. Many agricultural workers are immigrants who have limited English language skills and limited educational attainment. Providing safety and health training to this large, diverse, dispersed, and often transient population of workers is challenging. This review, prepared for the 2010 Agricultural Safety and Health Council of America/National Institute for Occupational Safety and Health conference, "Be Safe, Be Profitable: Protecting Workers in Agriculture," is divided into five sections. First, we describe the occupational and demographic characteristics of agricultural workers in the US to highlight their safety and health training needs. Second, we summarize current research on the social and cultural attributes of agricultural workers and agricultural employers that affect the provision of safety and health training. Worker and employer attributes include language, literacy, financial limitations, work beliefs, and health beliefs. Third, we review current initiatives addressing safety and health training for agricultural workers that consider worker language and literacy. These initiatives are limited to a few specific topics (e.g., pesticides, heat stress); they do not provide general programs of safety training that would help establish a culture of workplace safety. However, several innovative approaches to health and safety training are being implemented, including the use of community-based participatory approaches and lay health promoter programs. Fourth, the limited industry response for safety training with this linguistically diverse and educationally limited workforce is summarized. Finally, gaps in knowledge and practice are summarized and recommendations to develop educationally, culturally, and linguistically appropriate safety and health training are presented.

Keywords

Agriculture; farmworkers; health and safety training; safety regulations; policy; occupational health; minority health; health disparities; cultural competency; culturally appropriate; language

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Introduction

The agricultural workforce in the United States has always been diverse, and this diversity has become more pronounced over the past several decades. The majority of migrant and seasonal farmworkers are immigrants; most are from Latin America, particularly from Mexico.[1,2] However, significant numbers of African Americans, Asian immigrants, Caribbean immigrants, and Native Americans remain part of the agricultural workforce. Mexican immigrant agricultural workers are diverse, coming from urban as well as rural Mexico, with at least one-quarter being from native communities and speaking an indigenous language.[3] The increasing diversity of agricultural workers is present in dairy and livestock production as well as in crop production.[4] Immigrant workers also have become a substantial part of the forestry workforce.[5]

Agriculture remains one of the most dangerous industries in the US.[6] It is particularly dangerous for agricultural workers, many of whom have limited English language skills.[7–9] Common hazards encountered in agriculture include environmental exposures to sun and heat; chemical exposures to petroleum products, fertilizers, solvents, cleaners, and pesticides; and mechanical exposures to farm tools and equipment. Animals and plants also expose agricultural workers to numerous hazards, such as zoonotic diseases and plant allergies. Agricultural work often requires repetitive, rapid movements, heavy lifting, and awkward positions that lead to ergonomic injury. Agricultural work is often episodic, with intensive labor needed for short periods.

Agriculture's numerous occupational hazards require that workers receive safety and health training. Although educational interventions cannot remove all of the hazards that agricultural workers encounter, education and training are needed to make workers aware of the hazards they may encounter, to provide them with tools that they can use in protecting themselves, and to make them aware of the regulations that are in place to protect them. The diversity of language, culture, and education of agricultural workers requires that creative approaches to safety and health training be employed. Within this context, this review has three goals. First, it provides an overview of the needs for linguistically and literacy appropriate safety and health training for agricultural workers. Second, it summarizes current and innovative approaches to providing such training. Finally, it recommends approaches to develop linguistically, culturally, and literacy appropriate safety and health training for agricultural workers. This review was prepared for the Agricultural Safety and Health Council of America/National Institute for Occupational Safety and Health conference, "Be Safe, Be Profitable: Protecting Workers in Agriculture."

This review focuses on Latino workers employed in crop, livestock, dairy, and forestry production. They constitute the majority of agriculture workers in the US for whom language and literacy is a concern. The crop production workers are often referred to as migrant and seasonal farmworkers. The National Agricultural Workers Survey[1] indicates that the majority of agricultural workers in the US are immigrants with limited education, and many do not speak English as their primary language. General themes for overcoming language and literacy barriers in safety and health training for Latino workers will provide insight relative to overcoming language and other literacy barriers for use within other culturally diverse worker populations.

