

**INDIFFERENCE TO SAFETY:
FLORIDA'S INVESTIGATION INTO
PESTICIDE POISONING OF FARMWORKERS**

By

Shelley Davis
Co-Executive Director
Farmworker Justice Fund
1111 19th Street N.W.
Suite 1000
Washington, D.C. 20036
(202) 776-1757

Rebecca Schleifer
Migrant Farmworker Justice Project
P.O. Box 2110
Belle Glade, Florida 33430
(561) 996-5266

March 1998

**INDIFFERENCE TO SAFETY:
FLORIDA'S INVESTIGATION INTO
PESTICIDE POISONING OF FARMWORKERS**

By

Shelley Davis
Co-Executive Director
Farmworker Justice Fund
1111 19th Street N.W.
Suite 1000
Washington, D.C. 20036
(202) 776-1757

Rebecca Schleifer
Migrant Farmworker Justice Project
P.O. Box 2110
Belle Glade, Florida 33430
(561) 996-5266

Table of Contents

Executive Summary.....	i
I: Background.....	1
A. Florida's Pesticide Enforcement Program.....	5
B. Methodology.....	7
II: Systematic Indifference to Worker Safety.....	8
A. Failure to Link Worker Injury to Pesticide Exposure.....	8
B. Failure to Credit Medical and Other Evidence of Pesticide-Related Injury.....	9
C. Failure to Interview Co-workers or Other Eyewitnesses to Exposure.....	16
D. Failure to Scrutinize Repeat Offenders.....	21
E. Accepting the Employer's Uncorroborated Account of Events.....	26
F. Retaliation.....	28
G. Unfair Credibility Determinations.....	30
H. Pesticide Sampling.....	34
I. Restricted Entry Intervals.....	35
J. Failure to Coordinate Investigative Efforts with Other Agencies.....	36
K. Violations and Penalty Assessment.....	38
III: Conclusions and Recommendations.....	43

Table of Contents(cont'd)

Attachments:

1. Names and Numbers of Files Reviewed.....	47
2. Toxicity and Symptoms of Selected Pesticides.....	49
3. Carcinogenicity, Developmental, Toxicity, and Endocrine Disruption Effects of Selected Pesticides.....	54
4. Florida's Administrative Fine Formula.....	56

INDIFFERENCE TO SAFETY: FLORIDA'S INVESTIGATION INTO PESTICIDE POISONING OF FARMWORKERS

By Shelley Davis¹ and Rebecca Schleifer²

Executive Summary

"Indifference to Safety" reviews the State of Florida's investigations into complaints of farmworker pesticide poisoning from January 1992 to mid-May 1997. An examination of the State's records shows glaring flaws in its enforcement of federal and state laws intended to protect the health and safety of the workers who cultivate and harvest fruits and vegetables. Consequently, this report recommends fundamental changes in Florida's system of enforcing pesticide protections for farmworkers.

The State of Florida sought and was granted by the U.S. Environmental Protection Agency (EPA) the responsibility of enforcing the Worker Protection Standard (WPS). The WPS is a set of federal pesticide safety regulations designed to reduce farmworkers' risk of occupational exposure to toxic pesticides. The WPS requires basic safety measures, such as training, delayed entry into sprayed fields, use of protective equipment, posting of warning signs, and transportation to emergency medical facilities.

Effective enforcement of the WPS is urgently needed. Agriculture is one of the three most dangerous occupations in the United States. Nationally, tens of thousands of farmworkers are poisoned each year due to occupational exposure by pesticides. Pesticides are manufactured

¹ Co-Executive Director, Farmworker Justice Fund, Inc., Washington, D.C.

² Staff Attorney, Migrant Farmworker Justice Project, Belle Glade, Florida.

to kill insects, rodents, molds, and weeds. However, many pesticides also are extremely dangerous to humans. Pesticide exposure causes acute and chronic illnesses, from skin rashes and eye irritation, to kidney or liver disease, sterility, birth defects, and cancer. Yet many farmworkers have received scant information about the dangers of pesticides, how to prevent exposure, how to recognize symptoms, and the importance of prompt treatment. And, unfortunately, some agricultural employers have failed to live up to their responsibility to prevent avoidable exposure and injuries.

“Indifference to Safety” examines the State of Florida's response to 46 complaints of worker injury due to agricultural use of pesticides between January 1992 and mid-May 1997. These investigations were carried out by the Florida Department of Agriculture and Consumer Services (FDACS). In reviewing FDACS' records, the study examines the quality and thoroughness of the agency's investigations of medical records, witness testimony and other evidence; the reasonableness of the conclusions FDACS drew from the evidence; and the effectiveness of FDACS' final action to ensure compliance with the WPS' protections.

Every aspect of FDACS' investigation and enforcement effort was marred by serious shortcomings. Because the State of Florida entrusted its pesticide program to FDACS, the State bears responsibility for all of FDACS' deficiencies. As such:

- * The State repeatedly failed to find a causal connection between pesticide exposure and the injuries suffered by farmworkers. In only two instances did it conclude that pesticide exposure led to worker injury. This occurred where a grower admitted placing unprotected workers in a pesticide-treated field during the quarantine period and where a grower, who discovered that a worker had passed

out after applying an extremely toxic pesticide, admitted failing to take adequate precautionary measures to protect him.

- * The State found regulatory violations in 31 instances, but issued only two fines.
- * The State failed to adequately investigate poisoning complaints even when a farmworker was seriously injured or killed, by systematically: failing to interview co-workers or other eyewitnesses out of the presence of supervisory personnel (with adequate translators); failing to obtain relevant medical records; routinely accepting uncorroborated employer claims of compliance; using checklists as a substitute for a thorough on-site inspection; and ignoring evidence of employer retaliation.
- * The State lacked adequate investigative protocols: it routinely failed to collect soil, plant, clothing and other physical samples that would have enabled it to verify exposures and identify the pesticide(s) used; it routinely failed to draw reasonable inferences from the information obtained; and it failed to make regulatory determinations based on objective, corroborated evidence.
- * The State failed to coordinate the investigative efforts of FDACS and other enforcement agencies, such as OSHA (which investigates instances of serious or fatal worker injuries), or the Division of Workers' Compensation (which adjudicates claims of work-related illness or injury due to pesticide exposure). It also failed to ensure that FDACS established effective communication with health providers who are required to report pesticide exposure incidents.
- * The State failed to impose meaningful penalties when pesticide violations resulted

in worker injury.

Indeed, Florida went to great lengths to avoid the conclusion that pesticide exposure led to worker injury. For example:

- * In incidents at Bonita Tomato Growers and Eagle Lake Harvesting, FDACS noted both that unprotected workers had been placed in a field before the quarantine period expired and that the workers subsequently received medical treatment. Nonetheless, it refused to find any connection between the exposure and the subsequent injuries.
- * In an incident at Ag Spray Corporation, FDACS found that an employer unlawfully caused a pesticide to drift onto "an area" where farmworkers were working, but failed to find any relationship between exposure and subsequent worker injury.
- * In S & J Farms, the Department noted that a farmworker was accidentally sprayed with pesticides and that the company had failed to provide him with prompt transportation to a medical facility. However, it drew no conclusions concerning the relationship between the exposure and the worker's injury.

The State's handling of pesticide poisoning complaints reveals a pattern of indifference to its obligation to protect the safety and health of Florida's farmworkers. By failing to issue citations for pesticide poisoning and impose meaningful penalties for serious WPS violations, the State has deprived farmworkers of adequate protection and wholly undermined its effort to deter future misconduct, as the repeat violator complaints in FDACS' files amply demonstrate.

Fundamental changes in Florida's system of enforcing the Worker Protection Standard

are needed to protect farmworkers' health and safety.

- * Because of FDACS' indifference to worker safety, the EPA should rescind FDACS' authority to enforce pesticide safety in Florida. A completely overhauled enforcement program should be transferred to a different state agency, such as the Florida Department of Environmental Protection, or the Florida Department of Labor and Employment Security.
- * A new enforcement protocol must be developed that, among other things, directs investigative personnel to obtain medical records of injured workers, secure cholinesterase testing where appropriate, interview co-workers and other eyewitnesses out of the presence of the employer's supervisory personnel, and obtain application records. The enforcement protocol must also indicate the types of reasonable inferences that can be drawn from medical evidence and incomplete spray records. In developing its new procedures, the new state enforcement agency should consult with the EPA, U.S. Department of Labor, OSHA, NIOSH and other agencies skilled in investigating incidents of occupational health and safety and enforcing worker protection regulations.
- * The new enforcement agency must be dedicated to protecting farmworker safety. Its enforcement team must be thoroughly trained in the new procedures and adequately funded. Legal staff must be assigned to the pesticide enforcement effort to defend administrative penalties in subsequent legal proceedings.
- * A civilian Pesticide Enforcement Oversight Board should be established to review the new agency's pesticide enforcement efforts. Such a Board must include a

majority of farmworker and consumer representatives to ensure that the deficiencies identified here do not recur.

In short, only such a completely revamped, enforcement-oriented system can assure farmworkers that their health will be protected and that compliance with the Worker Protection Standard will be achieved.

INDIFFERENCE TO SAFETY: FLORIDA'S INVESTIGATION INTO PESTICIDE POISONING OF FARMWORKERS

by Shelley Davis and Rebecca Schleifer

I. Background

Florida farmers apply over 70 million pounds of pesticides annually to fruits and vegetables,³ most of which are cultivated or harvested by hand, by approximately 500,000 migrant and seasonal farmworkers.⁴ Over 10 million pounds of methyl bromide alone are applied to fresh tomatoes, bell peppers, strawberries and eggplant.⁵ Methyl bromide is a Toxicity Category I pesticide, exposure to which may damage the central nervous system, lungs, kidneys, eyes and skin.⁶ Methyl bromide is also a possible carcinogen and teratogen, and is known to

³ Florida Agricultural Statistics Service, Vegetable Chemical Use (August 1997); Florida Agricultural Statistics Service, Citrus Chemical Use (June 1996) (report pesticide use in terms of pounds of active ingredients used, which do not reflect "inert" ingredients, which may also be toxic).

⁴ U.S. Department of Health and Human Services, An Atlas of State Profiles Which Estimate Number of Migrant and Seasonal Farmworkers and Members of their Families (March 1990).

⁵ Florida Agricultural Statistics Service, Vegetable Chemical Use (August 1997).

⁶ Pesticides are categorized by the Environmental Protection Agency in descending order of toxicity. Toxicity Category I pesticides are highly toxic; a few drops to one teaspoon can be fatal. Labels for Toxicity Category I pesticides include the warning "Danger - Poison," and a skull and crossbones. Toxicity Category II pesticides are moderately toxic; a teaspoon to an ounce can be fatal. Labels for these pesticides say "Warning." Toxicity Category III pesticides are also toxic; an ounce to a pint can be fatal. Toxicity Category IV pesticides are the least toxic; a pint to a quart can be fatal. Labels for Toxicity Category III and IV pesticides read "Caution." 40 C.F.R. Part 156.

deplete the ozone layer.⁷ Florida farmers also apply about 377,000 pounds of Aldicarb, and about 200,000 pounds of Chlorpyrifos, to citrus crops each year.⁸ Aldicarb is a Toxicity Category I carbamate, which is rapidly absorbed through the eyes and skin, and may cause injury to both. Chlorpyrifos, a Toxicity Category II organophosphate, is one of the most frequently reported causes of farmworker injury. Exposure to Aldicarb or Chlorpyrifos may damage the central nervous and respiratory systems and can be fatal.

Most farmworkers have received scant information about the dangers of pesticides, ways to prevent exposure, how to recognize symptoms, and the importance of prompt treatment. Rarely are farmworkers even told the names of the pesticides to which they are exposed. Nor can most farmworkers read the pesticide label. Most agricultural workers are poorly educated, with a median education level of eighth grade, and speak little or no English.⁹ Even though the WPS requires basic pesticide training, widespread compliance has yet to be achieved.¹⁰

Agriculture is one of the three most dangerous occupations in the nation.¹¹ Agricultural

⁷ California Department of Pesticide Regulation, Summary of Toxicological Data -- Methyl Bromide (Revised October 29, 1997).

