



Journal of Agromedicine

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/wagr20>

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Available online: 01 Oct 2008

To cite this article: Linda Forst MD, MPH, MS, Isabel Martinez Noth PhD, MPH, Steven Lacey PhD, Susan Bauer MA, MPH, Sara Skinner MPH, Robert Petrea PhD & Joseph Zandoni MILR (2006): Barriers and Benefits of Protective Eyewear Use by Latino Farm Workers, *Journal of Agromedicine*, 11:2, 11-17

To link to this article: http://dx.doi.org/10.1300/J096v11n02_04

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Barriers and Benefits of Protective Eyewear Use by Latino Farm Workers

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ABSTRACT. Agricultural work is one of the riskiest occupations for the eyes. Protective eyewear can prevent eye injuries in upward of 90% of cases. Latino migrant and seasonal farm workers (LFWs) are at particular risk of eye injury because of economic, social, and cultural barriers to safe employment. The goal of this project was to determine the perceived benefits and barriers to use of protective eyewear during agricultural work among LFWs. In the year 2000, 55 workers who spent at least part of their time working in Illinois and Michigan as seasonal, hired farm workers were interviewed either individually (9) or in six focus groups (46) regarding their perceptions of eye hazards and the factors that encourage or discourage the use of protective eyewear. Subsequently, safety glasses and training on eye safety were delivered by promotores de salud to LFWs from the same cohort over two summer seasons. During the second season, the promotores observed the use of safety eyewear by farm workers at least once per week on 17 farms over a three-month period. At each point of observation, the promotores asked those wearing the glasses why they chose to

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This research was funded by CDC/NIOSH Community Partners for Healthy Farming Intervention Grant Number U06/CCU516863-03.

wear them and those who were not wearing them, why not. At both points of the study (pre-intervention interviews and post-intervention observations), the reasons for use fell into the following categories: protection from hazards, appearance, whether it was mandated/provided by the employer, and whether others used it. The reasons for non-use include perceived lack of protection, discomfort, undesirable appearance, interference with visual acuity, slowing down the work pace, and no mandate from employers. Since eliminating the eye injury hazard is not possible in most agricultural settings, administrative strategies and use of personal protective equipment are critical. Perceptions of the target audience, LFWs, should be used to develop a comprehensive eye safety program; this should include allowing LFWs to select a style from effective prototypes, providing eyewear and promoting/mandating its use in hazardous job tasks, and implementing a comprehensive PPE program for eye safety. In addition, addressing functional problems—falling off, fogging, loss and forgetting glasses, the pace slowdown that reduces production and leads to lower wages for workers—should be addressed. doi:10.1300/J096v11n02_04 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by The Haworth Press, Inc. All rights reserved.]

KEYWORDS. Migrant farm workers, Hispanic workers, immigrant health, eye injuries, safety eyewear, ocular hazards, agricultural eye injuries

BACKGROUND

Agriculture is one of the most hazardous occupations for the eyes,¹ resulting in 15% of work-related, lost time injuries, and causing 11-30 lost-time injuries per 10,000 workers per year over the last 15 years due to eye trauma.² Latino migrant and seasonal farm workers (LFWs) are at particular risk because of social, cultural, and economic barriers to finding employment that makes workplace safety a priority.³ The U.S. Occupational Safety and Health Administration estimates that 90% of eye injuries could be prevented by use of proper fitting, protective eyewear,⁴ though it is only mandated in agricultural operations that entail manufacturing-type work (e.g., produce packing houses) or involve pesticide use.^{5,6} There is no national standard that requires its use in most agricultural operations. In a survey of 197 LFWs in North Carolina, 98% reported not using protective eyewear in the field.⁷ Understanding the barriers to use of protective eyewear among LFWs is critical to informing the design of intervention programs to reduce eye injuries in this vulnerable population.

OBJECTIVES

This study is part of a larger project with an overall goal of reducing eye injuries in LFWs.⁸

The specific aim of this study was to determine the perceived benefits and barriers to use of protective eyewear—based on the experience and perception of LFWs—in order to inform interventions to reduce eye injuries and illnesses in LFWs.