Trends in Occupational Injuries among Agricultural Workers

Designing appropriate occupational safety and health training for agricultural workers requires having accurate knowledge of the size and composition of the agricultural work force and accurate knowledge of the occupational injuries and illnesses that agricultural workers experience. Unfortunately, we lack knowledge in both domains; we have limited

and conflicting information on the size and composition of the agricultural work force, and we have almost no epidemiological data for the incidence and prevalence of occupational injuries experienced by agricultural workers. Our lack of knowledge is a primary barrier to designing linguistically and literacy appropriate safety and health training for agricultural workers.

Although the number of agricultural workers in the US is large, an accurate count of these workers is difficult to establish. Much depends on the definition of what constitutes an agricultural worker. The US Census of Agriculture[10] indicates that in 2007, 2,636,509 agricultural workers were employed on 482,186 farms. These included 911,439 workers who worked 150 days or more, and 1,725,070 workers who worked 150 days or less; 98,135 farms reported having only workers who worked at least 150 days, 280,894 farms reported having only workers who worked less than 150 days, and 103,157 farms reported having workers who worked both 150 or more days and less than 150 days. A total of 38,784 farms reported hiring migrant farm labor.

Kandel[2] estimates the number of hired farmworkers to be 1.01 million for 2006 based on data from the Current Population Survey. In 2000, Larson[11] prepared estimates of farmworkers in the ten states with the largest farmworker populations (Arkansas, California, Florida, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Texas, and Washington), and reported the number of migrant farmworkers, seasonal farmworkers, total farmworkers, non-farmworkers in migrant households, and non-farmworkers in seasonal households, and the number of migrant and seasonal farmworkers and non-farmworkers in farmworker households by county. An additional estimate was prepared in 2005 for New York.[12]

The National Agricultural Workers Survey (NAWS) indicates that the majority of US farmworkers are Hispanic or Latino, with 84% of migrant and seasonal farmworkers in the US self-identified as Hispanics, and 75% of all farmworkers having been born in Mexico, 23% in the US, 2% in Central America, and 1% in other countries.[1] The NAWS is not designed to provide an estimate of the size of the agricultural work force. Current Population Survey data for 2006 indicate that 43.0% of hired farmworkers are of Hispanic ethnicity, with 37.3% born in Mexico, and 26.7% living in Spanish only households.[2]

Although the number of agricultural workers in the US is large, and there is general agreement that work in agriculture exposes these workers to numerous hazards, few data exist to document the number and types of occupational injuries and illnesses agricultural workers experience. The public health system does not require the specific reporting of agricultural injuries. Standard injury reporting systems have difficulty differentiating agricultural injuries, particularly differentiating occupational injuries in agriculture from injuries that occur on farms. This is further complicated by the unwillingness of many immigrant workers to report injuries to their employers for fear of employment consequences. The SENSOR-pesticides program provides some data for pesticide exposure; but this program is present in a limited number of states, and it documents pesticide exposure incidents in a number of industries.[13] Earle-Richardson and her colleagues[14] have attempted to integrate data from several sources to establish the incidence and prevalence of occupational injuries among agricultural workers. This work provides some insight into the difficulties of establishing the incidence and prevalence of agricultural worker injuries and illnesses.

The lack of national, regional, or local surveillance data has forced us to describe the prevalence of agricultural worker injuries and illness with data reported by a few observational studies and provided by farmworker health, service, and advocacy

organizations (e.g., National Center for Farmworker Health, Migrant Clinicians Network, Association of Farmworker Opportunity programs, and Farmworker Justice). The observational studies have generally focused on small areas; an exception is a state-wide survey of California agricultural workers.[15] The study designs and data collection procedures limit the generalizability of these data.

Occupational injuries and illnesses commonly reported among agricultural workers include musculoskeletal injuries,[15–17] hearing loss,[18] eye injuries and symptoms,[15,16,19] skin disease,[20] mental illness,[21,22] heat stress,[16] pesticide exposure and its sequelae,[23,24] and green tobacco sickness.[25] The nature of agricultural work, with significant distance between work sites, low income, and migratory nature, means we must also consider injuries and illnesses resulting from lifestyle factors including transportation[26] and housing hazards.[27] Such lifestyle related injuries and illnesses common among agricultural workers include infectious disease,[28] alcohol abuse,[29] and poor oral health.[30]

Research on Factors Affecting Language and Literacy Barriers in Safety and Health Training of Agricultural Workers

Research provides insights into factors affecting the occupational safety and health training of agricultural workers. These factors include demographic and cultural characteristics of the workers, cultural characteristics of agricultural employers, and the organization of agricultural work.