⁸ Florida Agricultural Statistics Service, Citrus Chemical Use, June 1996. The Aldicarb data are for 1991, and the Chlorpyrifos data for 1993, the most recent years for which there is complete application information for use of these chemicals on all citrus crops reviewed. In 1995, more than 182,000 pounds of Aldicarb, and 100,000 pounds of Chlorpyrifos, were applied to oranges and grapefruit alone. Id.

⁹ U.S. Department of Labor, U.S. Farmworkers in the Post-IRCA Period, Research Report No. 4, at 13 (March 1993).

¹⁰ See EPA, National Dialogue on the Worker Protection Standard, Part I: Transcripts of the Public Meetings (1996) (testimony of Farmworker Justice Fund, Inc. and Texas Rural Legal Aid).

¹¹ National Safety Council, Accident Facts (1996).

workers suffer the highest rate of chemical-related illness of any occupational group.¹² The EPA estimates that nationally, tens of thousands of farmworkers suffer acute pesticide poisoning each year, due to occupational exposure.¹³ Pesticide exposure causes both acute and chronic illnesses, from skin rashes and eye irritation, to kidney or liver disease, sterility, birth defects, and cancer.¹⁴ Indeed, epidemiological studies show that farmworkers suffer elevated rates of certain forms of cancer, which may be linked to pesticide exposure.¹⁵

No accurate data exist to document the full extent of farmworker injuries due to pesticide exposure in Florida. In 1980, Florida Rural Legal Services (FRLS) surveyed more than 400 farmworkers and found that 48.5% reported having been sprayed directly at least once while working; more than 50% had also experienced one or more symptoms of pesticide poisoning during the previous year.¹⁶ Over half of the study subjects who had become ill in the prior year were so sick that they had to consult a physician.¹⁷ The FRLS study also discovered 42

¹² 52 Fed. Reg. 16,050, 16,059 (1987).

¹³ 57 Fed. Reg. 38,102, 38,105 (1992).

¹⁴ M. Moses, "Pesticide-Related Problems and Farm Workers," American Association of Occupational Health Nursing Journal, 37:116-130 (1989); see also General Accounting Office, Hired Farm Workers: Health and Well-Being at Risk, at 12 (1992).

¹⁵ S. Zahm and A. Blair, "Cancer Among Migrant and Seasonal Farmworkers: An Epidemiologic Review and Research Agenda," American Journal of Industrial Medicine, 24:753-766 (1993) (studies show farmworkers may experience elevated rates of multiple myeloma and cancers of the stomach, prostate, testis, buccal cavity, pharynx, lung, liver and cervix.).

¹⁶ Florida Rural Legal Services, Danger in the Field: the Myth of Pesticide Safety, at 1 (1980).

¹⁷ Id., at 1-2.

documented cases of pesticide poisoning, only four of which had been reported to the EPA.¹⁸

Florida law requires treating medical practitioners to report actual and suspected incidents of pesticide poisoning to county health departments within 48 hours of diagnosis.¹⁹ County health departments, in turn, are required to complete a Pesticide Incident Monitoring System Report (PIMS Report). Neither reporting system, however, catches many cases. Since 1987, there have been fewer than 40 cases of pesticide poisoning reported to the Florida Department of Health. In addition, the Florida Department of Agriculture and Consumer Services (FDACS) received only 11 PIMS reports in 1997, and a total of 56 between 1991 and 1996.²⁰

Statistics from other states also suggest that pesticide poisoning is severe among Florida farmworkers. California, for example, recorded 1,593 cases of pesticide-related illness in 1995, 656 of which occurred in agriculture.²¹ In Washington state, 399 pesticide incidents, involving 503 people, were reported to the Washington Department of Health in 1995, of which 216 were determined to be definitely, probably, or possibly related to pesticide exposure.²² Eighty-five of

¹⁸ Id., at 3.

¹⁹ Fla. Stat. ch. 381.0031.

²⁰ Personal Communication with Kim Hainge, FDACS Compliance Section. FDACS received 23 PIMS reports in 1991, 1 in 1992, 0 in 1993, 4 in 1994, 10 in 1995, and 18 in 1996.

²¹ California Department of Pesticide Regulation, Overview of the California Pesticide Illness Surveillance Program 1995, at 4-5 (1997). Of the total 2,401 reports received, 1,593 incidents were classified as possible, probable or definite instances of pesticide exposure.

²² Washington State Department of Health, Pesticide Incident Reporting and Tracking Review Panel: 1996 Report, at 40-56 (1997). The Florida Department of Health recently received funding from the National Institute of Occupational Safety and Health to establish a Pesticide Poisoning Surveillance System.

these cases occurred in agriculture. In addition, Washington State granted workers' compensation benefits to 134 workers injured by pesticides in 1995.²³

Existing data do not reflect the full extent of pesticide poisoning in agriculture. Among farmworkers, there is a high rate of under-reporting of pesticide-related illness because farmworkers lack ready access to medical care; health professionals frequently do not recognize and correctly diagnose pesticide-related ailments; and, even when identified, few pesticide incidents are reported to authorities.²⁴ In addition, farmworkers are often reluctant to report pesticide-related illness for fear that they will be fired from the jobs that they desperately need to survive.²⁵

Florida's Pesticide Enforcement Program

FDACS is charged with the enforcement of state and federal laws governing the use of pesticides.²⁶ It is responsible for regulating the distribution, sale, and use of pesticides,²⁷ and for

²³ Washington State Department of Health, Pesticide Incident Reporting and Tracking Review Panel: 1996 Report, at 2 (1997).

²⁴ U.S. General Accounting Office, Pesticides on Farms: Limited Capability Exists to Monitor Occupational Illnesses and Injuries, at 9, 15 (1993) ("Pesticides on Farms"). See also K. Gerstle, Symptoms Related to Pesticide Exposure Among Farmworkers in the Skagit Valley (1989) (finding that only 1 of 47 farmworkers who indicated past health problems from pesticide exposure filed for workers' compensation benefits).

²⁵ Pesticides on Farms, at 15.

²⁶ Federal regulation of pesticide use falls under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136 et seq. (FIFRA). Florida laws governing use of pesticides are found at Fla. Stat. ch. 487.

²⁷ Fla. Stat. ch. 487.012.

protecting agricultural workers from the dangers of pesticide exposure.²⁸ In carrying out these duties, FDACS is authorized to inspect farms in order to investigate alleged violations of these laws. When FDACS finds a violation of the state or federal pesticide laws, it may impose a range of penalties. Under Florida law, it may levy an administrative fine not to exceed \$10,000 per violation, impose probation, obtain an injunction against future misconduct, or seek criminal penalties for a misdemeanor.²⁹ Violators of federal law may be subjected to civil penalty or criminal sanctions.³⁰

In fixing the amount of an administrative fine, FDACS takes into consideration factors such as the harm caused by the violation; the cost of rectifying the damage; the financial benefit to the violator from noncompliance, whether the violation was committed willfully, the compliance record of the violator,³¹ the level of the violation, the toxicity of the pesticide involved and the human health effects, environmental damage, and animal health effects that ensued.³² Florida law also provides a cause of action for workers who are discharged or disciplined by their employers in retaliation for exercising their rights under the Worker Protection Standard or other pesticide laws.³³

Between January 1992 and mid-May 1997, FDACS completed 46 investigations of

²⁸ Fla. Stat. ch. 487.202.

²⁹ Fla. Stat. ch. 487.175; Fla. Stat. ch. 487.207.

³⁰ 7 U.S.C. § 136 (12)(2)(g), (14); 40 C.F.R. § 170.9(b).

³¹ Fla. Stat. ch. 487.175(1)(e).

³² See FDACS Fine Formula (Attachment 4).

³³ Fla. Stat. ch. 487.207.

complaints of pesticide illness or injury to agricultural workers due to pesticide exposure. Even though Department investigators found violations in 31 cases, FDACS only issued two fines (to D & S Farms and Hemphill Groves). In addition, it only twice found worker injury to be related to a pesticide exposure in violation of the WPS (South Bay Growers and Hemphill Groves). That occurred where a grower admitted placing unprotected workers in a pesticide-treated field during the quarantine period (known as a restricted entry interval, or REI) (South Bay Growers), and where a grower, who discovered that a worker had passed out after applying an extremely toxic pesticide, admitted failing to take adequate precautionary measures to protect the worker (Hemphill Groves).

Methodology

This study analyzed FDACS' investigation and enforcement efforts in cases alleging injury to agricultural workers due to occupational exposure to pesticides from January, 1992 to mid-May, 1997. Files were obtained using a Public Records Request to FDACS, which sought copies of all investigative files and records of penalties imposed, with regard to incidents of alleged pesticide exposure to agricultural workers. The request yielded 46 case files.³⁴ All of the information concerning FDACS' investigations contained in this report was taken from the investigative files FDACS provided, except in the case of Frasco Farms, where the authors also obtained investigative files from the Occupational Safety and Health Administration (OSHA)

³⁴ Specifically, the authors requested all investigative reports, complaints, memoranda or other documents, including any records of penalties imposed, regarding claims of exposure, damage or injury to agricultural workers from pesticides for the period January, 1992 through mid-May, 1997. FDACS has informed the authors that in response to this request, it released all files of complaint driven investigations coded EXP (for pesticide exposure) that involved an agricultural worker and were completed at the time of the request (May 13, 1997).

and the local police, concerning their investigations of the same incident.

II. Systematic Indifference to Worker Safety

A. The Failure to Link Worker Injury to Pesticide Exposure

Despite repeated instances in which medical records, eyewitness testimony or other evidence substantiated the link between pesticide exposure and worker injury, FDACS only twice concluded that a pesticide exposure, in violation of the WPS, led to farmworker injury (South Bay Growers and Hemphill Groves).³⁵ In other cases, FDACS went to great lengths to avoid drawing this conclusion. To that end, it failed to resolve disputed testimony, ignored objective evidence collected by its investigators, and/or failed to obtain necessary information. For example:

In incidents at Bonita Tomato Growers and Eagle Lake Harvesting, FDACS noted both that unprotected workers were placed in a field before the quarantine period had expired and that the workers subsequently received medical treatment. Nonetheless, FDACS refused to find any connection between the exposure and the subsequent injury.

In an incident at Ag Spray Corporation, FDACS found that an employer unlawfully caused a pesticide to drift onto an area where workers were present; but it failed to find any relationship between this WPS violation and the subsequent worker injury. At D & S Farms, FDACS again found that the employer had caused pesticides to drift onto an area where farmworkers were working, but failed to interview any of the exposed workers to determine

³⁵ In South Bay Growers, however, no fine was issued.

whether they had been injured.³⁶

In S & J Farms, the Department found both that a farmworker was accidentally sprayed with pesticides and that the company had violated the WPS by failing to provide him with prompt transportation to a medical facility. But the Department drew no conclusions concerning the relationship between the exposure and the worker's injury.

And at Immokalee Tomato Growers, where the workers' medical records and testimony substantiated a pesticide-related illness following exposure, the FDACS investigator found that workers had been placed in a field prior to the expiration of the REI, but refused to conclude that the workers' symptoms were due to their pesticide exposure.

In several cases, instead of determining whether the farmworkers' injuries were indeed caused by pesticide exposure, FDACS merely dismissed the employers' WPS violations as "inconsistencies" or "a discrepancy."³⁷ Overall, FDACS' extreme reluctance to connect exposure and injury resulted in its systematic failure to impose meaningful penalties and undermined its effort to deter future misconduct.

B. Failure to Credit Medical and Other Evidence of Pesticide-Related Injury

The Diamond C Nursery case, File No. 193-127-2637, exemplifies the failure of FDACS to use medical and other evidence to determine whether a farmworker's serious adverse health effects were due to pesticide exposure.