METHODS

Ethnography Phase

After approval by the Institutional Review Board of the University of Illinois at Chicago (Protocol #2000-0023, 2001-0221), nine key informant interviews and six focus groups of 46 LFWs were conducted in Illinois, Michigan, and Texas—the latter being the site of winter migration of participants. Approximately half of these workers were migratory; virtually all were employed seasonally. Sessions were held at off-work hours in central locations, including homes, churches, a clinic and at a community center. Promotores de salud, who were part of the larger project, participated in the interviews and helped recruit other LFWs through the snowball method.⁹ Promotores de salud are “health promoters,” known in other public health literature as “peer health educators” or “community health workers”; they are recruited from within the migrant work force to

provide outreach and education, as well as participate in research, program implementation and evaluation. Interviewees were recruited to reflect the agricultural operations represented in the Midwest—field/crop/orchard workers (37), produce packers (25), and nursery/greenhouse workers (30); several of the interviewees worked in more than one operation. Informed consent statements were read to the subjects and their agreement to participate was verbal. Subjects were given a telephone calling card to compensate their time. Demographic information was not obtained in order to assure confidentiality. An open-ended questionnaire was developed to ask about work-related injuries and eye injuries for the overall project; for this part of the project, there were probes to elicit information on the perceived inducements/benefits and barriers to use of protective eyewear. Three trained, bi-lingual ethnographers, who spent time observing the LFWs work in the field, conducted the interviews and the six focus groups in Spanish, with at least two of the ethnographers present at each interview or focus group.¹⁰ One asked questions, a second took notes, and all sessions—ranging from 90-120 minutes—were tape recorded and transcribed. Analysis was conducted using Atlas/TI (Thousand Oaks, CA 1996), qualitative analysis software, using standard techniques of coding, memoing, and conducting thematic analysis.⁹

Field Study Phase

Promotores de salud were recruited and trained to distribute protective eyewear, to train on eye health and safety, and to collect information during each of the summer growing seasons of 2001 and 2002. The promotores took many styles and tints of ANSI certified safety glasses (ANSI Z87.1, www.ansi.org) into the field, testing them out and asking other LFWs to try them. From among these, they chose several styles, tints, and sizes, and, for the intervention, let participants choose from among several prototypes. In 2001, 16 promotores served more than 800 workers on 35 farms. In 2002, 14 promotores conducted the same activities among 725 LFWs on 17 farms in two counties in Illinois and Michigan. Their recruitment and training is described in a prior publication.⁸ Briefly, the promotores were recruited by a

community-based farm worker organization in each state with the expectation that they would receive program training, distribute eyewear, conduct educational sessions with their peers, and record eyewear use as well as perceived benefits and barriers among the LFW participants. At the time of distribution of glasses, they distributed print information—primarily photos with narrative in Spanish at a sixth-grade level that was previously piloted on LFWs—on eye health and safety. In addition, the promotores conducted at least two group training sessions and spoke with workers individually regarding use of safety glasses and eye protection (www.fenet.org).

Farms included one produce packing facility, greenhouses, sod farms, an apple orchard, a tree nursery, a spice processing facility, and specialty vegetable crop operations. During the harvesting season, the promotores, who worked alongside LFWs in this study, conducted periodic observations of safety eyewear use on each farm once per week, over a period of 12 to 16 weeks. They recorded the number of workers observed, the task of each worker, and whether the worker was wearing protective eyewear. At the time of observation, they asked each farm worker the reason for wearing or not wearing glasses. These answers were recorded on a log sheet, along with the observations of use and the task under observation. Responses to why or why not (using safety glasses) questions were organized into the same thematic conceptual matrix developed in the Field Study Phase (described above) to summarize responses by category, to evaluate the change in comments once the intervention was in progress, and to inform future interventions. Some of the same participants were interviewed in both phases of the study, and there was no apparent difference between those interviewed in either phase of the study.