Agriculture Worker Demographic Characteristics

Many agricultural workers are young and lack experience in agricultural work;[1] therefore, they do not recognize the hazards to which they are exposed. Most agricultural workers have low educational attainment. The 2002 NAWS found that most farmworkers have less than a high school education.[1] The 2006 Current Population Survey reports that 30.0% of agricultural workers have less than nine years of education, and 24.5% have from nine to 12 years of school.[2] Fewer than 50% of agricultural workers are high school graduates; this is worse for noncitizens, with 63.4% having less than nine years of education. The lack of education affects occupational safety and health training in several ways: (1) the workers have limited literacy, (2) they have not developed the skills needed for learning, and (3) their ability to learn complex concepts is limited.[31]

Many agricultural workers speak little or no English. The most common language among agricultural workers is Spanish.[1] This is true of crop workers, and it is increasingly the case for dairy workers,[4] and poultry and hog confined animal feeding operations (CAFO) workers. Haitian Creole is also widely spoken in some areas. The primary native language for one-quarter or more of “Latino” agricultural workers is an indigenous or Native American language.[3] Many of these indigenous languages are not written. Farquhar and colleagues[3] have shown that when indigenous agricultural workers are provided with occupational safety training in Spanish, their understanding is limited. Finally, farmworkers are mobile; they may change employers several times across a year.[32] Safety and health training programs must be able to be available at multiple locations and repeated several times.

Agriculture Worker Cultural Characteristics

The culture, experience, and beliefs of agricultural workers affect their willingness to accept and to use the health and safety training they do receive. The influence of culture and experience for the acceptance and implementation of safety behaviors is common to all groups, including agricultural employers.[9]

General health beliefs of many immigrant agricultural workers affect how health and safety training should be presented.[9] One general belief among Latino agricultural workers is that the locus of health or illness is outside the control of the individual, whether due to supernatural causes or to God's will. This belief limits workers' acceptance of occupational safety regulations and training.[33] Keifer and colleagues[34] report that injured farmworkers were more likely than non-injured workers to believe that they could be fired, that their employer was demanding, and that their bosses cared more about the crop than about them. Humoral medicine is a system of health beliefs that is widely held among people from Mexico and other Latin American countries.[35] Within humoral medicine, different substances and materials are believed to have different humors that make them "hot" or "cold." This set of beliefs may limit the attention of agricultural workers to safety training; for example, based on humoral medicine beliefs, workers limit hand washing at work and showering immediately after work because they do not want to get ill from placing their hot body in water which is considered metaphorically cold.[36]

Many agricultural workers recognize lay-defined illnesses not recognized by Western biomedicine. These include *susto*, *nervios*, *empacho*, and *mal de ojo*.[37] The use of these lay definitions of illness has been documented among Latino farmworkers in the eastern US. [38] Latino farmworkers also bring culturally-based lay definitions to biomedically recognized occupational illnesses, including green tobacco sickness.[39] Application of lay definitions to illnesses that result from the work and "lifestyle" of being an agricultural worker may result in these workers not seeking needed health care and greater effects of occupational injuries and exposures on their health. For example, Baer and Penzell[38] documented that farmworkers exposed to pesticides in Florida interpreted the resulting symptoms within the framework of *susto*, and therefore did not seek needed medical care.

Agricultural workers often ignore or self-treat injuries and illnesses rather than use medical care. In the case of green tobacco sickness, farmworkers report working sick for the entire season because they do not want to risk losing their jobs and do not know how to effectively treat the illness.[39] Latino farmworkers report using various traditional and home remedies to treat and prevent illness, including herbs, chlorine bleach, milk, and medicine purchased at *tiendas* (small local stores that serve Latino communities in the US).[40,41] Much of the self-treatment that farmworkers use is effective; however, it can have serious consequences.[42]

Finally, agricultural workers have limited access to health care.[8] Few are provided with health insurance. Few qualify for workers compensation. Immigrants are often unfamiliar with the US medical system and may not know how to gain access. The migrant and community clinics that provide some care to agricultural workers often do not have the resources to provide health outreach and occupational safety and health training.