³⁶ D & S Farms is one of only two instances in the 46 cases reviewed in which a fine (of \$1,500) was imposed.

³⁷ See Letter to Joe Padgett concerning Ag Spray Corporation, dated January 24, 1995; Letter to Hugh Blankenthaler concerning Boyd Citrus Caretakers, dated August 26, 1994; Letter to Daniel Mendez concerning S & J Farm, dated August 15, 1995.

On Saturday, April 17, 1993, Luis Cifuentes, a pesticide applicator at Diamond C Nursery, told his wife that he began to feel sick while at work. Leaving work at noon, he returned home and laid down to rest. His wife later found him unconscious and foaming at the mouth. He was taken to Palm Beach Gardens Hospital, and remained unconscious for approximately 24 hours.

At the hospital, Cifuentes was treated with atropine, which is the specific antidote for organophosphate poisoning. The treating physician also told Mrs. Cifuentes that her husband was suffering from pesticide poisoning, although he later told the investigator that he could not be "sure" that Cifuentes' condition was caused by pesticides.

Kathy Maldonado, manager of the Diamond C nursery, told the investigator that in the eight months that she had been on the job, the only two pesticides she had seen at the nursery were Orthene (an organophosphate) and Roundup (glyphosate). She also said that Mr. Cifuentes had not applied Orthene for three months, though the nursery had yet to dispose of the empty containers, that Mr. Cifuentes last applied Roundup on April 13th, and that he left feeling fine on the day of the incident. She did not refute Cifuentes' contention that he had cleaned a pesticide tank on April 15th. The investigator did not talk to any other Diamond C employees and failed to obtain any pesticide application records from the nursery.

From his interview with Mr. Cifuentes, the investigator learned that Cifuentes had cleaned a tank containing pesticides on April 15th, but that he did not know the name of the pesticide. The investigator also found that Mr. Cifuentes had not been given all the required personal protective equipment for that task. In talking to Mrs. Cifuentes, the investigator learned that she had recently asked her husband for a divorce. On this basis, the investigator apparently

concluded that Cifuentes was in a coma for 24 hours due to marital problems, rather than pesticide exposure.

FDACS failed to adequately investigate this matter or objectively resolve the conflicting testimony. FDACS' entire investigation consisted of interviews with the nurse, Mr. and Mrs. Cifuentes, the attending physician and the manager of the nursery. All of the "affidavits" obtained were written by the investigator, apparently in the investigator's own words. Based on an investigation that barely scratched the surface, FDACS resolved all questions of fact in favor of the nursery. This investigation was wholly inadequate because:

- * No medical diagnosis was secured from the attending physician.
- * No test results were obtained for cholinesterase depression, which follows organophosphate intoxication, and could have confirmed a diagnosis of pesticide poisoning.
- * No application records were obtained to confirm when Orthene, or other pesticides that may have caused Cifuentes' symptoms, were last handled, mixed, and/or applied.
- * No other Diamond C employees were interviewed to determine which pesticides were used, when or by whom, to pinpoint the extent of Cifuentes' exposure.

Finally, while FDACS apparently concluded that Mr. Cifuentes was not suffering from pesticide poisoning, it failed to establish any other reasonable basis for his illness.

Immokalee Tomato Growers, File No. 194-257-2823

Emilia Sigüero and her husband, Carmelo Calderon were picking tomatoes at Immokalee Tomato Growers on November 9, 1994, when they began to feel sick. They could smell

pesticides, but they had not been told when the field in which they were working had been sprayed. They could also observe pesticides being applied to the adjacent field. Both Siguero and Calderon felt an itchy, burning sensation on their skin, and had headaches. Siguero also had a runny nose and was sneezing, and her face was burning. Calderon reported his symptoms to Jesse Arevalo, the crew leader, three or four times that day, and Arevalo said that he would report the problem to "the office" the next day. Siguero and Calderon worked the next day with no contact from "the office," but then did not return until November 19, 1994.

The crewleader, Jesse Arevalo claimed that Calderon told him that his stomach was itchy on November 9th, but Arevalo said he saw nothing. Arevalo also claimed that Calderon next told him about the continued itching on November 19th, the day Arevalo said he first learned of Siguero's symptoms.

Documentary evidence shows that on November 19th, Siguero and Calderon were taken to Immokalee Tomato Growers' office, where a supervisor's report of accident was completed. Later that day, they went to the Naples Emergency Room. On November 28th, they were seen at the Marion E. Fether Medical Center in Immokalee. Their treating physician diagnosed both farmworkers as having "fungal infection - Secondary to Original Chemical Dermatitis." He recommended that they return to work on December 5th, and return to the clinic for a follow-up visit in one month.³⁸ The clinic filed a complaint with FDACS about the pesticide exposure of the workers. The company's own "Five Day Follow-Up Report" for Siguero and Calderon, dated November 25, 1994, states that they have "not yet returned to work," and adds that Siguero

³⁸ See Physician's Recommendations in "Medical Authorization for Follow-up Treatment," Exhibit E-13 NDR (12-5-94).

and Calderon were expected to return to work "as soon as she/he's feeling well."

During its investigation, FDACS learned from the applicator and the company's application records that between 7 a.m. and 4 p.m. on November 7th, Terranil 90DF, Lannate, and Ambush had been applied to the 35 acre tomato field in which Siguero and Calderon had been picking tomatoes on November 9th. Lannate requires a 48 hour quarantine period (or REI). Despite the claim of Lewis Nobles, the owner/operator of Immokalee Tomato Growers, that the field spraying was completed at 9 a.m. on November 7th, and that the workers reentered the field at noon on November 9th, the investigator concluded that the 48 hour REI had been violated. The investigator, however, omitted mention of the company's failure to warn the workers of the 48-hour REI or its failure to take them to a medical facility on November 9th, when the supervisor first learned of the workers' pesticide-related symptoms. Also, despite Ms. Siguero's statement that she and her husband had never received WPS training, FDACS accepted the company's claim that they had been trained on November 9th - which was, coincidentally, the date of the alleged exposure incident.

Confirming the farmworkers' description of events, FDACS also learned that between 7 a.m. and 4 p.m. on November 9th, Manzate 200DF, Ambush, Dipel 2X, Kocide 101 and Terranil 90DF were applied to 30 acres of tomatoes in the field adjacent to the one in which Siguero and Calderon had been working. These chemicals were applied using a boom sprayer attachment with five nozzles on each side, staggered to three feet high. Neither Nobles (farm owner) nor Brockington (applicator) could remember the wind conditions on November 9th; and the investigator did not question the farmworkers on this issue. But without securing weather information, FDACS accepted Nobles' claim that no drift had occurred on that day. FDACS,

however, did find that Brockington had not worn all the required protective equipment (PPE) while mixing the pesticides for the November 9th application.

The pesticide labels show that the pesticides used on November 7th and 9th can cause the skin rashes, headaches and burning skin that were experienced by Siguero and Calderon. The label for Lannate (which had been applied to the field in which they worked) notes that it may cause skin rashes or headaches. Of the products that may have drifted onto the workers, Manzate 200 is a skin and eye irritant, and may cause skin sensitization; Terranil 90DF and Kocide 101 also may cause skin sensitization reactions, according to their labels. Ambush may cause stinging, burning, or itching, and while the "skin of the face is most commonly affected . . . hands, forearms, and neck are sometimes involved." In sum, the symptoms that Siguero and Calderon suffered on November 9th and 19th are wholly consistent with exposure to Lannate and the other pesticides used on November 7th and 9th.

Even though the FDACS investigator found two serious regulatory violations (violation of the 48 hour REI and failure to provide all required PPE), and could have found others (e.g., failure to warn farmworkers of pending 48 hour REI and failure to provide prompt transportation to a medical facility), and the farmworkers' medical records confirmed their pesticide-related illness, the Department concluded that "after a thorough investigation, we are unable to identify any violations of State or Federal pesticide laws." This conclusion flies in the face of the substantial medical evidence, applicator testimony and employer-generated documents, which show that two farmworkers suffered adverse health effects, consistent with exposure to the pesticides used at the worksite, after reentering a field prior to the expiration of the REI, and while pesticides were being applied in an adjacent field.

Moreover, the failure to penalize this farm is particularly serious because of its previous history of WPS violations, having been inspected on January 5, 1993, due to a complaint of illegal residues of the pesticide acephate on the tomatoes. See File No. 193-003-2823.

Grove Caretakers (Juan Benitez, complainant), File No. 195-156-2979

FDACS' investigation of Grove Caretakers also failed to follow the trail marked by the medical evidence. This investigation was initiated in response to a complaint filed by the Florida Community Health Center. On May 31, 1995, Juan Benitez, an employee of Grove Caretakers, had come to the clinic complaining of dizziness, pain in the neck and head, severe abdominal pain, nausea and difficulty breathing, which he said he had been experiencing for two months. Mr. Benitez had been taken to the clinic on that day by his supervisor, allegedly because Mr. Benitez had washed his itchy hands in a tank mix of pesticides while spraying herbicides. FDACS apparently concluded its investigation into Mr. Benitez' health problems by attributing his skin problem to handwashing in the tank mix and ignoring his other serious medical symptoms.

Juan Benitez was an unlicensed applicator, who applied a tank mix of Roundup, Simtrol and Sulf-N-45 to citrus. All three of these chemicals are skin irritants; Roundup and Simtrol also cause upper respiratory problems. Significantly, however, Mr. Benitez also worked at Grove Caretakers as a mower and irrigator in areas where Ethion was applied. Ethion is a Toxicity Category II organophosphate insecticide, which commonly causes headache, nausea, dizziness, and difficulty breathing. Ethion intoxication can be shown, through blood tests, by a depression in the patient's level of the acetylcholinesterase enzyme. Medical records show that in treating Mr. Benitez, the clinic repeatedly took blood samples over a period of weeks, and directed him to

avoid contact with pesticides, based on these results. This shows that the clinic was treating him for organophosphate intoxication. If the investigator had examined the medical records and/or interviewed the treating medical personnel, he would have followed the trail of organophosphate exposure. By failing to examine the medical records, the investigator entirely missed the critical link between the symptoms and the offending pesticide exposure.

FDACS also misconstrued Mr. Benitez' "itchy hands" complaint. Mr. Benitez used the tank mix to wash his hands because they were itchy; therefore he must have already been suffering from dermatitis. Thus, Mr. Benitez must have been exposed to the pesticides in the tank mix (i.e., Roundup, Simtrol and Sulf-N-45, which are skin irritants) before he ever used the tank mix for washing. This is the exposure FDACS should have investigated. Moreover, it is curious that although the Grove Caretaker management claimed that Mr. Benitez had access to decontamination water, the investigator never confirmed this fact with Mr. Benitez or observed it for himself. It is extremely unlikely that Mr. Benitez would have washed his hands in a pesticide spray if clean water had been readily available.

C. Failure to Interview Coworkers or Other Eyewitnesses to Exposure

Interviews with exposed workers, their co-workers and other eyewitnesses are extremely important in order to develop a complete and accurate picture of what occurred. Such interviews may also serve an important public health purpose because it is likely that if one worker is suffering from pesticide-related injuries, others may be ill as well. Each pesticide-related illness uncovered, therefore, must be treated as a sentinel event, raising the possibility of other pesticide-related illnesses. FDACS interviewed co-workers who might have knowledge of a exposure event in only 5 of 46 cases. Significantly, in cases of multiple exposure, FDACS did

not interview all of the exposed workers, and in some instances FDACS failed to interview any affected worker at all.

Eagle Lake Harvesting (Division of Jack M. Berry, Inc.), File No. 196-173-2403

On April 3, 1996, the grove manager discovered that pickers had been sent to work in a block that had been treated that morning with at least one pesticide requiring a 48 hour quarantine period. He then instructed the farm labor contractor to take the crew out of the grove, and have them wash with soap and water. It was not until some days later, however, that all of the pickers were taken to the hospital. The WPS, by contrast, requires an employer to provide prompt transportation to a medical facility when there is reason to suspect that a worker has been exposed to pesticides.