RESULTS

In the Ethnography Phase, the main reasons for wearing or not wearing glasses in each of the three farming operations (Table 1) fell into the following categories: (1) perception of risk and the likely effectiveness of eyewear in reducing

TABLE 1. Reasons for use and non-use of protective eyewear among LFWs as ascertained through focus groups and interviews according to type of work. "What tasks do you do? Would you use safety glasses for these tasks? Why? Why not?"

	WHY?	WHY NOT?	COMMENTS
FIELD CROP TASKS			
Load trucks	Eyewear provided Protects from dust		"provided" denotes both no cost to workers and the mandate or importance to employer
Mix chemicals	Eyewear provided Protects from chemicals		
Hoe	Protects from sun		Work in upright posture—glasses don't fall off
Pick apples	Eyewear provided Mandatory after spraying	Sweaty Fog up (poor vision) Don't want to carry around (nuisance) Not mandatory	Maintaining on face is a matter of comfort; Use of glasses slows down work pace leading to lower production and lower wages; Visual changes: slower work; increased danger of falling and injury
Pick ground crops	Protects from sun	Sweaty Fog up Not provided Uncomfortable	See box just above
Work on or near machinery		Uncomfortable Fogging Caked with dust	
Multi-tasking		Don't like to carry, take off, put on (nuisance)	Some tasks "require" use, some do not
PACKING HOUSE TASKS			
Chop & pack produce	Knows someone who cut eye with knife	Not provided No risk perceived	
Disinfect/wash produce (chemicals)	Protect from chemicals, esp bleach	Not provided Not mandatory	
Apply preservatives (chemical agents)	Protect from chemical agents Protect from irritating plant residue	Not provided	
Sort produce, freeze dry, pack (dusty)	Protect from dust/irritation	Dust obstructs vision	Cleaning glasses slows production
Multi-task		Doesn't like to take on and off	Some tasks "require" use, some do not
Greenhouse/Nursery Workers (indoor/outdoor)			
Soil mixing machine (soil/dust/chemical agents)	Mandatory Protects from soil, dust, chemicals Prevents pterygium		
Planting (sun, sweat, dust)		No perceived risk	
Pulling carts, looking for crates		No perceived risk	
Weeding (sun, humidity)	Prevents pterygium		
Pruning	Prevents poking	Not mandatory Not provided	

Watering and fertilizing (splash of contaminated water)	Prevents splashing into eyes	Uncomfortable Forgets to bring	
Applying fungicide, insecticide	Not noted	Not noted	
Transplanting	Not noted	Not noted	

risk, (2) whether eyewear use was mandated by employers and whether it was provided, (3) impact on visual acuity, (4) comfort, (5) appearance, and (6) nuisance of carrying them. Workers talked about safety eyewear providing protection from dust, soil, chemicals, poking, splashing, and irritating plant debris, as well as one chronic condition—pterygium, a growth of tissue from the corner of the eyeball. Mandated use was also considered important, both in terms of following rules, and also because of the perception that the employer thought it was necessary to protect the workers. Visual acuity was described and weighted in importance in several different ways: some LFWs were not oriented to eyewear use and felt that it disturbed their vision, made them dizzy, and gave them headaches—mainly "comfort" issues. Others described fogging of the lenses which impaired their ability to work quickly, slowing down the pace, and, in many cases, reducing their wages, which are calculated on production. They also expressed concern about falls related to impaired vision. In terms of "comfort," aside from headaches and dizziness, workers talked about humidity and sweat causing discomfort and making the glasses feel like they were going to fall off, especially when doing tasks that required looking down, such as harvesting and hoeing field crops. "Appearance" was of concern to many farm workers: many said they liked the eyewear because it made them look like actors—Schwarzenegger was named on one occasion. Alternatively, there were workers who did not like the eyewear because they felt less attractive—"like an owl" ("como tecolote") according to one.