Agriculture Employer Cultural Characteristics

Beliefs of American farmers limit their willingness to accept safety and health training for themselves and their families.[43,44] Farmers acknowledge and accept hazards to be inherent in farming.[45,46] However, they place greater priority on the efficient production of food and fiber than upon safety. Few operations have tried to institute a culture of work safety, often believing that safety measures imposed from outside agencies are unnecessary. [43,44] Further, they often believe that they experience far greater exposure to occupational hazards than do their employees.[36,47] The farmer's high tolerance of risk, denial of susceptibility and skepticism regarding safety measures may contribute significantly to the problems encountered in the implementation of safety and health training for agricultural workers.

Organization of Agricultural Work Characteristics

The way in which agricultural work is organized results in specific occupational health and safety hazards, and affects how safety and health training is provided to workers.[8,9,48] The seasonality of agricultural production and the resulting intensive periods of labor are overarching characteristics of the industry that affect the ability to provide and maintain safety training for workers. The intensive periods of seasonal production do not allow time for training. The intensity of work in animal production also limits the amount of time available for training. The seasonality of agricultural work, the mobility of the workforce, the ability of workers to change to new jobs when they become available results in worker turnover. New hires must often be trained when the work is most intense and little time is available for training. Finally, agricultural production requires a variety of tasks and exposes workers to a variety hazards, including chemical, mechanical, environmental, animal, and transportation. Safety and health training must address each of these hazards.

Documentation of Safety Training Provided to Agricultural Workers

Almost no occupational health and safety training is required for agricultural workers. The exception is pesticide safety training, which is mandated by the US Environmental Protection Agency through the Worker Protection Standard (WPS).[49] Although ergonomic standards have been proposed for agriculture,[50] training requirements have not been implemented. The Occupational Safety and Health Administration (OSHA) sets standards for field sanitation and migrant housing, but these standards do not require any occupational health or safety training.[51]

Research on the WPS indicates that its implementation has been limited.[3,52,53] Quandt and colleagues[54] evaluated the materials developed to provide WPS training and found that improvement was needed to make them culturally and educational appropriate; this evaluation of WPS materials needs to be updated. Whalley and colleagues[53] found that even among workers who have received pesticide safety training, about one-quarter did not understand the training they received. Although several factors were associated with farmworkers having received training (being older, having an H2A guest worker visa), understanding pesticide safety training was not associated with any predictors. No formal evaluations have addressed whether implementation of WPS pesticide safety has reduced agricultural worker pesticide exposure; Arcury and colleagues[23] found no difference in the detections of numerous pesticide metabolites between North Carolina farmworkers who had and had not received pesticide safety training.

Beyond the WPS, no national regulations for the occupational health and safety training of agricultural workers exist. Occupational health and safety training programs for agricultural workers by Cooperative Extension programs beyond pesticide safety training have not been located. While the Northeast Center for Agricultural and Occupational Health and Pacific Northwest Agricultural Safety and Health Center have produced language- and literacy-appropriate health and safety training programs for agricultural workers, we did not find similar products from the other NIOSH-funded Centers for Agricultural Disease and Injury Research, Education, and Prevention. Some state agencies, such as the Agricultural Health Bureau, North Carolina Department of Labor, have developed health and safety training modules addressing specific topics. California has an OSHA-mandated training requirement for all agricultural employers to provide safety training to employees at least one time per year.

Some organizations have independently developed health and safety training to address specific occupational hazards of agricultural workers, but no overall program of health and safety training of agricultural workers has been established. The Camp Health Aides

program developed by Migrant Health Promotion is the most comprehensive health and safety training program developed for agricultural workers, but much of the content of this program addresses non-occupational health issues.[55] Examples of specific occupational health and safety training developed for agricultural workers include efforts addressing heat stress,[56,57] musculoskeletal injuries,[58,59] and green tobacco sickness.[60]

Current Initiatives (Education, Training, Policy)

With the dearth of health and safety training regulations for agricultural workers and the lack of systematic programs by governmental agencies, advocacy and service organizations and university programs provide some of the only health and safety training materials available that address the language and literacy barriers often confronted by agricultural workers. Many of these materials are available through the National Ag Safety Database (http://nasdonline.org/). Advocacy and service organizations include Association of Farmworker Opportunity Programs' (AFOP) Project HOPE (Health and Outreach with Pesticide Education) (http://www.afoprograms.org/?page_id=23); Farmworker Justice, Inc. (http://www.farmworkerjustice.org/), Migrant Clinicians Network (MCN) (http://www.migrantclinician.org/), and National Center for Farmworker Health Promoviendo Farmworker Safety (http://www.ncfh.org/?pid=57).