The harvesting manager gave FDACS a list of the workers treated at the hospital, including their social security numbers. FDACS interviewed the assistant director of the hospital's emergency services, who told the investigator that the workers had complained of rash and/or chemical reaction. FDACS, however, interviewed only one farmworker, and never reviewed any medical records.

FDACS found a number of regulatory violations. Namely, it concluded that the employer: 1) placed unprotected workers in a work area prior to the expiration of an REI; 2) failed to provide workers with transportation to a medical facility until two days after the workers' exposure; 3) did not verify that its workers had received WPS training; and 4) failed to post required information about its application of Champion Wettable Powder and Griffin 97% Soluble Oil. No finding was made concerning the link between the pesticide exposure and the workers' injuries; and, despite the serious violations that were found, no fine was issued.

Raisin Cane and More, File No. 196-140-1588

Workers complained that they were sprayed with pesticides. FDACS' investigation found several violations of the Worker Protection Standard: 1) no WPS safety poster, emergency medical information or pesticide application information were posted at a central location; 2) no decontamination stations were available; and 3) no warning signs were posted. However, no farmworkers were interviewed or medical records reviewed, and thus, no thorough investigation was made of their complaint. Despite the findings of WPS violations, no fine was issued.

Lykes Pasco, File No. 194-077-2637

A farmworker advocate from the Christian Migrant Association informed FDACS that farmworkers who were picking citrus for Lykes Pasco were becoming ill after handling citrus covered with a white powder. According to the complaint, some workers were suffering from conjunctivitis, others had difficulty breathing, and/or dermatitis.

In conducting its investigation, FDACS spoke with an applicator from the company, who told the investigator that he had been instructed by the company's attorney to give information only on the restricted use pesticides applied. The state is entitled to information about all agricultural pesticides used, even if the pesticide is not classified for restricted use. Nonetheless, the company's unlawful limitation on disclosure, together with FDACS' failure to seek out affected workers, effectively stymied the Department's investigation.

According to the applicator, since November 1993, the only restricted use pesticides used at Lykes were Nema-cur 3 liquid, Gramoxone liquid, Temik 15E (also called Aldicarb), Admire, and Agri-Mek Miticide/Insecticide. Because only Agri-Mek was used on trees, the investigator limited his consideration to that chemical, which he found to have been used according to its

label. Several necessary elements were missing from this investigation. For example, the investigator never determined which non-restricted use pesticides were used on the citrus trees, whether Agri-Mek, even if used correctly, may have remained on the trees and injured the workers, or whether other restricted (or non-restricted) use pesticides used on the farm may have drifted onto the citrus trees and left a white powder on the fruit. Interestingly, the only "sample" the investigator took from Lykes was a copy of the Agri-Mek label. No fruit sample was obtained or analyzed to identify which pesticide residues, if any, were present. Moreover, in the Pesticide Use Inspection Report, the investigator noted that Lykes' "[a]pplication records look incomplete." But FDACS took no action and drew no adverse inferences from this observation.

While FDACS presumed that Agri-Mek was the only pesticide to which the farmworkers could have been exposed, it failed to note that Agri-Mek can cause skin and eye irritation, which were two of the symptoms that the farmworkers had experienced. Agri-Mek was dismissed as the cause of the injuries because it was allegedly used in accordance with its label. Even if this were so, the investigation should have continued because it is particularly important to know when a pesticide, used in accordance with its label, still causes harm. Indeed, an investigation by the Centers for Disease Control and Prevention (CDC) that demonstrated that workers who followed all label requirements were injured from exposure to the pesticide mevinphos (Phosdrin) led the EPA to ban certain uses of that product.

The workers also may have been injured from pesticides used elsewhere on the farm that drifted onto the citrus. Several of the other restricted use pesticides used at the farm could have caused the workers' symptoms. For example, Namacur is a Toxicity Category I organophosphate, exposure to which may cause respiratory ailments (including tightness in the

chest, wheezing, and a productive cough). Gramoxone is a liquid concentrate form of paraquat, contact with which may leave the skin of the hands dry and fissured, and cause blistering, and ulceration. Prolonged contact with Gramoxone may impair pulmonary function. Temik is a Toxicity Category I carbamate, exposure to which may cause pulmonary edema and blurred vision, among other things.

Moreover, FDACS did not even speak to any farmworkers about their exposures or symptoms. Since it never met with any workers, it did not obtain their permission to secure their medical records. The investigative file does contain a memorandum from a farmworker advocate stating that farmworker Epifanio Rios told his supervisor about the problems that he and his coworkers had been having with pesticides. This memorandum appears to have been faxed to FDACS on May 18, 1994, after it had closed its investigation. The FDACS investigator made no attempt to reopen the case to find Epifanio Rios or any of the other affected farmworkers. Rather, in its letter to Lykes Pasco Management Division, FDACS simply informed the company that "no substantial evidence was found to indicate violations of the Florida Pesticide Law and Rules," and that "[t]he information obtained during the investigation was inconclusive as to the cause of illness of the migrant workers." Finally, while FDACS did point out that the instructions of the company's attorney, limiting its information to restricted use pesticides was at odds with Florida Statutes ch. 487.071(1) (which authorizes FDACS to "enter upon any" private premises "where pesticides are known or thought to be" applied, during regular business hours in the performance of its duties relating to pesticides), no fine was levied on account of the company's obstruction of FDACS' investigation.

D. Failure to Closely Scrutinize Repeat Offenders

Red Star Farms, File Nos. 194-089-2823 and 195-116-2823

FDACS' investigations of Red Star Farms illustrates the Department's failure to carefully scrutinize firms that are repeatedly the subject of pesticide complaints. Between February 1994 and May 1995, FDACS conducted four investigations of Red Star Farms. On three occasions, FDACS found serious violations of state and federal law, including pesticide drift onto a crew of farmworkers. During the course of these investigations, FDACS also documented allegations of employer retaliation against a worker who tried to protect a crew from pesticide exposure, and of Red Star Farms' failure to verify that its workers received pesticide training. FDACS ignored these two claims altogether. And, notwithstanding the severity of the repeat violations that FDACS did confirm, the Department failed to issue any fine.

On February 11, 1994, during a routine investigation at Red Star Farms, FDACS found several serious violations: an unlicensed pesticide applicator had mixed and loaded Dithane DF, Asana XL and Kocide 101 without proper PPE and applied Dithane DF without proper PPE. FDACS also found that Asana XL had been improperly mixed, so that it was applied at a rate that contained 33% more active ingredient than is permitted by the pesticide label.

Less than three months later, on May 4, 1994, FDACS was summoned to Red Star Farms again, this time to investigate an April 29, 1994 incident in which a worker had been sprayed by Dithane DF and suffered skin blisters, requiring medical treatment. FDACS' investigation found that the problems at Red Star were more serious than had been reported: seven workers, not just one, had been drifted upon while picking and loading watermelons. At least six of the workers had sought medical treatment for symptoms, which included skin

blisters, contact dermatitis, nausea, headache, and skin and eye irritation. These symptoms are entirely consistent with exposure to Dithane DF, which may cause irritation of the skin, respiratory tract, and eyes.

A crewleader, who had intervened to try to stop the applicator from spraying the crew, had taken an injured worker to the clinic, and advised the other exposed workers to seek medical treatment, informed FDACS that he was subsequently fired. He believed his termination was in retaliation for his having complained about the workers' exposure. FDACS took no action on this claim.

After these first two investigations, FDACS informed Red Star Farms of their violations with regard to mixing, loading, and applying pesticides without proper PPE, and allowing drift onto workers. FDACS, however, drew no conclusion about the relationship between the documented exposure and the workers' injuries. No fine was imposed for these violations.

In March 1995, FDACS returned to Red Star Farms, to follow up on the farm's efforts to correct its 1994 violations. On this occasion, the Department noted two additional WPS violations: required application information was missing from the Central Information Area; and Red Star did not have decontamination sites for handlers. It is unlikely that FDACS would have noticed other significant violations at that time, because its "follow up investigation" consisted of speaking with Gary Crawford, the farm manager, and Eugene Tolar, the owner and licensed applicator, and reviewing application records. No effort was made to speak with any of Red Star Farms' workers. And, apart from checking application records, no effort was made to independently confirm the grower's contention that past violations had been corrected.

Two months later, FDACS returned to Red Star Farms for a fourth time. This

investigation was prompted by Charles Joe's complaint that he had been exposed to pesticides while cutting watermelons at Red Star Farms on April 21, 1995, and that he subsequently suffered serious dermatological problems.

Joe told FDACS that after one day of work at Red Star he felt like he had a bad sunburn, and had chills, and that his skin later discolored and peeled. These symptoms were very similar to those reported by the workers exposed to Dithane DF the previous year, and are consistent with exposure to both Dithane DF and Benlate. Joe also told FDACS that he never received any pesticide training. FDACS learned that Red Star had sprayed Dithane DF and Benlate on April 17, a few days prior to Joe's alleged exposure. FDACS did not interview any other workers at Red Star Farms to determine whether they, too, may have been exposed to pesticides, and suffered injury, or whether they had received any pesticide training.

Notwithstanding the fact that this was FDACS' fourth visit to Red Star Farms in little over one year, FDACS made no connections between its earlier findings and the present investigation, and found no pesticide violations. FDACS seems to have concluded that Joe was not exposed to pesticides because he did not reenter the field until the REIs for Dithane DF and Benlate had expired. But workers have been injured by pesticides after the expiration of the REI; and the application could have occurred later than the grower alleged. Since Joe experienced symptoms that were consistent with pesticide exposure - and similar to the symptoms experienced by farmworkers at Red Star the previous year - a more thorough investigation should have been conducted.

Immokalee Tomato Growers, File No. 195-225-2823

In September, 1995, FDACS received a Pesticide Incident Monitoring Report (PIMS)

from Collier Health Services, stating that Jose Malagon had been exposed to methyl bromide over an extended period of time, and was suffering chronic health effects from the exposure. This was FDACS' fourth complaint of pesticide exposure at that farm in two years and the second complaint of exposure to methyl bromide at Immokalee Tomato Growers in 10 months. As such, the sheer number of complaints alone should have alerted FDACS to closely scrutinize operations at this farm. Yet in its investigation, FDACS ignored medical evidence and eyewitness accounts of pesticide exposure and failed to interview several possible victims and other witnesses.

On or about August 8, 1995, Jose Malagon became sick while laying plastic on a methyl bromide rig in the "red field" at Immokalee Tomato Growers. His symptoms included light-headedness, nausea, shortness of breath, and tightness in his chest (he said that his chest hurt and would tighten up when he coughed), all of which are consistent with methyl bromide poisoning. Indeed, dizziness and nausea are early symptoms of acute poisoning. Despite these ailments, Malagon continued to work. By August 15, however, his symptoms had not abated, so he went to the health clinic for treatment, where he was diagnosed as suffering from possible chronic effects of methyl bromide exposure.

When interviewed by FDACS, Lewis Nobles, the owner/operator of the farm, told FDACS that Malagon had been working in the red field, to which they had applied methyl bromide from August 12-15. Apparently Malagon had been laying plastic during the methyl bromide applications on these dates. Methyl bromide has a 48 hour REI and its label requires that only properly trained and equipped handlers, wearing all mandated personal protective equipment, be permitted in the field during this period. In addition, if tarps are used for the

application, non-handler entry is prohibited while tarps are being removed. The label also requires applicators and other handlers to wear loose-fitting or well-ventilated long-sleeved shirt and long pants; shoes and socks; full-face shield or safety glasses with brow and temple; and a respirator, if the acceptable air concentration level goes above 5 parts per million (ppm).

