



Association of Farmworker
Opportunity Programs

Preventing Pesticide Exposure to Farmworker Families in the United States

LEAF (*Limiting Exposures Around Families*) Program Design

Health & Safety Programs staff: Levy Schroeder, Director • Jessica Werder, Senior Program Manager • Melanie Forti, Program Coordinator • Valentina Stackl, Program Associate for Communications and Publications • Amanda Jordan, Program Associate for Outreach and Training

Abstract

The program development for Project LEAF (Limiting Exposures Around Families or *Limitando Exposiciones Alrededor de las Familias* in Spanish) was initiated by AFOP Health & Safety Programs in January, 2008. Since 1971, the Association of Farmworker Opportunity Programs' (AFOP) mission has been to improve the quality of life for migrant and seasonal farmworkers and their families by providing advocacy for the member organizations that serve them. The thread that binds the Association is the concept that training and education can provide the launching pad to a better and more stable life for the workers who plant, tend, and harvest the crops that we consume at our tables.

Funded by the Environmental Protection Agency (EPA) through a five-year cooperative agreement, Project LEAF educates farmworker parents about the dangers of "take-home" exposure, urging them to consider certain precautions to prevent the transfer of agricultural pesticide residues from their work environments into their homes. Farmworkers who labor in fields throughout the U.S. have generally been educated to a 7th grade level. Typically native Spanish speakers, these men and women have limited English language skills and low literacy levels in their own language.

Workers may receive little or no training on pesticides, and families waiting for them at home often have even less knowledge about these chemicals. The bilingual, low-literacy, interactive training curriculum of Project LEAF was created by AFOP's experts in farmworker health and safety, field tested, and then modified through focus groups in 2009. Currently, the project operates in 10 different states, including large agricultural regions in California and North Carolina, with hopes of reaching 25,000 farmworker family members over 5 years.

Background

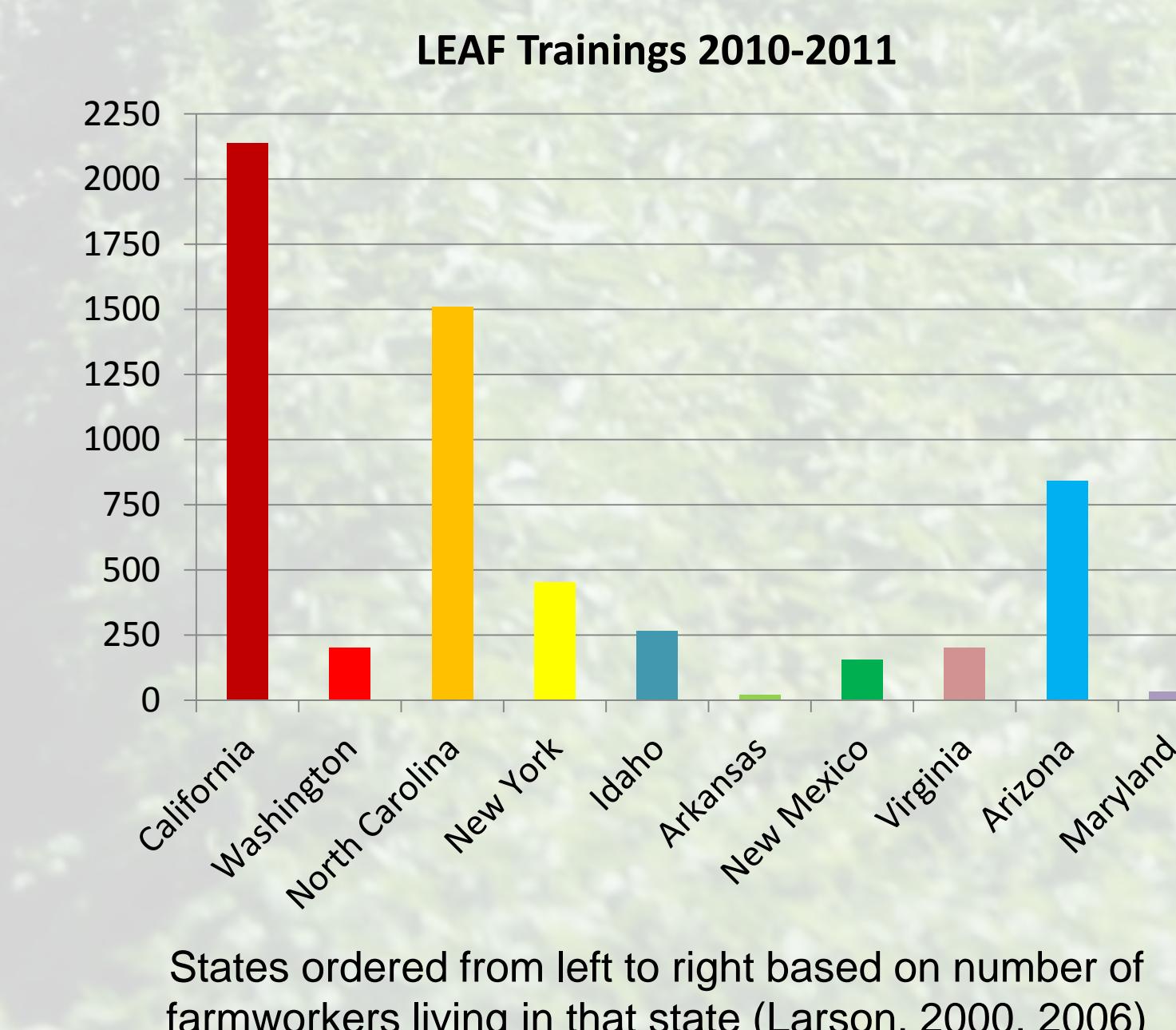
Children are highly susceptible to the negative health effects of pesticides because their bodies are still developing. Without realizing, family members working in the fields can take home pesticide residue, leaving traces on furniture, carpets, and clothing. In a study of 41 homes of migrant farmworkers in North Carolina, wipe samples of the floor found pesticide residues in 95% of houses, samples from toys found evidence of pesticides in 71% of houses, and 55% of households tested had children with pesticide residues on their hands after touching the toys (Quandt, 2004).