University-based programs that have also developed language and literacy appropriate health and safety training materials for agricultural workers include Oregon Health and Sciences University, Center for Research on Occupational and Environmental Toxicology, University of Texas-Houston,[61] Wake Forest University School of Medicine,[60,62] and the collaboration of the University of Washington and the Fred Hutchinson Cancer Center.[63] However, many of the programs developed by the academic institutions have focused on pesticide safety. Investigators at the University of Illinois at Chicago and the University of South Florida have developed culturally and educationally appropriate eye safety programs for agricultural workers.[64,65] University investigators often work in conjunction with NIOSH-funded Centers for Agricultural Disease and Injury Research, Education, and Prevention.

Programs developed by advocacy and service organizations, as well as by academic organizations often use a lay health promoter or Promotora de Salud model. The lay health promoter model can be implemented by clinics and academic programs without directly confronting agricultural industry resistance. For example, the Migrant Health Promotion Camp Health Aide Program is the most extensive health and safety training program that uses a lay health promoter model.[55,66–68] A lay health promoter model focused on reducing pesticide exposure has been developed at University of Washington and the Fred Hutchinson Cancer Center.[63] Health educators at Wake Forest University School of Medicine have developed lay health promoter programs to provide training focused on occupational and residential pesticide safety.[69]

Service organization and university programs have often used community-based participatory research (CBPR) approaches[70] to develop health and safety training programs for agricultural workers.[71,72] These approaches include agricultural workers in the teams that develop and implement the health and safety training programs. The New York Center for Agricultural Health/Northeast Center for Agricultural and Occupational Health used a CBPR approach in developing ergonomic blueberry rakes and apple buckets for agricultural workers.[58,59] Similarly, Vela Acosta and colleagues[61] used a CBPR approach in developing an occupational health and safety program within a High School Equivalency Program for agricultural workers. The pesticide lay health promoter programs developed by Wake Forest University School of Medicine investigators[69] and by University of Washington

investigators[63] used CBPR approaches, as did the development of green tobacco sickness education materials.[60] The Wake Forest University School of Medicine team has also used CBPR to develop a set of language and literacy appropriate health and safety training materials for immigrant poultry processing workers that have some application for agricultural workers.[73,74]

These university and advocacy group lay health promoter and CBPR programs providing cultural, language, and literacy appropriate health and safety training materials for agricultural workers share several positive characteristics. Each includes workers in the development and implementation of the health and safety training materials. Each uses verbal communication and face-to-face interaction to provide information to agricultural workers. Each also uses multiple sessions to provide health and safety training to agricultural workers, rather than attempting to address multiple topics in a single session. The programs use different media to support training, including flipcharts, videos and cartoons, comic books, fotonovelas, and targeted brochures. One creative approach is the use of theater to provide health and safety training. Migrant Health Promotion has used theater to provide information to agricultural workers about HIV/AIDS,[67] Student Action with Farmworker programs regularly use theater for presenting occupational safety information to agricultural workers (http://www.saf-unite.org/). A major disadvantage shared by these programs is that they are seldom allowed to provide health and safety training information at the work site; rather, most of these programs are implemented in community settings.

Industry Response to the Issue

In our review of the peer-reviewed literature, our searches of websites, and our contacts with occupational health educators and researchers, we have found little from industry regarding development and implementation of language- and literacy-appropriate health and safety training for agricultural workers. Exceptions are a program on the safe operation of front end loaders developed collaboratively by Caterpillar® and the Vermont Agency of Agriculture[75] and an internal Cargill safety training program only available to customers. Individual companies have developed Spanish-language training programs for their workers. However, translating training materials does not ensure that they are literacy, language, or culturally appropriate. As Quandt and colleagues[54] report in their evaluation of materials developed to provide WPS training, many such materials needed substantial improvement to make them linguistically, culturally, and educationally appropriate. Training materials developed and distributed by advocacy and service organizations and university programs are readily available for review and evaluation. Materials that private companies have developed for their training programs are not available for review. Finally, our experience is that some industry groups actively resist suggestions that agricultural workers are exposed to occupational hazards; therefore, they resist the development of language and literacy health and safety training for agricultural workers.