Malagon stated that he had been wearing a long-sleeve shirt, long pants, shoes and socks, bandana and sunglasses while working in the fields. If Malagon were laying plastic during the REI (as the evidence indicates), then he was not wearing all of the required personal protective equipment. At the least he was missing safety glasses with brow and temple, or full-face shield. And, if the air concentration was above 5 ppm, he also should have had a respirator.

In the course of the investigation, FDACS was given the names of several witnesses to Malagon's pesticide exposure, as well as other workers who he said were suffering from the same symptoms. FDACS, however, failed to interview any of these witnesses. Instead, it limited its investigation to Malagon, Nobles, and Gomez. Malagon reported that there were three workers on the back of the rig laying plastic, two of whom also suffered the same symptoms as he did. The company's "Supervisor's Accident Investigation Report" lists Jose Mandujano, Malagon's supervisor, as a witness to the incident, but he was not interviewed by FDACS. Marvillo Gomez, in his statement to FDACS, identified Velasco Bacilio as another applicator who was present on August 12 in the red field; but he was not interviewed either. And FDACS itself identified five applicators, but interviewed only Nobles.

FDACS' verification of compliance with the Worker Protection Standard and the methyl bromide requirements rested almost entirely on its interview with Nobles, the grower. Not surprisingly, the grower answered that his farm had complied with all of the WPS requirements.

But FDACS' investigation revealed otherwise: that the farm likely failed to provide the required PPE for Malagon, and possibly for his coworkers as well. FDACS' use of the methyl bromide checklist suffered from similar problems. It appears that FDACS answered the questions based on its interview with the grower alone, even though the medical evidence of chronic methyl bromide exposure and Malagon's statements strongly suggest that the farm did not comply with the methyl bromide label requirements

E. Accepting the Employer's Uncorroborated Account of Events

Parkesdale Farms, File No. 194-216-2982

On September 14, 1994, Sergio Quijada was laying plastic at Parkesdale Farms when his arms and legs became red and itchy with a rash. At the end of his workday, Quijada told his supervisor about his symptoms. After working for another two days, Quijada went to Dover Health Center for treatment. There Quijada was treated by Jose Estrada, P.A., who noted that Quijada's hands and knee to shin areas were red and swollen, and that he had hives extending up his forearms.³⁹ Quijada was diagnosed as suffering from a reaction to pesticides, and given a prescription for Tavist. The clinic reported Quijada's injury as "pesticide reaction" using FDACS' Pesticide Incident Monitoring Report system.

Robert Parkes, the owner of Parkesdale Farms, told FDACS that he had applied methyl bromide to the Hill field on September 12-15, 1994 and that "no one was allowed in the field for two weeks after the application." By contrast, Quijada told FDACS that on September 14, 1994, he was putting down plastic at Parkesdale farm "at the field on Tanner, where the long building

³⁹ See Case File No. 195-225-2823, Medical Records attached as Exhibit D, and Affidavit of Jose Estrada.

is.” A handwritten map of Parkesdale's strawberry fields supports the conclusion that the field in which Quijada was working was the Hill field. Of the three fields shown, only this field has a building that corresponds to Quijada's description. Indeed, in its report, FDACS refers to the Hill field as “the field in question.” If, as FDACS itself appears to have concluded, Quijada was laying plastic in the Hill field on September 14-16, without personal protective equipment, then he was working in this field on at least 2 of the days that Parkes was spraying methyl bromide, in clear violation of the pesticide label's 48 hour restricted entry interval (REI). In resolving this case in the employer's favor, however, FDACS relied on the grower's claim alone, without interviewing other witnesses.

Methyl bromide is a highly toxic pesticide, which is subject to special use restrictions that FDACS verifies, using a “Methyl Bromide Rule Check List.” This case shows that the checklist is no substitute for a thorough investigation. The checklist asks, for example, whether warning signs were posted at the field entrances and exits prior to the methyl bromide application, and whether these signs remained in place at least 7 days after the application. In answering these questions, FDACS appears to have relied on the grower's version of events. There is no evidence that FDACS interviewed other witnesses (such as the farmworkers) who might have had knowledge of the signs, and who were the intended beneficiaries of the protection. Moreover, in this case, proper posting of methyl bromide signs might have alerted Quijada to the presence of dangerous pesticides in the field, and prevented his prolonged exposure to this chemical.

Nor did FDACS adequately pursue the grower's apparent failure to respond to Quijada's report of injury on September 14th. Quijada says he reported the problem to his supervisor, but Parkes says he knew nothing about it. Instead of investigating this issue by interviewing the two

workers identified by Parkes as having helped him lay plastic on the days in question, FDACS simply relied on the grower's unsupported version of events. As such, its investigation was wholly inadequate.

Hendrix and Dail, Inc., File No. 193-198-2181

A construction worker suffered a fatal heart attack while removing a plastic sheet after a methyl bromide application. FDACS interviewed the company branch manager, who stated that there could not have been any methyl bromide under the plastic four days after the application in 90 degree heat. He claimed that the chemical was no longer present because there was no water under the plastic when the tarp was removed, no one smelled chemicals and no one else had any symptoms of exposure. Based on these statements, FDACS concluded that methyl bromide exposure had not contributed to the worker's death.

The manager's uncorroborated statements should not have been accepted. The fact that he didn't smell methyl bromide was not dispositive, because methyl bromide is nearly odorless. Whether or not the chemical was absorbed into the soil or remained present in a gaseous form depends on a number of factors, including the degree to which the soil was porous. Thus, soil samples should have been taken to obtain an objective analysis of soil conditions. Similarly, the decedent's co-workers should have been interviewed to determine whether they suffered any symptoms of methyl bromide exposure or otherwise detected its presence. In sum, in an incident as serious as this one, FDACS should never have relied on the word of the company's manager alone.

F. Retaliation

A study by the U.S. Government Accounting Office reported that intimidation of

farmworkers contributes to their under-reporting of pesticide illness and interferes with their ability to obtain medical care.⁴⁰ Retaliation is illegal under both state and federal law.⁴¹ In light of the chilling effect of employer retaliation, FDACS should be especially sensitive to evidence of this type of misconduct. But FDACS' files show otherwise. At least eleven of the case files contain evidence of possible retaliation. In no case, however, did FDACS thoroughly investigate these charges.

Red Star Farms. File No. 194-089-2823

Genaro Silguero told the FDACS investigator that he had been fired after having tried to intervene to prevent a pesticide applicator from spraying in a manner that would drift onto a farmworker crew that was working nearby. FDACS confirmed that the workers had been exposed to drift. However, it made no effort to investigate whether the grower had fired Silguero in retaliation for his efforts to protect the workers.

Godwin Farms (Jose Segura, complainant). File No. 195-080-2823

A farmworker/complainant reported to FDACS that he had been exposed to pesticides while picking squash, and wanted to seek workers' compensation for his injuries. But on two occasions the crewleader's wife threatened to report him to the government for using a false social security card, if he reported his injury. Despite this information, FDACS failed to explore the farmworker's retaliation claim.

⁴⁰ Pesticides on Farms, at 9, 15 (1993).

⁴¹ Fla. Stat. ch. 487.207(2)(a); 40 C.F.R. § 170.7(b).

Liner Distributor, File No. 196-255-1588

A nursery worker at Liner Distributor reported to FDACS that when she had developed a rash due to pesticide exposure from a chemical she had applied, her doctor told her that she was suffering from an allergic reaction to pesticides. When she told her employer that the doctor needed to do further investigation, the worker was laid off because the company said that further medical treatment was too expensive. The employer contended that he had tried to accommodate the worker's injury, but had laid her off because she did not want to work. FDACS accepted the employer's account without any effort to investigate further.

G. Unfair credibility determinations

In at least 19 cases, there were conflicts between the complainant/exposed worker's account and that of the employer. In 18 of these cases, FDACS accepted the employer's version of events, without thoroughly investigating the worker's allegations, drawing negative inferences from the employer's lack of complete spray records, or objectively evaluating the evidence which supported the complaint. For example:

Godwin Farms (Jose Segura, complainant), File No. 195-080-2823

Jose Segura complained that on April 5, 1995, while harvesting squash between 8:00 - 9:30 a.m., he was exposed to a white powder on the plants, which caused blisters on his arms and chest. At noon, he said that he had to quit work because of the pain and itchiness.

In its investigation, FDACS interviewed Segura's employers (the grower and the farm labor contractor), the farm labor contractor's wife, five other farmworkers, and the manager of the dormitory where Segura lived. The witnesses gave conflicting accounts regarding the cause of Mr. Segura's injury.

Segura's crewleader, Eugenio Herrera, told FDACS that Segura had approached him that morning and showed him the rash on his arms. Herrera insisted, however, that there had been no white powder in the fields, that no one else had gotten sick and that Segura probably got poison ivy from sleeping in the woods. Herrera's wife, by contrast, told FDACS that Segura had said that he'd eaten bad fish.

The investigator did not contact Segura. The Department of Labor and Employment Security, which also investigated this incident, spoke to the manager of the men's dormitory where Segura had lived. In his sworn statement to the Department of Labor, which is included in the FDACS file, the manager said that Segura had lived in the dormitory for five months, and that he (the manager) had taken Segura to file the complaint of pesticide poisoning. The manager also said that on April 8, 1995, Segura had gone to Clinton, South Carolina to do migrant work. There is no evidence that FDACS made any attempt to speak with the manager, locate Segura in South Carolina, or contact the local clinic to obtain Segura's medical records or diagnosis.

The investigation report does not discuss the differences in the witnesses' accounts of the cause of the rash or the investigator's reasoning. Nonetheless, FDACS resolved all evidence in favor of the grower and the farm labor contractor and imposed no fine. This is curious because the stories of the crewleader and his wife don't add up, and the objective evidence supported the complainant. First, the crewleader's claim that the rash was caused by poison ivy, contracted when sleeping in the woods, is refuted by the dormitory manager's testimony that Segura had slept in the dormitory for the previous five months. Second, Mrs. Herrera's claim that the rash on Segura's arms and chest was due to "bad fish" is undermined by the fact that a rash caused by

the ingestion of food would have been all over the body, not just on his arms and chest.

Interestingly, no one disputes that Segura suffered a rash after working at Godwin Farms.

This investigation was defective in three ways. Other avenues of investigation should have been pursued (for example, the Extension Service could have been contacted to determine what pesticide might have left a white powdery residue; the clinic could have provided Segura's medical records or diagnosis). FDACS erred by failing to draw any negative inferences from the patently false accounts provided by the crewleader and his wife. And FDACS failed to rely on the testimony provided by the one clearly disinterested (and hence objective) witness, the dormitory manager.

Los Torres Rancho, File No. 194-118-2823

Francisco Castillo worked as a farm laborer for Los Torres Rancho from February 8, 1994 through April 13, 1994. According to Castillo, his duties included mixing and spraying pesticides, but he did not know the names of the pesticides he handled. He never received pesticide training, nor was he provided with PPE. He was supervised by Beto Hernandez, who also sprayed pesticides at the farm.

On March 8, 1994, Castillo suffered symptoms including a pain in his right side, dizziness, diarrhea, and trouble sleeping. He was then treated at Jackson Memorial Hospital. No Notice of Injury ever was filed by the employer, which would have triggered payment for this treatment by the workers' compensation carrier.

Beto Hernandez, the supervisor, and Oscar Torres, the employer, contested Castillo's claims. According to Hernandez, Castillo drove the tractor while Hernandez sprayed Roundup. Torres claimed that Castillo was provided with PPE when he drove the tractor and that Castillo

neither mixed nor sprayed chemicals. Torres also claimed that he took Castillo to Jackson Memorial Hospital two or three days after Castillo began working at the farm for an appointment relating to pains in his side that Castillo had experienced prior to working at Los Torres Rancho. Nonetheless, Torres admitted that Castillo did once help Hernandez apply about 3 tanks of Roundup. He also did not refute Castillo's contention that he was suffering from dizziness, diarrhea and sleep trouble (all of which are pesticide-poisoning symptoms) when he sought medical treatment.