Evidence points to possible links between pesticide exposure and a variety of significant health problems, as stated in the primary studies gathered and compiled by AFOP in *Dangerous Exposure: Farmworker Children and Pesticides* (2011), including:

- Birth defects
 - Limb and neural tube defects, male urogenital malformations, spontaneous abortions
- Childhood cancers
 - Leukemia, lymphoma, brain tumors
- Neurological development
 - Problems with mental flexibility, Attention-Hyper Deficit Disorder (ADHD), autism
- Respiratory complications
 - Wheezing, asthma, respiratory allergies

Preliminary Results

Currently, Project LEAF operates in 10 different states, including large agricultural regions in California and North Carolina. In the first year of Project LEAF's operation, 5,611 farmworker family members were trained on take-home pesticide exposure.



Curriculum Design

AFOP staff and five experts from its member organizations with in depth knowledge in pesticide safety education from California, Indiana, Maryland, Virginia, and Washington created the curriculum; collectively, they had over 90 years of experience. A children's literature artist acquainted with Latino audiences was hired to depict the Soto family, a fictional farmworker family learning about the dangers of take-home pesticide exposure, in the curriculum materials. The training curriculum was then field tested and modified through focus groups in 2009. Project LEAF's training materials—including a portable flip chart and paper materials for trainees to take home—are approved by the EPA's Office of Pesticide Programs.



The following messages form the basis for the low-literacy, bilingual, interactive curriculum design of Project LEAF:

Children are not little adults. Pediatric medical literature suggests that many physical and behavioral characteristics of children distinguish them from adults, making them more vulnerable to environmental exposures. Trainers emphasize with farmworker parents how children's bodies undergo rapid development in their early years. Their curiosity, short distance from the ground, and tendency to place objects in their mouths create an increased opportunity for contact with pesticide residues.

Many studies have detected residues from agricultural pesticides on farmworkers' clothing, skin, and work shoes. AFOP's Project LEAF trainers use a number of interactive activities to demonstrate to parents that pesticide residues do, in fact, travel very easily from the field to their homes.