Gaps in Knowledge and Practice

We know how to develop language and literacy appropriate health and safety training programs for agricultural workers. Several such programs have been developed, and the health education literature provides appropriate conceptual models and practical approaches for this undertaking. However, significant gaps exist in our knowledge and practice relative to language and literacy appropriate health and safety training programs for agricultural workers.

Appropriate methods need to be applied for the evaluation of existing and new health and safety training programs. Although several of these programs have published evaluation results,[58,59,61,63–69] other programs have not.

We need more systematic information documenting the occupational injuries and illnesses experienced by agricultural workers. The Agricultural Health Study is documenting the long-term outcomes of common exposures for farmers; a similar longitudinal program is needed for all agricultural workers. Such programs have been proposed for agricultural workers,[76] but they have never received funding. State surveillance systems are not adequate to the task. The NAWS collects some occupational health data for migrant and seasonal farmworkers, but the NAWS sample is limited to crop workers.

We know little about the health and safety knowledge and behaviors of agricultural workers. We need to know more about the actual variability in ethnicity, language, and literacy among these workers. Few programs have addressed languages other than Spanish. One group is addressing agricultural workers from Mexico and Central America who speak indigenous languages.[3] Some materials have been developed for French Creole speakers from Haiti and for American Indians. However, workers from Asia and Eastern Europe are increasingly being employed in agriculture, and efforts must be made to understand how their cultural backgrounds affect their understanding of occupational health and safety in agriculture.

We need to learn how to get appropriate training to be made available at the work site. We need to develop comprehensive programs of literacy and language appropriate health and safety training that go beyond pesticides and that address other potential sources of occupational injury and illness for agricultural workers.

Finally, we need to differentiate what agricultural workers need to be taught from the safety regulations that need to be implemented across agriculture and forestry, and the changes that need to be made in production technology and safeguards to protect agricultural workers. Agriculture and forestry are dangerous industries. We cannot fall into the trap of expecting these industries to be less dangerous simply by training workers and expecting them to avoid all of the potential hazards. Better safety regulation is needed and existing regulations need to be enforced; the exemption of agriculture from most occupational safety regulations needs to be ended. Changes in the organization of production and better production technology can remove some of the occupational hazards experienced by agricultural workers. Better financial security for farmers can remove some of the pressures that result in unsafe work environments for agricultural workers.

Recommendations for the Future

Addressing several recommendations will lead to improved linguistically and literacy appropriate health and safety training materials for agricultural workers.

1. We need a better surveillance system for occupational injuries and illnesses among agricultural workers so that we know the issues that health and safety training materials for these workers should address.
2. We need a coordinated effort to develop health and safety training programs for agricultural workers. To ensure that health and safety training programs for agricultural workers are culturally, linguistically, and literacy appropriate we need to:
    a. Base the training programs on principles of adult, low literacy education;

   b. Base the training programs conceptually within contemporary health education theory and practice; and

   c. Include agricultural workers on the teams developing the training programs.

   Otherwise, it is doubtful that the training programs will be culturally, linguistically, or educationally appropriate. For example, Rothe[77] shows that what the employer, corporate producer, and scientist see as appropriate for pesticide safety labels is interpreted quite differently by the agricultural worker.

3. Health and safety training programs for agricultural workers need to be comprehensive and not focused on single occupational hazards. The fact that many migrant workers are in the US only for short periods must not be used as an excuse to avoid needed training.

4. We need to provide health and safety training to agricultural workers in a variety of formats (visual, hearing, hands-on) so that communication of concepts and practical information fits the learning styles that are most effective for individual workers.

5. We need policy and regulations that will require health and safety training for agricultural workers.

   a. We need to remove old policy based on agricultural exceptionalism[78] that has exempted much of agriculture from existing occupational health and safety requirements, including training.

   b. We need to provide sufficient staff to state agencies to ensure policies requiring health and safety training are enforced.

6. Finally, we need to differentiate the place of health and safety training for agricultural workers from the need for changes in the organization of agricultural work and improved technology to reduce the health and safety hazards of these workers.

Implementing linguistically and literacy appropriate comprehensive health and safety training for agricultural workers will improve the lives of workers and employers. Accomplishing this goal is an ethical responsible within a just society. Accomplishing this goal also has material rewards in terms of reduced insurance costs for employers, improved incomes for workers, and lower health care costs for everyone.

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