A POISONED FIELD: FARMWORKERS, PESTICIDE EXPOSURE, AND TORT RECOVERY IN AN ERA OF REGULATORY FAILURE

KEITH CUNNINGHAM-PARMETER*

* J.D., Order of the Coif, Stanford Law School, 2002. Law clerk to the Honorable Ancer Haggerty, Chief Judge, United States District Court for the District of Oregon, 2002–04. I am grateful to Professor Robert Rabin, Shelley Davis of the Farmworker Justice Fund, Marion Moses of the Pesticide Education Center, and Michael Reid for their thoughtful feedback on various drafts of this article. Additionally, Anne Marie O'Donovan and the staff of the *N.Y.U. Review of Law & Social Change* provided excellent comments and suggestions throughout the editorial process. Special thanks to the lawyers who spoke to me at length about farmworkers and pesticide exposure. Thanks to Anna Alexander of Ferraro and Associates, Vicki Clark of the Environmental Defense Center, Patti Goldman of the Earthjustice Legal Defense Fund, Anne Katten of the California Rural Legal Aid Foundation, Mike Meuter of California Rural Legal Aid, Margaret Reeves of Californians for Pesticide Reform, and Brent Rosenthal of Baron & Budd. These lawyers offered unique perspectives on the pesticide industry and the challenges farmworkers face in obtaining recovery for their injuries. This article was the first-place winner of Stanford Law School's 2002 Olaus & Adolph Murie Award for outstanding written work in the area of environmental law.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

INTRODUCTION

> In the old days, miners would carry birds with them to warn against poison gas. Hopefully, the birds would die before the miners. Farmworkers are society's canaries. Cesar Chavez[1]

As members of the "best-fed nation on Earth,"[2] Americans have come to expect an abundance of food at low prices. Although consumers are increasingly concerned about the effects pesticides have on their health, the public has yet to show a comparable interest in the pesticide-related dangers farmworkers face in the fields every day. A disturbing trend of societal neglect continues to ensure that the plight of the nation's migrant and seasonal agricultural workers remains out-of-sight, out-of-mind. Yet any glance at farmworkers harvesting rows of strawberries or fields of lettuce reveals that agricultural workers are among the "poorest and most widely exploited work force[s] in the country."[3] As they

1. SUSAN FERRISS & RICARDO SANDOVAL, THE FIGHT IN THE FIELDS: CESAR CHAVEZ AND THE FARMWORKERS MOVEMENT 220 (Diane Hembree ed., 1997).

2. *Harvest of Shame* (CBS television broadcast, 1960) (Edward Murrow's groundbreaking report on the poor living conditions of migrant farmworkers in the United States). In 2001, Florida Governor Jeb Bush, upon visiting the same farming community featured in Murrow's documentary, concluded that "migrants lived in inadequate housing and earned less, after adjusting for inflation, than they had 50 years ago." Nick Kotz, *Reporting About Poverty and Race Needs to Change*, NIEMAN REP., Spring 2001, at 27.

3. Bruce D. Butterfield, *The New Harvest of Shame*, BOSTON GLOBE, Apr. 26, 1990, at 1.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

endure substandard living accommodations and perform difficult work in exchange for low wages, farmworkers also must cope with regular doses of field poisons.

The death of José Antonio Casillas is a disquieting example of the workplace hazards pesticides pose to farmworkers. The fifteen-year-old migrant worker was in prime health.[4] At the end of each workday, while other farmworkers sat exhausted, Casillas had the energy to bicycle, lift weights, and play soccer. In 1999, Casillas left his hometown of Guanajuato, Mexico for the orchards of central Utah, intending to make enough money to support his mother and younger siblings back home. But two months after arriving in Utah, Casillas's journey ended abruptly. On June 26, 1999, an applicator-tractor doused Casillas with Guthion Solupak, a pesticide similar in formulation to Sarin, the nerve gas used in chemical warfare. This was the second time in a week Casillas had been sprayed with pesticides while working in the fields.[5] Unaware that a highly toxic pesticide covered his body, Casillas thought he had been sprayed only with water. After his first exposure, Casillas experienced intense head pain. After his second exposure, the teenager was vomiting, sweating, and suffering from diarrhea. That night, Casillas slept in the same clothes he had worn during the exposure. While riding his bicycle to work the next morning, Casillas lost consciousness and collapsed. By the time paramedics arrived, Casillas was dead, with white foam streaming from his nose.[6]