In the Field Study Phase of the project, the workers interviewed during job tasks noted all of the same issues described in the ethnographic interviews and focus groups (Table 2). There were a number of additional issues described, as well. After the 2001 growing season, many LFWs noted that they were unable to use dark glasses because of obstruction of vi-

TABLE 2. Reasons LFWs gave for use and non-use of safety eyewear after two seasons of experience with the intervention (safety glasses distribution and training) during observation at work, 2002.

	WHY	WHY NOT
FIELD/CROP WORK	<ul style="list-style-type: none"> To protect vision To protect against wind, sun, dust, eye illnesses To prevent touching eyes with dirty hands To look good ("like a movie star") I care about myself To work more quickly Everyone else is using them 	<ul style="list-style-type: none"> Eyewear is not protective Glasses are uncomfortable Glasses interfere with vision Glasses fall off Slow down work Not provided Already have glasses for vision correction Glasses "look funny" Need to "rest" eyes Make me sweaty Only need them for specific tasks
PACKING HOUSE WORK	<ul style="list-style-type: none"> To protect eyes from sun, dirt, water, chemicals, dust, metal shard Eyes were injured in the past 	<ul style="list-style-type: none"> Fogging Only needed for risky jobs, not all the time Forgot them Got broken Make me dizzy
GREENHOUSE/NURSERY WORK	<ul style="list-style-type: none"> Protect against dust, sun, eye diseases, pokes, infection "I know they are good for the eyes" 	<ul style="list-style-type: none"> Forgot glasses Give me a headache Not used to them Need only for specific tasks Mist obstructs vision Can't work fast enough

sion, particularly on cloudy days and in indoor operations; additionally, harvesters were unable to see the color of vegetables to determine their readiness for harvest. In 2002, only lightly-tinted glasses were offered. Reported benefits included that the glasses prevented them from touching their eyes with dirty hands; barriers included that the glasses got lost or broken, and they forgot to bring them to work. Again, it was pointed out that they undertook several tasks during work, some of which were risky and needed use of safety glasses, and some of which were not.

Interestingly, some workers said they worked faster with the glasses, and one said "I care about myself," an expression of self-efficacy. It was also noted that workers were influenced by their co-workers using them.

DISCUSSION

The hazards associated with eye injuries and illnesses are displayed in Table 3. Nearly all of

TABLE 3. Hazardous agents, mechanisms of injury and adverse health outcomes for the eye in agriculture.

AGENT	INJURY MECHANISM	OUTCOME
Brush, branches, plants	<ul style="list-style-type: none"> Penetrating trauma Blunt trauma 	<ul style="list-style-type: none"> Corneal abrasion Lid laceration Pierced globe Hyphema Allergic or infectious conjunctivitis Blindness
Farm chemicals (pesticides, fertilizers, gasoline, solvents, cleaning agents, antifreeze, vehicle fluids)	<ul style="list-style-type: none"> Chemical burn Absorption of toxic agent through mucous membrane Breach of barrier and introduction of infectious agent 	<ul style="list-style-type: none"> Corneal abrasion Corneal scarring Blindness Systemic toxicity Infection
Dust, debris, metal shards, particulate (from sharpening tools, kicking up dust, working on machinery)	<ul style="list-style-type: none"> Foreign body Acute trauma Introduction of infection 	<ul style="list-style-type: none"> Abrasion Laceration Pierced globe Hyphema Allergic/infected conjunctivitis Blindness
Plant debris (may be contaminated with microorganisms or farm chemicals)	<ul style="list-style-type: none"> Allergy Irritation Infection Chemical burn 	<ul style="list-style-type: none"> Red eye Infection Corneal abrasion Pierced globe Corneal scarring Blindness
Sun	<ul style="list-style-type: none"> UV light 	<ul style="list-style-type: none"> Cataracts Pterygium

these can be prevented by use of UV and impact resistant safety glasses. Several studies have reported that in the majority of serious, traumatic eye injuries, safety glasses were not worn.¹¹⁻¹³

