

The Farmworker Protection Standards Revisited

by Lisa J. Gold

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Abstract

Nearly a decade ago, the EPA implemented comprehensive regulations intended to protect farmworkers from the harmful effects of pesticides in the workplace. These “Worker Protection Standards” mandated that farmworkers receive training in the avoidance of pesticide exposure and what to do if an exposure occurs. The WPS was a sign of progress in the area of occupational health of farmworkers, and brought farmworkers closer to receiving some of the protections provided by federal law.

In 1996, JSRI published a research report which examined the history, requirements, and implementation of the WPS. That report discussed the absence of information available in Michigan about farmworker health and occupational illness. This research report updates to the earlier one, examining issues affecting the implementation and efficacy of the WPS since 1996, and examining what can be learned from recent information on the occupational health of farmworkers regarding pesticide exposures in the fields.

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The Farmworker Protection Standards Revisited

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The Farmworker Protection Standards Revisited

Nine years ago, the EPA began to implement the first set of comprehensive regulations intended to protect farmworkers from the harmful effects of pesticides in the workplace.¹ These regulations, known as the Worker Protection Standards, mandated that farmworkers receive training in how to avoid exposure to pesticides in their work, and what to do if an exposure occurs. Despite the fact that they were late in coming, the creation and implementation of the WPS was a sign of progress in the area of occupational health of farmworkers, and brought farmworkers a step closer to receiving some of the protections provided by federal law to other hazardous occupations.

In 1996, at the beginning of the era of the WPS, JSRI published a research report which examined the history and requirements of the Worker Protection Standards and described their implementation.² That report also discussed the almost total lack of information available in Michigan (and generally) about farmworker health and occupational illness. This report will serve as an update to that one, examining issues affecting the implementation and efficacy of the Worker Protection Standards since 1996. It will then look at what can be learned from recent information on the occupational health of farmworkers regarding pesticide exposures in the fields.³

The WPS on the National Level

How the Worker Protection Standards Address the Dangers Posed by Pesticides

Pesticides are designed to kill pests, but many can also kill people. Many pesticides are carcinogens; most also disrupt the reproductive system and the endocrine system. These are very serious dangers. Farmworkers can be exposed to pesticides in many ways: by preparing or mixing a pesticide for use; by loading it into the application equipment; by applying the pesticide; by entering an area where pesticides have been applied; by being in an area to which pesticides have drifted; and by

being around other farmworkers who have been exposed and are carrying pesticide residues on their clothing or equipment. Farmworkers' families can be exposed in these same ways.

Pesticides encompass many products. They are used to kill insects, weeds, fungi, rodents, and all manner of other pests that prey on crops and plants. There are about 17,000 different pesticide products used in the U.S., many manufactured by some of the largest American chemical companies (and some of the largest companies around the world). These products contain thousands of different chemical ingredients. According to the EPA, "Adverse effects of pesticide exposure range from mild symptoms of dizziness and nausea to serious, long-term neurological, developmental and reproductive disorders. Americans use more than a billion pounds of pesticides each year to combat pests on farm crops, in homes, places of business, schools, parks, hospitals, and other public places."⁴

The WPS were proposed by the EPA⁵ in 1988, adopted in 1992, and went into effect in 1995. The WPS require that farmworkers receive training in how to avoid pesticide poisoning.⁶ These requirements are accompanied by parallel regulations requiring that worker protection information be provided on the label of pesticide containers. Providing the WPS training is the responsibility of the farmer or employer. Providing accurate information on the pesticide label on how to safely handle that pesticide and how to avoid exposures to farmworkers is the responsibility of the chemical company manufacturing the pesticide. The WPS are actually enforced as labeling requirements rather than as workplace safety requirements. Failure to properly implement the worker protection requirements constitutes "use of a registered pesticide in a manner inconsistent with its labeling," which is a violation of federal law and can lead to monetary penalties.⁷ According to the EPA, the WPS provides protection to more than 3.5 million people who work with pesticides at over 560,000 workplaces.

Two kinds of employers are subject to the worker protection requirements.⁸ The first is agricultural employers, who include “any person who hires or contracts for the services of workers ... to perform activities related to the production of agricultural plants, or any person who is an owner of or is responsible for the management or condition of an agricultural establishment that uses such workers.”⁹ This is a broad definition, pulling in farm owners, farm managers, and labor contractors working on farms, forests, nurseries, and greenhouses. It does not apply to dairies or any animal farms.

The second category of covered employers are handler employers, who include those who employ workers that handle, mix, and apply the pesticides.

For the last nine years, these employers have been responsible for ensuring workers receive the protections required by the rules, that all pesticides are used in a manner consistent with their labeling, and that all supervisors implement the protections.¹⁰ Employers can be fined for taking retaliatory action against any farmworker or handler for attempting to comply with the regulations, and employers are prohibited from doing anything that discourages compliance. If a farm manager decides to ignore a protection requirement, both the manager and the farm owner can be fined.