A legal framework exists to protect farmworkers from tragedies like Casillas's. Pesticides are not supposed to be sprayed while workers are in the fields. Farmworkers are supposed to be informed of the dangers of field chemicals and the steps to take in the event of a poisoning. But for Casillas, none of those regulatory "guarantees" took place. A Utah Department of Agriculture investigation found that Casillas's employer had violated federal and state laws by failing to: (1) train employees on pesticide use; (2) supply workers with protective gear; and (3) properly monitor pesticide applicators.[7] Further, the grower allowed workers to enter recently sprayed fields during prohibited reentry intervals and had not posted mandatory safety information. The grower was fined $10,000 for these violations, the maximum allowed by state law.[8] However, no tort suit was ever filed against the applicator or chemical manufacturer on behalf of Casillas, probably because of the difficulty of

4. *See* Shawn Foster, *Worker Dies After Pesticide Exposure*, SALT LAKE TRIB., July 5, 1998, at A1, 1998 WL 4061746 (describing the circumstances of Casillas's death); Rodger L. Hardy, *6-Month Probe Gains Farmer a $10,000 Fine*, DESERET NEWS, Jan. 14, 1999, at B1 (summarizing the Utah Medical Examiner's determination that Casillas was fifteen years old, despite false identification showing Casillas to be twenty).

5. *See* Foster, *supra* note 4.

6. *Id.*

7. *See* Hardy, *supra* note 4.

8. *Id.*

Imaged with the Permission of N.Y.U. Review of Law and Social Change

establishing a causal link between the pesticide exposure and Casillas's death.[9]

Agribusiness and the chemical industry have successfully drawn the nation's attention to the rich agricultural bounties that synthetic pesticides make possible. But like any human-made "miracle," the fantastic fruits yielded by pesticides come at a cost. Studies of the effects of pesticides confirm that at least one-third of agricultural pesticides are known or probable carcinogens.[10] Additionally, pesticide exposure has been linked to birth defects, leukemia, non-Hodgkin's lymphoma, and brain tumors.[11] The people on the frontline of exposure—the men, women, and children who work in the fields—interact with these pesticides in the chemicals' freshest, most potent state. While many observers agree that this kind of risk is unacceptable, quick solutions to the problem are not forthcoming.

This article analyzes the administrative state's failure to protect farmworkers from pesticides and explains how tort actions can catalyze improved field protections while compensating victims of pesticide-related injuries in a limited number of circumstances. Part I examines the pesticide industry and the risks laborers confront every day in the fields. This analysis provides a backdrop for Part II's description and critique of the administrative state governing pesticide regulation and farmworker protection. Part II also highlights the long history of agricultural exceptionalism and ineffective regulatory enforcement that continues to thwart the implementation of useful field protections. Finally, Part III evaluates certain tort theories of recovery for victims of pesticide exposure. Because this article is as much a diagnosis as it is a prescription, the final section outlines the defenses available to growers and manufacturers, including federal preemption and challenges to causation in cases involving long-term exposure.

The extensive limitations of the tort system will invariably exclude a large

---

9. A subsequent investigation revealed that Casillas died of a brain hemorrhage. *See* Amy Ellis, *Plan Takes Word on Pesticides in Fields in Pasco*, ST. PETERSBURG TIMES (Florida), Nov. 4, 1999, at 6, *available at* 1999 WL 27326912. It is unclear what role Casillas's exposure to Guthion Solupak played in causing, aggravating, or triggering the hemorrhage. However, it has been suggested that Casillas might have survived if he had been trained in pesticide safety. *Id.*; *see also* Foster, *supra* note 4.

10. *See* Butterfield, *supra* note 3 (quoting Dr. Marion Moses, member of the EPA Pesticide Advisory Committee, who states that "about a third of the pesticides being used are carcinogens"); *see also* NATURAL RESOURCES DEFENSE COUNCIL, TROUBLE ON THE FARM: GROWING UP WITH PESTICIDES IN AGRICULTURAL COMMUNITIES 8 (1998).

11. NATURAL RESOURCES DEFENSE COUNCIL, *supra* note 10, at 7–9 (reviewing research on the effects of pesticides on children); Linda M. Brown et al., *Pesticide Exposures and Other Agricultural Risk Factors for Leukemia Among Men in Iowa and Minnesota*, 50 CANCER RESEARCH 6585 (1990) (finding leukemia associated with the use of pesticides on animals); Carlo V. Di Florio & Matthew McLees, *Pesticide Regulation: The Plight of Migrant Farmworkers v. The Politics of Agribusiness*, 1 DICK. J. ENVTL. L. & POL'Y 148–49 (1992) (listing the health effects of pesticides); Sheila Hoar Zahm & Aaron Blair, *Pesticides and Non-Hodgkin's Lymphoma*, 52 CANCER RESEARCH (SUPPL.) 5485s, 5487s (1992) (finding that an increase in the use of pesticides "could explain at least part of the rising incidence of [non-Hodgkin's lymphoma].").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