Parents need accurate information to make informed decisions. In addition to focusing on the dangers of pesticides for children, trainers provide parents with concrete recommendations to reduce take-home exposure, such as washing work clothes apart from family clothes and not using agricultural pesticides in the home.

Program and Training Design

Project LEAF was designed for farmworkers' specific needs as a largely immigrant and low-literacy population. Parents in farm work need practical advice on limiting their children's exposure to pesticides. AFOP created several activities, including guided visualizations and demonstrations to accompany the low-literacy curriculum for the program. Easy to use tools that remind participants of Project LEAF's key messages were also developed as take-home materials they can take home to reinforce training, including colorful brochures and washing-machine magnets. Trainings generally last 30-45 minutes in order to respect the busy schedules of farmworker parents and facilitate retention of the key concepts.

Dialogue between trainers and participants create brainstorming opportunities for adults to reflect on their daily routines and make healthier choices. For example, washing work clothes separate from family clothes (including what is referred to colloquially by trainers as "ropa dominguera" or Sunday clothes, a cultural reference used by farmworkers to describe their nicest clothing reserved for church on Sundays), changing work clothes before hugging children, and refraining from taking agricultural pesticides and their containers home are several suggestions in the training.

The majority of Project LEAF trainers hired by AFOP are native speakers or fluent in Spanish in order to best communicate the material in the language predominantly spoken by farmworkers. While the curriculum for the trainers was originally designed in English, the need quickly arose for a Spanish "Train the Trainer" to equip educators and convey messages in the language in which most trainings are done. A curriculum is being designed in Spanish for trainers, enabling them to understand the health effects of pesticides in Spanish, as well as providing advice on developing their own training techniques.



Project Goals

- 1) Reach a total of 25,000 farmworker family members through take-home pesticide exposure education. The target goal for each year of the five-year cooperative agreement (March 2010-March 2015) is to train 5,000 farmworker family members.
- 1) Add two new Project LEAF training operating sites each year of the agreement through 2015.
- 2) Complete training design and curriculum for Spanish language "Train the Trainer."
- 3) Print and distribute written material to trainees, including Spanish and English brochures, appliance magnets, posters, laundry bags, and bilingual fold-out cards.



Washing-machine magnet: Placing the magnet on the washing machine provides an opportunity to reinforce training points. Its Large size and Spanish or English language options facilitate readability.



Improving Health Literacy in Farmworker Communities

The training curriculum for Project LEAF utilizes vocabulary appropriate for workers who have completed a 7th grade education (NAWS 2001-2002). Because 44% of farmworkers do not read or speak English, and 81% are native Spanish speakers, all Project LEAF materials are in Spanish and English. Culturally and regionally appropriate Spanish vocabulary introduces complex concepts like pesticides with simple terminology. All Project LEAF trainers are bilingual in English and Spanish. Many of the trainers directly serve the communities they grew up in—some are even former migrant farmworker children—allowing a better understanding of the information as it comes from a trainer who knows the cultural vocabulary and context of her/his audience. Also, the culturally sensitive pictures used during the trainings are designed to convey the key messages, even if the participant does not understand Spanish or English.

Sources

Association of Farmworker Opportunity Programs (2011). Dangerous exposure: Farmworker children and pesticides. The Fields. AFOP Health & Safety Programs.

Findings from the National Agricultural Workers Survey (NAWS) 2001 - 2002. A Demographic and Employment Profile of United States Farm Workers (Mar 2005). U.S. Department of Labor, Office of the Assistant Secretary for Policy, Office of Programmatic Policy, Research Report No. 9.

Larson, A. Migrant Enumeration Study update (2000, 2006). Washington DC: Office of Minority Health. Accessed via National Center for Farmworker Health. Migrant and seasonal farmworker demographics. <http://www.ncfh.org/docs/fs-Migrant%20Demographics.pdf>

Quandt, S. A., et al. (2004). Agricultural and residential pesticides in wipe samples from farmworker family residences in North Carolina and Virginia. Environmental Health Perspectives. 112(3): p.382-7.

For a complete list of sources and a free copy of *Dangerous Exposure* (2011), communicate with AFOP staff through the contact information listed below.