The specific safety standards covering farmworkers have several aspects:

- (1) Employers may not allow or direct workers to enter or remain in a treated area during application of a pesticide, except for appropriately trained and equipped handlers. However, there is no mechanism by which workers in the field are ensured that they will be warned prior to the spraying of adjacent fields;¹¹
- (2) Employers must consult the pesticide label to determine the restricted-entry interval (“REI”) for each pesticide application, and may not allow or direct any worker to enter or remain in any treated area during the REI;¹²

- (3) Employers must provide notice to workers of pesticide applications, in language that is understandable to the workers. The notice usually consists of specified signage in red (PELIGRO • PESTICIDAS • NO ENTRE, DANGER • PESTICIDES • DO NOT ENTER) which must be posted at field entrances before the application and remain throughout the REI;¹³

- (4) Workers must be provided with specific information about any pesticides that have been applied within the last 30 days, including such things as the product name and its active ingredients;¹⁴

- (5) Employers must provide workers with pesticide safety training within the first five days of employment (unless the worker has previously been verifiably trained at another farm), and must retrain them every five years;¹⁵

- (6) Employers must post, within certain areas, specific pesticide safety information regarding exposure prevention and what to do if one occurs, including how to obtain emergency medical care;¹⁶

- (7) Employers must provide a decontamination site at the nearest place of vehicular access, with ample clean water and soap;¹⁷ and

- (8) When pesticide poisoning occurs, employers must make available immediate transportation to an emergency medical facility, and provide the medical personnel with any available information on the pesticide, the application, and the circumstances of the exposure.¹⁸

In addition, pesticide product labels must indicate how a pesticide may be used and what protective clothing or other measures may be necessary for maintaining worker safety.

There are several requirements which apply to the safety training, the keystone of worker protection. First of all, employers themselves must be trained by EPA-approved trainers in how to provide safety training (the “train the trainer” requirement).¹⁹ The training itself must convey understandable information (that is, in the language of the audience) regarding the hazards of pesticides,

acute and chronic effects of exposure, delayed effects, sensitization, how pesticides enter the body, signs of common types of poisoning, how to get emergency medical care, how to decontaminate, hazards from drift, hazards from pesticide residues on clothing, how to avoid taking residues home, and an explanation of the REI and the required signage. Although training materials include videos, there must be a certified trainer present at all trainings to answer questions.²⁰

State land grant universities and state pesticide regulatory agencies are expected to participate and support the implementation and enforcement of the WPS. States do this by entering into cooperative agreements with the EPA, by which the state agrees to carry certain implementation and enforcement activities with regard to the WPS, and the EPA agrees to provide a certain amount of funding for this effort. In Michigan, the designated lead agency for enforcement of the WPS is the Michigan Department of Agriculture.

A violation of any provision of the WPS can subject the violator to penalties.²¹ The enforcement options available to state inspectors are: notices of warning; civil administrative penalties; stopping the sale or use of a pesticide or removing it from the market; seizures; injunctions; and criminal sanctions.²² Federal law requires that a first offense by a private applicator result only in a written warning – civil penalties may be imposed for subsequent violations.²³ The government is required to take certain considerations into account when deciding which type of penalty to impose and how large the monetary penalty should be.²⁴ Factors like the toxicity of the pesticide, the severity of the injury to human health or the environment, the compliance history of the violator, the size of the business, and the ability of the violator to continue in business are all considered in determining penalties.

The Clinton Administration's Focus on Children and Environmental Hazards

During the Clinton Administration, some interest was focused on the issues of environmental justice and the effects of environmental hazards on children. President Clinton issued an Executive Order on Environmental Justice, which directed that when there is a group disproportionately exposed to an environmental poison, the EPA should “fully enforce the environmental laws.”²⁵ As a result, the EPA issued a report on the greatest environmental hazards to children, and set up the Children’s Health Protection Advisory Committee in 1997. The CHPAC was asked to develop a set of recommendations to take to the EPA Administrator concerning which regulations, of the hundreds of thousands that exist, should be reevaluated based upon the effect on children’s health. The Committee submitted its five recommendations, three of them concerning pesticides,²⁶ in 1998. CHPAC recommended the EPA reevaluate the implementation and enforcement of the WPS, pesticide tolerances²⁷ for organophosphates (the most common types of pesticides in use), and pesticide tolerances for atrazine.²⁸

The recommendation stated: “Children may be exposed to pesticides through employment in farm work, by eating fruits and vegetables directly from the fields while at work, or by drift from field applications to neighboring residential areas and schools. Pregnant and lactating women who work in farm fields or reside in neighboring areas can also expose fetuses and neonates to pesticides. The current (farm) worker protection standard has not considered these pesticide exposures to children. Under [federal law] (the) EPA has the authority to regulate these childhood and prenatal exposures to pesticides... The CHPAC recommends that (the) EPA expeditiously re-evaluate the worker protection standard in order to determine whether it adequately protects children’s health.”²⁹ The EPA responded by adopting the recommendation and offering to “carry out a more comprehensive set of initiatives than recommended.”

Part of the EPA's plan included a national assessment of the implementation and enforcement of the WPS. The EPA also considered revising its process for determining pesticide residue tolerances and exposure tolerances for children, to take into account the fact that exposure to children is more dangerous than exposure to adults.

Children's pesticide tolerances needed revision because research has shown that children have a faster metabolism than adults, causing their bodies to process more toxin from the same amount of exposure as an adult. This is because they eat, drink, and breathe more, relative to their body weight, than adults do.³⁰ This makes all exposures to environmental toxins more dangerous for children.³¹ Hence, the EPA realized that all risk assessment determinations need to take the special characteristics of children into account, and set separate requirements for children.

In 1996, this issue was addressed by the new federal Food Quality Protection Act of 1996, which changed pesticide regulation. The FQPA did not make any changes to the WPS, but it did change the requirements for setting pesticide residue tolerances by identifying the problem with the tolerance setting process for infants and children, and mandating that these settings take account of their differences.³² The FQPA requires the EPA to reevaluate the amount of pesticide residues allowed on or in food, taking into account consumers' aggregate exposure from other sources, including residential exposures. It also requires the EPA to apply an additional margin of safety, usually tenfold, in setting residue limits to ensure the safety of food for infants and children.