number of claims brought by field workers who suffer harm caused by chronic exposure. Far from arguing that the tort system is the farmworker's panacea, the thesis is that tort actions may provide *some* relief to a *limited* number of plaintiffs whose injuries occur near in time to an exposure event. Over time, legal victories related to acute harm could establish a legal framework for bringing successful actions for chronic injuries resulting from long-term pesticide exposure. Because the administrative state has failed to protect farmworkers from pesticide-related injuries, this article argues that mounting tort liability holds the most potential for encouraging growers and chemical manufacturers to adopt meaningful protections for workers in the fields. If such an incentive actually developed, worker safety might increase, the incidence of chronic illnesses would fall, and tragedies such as the death of José Antonio Casillas could be avoided.

I.
FARMWORKERS AND PESTICIDE USE IN THE UNITED STATES

A. The Status and Demographics of American Farmworkers

The $230 billion agriculture industry[12] is extremely dependent on the four million migrant and seasonal farmworkers who work in the United States[13] preparing, planting, and cultivating America's fields.[14] Despite farmworkers' vital role in producing a rich harvest each year, the vast surplus of field laborers in the United States reinforces farmworkers' fungible status within the agriculture industry. A flailing Mexican economy that pays an average *daily* wage of eight dollars[15] creates a steady stream of workers flowing northward in search of a livable income.[16] Loose enforcement of federal immigration laws encourages growers to employ undocumented workers, thereby ensuring a

12. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 1999, at 679 (119th ed. 1999).

13. *See* U.S. Dep't of Health & Human Services, *Migrant Health Center Program*, *at* http://bhpr.hrsa.gov:80/kidscareers/migrant_program.htm (last visited Nov. 22, 2003) (estimating that there are 1.5 million migrant farmworkers and 2.5 million seasonal farmworkers in the United States); *see also* HUMAN RIGHTS WATCH, FINGERS TO THE BONE: UNITED STATES FAILURE TO PROTECT CHILD FARMWORKERS 11 (2000) (outlining American farmworker demographics).

14. *See* Guadalupe T. Luna, *An Infinite Distance?: Agricultural Exceptionalism and Agricultural Labor*, 1 U. PA. J. LAB. & EMP. L. 487, 499 (1998) (describing farm work and the duties such work entails).

15. *See* Rita Bogolub, *Letter to the Editor: Abandoning Workers*, CHICAGO SUN-TIMES, Aug. 7, 2001, at 26, 2001 WL 7242132 (commenting that the average Mexican factory worker earns one dollar per hour).

16. *See* Ginger Thompson, *An Exodus of Migrant Families Is Bleeding Mexico's Heartland*, N.Y. TIMES, June 17, 2001, at A1 (describing the "desperate torrent" of migration from central Mexico to the United States); *see also id.* (stating that Mexico receives $6.3 billion annually from Mexican nationals working in the United States, comprising the country's third largest source of income).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

continuously cheap labor supply and handcuffing the ability of farmworkers to engage in mutual aid and protection.[17] This extensive labor surplus, coupled with weak regulatory controls and enforcement, reinforces the substandard living and working conditions of the American agricultural laborer.[18] As one farmworker advocate says, "They know if they kick one person out, there will be ten more waiting to take the job. So the workers don't complain. Anything is better than no job."[19]

Farmworkers engage in labor-intensive work ranging from field preparation, to planting, pruning, irrigating, harvesting, and packaging produce.[20] This work is done in fields, orchards, nurseries, vineyards, greenhouses, and on farms.[21] Six- and seven-day workweeks are common, as are workdays extending beyond twelve hours.[22] At least 800,000 farmworkers across the country do not have adequate shelter. Many live in cars, garages, caves, tool sheds, and motel rooms.[23] As will become a theme throughout this article, state and federal housing regulations theoretically prohibit these kinds of living conditions, but low fines and infrequent enforcement prevent the realization of safer housing.

Like any diverse population, American farmworkers cannot be pegged into demographic categories easily. Because of data deficiencies, which are attributable to the lack of studies of farmworkers and farmworker migration, reports regarding farmworkers are often based on limited information. Statistical inadequacies aside however, it is estimated that fifty to eighty percent of farmworkers in the United States lack legal status.[24] An estimated eighty-five percent of farmworkers are people of color[25] and seventy-nine percent are

17. *See* Part II.D.3, *infra*, discussing agricultural exceptionalism in federal labor law.

18. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 11 (describing the low pay, inordinately strenuous working conditions, and extended work schedules of farmworkers).