Florida Rural Legal Services filed a complaint on Castillo's behalf, in which it was alleged that Castillo applied a number of pesticides, including Dyna Gro, Princep, Kocide DI, Comite, Morestan, Vendex 4L, Agral-SOI, Manex, Thimet, Amine, Solican DF, and Roundup. FDACS seems to have disregarded this list altogether, and instead reviewed only the labels for Morestan and Kocide DF, which were two pesticides that Beto Hernandez mentioned having sprayed on April 25, 1994, 12 days after Castillo's last day of work. There is no list in the file of the pesticides that were sprayed during the time that Castillo did work at the ranch. Nor is there any discussion of the signs or symptoms of poisoning of the chemicals to which Castillo alleges he was exposed. One of the chemicals that Castillo's counsel believes he was exposed to, Thimet, is a Toxicity Category I organophosphate, exposure to which may cause, among other things, dizziness, diarrhea, and restlessness -- all of which were symptoms that Castillo experienced.

After its "thorough investigation," FDACS concluded that there were no violations at that farm. To reach this conclusion, FDACS credited the accounts of the employer and applicator over Castillo's. No attempt was made to speak with Castillo's wife, who worked with him at the

ranch, or any other coworkers, or to try to corroborate Castillo's claim of pesticide-related illness.

H. Pesticide Sampling

Examination of physical samples of clothing and crops or soil is one way to verify whether exposure occurred, identify the pesticide used, or quantify the concentration of pesticide residues on the crop. FDACS took physical samples in only three cases, even though it would have been helpful in many others. In most other cases, it relied instead on uncorroborated employer/applicator testimony and/or spray records (however incomplete) to determine pesticide usage.

Physical samples would have been particularly useful in cases such as Los Torres Rancho, Herbert Smith Jr. Trust, or Lykes Pasco. In Los Torres Rancho, the worker complained that he had applied a number of pesticides, including at least one that could have caused the symptoms of which he complained. The employer denied that the worker had sprayed pesticides; and FDACS only reviewed labels for pesticides which were sprayed after the worker's last day of work on that farm. Samples of clothes and soil might have confirmed or refuted the worker's account of exposure.

In Herbert Smith Jr. Trust, FDACS found containers of Bromacil, but accepted the company's representation that it had not used this forbidden chemical since 1993. Soil samples might have provided evidence to confirm or deny the company's claim.

At Lykes Pasco, workers complained of illness after handling citrus covered with a white powder. If FDACS had taken samples of the fruit, it might have been able to identify the pesticide involved -- which its investigation did not uncover.

I. Restricted Entry Intervals

In February 1996, the EPA held a public meeting on the Worker Protection Standard in Winter Haven, Florida. Nearly all of the participating growers complained that the restricted entry intervals (REIs) required by the WPS were too burdensome. According to the Florida Fruit and Vegetable Association (FFVA), there had never been a post-REI "toxicity problem" in Florida, so neither extended REIs, nor the provision of decontamination facilities past the REI, were necessary.⁴² An incident at Bonita Tomato Growers appears to belie this contention.

Bonita Tomato Growers (Baldomero Diaz, complainant), File No. 195-093-2823

On April 11, 1995, Baldomero Diaz suffered a rash while working in Bonita's tomato fields. Diaz reported his symptoms to the employer that day, but was not taken to a health center for treatment until the following day (in violation of the WPS requirement that prompt transportation to a health facility be provided). The county health department filed a Pesticide Incident Monitoring Report, noting that Diaz had a rash "all over his body," which they diagnosed as possible pesticide poisoning. On investigation, FDACS learned that less than 48 hours before Diaz had entered the field, Bonita had sprayed a mixture of Guthion, Penncozeb, and Blue Shield on the field where Diaz worked. While FDACS correctly noted that Bonita's placement of Diaz in that field was a violation of Guthion's 48 hour REI, Guthion (a Toxicity Category I organophosphate) was not the cause of Diaz' dermatitis.

⁴² U.S. Environmental Protection Agency, A National Dialogue on the Worker Protection Standard: Part I: Transcripts of Public Meetings, at 9 (March 1997) (statement of Charlie Matthews, Assistant Director, Environmental and Pest Management Division, Florida Fruit and Vegetable Association); see also id. (letter of Charlie Matthews to Jeanne Heying, U.S. EPA).

Rather, it is likely that Penncozeb and Blue Shield caused Diaz' skin rash. Penncozeb and Blue Shield (copper hydroxide) both cause skin irritation, which is stated on their labels. It is therefore quite likely that Diaz' post-REI exposure to Penncozeb and Blue Shield, and not his pre-REI exposure to Guthion, caused his skin rash. But FDACS completely missed this connection.

J. Failure to Coordinate Investigative Efforts with Other Agencies

Frasco Grove, File No. 193-284-2637

At 6:30 p.m. on August 18, 1993, Marisol Torres came to pick up her husband, David Torres, from work. When she arrived at Frasco Grove, she found her husband dead, trapped between his tractor and a tree. Torres, a pesticide applicator for Frasco Grove, had been spraying a mixture of Ethion, Kocide 101 and Spray Oil 455 that day. Ethion is a Toxicity Category II organophosphate that may be fatal if swallowed, inhaled, or absorbed through the skin. Torres had been applying these pesticides, without any of the required personal protective equipment, for the past 30 days. On the day of his death, Torres was shirtless and in shorts.

On investigation, FDACS learned that the Ethion had been improperly mixed, so that the concentration of the active ingredient was too great (higher than .75 pints per acre). It also found that the company had failed to provide Torres with rubber boots, chemical resistant apron, safety glasses, goggles, or face shields, as is required by the label and that the private applicator, who was supposed to supervise Torres had a license that had expired on June 30, 1992, over a year before Torres died. Interestingly, FDACS did not find any evidence that Torres ever received any instruction about the proper handling of pesticides, the toxicity of the products he applied, the signs or symptoms of pesticide intoxication, or the importance of covering his body to

minimize exposure. Nor did FDACS interview people who may have seen Torres, or witnessed his spraying activities, on the day of his death or the preceding month. In so doing, FDACS ignored its own investigation instructions. Despite its findings of violations, FDACS issued no penalty. The Department also failed to resolve the most important question posed by this case: why was Torres found between his tractor and the tree?

Many different factors may have contributed to Torres' death. Since he had been spraying a mixture that included an overly high concentration of a highly toxic organophosphate insecticide for the previous 30 days, he may have been suffering from organophosphate intoxication. Symptoms of Ethion exposure may include dizziness, blurred vision, difficulty breathing, lack of coordination, or mental confusion. He may also have been affected by heat stress, since he had been applying pesticides in 90 degree heat throughout the day of his death. There may also have been some mechanical malfunction of the tractor.

Three agencies investigated this incident and issued reports: FDACS, OSHA and the local police. The FDACS file, however, does not contain either the OSHA or the police reports; and apparently none of the agencies worked together. FDACS termed Torres' death an "accident," without explaining what put Torres in harm's way. David Torres - and other Florida farmworkers who are exposed to potentially lethal pesticides on the job- deserve a more complete explanation of what occurred. At the very least, the three investigating agencies should have worked together to solve this case.

Sam and Warren Miles. File No. 196-054-1913

The Texas Department of Health notified FDACS that two of Miles' former workers were 100% disabled due to exposure to pesticides at their worksite. FDACS interviewed the growers,

who said that they did their own spraying, and that the workers were allowed back into the fields at the appropriate time. FDACS concluded, based on interviews with the employer alone, that there had been no violations. No site inspection was conducted; nor were interviews conducted with the complainants or other farmworkers who may have been exposed to pesticides at that farm. No medical information was obtained concerning the complainants. This was a wholly inadequate investigation in light of the very serious nature of the farmworkers' disability.

K. Violations and Penalty Assessment

FDACS has a graduated system of enforcement actions that it may take when it finds a violation of state or federal law.⁴³ It may issue a "compliance agreement" (which gives a violator a fixed time period to correct violations), a warning letter (which outlines legal requirements, regulatory violations, and potential penalties), or an administrative fine of up to \$10,000 per violation. In addition, in appropriate circumstances, it may seek criminal sanctions. In calculating the amount of a fine, FDACS considers factors such as the toxicity of the pesticide involved; the human health effects, if any, and their gravity; environmental and animal health effects, if any, and their gravity; the violator's compliance history; the size of the business; the degree and extent of harm caused by the violation; the cost of rectifying the damage; the financial benefit the violator derived from noncompliance; and whether the violation was wilful.⁴⁴

During the period under review, FDACS found violations in 31 of the 46 cases that were

⁴³ Personal Communication with Dennis Culligan, Environmental Manager, FDACS Compliance Section.

⁴⁴ See Fine Formula: Calculated Fines (Attachment 4), and Fla. Stat. ch. 487.175(e).

investigated. In 27 of the cases in which violations were found, FDACS noted more than one violation. In only two cases, however, did FDACS issue a fine.⁴⁵ In another case, FDACS issued a warning letter.⁴⁶ In all other cases in which a violation was found, FDACS merely issued a letter notifying the respondent of the violation. Follow up inspections also were rarely performed to ascertain whether compliance was subsequently achieved.

By contrast, in the one year period between July 1996 and June 1997, in cases unrelated to farmworker injury, FDACS issued nine fines for agricultural use violations, most of which were for product-related violations (such as applying pesticides to a non-target site, or using an unregistered product).⁴⁷ Indeed, by far the most significant fine paid (\$17,800, over five times the amount paid in Hemphill Groves, which involved a serious pesticide-related injury) was for a violation related to the improper sale of a pesticide.⁴⁸ Thus, in a single year, FDACS issued nearly five times as many fines in cases unrelated to farmworker injury as it did in more than five years with regard to farmworker injury cases.

Notably, however, in the vast majority of worker-injury cases, the eventual disposition of the case did not directly address the issues of worker exposure and injury raised by the complaint or referral. In addition, in most cases, the violations found were far less serious than, and not directly related to the complaint that initiated the investigation. For example, in 46

⁴⁵ See D & S Farms (review below); Hemphill Groves, File No. 196-171-2982.

⁴⁶ See South Bay Growers (review below).

⁴⁷ FDACS, Pesticide Enforcement and Applicator Certification: EPA Cooperative Agreement Quarterly Accomplishment Report (1997); Personal Communication with Dennis Culligan, Environmental Manager, FDACS Compliance Section.

⁴⁸ Personal Communication with Dennis Culligan.

cases, it was alleged that worker exposure to pesticides caused illness. However, in only two cases did FDACS find a link between the exposure and the ensuing worker injuries. Nor did FDACS confirm a single instance of retaliation even though almost a dozen were alleged. Moreover, FDACS' extreme reluctance to find a connection between pesticide violations and worker injuries led to the imposition of wholly inadequate penalties and only two fines.

D & S Farms, File No. 193-381-1588

A Florida Department of Labor and Employment Security employee reported that on two occasions in a two week period in December 1993, two Department of Labor employees had observed a field being sprayed by three tractors, while a worker was mixing chemicals without protection, and ten unprotected farmworkers were tying up tomato plants in between the tractors.

On investigation, FDACS found that D & S had used Lannate, Vydate, Pounce, Penncozeb and Bravo inconsistently with their labels. FDACS also found that Lannate and Vydate L had drifted off their target sites onto worker areas and that the farm had failed to keep proper application records for these pesticides. In addition, FDACS found that pesticide applicators had not been provided the required goggles, face shields, respirators, or chemical resistant aprons when applying Bravo, Penncozeb, and Lannate. Based on these findings, FDACS levied a fine of \$13,350, and required the company's commitment to comply with the Florida Pesticide Law in the future.