This law also directed the EPA to consider whether there exists "major identifiable subgroups" of the population in the setting of pesticide tolerances, that require special consideration.³³ Using this provision, the Natural Resources Defense Council, one of the most powerful pro-environment activist organizations, petitioned the EPA in 1998 to identify farm children as a "major identifiable subgroup" under the FQPA, so a separate set of tolerances could be set for this special population.³⁴

The NRDC pointed out that farm children are disproportionately exposed to pesticides. The petition has not yet been acted upon by the EPA, and also became a lawsuit with the same goal. In September 2003, 11 farmworker and environmental groups sued the EPA in federal court in New York City, charging that the EPA is allowing five hazardous pesticides to be used on food without ensuring the safety of infants and children, in violation of the FQPA.³⁵

Relying on its own 1998 report, "Trouble on the Farm: Growing Up With Pesticides in Agricultural Communities," the NRDC argues that farm children of all ages spend time in the fields, whether they are working, walking through, or playing while their parents work. The NRDC posits that approximately 320,000 children under the age of six live on farms, and that the nation's 2.5 million farmworkers have approximately 1 million children living in the U.S. They come into contact with pesticide residues from their parents' skin and clothing, dust tracked into the house, contaminated soil in play areas, drift from aerial spraying, indoor and outdoor air contamination, food eaten directly from the fields, and contaminated well-water, as well as by working. Though occupational health data is slim (see II. B., *infra*), there is sufficient data to show farm children are at an increased risk due to their contact with pesticides.³⁶ Human Rights Watch estimates that there are between 400,000 and 800,000 children who are farmworkers in the United States.³⁷

This situation could not happen in any industry other than agriculture, due to the unique legal concept known as "agricultural exceptionalism." Based upon the purported exceptional nature of this industry, agricultural workers are excluded from the most basic of federal laws designed to protect the rights and health of the labor force in the United States.³⁸ For example, agricultural workers are excluded from coverage under the National Labor Relations Act, which accords federal protection to organizational and collective bargaining activities in most industries [29 USC § 152(3)]. Michigan's comprehensive labor relations act also excludes farmworkers [MCL § 423.2(e), 423.8]. Likewise, the Fair Labor Standards Act, which sets basic wage and

hour standards, as well as child labor limits, prohibits the employment of minors under 16 years of age, in general, but exempts children employed in agricultural labor from that provision [29 USC § 213(a)(6)]. Children as young as 16 may work in agriculture in any capacity, including in hazardous occupations, while children generally may not work in hazardous occupations until age 18.³⁹ That law also allows for the employment of children, 10-16 years old with parental consent, but *only* in agricultural labor [29 USC § 213(c)(1), (c)(4)]. Michigan law likewise allows for the employment of children under 16 years of age in agricultural labor [MCL § 409.119].

The NRDC's lawsuit is an attempt to make small inroads against the inequities brought about by agricultural exceptionalism. However, it will probably be several years before it results in any EPA action, as presidential administrations have changed and the EPA's focus is now elsewhere.

The GAO Report

Additional political forces brought pressure to bear on EPA to take another look at the enforcement of the WPS. In 1999, Representatives Henry Waxman (D-Cal.), Tom Lantos (D-Cal.), and Bernard Sanders (I-Vt.), requested the U.S. General Accounting Office – the audit, evaluation, and investigative arm of Congress – to investigate and report to the House on issues related to the safety of children who may be exposed to pesticides in agricultural settings. Pursuant to the request of the three congressmen, the GAO investigated these three questions: (1) what federal requirements govern the safe use of pesticides, particularly as they relate to protecting children in agricultural settings; (2) what information is available on the acute and chronic effects of agricultural pesticide exposure, particularly on children; and (3) what has EPA done to ensure that the WPS considers the needs of children and is being adequately implemented and enforced.

The GAO produced a comprehensive and highly critical report on the EPA's implementation of the WPS.⁴⁰

Most notably, the GAO Report confirmed and condemned the total lack of data on the issue of the health effects of pesticide exposure on farmworkers. "Comprehensive information on the occurrence of acute and chronic health effects due to pesticide exposure does not exist – whether for farmworkers, farm children, or the population in general."⁴¹ In 1993, the GAO reported that there was no way of monitoring rates of pesticide related illnesses, and the 2000 GAO Report states "Our current work shows that this problem remains largely unaddressed... the studies that have been conducted to date have been limited, inconsistent, and inconclusive."⁴² "No comprehensive national data exist on the extent to which farmworkers (and farm children) are experiencing acute pesticide incidents or illnesses."⁴³ The GAO Report notes that several studies are ongoing (referring to those listed in footnote 31, *supra*), "but it will be many years, perhaps decades, before conclusive results from these studies are known."⁴⁴

The EPA, the Centers for Disease Control, and the National Institutes of Health all reported to the congressional investigators that "the chronic effects of agricultural pesticide exposure on humans have not yet been conclusively researched... NIOSH told us that virtually nothing is known about the combined effects of different pesticides on human health. The chronic effects of pesticides on children have been researched even less than these effects on adults."⁴⁵

The GAO makes several conclusions critical of EPA's lack of commitment to the WPS, finding the "EPA has little assurance that the protections called for in the Standard are actually being provided to farmworkers generally or to children who work in agriculture."⁴⁶ The GAO Report focuses on two specific problems that need immediate action: (1) the fact that the reentry intervals appear to have been set based upon adult tolerances for exposure even though data shows that children are also in the fields, and (2) the fact that the regions of the country are entirely inconsistent in their enforcement of the WPS, with some states performing many inspections, and other states performing none at all.

The National Assessment of the WPS

The GAO noted the EPA needs to provide leadership in the area of enforcement by coming up with a set of consistent policies as to what constitutes an adequate WPS compliance inspection, and how many inspections should be undertaken each year in the states; as well as making an immediate adjustment to the REIs if they are not protective of children.