Because most agricultural harvesting operations do not lend themselves to engineering controls, use of personal protective equipment (PPE) is an essential element of prevention. A comprehensive PPE program consists of workplace survey, selection of appropriate PPE, fitting, training, management support, maintenance, and auditing of the program.¹⁴ Although many of the expressed reasons for using or not using protective eyewear were the same in the ethnographic and field study phases of the project, the field study phase added several practical considerations, including remembering the glasses, maintaining, replacing, and storing them. A program that includes distribution and maintenance of eyewear would address these issues. It would also include a plan for accidents (e.g., eye wash, triage). In addition, following a "best practices" approach that entails getting employer and supervisor support, including workers in selection of glasses, training workers, and promoting use has been shown to increase use of protective eyewear among work-

ers.^{15,16} A program utilizing *promotores de salud* has been shown to be effective for impacting use of protective eyewear in LFWs.^{8,17} Such an approach implies a high priority of the employer, if not a mandate, and would address these workers' concern about appearance, as well.

Visual acuity: One issue associated with decreased visual acuity is fogging of the glasses. Reducing fogging requires a study of eyewear design and treatment to improve vapor and water resistance. In part, simply getting used to wearing glasses may mitigate the perception of decreased visual acuity. It is important to look at injury rates with and without safety glasses to be sure that they are not contributing to other injuries, such as falls in tree-harvesting operations.

Slowing down the pace of work: Interestingly, workers interviewed in the field during phase two thought that the glasses help them work faster, perhaps because they were not concerned about or hindered by eye hazards, like branches or flying debris. Whether glasses slow down or increase the pace of work has yet to be studied. The economic structure that entails pay for production rather than pay per hour will always tend to work against taking safety precautions.

Perception of risk: Understanding the perception of eye injury risk by the LFW population is essential in promoting the use of protective eyewear. In this study, some of the workers described specific exposure hazards—chemicals, dust, irritating plant material, UV light, metal shard—as putting them at risk for eye injuries. Health promotion messages in the forms of photographs or comic strips (*fotonovelas*) could include these descriptions by farm workers.¹⁸

The observation that all job tasks are not equally risky is another reason that was given for not using glasses. An audit of the job tasks in each workplace could inform the employer and the workers of eye hazards specific to each task. While it is simpler to require use of protective eyewear across the board, a mandate may be more acceptable if it is required only for hazardous job tasks.

Comfort, sweating: Sweating may cause the glasses to fall off or slow the work pace. Potential strategies for this problem could include use

of a band that holds the glasses on and provision of a headband or a rag to dry the sweat. Again, addressing this issue in glasses selection and in health promotion messages could be useful.

Prior ethnographic work in this population has suggested that other factors that impact use of safety glasses include ambient weather conditions, experience with or knowledge of eye injuries, modeling by supervisors, training, acceptance of risk as being a part of employment, and other cultural and personal characteristics.¹⁹ A model utilizing *promotores de salud* has been shown to be effective.⁸ Additionally, cost may be a factor, but was not addressed here. Finally, legislation with enforcement and the effect of an employer mandate could override many of the concerns expressed by the farm workers in this study.

CONCLUSIONS

A comprehensive PPE program should be developed for use of protective eyewear in Latino migrant and seasonal farm workers. It should identify hazardous job tasks, mandate eyewear use in those tasks, provide worker-preferred styles, and implement a plan for distribution, maintenance, storage, replacement, training, and ongoing evaluation of effectiveness of the program. Formal testing of various designs for fogging prevention and worker acceptability may substantially increase compliance. Training programs and eye health promotion images should take into account the barriers and inducements to using eyewear as expressed in this study, namely prevention, attractiveness, comfort, and visual acuity. A successful program that promotes use of safety glasses among LFWs could be disseminated across the U.S. to significantly reduce eye injuries in this vulnerable population.