In calculating the amount of the fine, FDACS noted that D & S had previously been fined for violations that were the same or similar to all of those involved in this incident, except for the record keeping violations, and that all but the record keeping violations were considered by FDACS to involve minor or moderately serious potential harm to a limited number of

individuals. Indeed, the investigation file includes four prior letters of warning to D & S Farms for use of pesticides inconsistently with the label, and a prior consent order, imposing a \$1,200 fine for pesticide violations.

On receipt of FDACS' Notice of Intent to Impose an Administrative Fine, D & S filed a petition for a hearing. D & S subsequently settled the matter by agreeing to pay a fine of \$1,500. Such a substantial reduction in penalty is clearly inappropriate, in light of the evidence that several pesticide applicators and ten field workers had repeatedly been exposed to highly toxic pesticides.

South Bay Growers, Inc. File No. 194-062-3076

On or about March 17, 1994, 28 workers were sent into a field to harvest lettuce that was still wet with Gramoxone Extra that had been sprayed earlier that same day. Two weeks later, FDACS was notified of the exposure by Florida Rural Legal Services (FRLS), and informed that the exposed workers suffered nausea, dry throats, and respiratory problems. FRLS also noted that some of the workers were transported to the U.S. Sugar clinic for treatment; some were sent home to rest; and others continued to work for several days. FRLS also stated that one of the exposed workers had requested confidentiality, for fear of retaliation by the employer.

On investigation, FDACS confirmed the reported exposure, but accepted the applicator's explanation that he had accidentally sprayed the block where the workers were cutting lettuce, which mistake he allegedly did not discover until later that afternoon. FDACS interviewed a physician who stated that he had treated "a number of patients" from South Bay Growers, who exhibited symptoms that may have been caused by exposure to paraquat (the active ingredient in Gramoxone). Exposure to paraquat may injure all the body tissues with which the chemical

comes in contact, e.g., the skin, eyes, respiratory system, and gastrointestinal tract. FDACS obtained a list of the 28 exposed workers, but interviewed only two of them. FDACS also appears to have ignored FRLS' comment about retaliation altogether.

FDACS issued a notice of warning to the pesticide applicator, in which it stated that unprotected workers entered the fields before the Gramoxone had become dry and that the workers became ill. In addition, FDACS noted that the applicator had not worn all the required PPE and that he failed to timely report the pesticide injury of the field workers. Despite these serious violations, and the exposure of 28 workers to a harmful pesticide, no fine was issued.

III. Conclusions and Recommendations

Every aspect of FDACS' investigation and enforcement effort was marred by serious shortcomings. Because the State of Florida entrusted its pesticide program to FDACS, the State bears responsibility for all of FDACS' deficiencies. As such:

- * The State repeatedly failed to find a causal connection between pesticide exposure and the injuries suffered by farmworkers. In only two instances did it conclude that pesticide exposure led to worker injury. This occurred where a grower admitted placing unprotected workers in a pesticide-treated field during the quarantine period, and where a grower, who discovered that a worker had passed out after applying extremely toxic pesticides, admitted failing to take adequate precautionary measures to protect him.
- * The State found regulatory violations in 31 instances, but issued only two fines.
- * The State failed to adequately investigate poisoning complaints even when a farmworker was seriously injured or killed, by systematically: failing to interview co-workers or other eyewitnesses out of the presence of supervisory personnel (with adequate translators); failing to obtain relevant medical records; routinely accepting uncorroborated employer claims of compliance; using checklists as a substitute for a thorough on-site inspection; and ignoring evidence of employer retaliation.
- * The State lacked adequate investigative protocols: it routinely failed to collect soil, plant, clothing and other physical samples which would have enabled it to

verify exposures and identify the pesticide(s) used; it routinely failed to draw reasonable inferences from the information obtained; and it failed to make regulatory determinations based on objective, corroborated evidence.

- * The State failed to coordinate the investigative efforts of FDACS and other enforcement agencies, such as OSHA (which investigates instances of serious or fatal worker injuries), or the Division of Workers' Compensation (which adjudicates claims of work-related illness or injury due to pesticide exposure). It also failed to ensure that FDACS established effective communication with health providers who are required to report pesticide exposure incidents.
- * The State failed to impose meaningful penalties when pesticide violations resulted in worker injury.

Indeed, Florida went to great lengths to avoid the conclusion that pesticide exposure led to worker injury. For example:

- * In incidents at Bonita Tomato Growers and Eagle Lake Harvesting, FDACS noted both that unprotected workers had been placed in a field before the quarantine period expired and that the workers subsequently received medical treatment. Nonetheless, it refused to find any connection between the exposure and the subsequent injuries.
- * In an incident at Ag Spray Corporation, FDACS found that an employer unlawfully caused a pesticide to drift onto "an area" where farmworkers were working, but failed to find any relationship between exposure and subsequent worker injury.

- * In S & J Farms, the Department noted that a farmworker was accidentally sprayed with pesticides and that the company had failed to provide him with prompt transportation to a medical facility. However, it drew no conclusions concerning the relationship between the exposure and the worker's injury.

The State's handling of pesticide poisoning complaints reveals a pattern of indifference to its obligation to protect the safety and health of Florida's farmworkers. By failing to issue citations for pesticide poisoning and impose meaningful penalties for serious WPS violations, the State has deprived farmworkers of adequate protection and wholly undermined its effort to deter future misconduct, as the repeat violator complaints in FDACS' files amply demonstrate.

To protect farmworkers' health and safety, fundamental changes in Florida's system of enforcing the Worker Protection Standard are needed.

- * Because of FDACS' indifference to worker safety, the EPA should rescind FDACS' authority to enforce pesticide safety in Florida. A completely overhauled enforcement program should be transferred to a different state agency, such as the Florida Department of Environmental Protection, or the Florida Department of Labor and Employment Security.
- * A new enforcement protocol must be developed that, among other things, directs investigative personnel to obtain medical records of injured workers, secure cholinesterase testing where appropriate, interview co-workers and other eyewitnesses out of the presence of the employer's supervisory personnel, and obtain application records. The enforcement protocol must also indicate the types of reasonable inferences that can be drawn from medical evidence and incomplete

spray records. In developing its new procedures, the new state enforcement agency should consult with the EPA, U.S. Department of Labor, OSHA, NIOSH and other agencies skilled in investigating incidents of occupational health and safety and enforcing worker protection regulations.

- * The new enforcement agency must be dedicated to protecting farmworker safety. Its enforcement team must be thoroughly trained in the new procedures and adequately funded. Legal staff must be assigned to the pesticide enforcement effort to defend administrative penalties in subsequent legal proceedings.
- * A civilian Pesticide Enforcement Oversight Board should be established to review the new agency's pesticide enforcement efforts. Such a Board must include a majority of farmworker and consumer representatives to ensure that the deficiencies identified here do not recur.

In short, only such a completely revamped, enforcement-oriented system can assure farmworkers that their health will be protected and that compliance with the Worker Protection Standard will be achieved.

ATTACHMENT 1

Files Reviewed

<u>File Name</u>	<u>File Number</u>
Ag Spray Corporation	194-144-3076
Albritton Fruit Company	193-087-2181
Bonita Tomato Growers (Baldomero Diaz)	195-093-2823
Circle M	197-070-2823
City of Clearwater Nursery (Virginia Ford)	196-051-2982
D & S Farms	193-381-1588
Diamond C Nursery (Luis Cifuentes)	193-127-2637
Eagle Lake Harvesting	196-173-2403
Frasco Grove	193-284-2637
Glenn Boyd Trucking	194-090-2637
Godwin Farms (Jose Segura)	195-080-2823
Goodson Farms	193-363-2403
Grandview Botanicals	194-236-2403
Grove Caretakers (Juan Benitez)	195-156-2979
Gulf Harvesting (Peace De La Paz)	195-002-2823
Hemphill Groves, Inc.	196-171-2982
Hendrix and Dail	193-198-2181
Herbert A. Smith, Jr. Trust	194-163-2403
High Hope Farms	196-181-2870
Horizon Harvesting	197-062-2823
Immokalee Tomato Growers	194-257-2823
Immokalee Tomato Growers	195-225-2823
Jackson County Tobacco Co.	196-043-2664
Kennedy Groves (Michael Pizer)	193-262-2637
Liner Distributor, Inc.	196-255-1588
Los Torres Rancho	194-118-2823
Lykes Pasco	194-077-2637
Mecca Farms (Tom Madigan)	194-229-2637
Mecca Farms	193-155-2637
P & K Produce	195-136-2823
Sam and Warren Miles	196-054-1913
Nature's Way Nursery	196-158-1588
Orchid Island Orchids (Sharon McCallum)	193-065-2637
Pacific Land Company (Francisco Rodriguez)	194-084-2823
Parkesdale Farms (Sergio Quijada)	194-216-2982
Quincy Farms, Inc.	194-144-2664
Raisin Cane and More	196-140-1588
Red Star Farms	194-089-2823
Red Star Farms	195-116-2823
S and J Farms (Daniel Mendez)	195-065-2982
Sanwa Growers	194-263-2982
Sewell and Sewell (Javier Juarez)	195-015-2982
South Bay Growers, Inc.	194-062-3076
Southern Agricultural Insecticides	195-106-2181
Suncoast Lawn and Nursery	193-280-1913
Williams Farms	195-057-2923

ATTACHMENT 2

Selected Pesticides Reviewed: Toxicity and Symptoms of Poisoning

<u>Chemical Name</u>	<u>Pesticide Trade Name(s)</u>	<u>Toxicity Category</u>	<u>Class of Pesticide</u>	<u>Common Symptoms of Pesticide Poisoning</u>
Aldicarb	Temik	I	Carbamate	headaches; vision problems; pinpoint pupils; excessive sweating and/or salivation; weakness; dizziness; incoordination; slurred speech; abdominal pain; nausea and/or vomiting; diarrhea; breathing problems; muscle tremor
Azinphosmethyl	Guthion	I	Organophosphate	headaches; dizziness; anxiety; restlessness; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor
Captan		I	Thiophthalimide	irritation of eyes, nose, or throat; skin irritation; allergic contact dermatitis
Chloropicrin		I (eye)	Halocarbon	nausea and/or vomiting; breathing problems; irritation of eyes, nose, or throat; skin irritation
Chlorothalonil	Terranil 90DF	I	Organochlorine	irritation of eyes, nose, or throat; skin irritation; may cause skin sensitization
Copper Hydroxide	Blue Shield; Kocide; Champ; Champion	I	Copper Compound	headaches; excessive sweating; weakness; gastrointestinal irritation, including abdominal pain, nausea, vomiting and or diarrhea; irritation of eyes, nose, or throat; skin irritation; skin sensitization
Copper Sulfate		I	Copper Compound	headaches; excessive sweating; weakness; gastrointestinal irritation, including abdominal pain, nausea, vomiting and or diarrhea; irritation of eyes, nose, or throat; skin irritation; skin sensitization
lambda-Cyhalothrin	Karate	I	Synthetic pyrethroid	eye irritation; skin irritation, including itching, tingling, or burning sensation; allergic contact dermatitis
Etridiazole + Thiophanate-methyl	Banrot 40% WP	I	Carbamate (Thiophanate-methyl)	irritation of eyes and throat; eye damage; skin irritation; coughing; nausea; diarrhea
Glyphosate	Roundup	I (eye); II	Phosphonate	irritation of eyes, nose, or throat; skin irritation; nausea and/or vomiting; diarrhea