The GAO Report cites the Department of Labor estimates that there are about 2.5 million hired farmworkers in the United States, but states that the number of children who work in agriculture is not reliably known. The DOL's National Agricultural Workers Survey indicates that in 1998 about 129,000 14- to 17-year-olds were being hired to work on crops in the U.S. – surely an underestimate. The DOL did not survey workers under 14, but did indicate that, in 1996 and 1997 for example, 7% of farmworkers with children 5 years of age or younger took their children with them, at least sometimes, to the fields. The DOL's Wage and Hour Division reported in 1999 that “farmworker children [are] forced to suffer long hours in the fields with both parents working and [virtually] no day care alternatives.”⁴⁷

The WPS are supposed to apply to any person who is compensated for activities related to producing agricultural plants, and that definition would include children who are below the legal age to work, which is generally 12 years old in agriculture (although it can go lower). As the GAO notes, “enforcement of the Standard specifically for these young children is problematic because proving that children are working for compensation is difficult when such activity is illegal.”⁴⁸ It is unlikely that a state inspector will find any records pertaining to the illegal employment, thus it may appear that children are not working in the fields when, in fact, they are. Theoretically, all children working in agriculture for compensation should be receiving the same training that the adult workers are required to receive, should be aware of the signs indicating when a field cannot be entered, and should be aware of where and how to seek help if they become ill.

After the issuance of the GAO Report, the EPA conducted a national assessment of the WPS. This assessment consisted of three meetings – one each in California, Florida, and Washington, D.C. – taking comments from all attendees and compiling those comments into Workshop Reports, which are available from EPA's website. The Workshop Reports reveal that farmworkers, handlers, farmers, and state inspectors all agree that the WPS program is not working well, is not reaching the target population in many cases, and needs serious improvements in order to bring pesticide safety training to those who need it.⁴⁹

The EPA made the decision to hold the workshops and perform the assessment, based upon the fact that state officials in charge of the day-to-day implementation and enforcement of the WPS had many serious concerns about how the program operated. In addition, the EPA cited the GAO and CHPAC studies and recommendations as significant factors in influencing the EPA to perform the assessment, as well as collecting input from farmworker groups. In addition to looking at the effectiveness of the WPS and the scope, quality, and delivery of the states' program, the EPA committed to reviewing the special needs of children as agricultural workers, and strategies for educating healthcare workers and the medical community about the dangers of pesticides and treatments for exposures.

The assessment reveals many of the failures of the WPS thus far. The WPS is an unfunded mandate and, while states put money into the initial implementation of the program, much of that money has dried up; the EPA has not sufficiently funded the WPS program at the state level. As a result, many states attempt to simply “get away with not having it.”⁵⁰ State structures are beginning to disappear due to lack of funding support, and no mechanism has yet been devised to require employers to pay for the program. Some participants reported that higher enforcement penalties would be appropriate, both as a deterrent and as a source of funding for the program.

Participants noted that because the WPS law does not require any recordkeeping, complaints often come down to ‘word against word.’⁵¹ Inspection criteria are also not defined in the law, and each state applies its inspection criteria inconsistently. There is no single centralized place to report problems or pesticide exposures, and incidents often go unreported. Participants further noted that there is no national system for enforcement or reporting – voluntary reporting simply does not work and, even if it did, is not good enough to protect this population.

Participants noted that it currently makes economic sense for farmers to violate the WPS because the penalties do not stiff enough to outweigh the cost of compliance. Most enforcement actions consist of warning letters. There is no system for tracking repeat offenders, and inspectors themselves reported feeling that the laws are not meaningful. Clearly this will affect their motivation to enforce these laws. In addition, prosecutions for violations are almost impossible where the evidence of injury is not collected quickly and preserved. Comments include “Workers have to know WHO to complain to and workers must do it quickly because the evidence trail grows cold quickly,” and “Put some teeth into the existing WPS.”⁵²

Participants supported such potential changes in the WPS as: the establishment of a toll-free telephone number to educate workers on complaint and referral processes; requiring the worker training to include instruction in how to make a complaint; and the development of regulatory changes that would require the agricultural industry to train its workers just like other industries that use chemicals. Finally, participants agreed that healthcare providers need additional training, especially in the importance of treating and reporting occupational exposures to pesticides.

Thus far, the National Assessment has not resulted in any changes to either the content of, or the funding for, the WPS. However, the National Assessment and the GAO Report did result in the issuance of new inspection guidance from the EPA.

The New Inspection Guidance

Michigan is located within Region V of the EPA. This region has recently adopted a set of criteria for performing worker protection inspections, known as the “EPA-WPS Routine Agricultural-Use Inspection Guidance.” This document sets standards for inspections similar to those that were already in use in Michigan, with the addition that a routine inspection now requires inspectors interview one or more available employed farmworkers and handlers. Previously, inspectors were only required to interview the farmer. Now, under the new criteria, in order for the inspection to count towards that state’s required allotment of inspections, at least one worker must be interviewed as well, or an explanation must be provided as to why no workers could be interviewed. The guidance recommends that interviews be conducted privately, outside the presence of the employer or supervisor, and away from the farm, if necessary, with a translator. Compliance with all WPS provisions should be verified by the inspector, pesticide labels on site should be reviewed, photos should be taken, and a report produced.

The WPS in Michigan

Michigan’s Agricultural Industry

According to April 2001 data provided by the Migrant Services Division of the Michigan Family Independence Agency, Michigan had approximately 40,000 migrant agricultural workers, making it the fifth largest user of actively transient migrant workers.⁵³ Seventy percent of these migrants travel north from Texas and Mexico, 25% from Florida, and 5% from other states. Mexican-Americans comprise 98% of this population. The average family size is 3.5 persons; the average annual income for a family of four is \$7,500. Adults in Michigan’s migrant labor force average a sixth grade education while youths average a ninth grade education.