REFERENCES

1. Islam SS, Doyle EJ, Velilla A, Martin CJ, Ducatman AM. Epidemiology of compensable work-related ocular injuries and illnesses: incidence and risk factors. *J Occup Environ Med* 2000 Jun;42(6):575-81.
2. U.S. Department of Labor, Bureau of Labor Statistics(a). Occupational Illnesses and Injuries. Injury

- Rate Calculator, <http://stats.bls.gov/iif/home.htm>. Click on "Create Customized Tables (one screen)," "Data Type: 10,000 full time workers," "Case Type: by detailed body part," "Body Part: eye," "Industry: agriculture." [Cited 2006 May 19].
3. Villarejo D, Baron SL. The occupational health status of hired farm workers. *Occup Med*. 1999 Jul-Sep; 14(3):613-35.
 4. U.S. Department of Labor, Occupational Safety & Health Administration (a). Eye and Face Protection eTool. Available from: <http://www.osha.gov/SLTC/etools/eyeandface/index.html> [cited 2006 Apr 24].
 5. U.S. Department of Labor, Occupational Safety & Health Administration (OSHA) (b), OSHA, Eye and Face Protection Standard 29 CFR 1910.133. Available from: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9778 [cited 2006 Apr 24].
 6. U.S. Environmental Protection Agency, Worker Protection Standard. Available from: <http://www.epa.gov/seahome/pestregs.html> [cited 2006 Apr 24].
 7. Quandt SA, Elmore RC, Arcury TA, Norton D. Eye symptoms and use of eye protection among seasonal and migrant farmworkers. *South Med J*. 2001 Jun;94(6):603-7.
 8. Forst L, Lacey S, Chen HY, Jimenez R, Bauer S, Skinner S, Alvarado R, Nickels L, Zandoni J, Petrea R, Conroy L. Effectiveness of community health workers for promoting use of safety eyewear by latino farm workers. *Am J Ind Med*. 2004 Dec;46(6):607-13.
 9. Patton MQ. Qualitative evaluation and research methods. Pacific Grove (CA): Brooks/Cole; 1990.
 10. Krueger RA. Focus groups: A practical guide for applied research. Newbury Park (CA): Sage Publications; 1988.
 11. Fong LP, Taouk Y. The role of eye protection in work-related eye injuries. *Aust NZ J Ophthalmol*. 1995 May;23(2):101-6.
 12. U.S. Department of Labor, Occupational Safety & Health Administration (OSHA) (c). Fact Sheet No. OSHA 92-03, 1993. Available from: <http://www.pp.okstate.edu/ehs/training/oshaeeye.htm> [cited 2006 May 1].
 13. Vasu U, Vasnaik A, Battu RR, Kurian M, George S. Occupational open globe injuries. *Indian J Ophthalmol*. 2001 Mar;49(1):43-7.
 14. Canadian Center for Occupational Health and Safety. 1997. Designing an effective PPE program. Available from: <http://www.ccohs.ca/oshanswers/prevention/ppe/designin.html> [cited 2006 May 1].
 15. Lipscomb HJ. Effectiveness of interventions to prevent work-related eye injuries. *Am J Prev Med*. 2000 May;18(4 Suppl):27-32. Review.
 16. Mancini G, Baldasseroni A, Laffi G, Curti S, Mattioli S, Violante FS. Prevention of work related eye injuries: long term assessment of the effectiveness of a multicomponent intervention among metal workers. *Occup Environ Med*. 2005 Dec;62(12):830-5.
 17. Monaghan P, Bryant CA, Moreno T, McDermott RJ, Forthofer MS, McCormack-Brown K. Collaboration on migrant health issues among diverse communities: lessons learned from the partnership for citrus worker health in Immokalee, Florida. Presented at the Annual Meeting of the American Public Health Association, Washington (DC); Nov 2004.
 18. Rural Women's Health Project. Rural Women's Health Network. Available from: <http://www.rwhp.org> [cited 2006 May 1].
 19. Noth IM. Occupational health risk perceptions of Latino migrant farm workers. Eyewear use and safety behaviors. Dissertation Abstracts International. 2005; 66-04, Section B, p. 2017.

RECEIVED: 03/21/2005
 REVISED: 02/18/2006
 ACCEPTED: 05/02/2006

doi:10.1300/J096v11n02_04