Selected Pesticides Reviewed: Toxicity and Symptoms of Poisoning

<u>Chemical Name</u>	<u>Pesticide Trade Name(s)</u>	<u>Toxicity Category</u>	<u>Class of Pesticide</u>	<u>Common Symptoms of Pesticide Poisoning</u>
Methomyl	Lannate	I	Carbamate	headaches; vision problems, including blindness and irreversible eye damage; pinpoint pupils; excessive sweating and/or salivation; weakness; dizziness; incoordination; slurred speech; abdominal pain; nausea and/or vomiting; diarrhea; breathing problems; muscle tremor; skin irritation
Methyl bromide		I	Alkyl bromide	headaches; vision problems; dizziness; weakness; collapse; nausea and/or vomiting; eye irritation; skin irritation, including severe burning, itching, blister formation; respiratory distress; ataxia; incoordination
Oxamyl	Vydate L	I	Carbamate	headaches; vision problems; dizziness; excessive sweating; abdominal cramps; muscle tremor
Paraquat	Gramoxone	I	Dipyridyl	severe irritation, including burning pain, of nose, throat, chest, abdomen; eye damage; nosebleeds; headache; fever; severe abdominal pain; diarrhea; bloody vomitus or feces bloody; skin irritation; allergic contact dermatitis
Abamectin	Agri-Mek; Avid	II		eye irritation; skin irritation; allergic contact dermatitis
Azadirachtin	Neemix	II (eye)		eye irritation; skin irritation
Bromacil	Hyvar	II (liquid); III (dry)	Uracil	irritation of eyes, nose, or throat; skin irritation
Carbaryl	Carbaryl 90DF	II	Carbamate	headaches; vision problems; pinpoint pupils; excessive sweating and/or salivation; weakness; dizziness; incoordination; slurred speech; abdominal pain; nausea and/or vomiting; diarrhea; breathing problems; muscle tremor; eye irritation
Chlorothalonil	Bravo 720	II	Organochlorine	irritation of eyes, nose, or throat; skin irritation; may cause skin sensitization

Selected Pesticides Reviewed: Toxicity and Symptoms of Poisoning

<u>Chemical Name</u>	<u>Pesticide Trade Name(s)</u>	<u>Toxicity Category</u>	<u>Class of Pesticide</u>	<u>Common Symptoms of Pesticide Poisoning</u>
Chlorpyrifos	Lorsban 50W	II	Organophosphate	headaches; dizziness; anxiety; restlessness; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor
Diazinon		II/III	Organophosphate	headaches; dizziness; anxiety; restlessness; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor; skin irritation
Dimethoate		II	Organophosphate	headaches; dizziness; anxiety; restlessness; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor; skin irritation
Diquat dibromide	Reward	II	Dipyridyl	severe irritation, including burning pain, of nose, throat, chest, abdomen; nausea and/or vomiting; diarrhea; bloody vomitus or feces; skin irritation; agitation; restlessness; disorientation
Esfenvalerate	Asana XL	II	Synthetic pyrethroid	skin irritation
Ethion		II	Organophosphate	headaches; dizziness; anxiety; restlessness; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor; skin irritation
Isazofos	Triumph	II	Organophosphate	headaches; dizziness; anxiety; restlessness; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor; eye irritation
Oxythioquinox	Morestan 25 WP	II	Dithiocarbonate	eye irritation; skin irritation

Selected Pesticides Reviewed: Toxicity and Symptoms of Poisoning

<u>Chemical Name</u>	<u>Pesticide Trade Name(s)</u>	<u>Toxicity Category</u>	<u>Class of Pesticide</u>	<u>Common Symptoms of Pesticide Poisoning</u>
Permethrin	Ambush	II	Synthetic pyrethroid	eye irritation
Acephate	Orthene	III	Organophosphate	headaches; dizziness; anxiety; restlessness; eye irritation; skin irritation; vision problems; pinpoint pupils; weakness; incoordination; abdominal cramps; nausea and/or vomiting; diarrhea; excessive sweating and/or salivation; breathing problems; muscle tremor
Bacillus Thuringiensis var. aizawai	Agree	III	Bacillus Thuringiensis	eye irritation; skin irritation
var. kurstaki	Dipel 2X; Javelin	III		
Diuron	Karmex	III	Substituted urea	eye irritation; skin irritation
Fosetyl-aluminum	Aliette	III		eye irritation; skin irritation
Permethrin	Pounce	III	Pyrethroid	eye irritation
Thiram		III	Thiocarbamate	irritation of eyes, nose, or throat; skin irritation; allergic contact dermatitis
Benomyl	Benlate	IV	Benzimidazole	irritation of eyes, nose, or throat; skin irritation; allergic contact dermatitis
Captafol		IV	Thiophthalimide	irritation of eyes, nose, or throat; skin irritation; allergic contact dermatitis
Chloramben	Amiben	IV	Benzoic/ansic acid derivative	irritation of eyes, nose, or throat; skin irritation
Iprodione	Chipco Brand Fungicide	IV	Dicarboximide	eye irritation; skin irritation
Mancozeb	Dithane DF; Penncozeb	IV	Ethylene bis dithiocarbamate	irritation of eyes, nose, or throat; skin irritation; allergic contact dermatitis
Maneb	Manex; Manzate	IV	Ethylene bis dithiocarbamate	irritation of eyes, nose, or throat; skin irritation; allergic contact dermatitis
Simazine	Sim-Trol	IV	Triazine	eye irritation; skin irritation

ATTACHMENT 3

**Pesticides Reviewed Suspected or Known to Cause Cancer,
Developmental Toxicity, and/or Endocrine Disruption in Humans**

<u>Chemical Name</u>	<u>Pesticide Trade Name(s)</u>	<u>Known or Suspected Human Carcinogen¹</u>	<u>Known or Suspected Teratogens or Reproductive Toxins²</u>	<u>Known or Suspected Endocrine Disruptor³</u>
Aldicarb	Temik			
Abamectin	Agri-Mek; Avid			X
Acephate	Orthene	X	X	
Benomyl	Benlate	X		
Bromacil	Hyvar	X	X	X
Captan		X		
Captafol		X		
Carbaryl	Carbaryl 90 DF	X	X	
Chlorothalonil	Bravo, Terranil	X		X
Dimethoate		X		
Diquat	Reward			
Ethion			X	
Iprodione	Chipco Brand Fungicide	X	X	
Mancozeb	Dithane DF; Penncozeb	X		
Maneb	Manex; Manzate	X	X	X
Methomyl	Lannate		X	
Methyl Bromide				X
Oxythioquinox	Morestan 25 WP	X	X	
Permethrin	Ambush; Pounce			
Simazine	Sim-Trol	X		X

¹ EPA, "Office of Pesticide Programs List of Chemicals Evaluated for Carcinogenic Potential," EPA Science Analysis Branch, Health Effects Division (Feb. 19, 1997).

² Marion Moses, "Pesticides," in Occupational and Environmental Reproductive Hazards: A Guide for Clinicians (Williams and Wilkins, 1993), p. 297 (Table 21.2: "Selected Pesticides Listed as Teratogens by the U.S. Environmental Protection Agency"); State of California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Safe Drinking Water and Toxic Enforcement Act of 1986 (Sept. 1, 1996).

³ C. Benbrook, Growing Doubt: A Primer on Pesticides Identified as Endocrine Disruptors and/or Reproductive Toxicants (1996).

ATTACHMENT 4

File: D & S FARMS
File: RABIN, MITCH

File No. 193-381-1588 DES
File No. 193-081-1588 DES

FINE MATRIX

FINE FORMULA: $A(B+C+D+E)100 \times F$

Minimum Fine per count: \$200 Maximum Fine per count: \$10,000

- A Violation Level
- B Toxicity of pesticides involved
- C Human health effects (Gravity of violation)
- D Environmental and Animal effects (Gravity of violation)
- E Compliance History
- F Size of Business (gross per year)

Count I

- A = 4 DCS - Drift to non-target area where people are present (violation level 4)
- B = 5 Category I - Signal Word "DANGER"
- C = 3 Minor or moderately serious harm to a limited number of individuals
- D = 1 No environmental or animal health effects identified
- E = 5 Previously fined for same or substantially similar violation as current
- F = 0.75 Factor for category II ($> \$200,000$ and $\leq \$1,000,000$)

Count II

- A = 4 DCS - Drift to crop non-target area where people are present (violation level 4)
- B = 5 Category I - Signal Word "DANGER"
- C = 3 Minor or moderately serious harm to a limited number of individuals
- D = 1 No environmental or animal health effects identified
- E = 5 Previously fined for same or substantially similar violation as current
- F = 0.75 Factor for category II ($> \$200,000$ and $\leq \$1,000,000$)

Count III

- A = 2 ARV - incomplete RUP records - violation level 2
- B = 5 Category I - Signal Word "DANGER"
- C = 1 no human health effects identified
- D = 1 no environmental or animal health effects identified
- E = 2 2 or more citations, no violations similar to current violation
- F = 0.75 Factor for category II ($> \$200,000$ and $\leq \$1,000,000$)

File: D & S FARMS
File: RABIN, MITCH

File No. 193-381-1588 DES
File No. 193-081-1588 DES

Count IV

A = 2 PCE - missing 1 or 2 pieces of protective equipment - violation level 2
B = 5 Category I - Signal Word "DANGER"
C = 3 Minor or moderately serious potential harm to a limited number of individuals
D = 1 No environmental or animal health effects identified
E = 3 Previously cited for same or substantially similar violation as current
F = 0.75 Factor for category II (> \$200,000 and ≤ \$1,000,000)

Count V

A = 2 PCE - missing 1 or 2 pieces of protective equipment - violation level 2
B = 5 Category I - Signal Word "DANGER"
C = 3 Minor or moderately serious potential harm to a limited number of individuals
D = 1 No environmental or animal health effects identified
E = 3 Previously cited for same or substantially similar violation as current
F = 0.75 Factor for category II (> \$200,000 and ≤ \$1,000,000)

File: D & S FARMS
File: RABIN, MITCH

File No. 193-381-1588 DES
File No. 193-081-1588 DES

Count I

FINE FORMULA: $A(B+C+D+E)100 \times F$

$4(5+3+1+5)100 \times 0.75$
 $4(14)100 \times 0.75$
 $4(1400) \times 0.75$
\$4200.00

Count II

FINE FORMULA: $A(B+C+D+E)100 \times F$

$4(5+1+3+5)100 \times 0.75$
 $4(14)100 \times 0.75$
 $4(1400) \times 0.75$
\$4200

Count III

FINE FORMULA: $A(B+C+D+E)100 \times F$

$2(5+1+1+2)100 \times 0.75$
 $2(9)100 \times 0.75$
 $2(900) \times 0.75$
\$1350

Count IV

FINE FORMULA: $A(B+C+D+E)100 \times F$

$2(5+3+1+3)100 \times 0.75$
 $2(12)100 \times 0.75$
 $2(1200) \times 0.75$
\$1800

Count V

FINE FORMULA: $A(B+C+D+E)100 \times F$

$2(5+3+1+3)100 \times 0.75$
 $2(12)100 \times 0.75$
 $2(1200) \times 0.75$
\$1800

TOTAL FINE = \$13,350

File: D & S FARMS
File: RABIN, MITCH

File No. 193-381-1588 DES
File No. 193-081-1588 DES

SECTION 487.175(1)(e): Additional factors shall be considered in imposing administrative fines pursuant to Section 487.175(1)(e).

Some of these factors are already incorporated into the Fine Matrix. The others will be taken into consideration if pertinent as follows:

1. Degree and extent of harm caused by the violation:

This factor is included as "C" and "D" in the fine matrix.

$$\text{FINE} = A(B+C+D+E)100 \times F$$

C = Human Health effects (C = 3 potential harm is minor or moderate to a limited # of individuals)

D = Environmental & Animal Health Effects: (D = 1 no effects identified)

2. Cost of rectifying the damage:

N/A: There was no damage or injury to rectify.

3. Amount of money the violator benefitted from by non-compliance:

NOT DETERMINED DURING THESE INSPECTIONS

4. Whether the violation was committed willfully:

This factor is included as "E" in the fine matrix (compliance history): This firm has had previous agency actions issued for the similar and same type of violations. As a result, this firm was aware of the requirements to follow label directions. Therefore, it appears that the failure to follow label directions was done willfully.

5. Compliance record of the violator:

This factor is already included in the fine matrix.

$$\text{FINE} = A(B+C+D+E)100 \times F$$

E = Compliance History

E = 5 (Previously cited for the same or substantially similar violation as current)