Agriculture is Michigan's second largest industry. Michigan is the nation's number one producer of nine different crops, including blueberries, tart cherries, pickling cucumbers, and geraniums. Michigan ranks second nationally in production of celery, and third in production of apples. Although corn, hay, and soybeans are the top crops in terms of revenue and are mechanically harvested, many of Michigan's other major crops require hand harvesting. Another striking feature of Michigan's agricultural output is that, of the top 13 Michigan crops on which migrants work, seven of them are flowers or potted plants. All of these crops require the use of pesticides.

Total cash receipts from farm production for Michigan were approximately \$3.4 billion in 2002.⁵⁴ In producing its 1997 crops, 26,000 Michigan farms spent \$182,500,000 on agricultural chemicals (excluding fertilizers), deployed on approximately 5.5 million acres of Michigan farmland.⁵⁵ Of this acreage, pesticides were used on about 1.2 million acres and herbicides were used on about 4.3 million. While the total number of farms has decreased since 1987, these numbers are fairly consistent through the 1987, 1992, and 1997 Censuses of Agriculture.

Data collected on six targeted fruit crops in 1993 showed that a total of 82 different active ingredients were applied as agricultural chemicals to Michigan's apples, blueberries, grapes, peaches, and sweet cherries and tart cherries.⁵⁶ For example, in 1993, Michigan's apples received about 12 pounds per acre of Captan (a fungicide) and 39 pounds per acre of petroleum distillate (an insecticide), along with 36 other chemical herbicides, insecticides, and fungicides. Michigan's blueberries received about 4 pounds per acre of Malathion (an insecticide) along with 14 other chemicals.

The Michigan Department of Agriculture is responsible for implementing and enforcing the WPS, including overseeing all aspects of the use of pesticides in the state. This includes the certification of handlers, the use of pesticides in conformance with the requirements set out in the labeling, the use of only legally registered pesticides, worker protection, and inspections of farms.⁵⁷ Twenty-eight

worker protection inspections were performed in Michigan in 2002, and 26 in 2003. Of the 26 inspections, 9 were of farms, 12 of greenhouses, 3 of nurseries, and 2 of commercial farms where the primary business is application. The first three categories of workplace involve the use of farmworkers, some of them seasonal. A handful of growers were fined for violations of the WPS, and all violations found were corrected. EPA inspectors accompanied state inspectors on some inspections.

The state inspectors generally keep the enforcement focus on farms that employ many migrant workers, and farms that are known violators or potential violators. Inspectors arrive during the working day, and talk to handlers and farmworkers, as the new guidance requires. The EPA Region V office received one report of alleged pesticide exposure as a result of misuse in Michigan in 2002, and one in 2003.

Migrant Farmworker Health in Michigan

In 1974, Michigan enacted the Michigan Occupational Safety and Health Act, which provides for mandatory recordkeeping on occupational injuries and illnesses (although reporting to a state agency is not required in most instances).⁵⁸ MIOSHA is enforced by the Michigan Department of Public Health, the Division of Occupational Health, and the Michigan Department of Labor, Bureau of Safety and Regulation. In addition to MIOSHA, Michigan's Public Health Code also requires **reporting** to the MDPH of occupational diseases by **all** physicians, hospitals, clinics, and employers.⁵⁹ Hence, Michigan has devised two separate mandates for collecting data on occupational injuries and illnesses.

Despite this, Michigan does not appear to have a great deal of information on the health of its migrant farmworker population. Data shows that, in 2002, the state spent \$3 million on Medicaid expenditures for migrants, and no dollars on hospitalization for migrants.⁶⁰ The 2002 Michigan Census of Fatal Occupational Injuries⁶¹ shows that, out of 152 Michigan workers killed on the job that year, four were killed as a result of exposure to a caustic,

noxious, or allergenic substance. Seven of those killed were “Hispanic or Latino,” 23 of those killed worked in the industries of farming, forestry, and fishing (which are lumped together). Five of those killed were farmworkers, and three of those killed were in ‘related agricultural occupations.’ Ten fatalities occurred on crop farms. Unfortunately, it is not possible to tell, from the way the data is presented, how the farm fatalities occurred – whether as a result of contact with machinery, pesticides, or other causes.⁶²

Other occupational health data for Michigan shows that in 2001, for the ‘agriculture, forestry, and fishing’ industry, the average number of days away from work due to nonfatal occupational injury or illness was seven.⁶³ This was lower than the number for construction and one-fourth the number for mining, but this might be due to the fact that there is no such thing as “time off with pay” for farmworkers. In 2002, the total number of nonfatal occupational injuries and illnesses in the agriculture, forestry, and fishing industries combined was 2,500; most of those did not involve any lost work days.

While we do not know much about the occupational health of Michigan’s migrant farmworker population, we do have evidence that farmworkers in general have health problems similar to (but worse than) those of the general population. But they have less access to medical insurance and medical care.⁶⁴ According to “Suffering in Silence: A Report on the Health of California’s Agricultural Workers,” published in 2000 by the California Institute for Rural Studies, farmworkers suffer from a higher incidence of high cholesterol, high blood pressure, obesity, and iron deficiency anemia than the U.S. population overall, and lack access to dental and eye care. This study involved 971 agricultural workers, (from 1,174 randomly selected dwellings, including cars) from various parts of California, who shared information about their health. Physical exams and blood chemistry data were obtained from 652 of the persons in the study. The overall project design, and the specific questions asked, were guided by the input of a committee of currently working farmworkers. More than 100 individuals conducted the field research, and five migrant clinics

participated in performing the physicals. It is the only comprehensive survey of the health of hired farmworkers that I encountered in my research. The report concludes, “As a result of their socioeconomic conditions and immigration status, no group of workers in America faces greater barriers in accessing basic health services.”⁶⁵

The survey sample was mostly comprised of young, married men, with little formal education – 96% identified themselves as Mexican, Hispanic, or Latino, and 92% were foreign born, with 938 of the 971 subjects completing the survey instrument in Spanish. Half of all male subjects reported that they had never been to a dentist, and 32% of all male subjects reported that they had never been to a doctor or clinic. Two-thirds of subjects had never had an eye care visit. Only 57% said they had ever received pesticide safety training, and 82% reported that their employer provided toilets, wash water, and clean drinking water. The report concludes that “the risks for chronic disease, such as heart disease, stroke, asthma, and diabetes, are startlingly high” for a group that is “mostly comprised of young men” who would normally be in peak physical condition.⁶⁶

The most commonly reported physical problems were back pain and irritated eyes; the most commonly reported mental health conditions were *nervios* (agitation) and *corajes* (frustration or anger).⁶⁷ At least one group reported concern about the fact that they were required to ‘test the fruit’ before picking it to see if it was sweet enough to harvest. This applied specifically to unwashed grapes, which obviously still had pesticide residues on them, and farmworkers were concerned about ingestion of these residues.⁶⁸

Clearly, hired farm work is very strenuous and dangerous. Yet farmworkers are one of the least insured occupational groups. Almost 70% of subjects reported that they had no form of health insurance; 11% said that they had health insurance through their place of employment. Government programs, such as Medi-Cal, Medicare, and MIA, covered only 7% of respondents.⁶⁹

The National Institute for Occupational Safety and Health is in the process of attempting to create a national reporting system for pesticide related illnesses. EPA and NIOSH are funding a program to support the pilot testing of standardized data collection on pesticide illnesses and injuries. However, the program is currently limited to only nine states, including Michigan. The Michigan Department of Community Health is carrying out this program, known as the Michigan Occupational Pesticide Illness and Injury Surveillance Project (the “Michigan Project”). The MDCH works with the MDA and the Michigan Department of Consumer and Industry Services to compile information on exposures. This system came into use in 2001.

About 80% of the data that is obtained by the Michigan Project comes from poison control center reports, which are unlikely to reach most of the pesticide related illnesses that occur. Although healthcare providers and employers are required by the Michigan Public Health Code to report work-related pesticide poisonings, they are still not the largest source of the data. According to the Michigan Project, eight cases of acute occupational pesticide illness occurred in the occupation of farming during the period of 1999-2002. The Project does not monitor chronic illness. Farming accounted for 11% of all cases of pesticide related illness. Of the total of 75 cases of such illness that were identified for this period, 12 were considered to be of moderate severity, and 63 were classified as low severity.

Two case studies are reported in some detail by the Michigan Project. One involves a 19-year-old farmworker, who had been working in a field recently treated with pesticides, and later came to an emergency room with a throbbing headache, stomachache and dizziness. He also reported that he had been lightheaded and shaky, with muscle cramps and blurred vision, for the previous five days at work. He was diagnosed with organophosphate pesticide⁷⁰ poisoning, and was advised to stay off work until his symptoms had subsided (which could not happen if the daily exposure continued). The Michigan Project reported that this worker was lost to follow up by both the health center where he had been diagnosed and the MDCH.

As the Project’s preliminary report states, in addition to the problems of getting physicians and clinicians to recognize and diagnose pesticide related illness and then report it, “other difficulties with occupational pesticide surveillance include the reluctance on the part of workers and their health care providers to involve state agencies because of concerns about job security, and difficulties in following up with reported cases because of language barriers or worker mobility, especially among seasonal farmworkers.”⁷¹ Of course, medical care may not be sought for financial reasons as well, where there is no insurance. How many farmworkers are spending their workday lightheaded and shaky, dizzy and headachy, and simply enduring, waiting for the off-season for those symptoms of poisoning to go away? Current occupational health data do not allow us to answer this question.

Conclusions and Recommendations

Like the proverbial broken record, the issue of pesticide exposure and farmworker health appears to give rise to a lot of repetition. The GAO Report made reference to the lack of change in this area since the GAO’s prior investigation into it, and this report must conclude the same way. While the Clinton Administration’s focus on environmental hazards and children provided the impetus for the EPA to eventually issue new inspection guidance, that is the only substantive change that occurred with respect to the WPS since their inception. This despite the fact that the GAO Report and the National Assessment were very critical of the WPS performance thus far, and showed that much more work is required in this area. Meanwhile, new studies in the area of children’s health and pesticides will hopefully have beneficial effects on the adult population that works in the fields and orchards.

As JSRI reported in 1996, several actions can be taken in Michigan to improve this situation (and the recommendations are much the same as they were then):

(1) the WPS training can be used to provide information to farmworkers emphasizing how to spot the symptoms of pesticide exposure themselves and the importance of seeking treatment immediately;

(2) the state can ensure that there are a sufficient number of migrant health clinics and rural physicians, and can offer enhanced training in diagnosis and treatment of pesticide-related injuries and illnesses;

(3) migrant health clinics, rural physicians, and agricultural employers can receive information regarding the existence of the occupational disease reporting law and how to comply, including how to document the diagnosis and the incident that led to the diagnosis; and

(4) state personnel can step up efforts to fine hospitals, clinics, physicians, and employers who fail to make the required reports.

These steps can be taken by Michigan now. The collection of reliable health data is the necessary first step to strengthening the WPS and making the laws more effective.

More difficult (and even more necessary) reforms require lobbying Congress to reconsider the policy of agricultural exceptionalism that excludes farmworkers from the protections of federal laws, and allows for the employment of such young children in this industry. The types of financial protections that are commonly available to workers in other industries, such as health insurance and compensated time off for illness, would undoubtedly benefit farmworker health. The idea that the agricultural industry needs to be regulated as though it is still dominated by the family farm, where the kids need the day off of school to help bring in the harvest, is outdated and anachronistic. Federal law needs to recognize who is really doing the work of providing food for our population. In addition, though the issue of undocumented immigration will always complicate this field, it cannot be allowed to stand in the way of providing basic employment protections to all workers that are offered jobs in the United States, whether they were born here or not.

Endnotes

- 1 Worker Protection Standards, 40 CFR Part 170. The term “pesticide” as used herein, and under the law, includes insecticides, fungicides, and herbicides. 7 U.S.C. § 136(u).
- 2 Lisa J. Gold, “Pesticide Laws and Michigan’s Migrant Farmworkers: Are They Protected?,” *JSRI Research Report No. 12* (1996).
- 3 The author gratefully acknowledges the information provided by Antonio Castro Escobar, Michigan Department of Agriculture; Abby Schwartz, Michigan Department of Community Health; and Donald Baumgartner, U.S. Environmental Protection Agency, Region V.
- 4 U.S. EPA, Pesticides: Topical and Chemical Fact Sheets, Protecting Children from Pesticides, January 2002, available at www.epa.gov/pesticides/factsheets/kidpesticide.htm.
- 5 The U.S. Occupational Safety and Health Administration (“OSHA”) is the federal agency responsible for worker safety, and is empowered to make and enforce regulations in that area in all types of industries. However, a legal challenge by farmworker groups, who wanted to see OSHA carry the burden for regulation of workplace safety for farmworkers rather than the EPA, was unsuccessful despite OSHA’s greater experience and tougher enforcement powers. *Organized Migrants in Community Action, Inc. v. Brennan*, 520 F.2d 1161 (D.C. Cir. 1975).
- 6 57 Fed. Reg. 38151 (1992)(codified as 40 CFR Part 170).
- 7 40 CFR § 170.9(a); see, also, 40 CFR § 156.10(i)(2).
- 8 40 CFR § 170.3.
- 9 40 CFR § 170.3.
- 10 40 CFR § 170.7.
- 11 40 CFR § 170.110.
- 12 40 CFR § 170.112.
- 13 40 CFR § 170.120.
- 14 40 CFR § 170.122.
- 15 40 CFR § 170.130.
- 16 40 CFR § 170.135.
- 17 40 CFR § 170.150.
- 18 40 CFR § 170.160.
- 19 40 CFR § 170.130(c).

- 20** 40 CFR § 170.130(d).
- 21** 7 USC §§ 136j, 136l.
- 22** 7 USC §§ 136k, 136l.
- 23** 7 USC § 136l(a)(2).
- 24** 7 USC § 136l(a)(4).
- 25** Executive Order No. 12898, 3 CFR § 859 (1994), reprinted in 42 USC § 4321 (2000).
- 26** See 64 Fed.Reg. 5277-01, February 3, 1999.
- 27** EPA is responsible for regulating the presence of pesticide residues in food and animal feed, known as “tolerances,” under the Federal Food, Drug, and Cosmetic Act (“FFDCA”). 21 USC § 301, et seq.; 21 USC § 346a,348. EPA will not register a pesticide under the Federal Insecticide, Fungicide and Rodenticide Act (“FIFRA”) until the registration applicant has received the necessary tolerance under the FFDCA. 40 CFR § 152.112(g). The tolerance set (usually expressed in parts per million) is the maximum level of a pesticide residue that may be present on food when it leaves the field. 21 USC § 346a, 348. The two federal schemes are intended to work together this way: if a pesticide is applied in accordance with its EPA approved label, the residue remaining on the food will fall within the tolerance limit, which itself has been set as a result of an EPA approved scientific risk assessment. See, e.g., 40 CFR §§ 152.170, 154.7. However, in setting residue tolerances, human health is not the only factor. 21 USC § 346a(b). The FFDCA requires that EPA consider as “relevant” factors in setting a tolerance the need for an “economical” food supply and the “usefulness” of the pesticide.
- 28** The other two recommendations concerned exposure to mercury, and how indoor and outdoor air quality relates to childhood asthma rates.
- 29** 64 Fed.Reg. 5277-01, 5279.
- 30** National Academy of Sciences, “Pesticides in the Diets of Infants and Children,” (1993).
- 31** EPA has created eight “Centers of Excellence in Children’s Environmental Health Research,” and two of these are currently studying the effects of pesticides on farmworker children – one at the University of California at Berkeley studying children in the Salinas area, and the other at the University of Washington studying children in the Yakima Valley. In addition, the EPA and the Centers for Disease Control, as well as other federal agencies, are currently conducting a study of pesticide exposure and potential health effects in young children along the U.S.-Mexico border. See, U.S.EPA, U.S.-Mexico Border 2012 Environmental Health Workgroup, Pesticide Exposure and Potential Health Effects in Young Children Along the U.S.-Mexico Border, www.epa.gov/orsearth/pesticide5_13.htm. This project will “assess the relationship of health outcomes in children to repeated persistent pesticide exposures via multiple sources and pathways. The issue of exposure to pesticides is especially critical for the children along the U.S.-Mexico Border. These children are thought to have a high risk of exposure to pesticides because of the extensive use of pesticides in the year round agriculture industry of the area, the large number of parents who work in agriculture, and the suspected heavy use of pesticides for insect control in their homes.” Id. While the EPA reports that data “of excellent quality” were available for California and Arizona, data must be gathered for New Mexico and Texas because these states, for example, do not require the reporting of pesticide sales and usage.
- 32** 21 USC § 346a(b)(2)(D).
- 33** Id.
- 34** See, Scott Cook, “Farm Children As A ‘Major Identifiable Subgroup’ For Setting Tolerances Under the Food Quality Protection Act of 1996,” 81 Tex.L.Rev. 1121 (2003).
- 35** *Natural Resources Defense Council, et al. v. Marianne Lamont Horinko*, brought by NRDC, Farmworker Justice Fund (a subsidiary of the National Council of La Raza), Farmworker Legal Services of New York, and other groups.

- 36** See, e.g., Shelley Davis and James B. Leonard, Farmworker Justice Fund, “The Ones the Law Forgot: Children Working in Agriculture (2002) available at www.fwjjustice.org; National Center for Farmworker Health, Overview of America’s Farmworkers, available at www.ncfh.org; U.S. GAO, Report to Congressional Requesters, “Pesticides: Improvements Needed to Ensure the Safety of Farmworkers and Their Children” (March 14, 2000) (RCED-00-40); Richard A. Fenske, et al., “Biologically Based Pesticide Dose Estimates for Children in an Agricultural Community,” 108 *Envtl. Health Persp.* 515 (2000); Don Villarejo et al., “Suffering in Silence: A Report on the Health of California Agricultural Workers, (Nov. 2000), available at www.calendow.org.
- 37** Human Rights Watch, *Fingers to the Bone: United States’ Failure to Protect Child Farmworkers*, at 10, 16-22 (2000).
- 38** For some fascinating discussions of the completely unique exclusion of farmworkers from the protection of American labor laws see, Guadalupe T. Luna, “An Infinited Distance?: Agricultural Exceptionalism and Agricultural Labor,” 1 *U.Pa.J.Labor & Employment Law* 487 (1998); Sean A. Andrade, “Biting the Hand That Feeds You: How Federal Law Has Permitted Employers to Violate the Basic Rights of Farmworkers and How This Has Begun to Impact Other Industries,” 4 *U.Pa.J.Labor & Employment Law* 601 (2002); Juan F. Perea, “A Brief History of Race and the U.S.-Mexican Border: Tracing the Trajectories of Conquest,” 51 *U.C.L.A. Law Rev.* 283 (2003).
- 39** See, “Child Labor in Agriculture: Changes Needed to Better Protect Health and Educational Opportunities,” GAO/HEHs-98-193, Aug. 21, 1998.
- 40** GAO/RCED-00-40, “Pesticides: Improvements Needed to Ensure the Safety of Farmworkers and Their Children” (2000).
- 41** *Id.* at 4.
- 42** *Id.*, referring to, “Pesticides on Farms: Limited Capability Exists to Monitor Occupational Illnesses and Injuries,” GAO/PEMD-94-6, Dec. 15, 1993.
- 43** *Id.* at 11.
- 44** *Id.* at 10.
- 45** *Id.* at 14.
- 46** *Id.* at 5.
- 47** *Id.* at 6.
- 48** *Id.* at 7.
- 49** See EPA, National Assessment of the Worker Protection Program #2 and #3, at www.epa.gov/oppfead1/safety/newnote/workshop.
- 50** *Id.* at 7.
- 51** *Id.* at 21.
- 52** *Id.* at 28.
- 53** Michigan Family Independence Agency, Migrant Services Div., April 2001, *Profile of Michigan’s Migrant Agricultural Labor Force*.
- 54** Michigan Department of Agriculture, Michigan Agricultural Statistics Service, Michigan 2002-2003 Highlights, David D. Kleweno, Dec. 5, 2003, available at www.michigan.gov/mda.
- 55** USDA, National Agricultural Statistics Service, 1997 Census of Agriculture – State Data, Michigan, available at nass.usda.gov/census/census97/volume1/mi-22/mi1_14.pdf.
- 56** Michigan Department of Agriculture, *Michigan Agricultural Statistics 1994*, Lansing, MI: 1994, pgs. 35-40.
- 57** The MSU Pesticide Education Program is responsible for developing, publishing, and revising all of the various pesticide applicator training manuals that are in use in Michigan. The core training manual for applicators is available in Spanish. The manual, *Manual Basico de Entrenamiento para Aplicadores de Pesticidas*, E-2195SP, is available for free on the Pesticide Education website, at www.pested.msu.edu.
- 58** MCLA §§ 408.1001, et seq., 408.1061; Mich. Admin. Code R 408.22103, et seq.
- 59** MCLA §§ 333.5601-333.5639; 333.5611.
- 60** 2002 Program Year Michigan Family Independence Agency Migrant Expenditures, available at www.michigan.gov/fia.
- 61** MIOSHA Information Division, Michigan Dept. of Consumer & Industry Services, 2002 Census of Fatal Occupational Injuries, October, 2003.

- 62** The *Lansing State Journal* reported on March 14, 2004, p. 1E, that, according to information recently released by the Bureau of Labor Statistics and the Associated Press, Mexican immigrant workers are 80% more likely to die on the job in the United States than native-born workers, and 50% more likely to die on the job than other foreign-born workers.
- 63** All occupational data cited herein for Michigan is available from www.michigan.gov.
- 64** Don Villarejo et al., “Suffering in Silence: A Report on the Health of California Agricultural Workers,” (Nov. 2000), available at www.calendow.org.
- 65** Id. at 5.
- 66** Id. at 7.
- 67** Id. at 27.
- 68** Id. at 29.
- 69** Id. at 25.
- 70** This is one of the most common types of pesticides in use, and one of the types targeted by the CHPAC’s recommendations for reevaluation.
- 71** MDCH, Acute Occupational Pesticide Poisoning, July 17, 2003.