19. *See* Paula M. Lantz, Laurence Dupuis, Douglas Reding, Michelle Krauska, & Karen Lappe, *Peer Discussions of Cancer Among Hispanic Migrant Farm Workers*, 109 PUB. HEALTH REP. 512 (1994) (outlining the concerns of farmworkers who fear being replaced by others if they complain about working conditions).

20. *See* MARGARET REEVES, KIRSTIN SCHAFER, KATE HALLWARD, & ANNE KATTEN, CALIFORNIANS FOR PESTICIDE REFORM, FIELDS OF POISON: CALIFORNIA FARMWORKERS AND PESTICIDES 12 (1999) [hereinafter FIELDS OF POISON] (describing the job duties of California farmworkers).

21. *See* Luna, *supra* note 14, at 499.

22. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 11.

23. FIELDS OF POISON, *supra* note 20, at 11 (outlining the crisis in housing faced by farmworkers).

24. Phillip Martin, *Guest Worker Programs for the 21st Century* 2 (Center for Immigration Studies Backgrounder, Apr. 2000), *at* http://www.cis.org/articles/2000/back400.pdf (estimating that roughly half of farmworkers are undocumented); *Reach of Arizona Farm Workers Union Extends Into Rural Mexico*, WALL ST. J., Oct. 15, 1986, at 23. The federal government estimates that half of farmworkers lack legal status. OFFICE OF THE ASSISTANT SEC'Y FOR POLICY, U.S. DEP'T OF LABOR, FINDINGS FROM THE NATIONAL AGRICULTURAL WORKERS SURVEY (NAWS) 1997–1998: A DEMOGRAPHIC AND EMPLOYMENT PROFILE OF UNITED STATES FARMWORKERS 22 (2000).

25. Sara Hoffman Jurand, *Human Rights Group Reports Poor Working Conditions for Child Farmworkers*, 36 TRIAL 98, 99 (2000).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Latino,[26] with most laborers coming from Mexico.[27] The majority of farmworkers begin their careers when they are thirteen to fifteen years old.[28] Estimates of the number of children working in the fields range from 800,000 to 1,500,000,[29] and children as young as five years old accompany their parents into the fields.[30]

Whether they are paid by the hour or on a piece-rate basis, farmworkers consistently earn far less than the official federal poverty level, which in 2003 was $8,980 per year for an individual and $18,400 per year for a family of four.[31] In California, where the average growing season is significantly longer than in most areas of the United States, the average farmworker earns between $5,000 and $7,500 annually.[32] The problem of low pay for the agricultural worker is exacerbated by documented cases of unscrupulous growers and contractors who: (1) take deductions from paychecks and pocket the withholdings; (2) charge inflated prices for housing; (3) force workers to pay for transportation to the fields; (4) fail to provide drinking water required by law and then sell soda and beer at the workplace;[33] and (5) charge workers a "rental fee" for the use of federally mandated protective gear.[34]

Lacking collective bargaining power because of their exclusion from the National Labor Relations Act ("NLRA"),[35] farmworkers have seen unionization rates decline since their peak in the late 1970s and early 1980s.[36] Combined

---

26. FIELDS OF POISON, *supra* note 20, at 10.

27. *See* W. K. BARGER & ERNESTO M. REZA, THE FARM LABOR MOVEMENT IN THE MIDWEST: SOCIAL CHANGE AND ADAPTATION AMONG MIGRANT FARMWORKERS 21 (1994) (describing the demographics of the migrant and seasonal worker population in the United States).

28. HUMAN RIGHTS WATCH, *supra* note 13, at 11.

29. *Id.* at 10 (discussing the presence of children working in the fields); Ron Nixon, *Caution: Children At Work*, PROGRESSIVE, Aug. 1996, at 30.

30. U.S. GEN. ACCOUNTING OFFICE, PUB. NO. GAO/RCED-00-40, PESTICIDES: IMPROVEMENTS NEEDED TO ENSURE THE SAFETY OF FARMWORKERS AND THEIR CHILDREN 17–18 (2000) (noting that the lack of daycare causes some farmworkers to bring their children with them into the fields).

31. HHS Poverty Guidelines, 68 Fed. Reg. 6456, 6457 (Feb. 7, 2003).

32. FIELDS OF POISON, *supra* note 20, at 11; *see* OFFICE OF THE ASSISTANT SEC'Y FOR POLICY, *supra* note 24, at vii (reporting that the median income for farmworkers in the United States is less than $7,500 for an individual and $10,000 for families).

33. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 13. Human Rights Watch describes one grower who attempted to force farmworkers to pay the electricity bill for the entire farm, despite the fact that the workers were living in a shack with one light bulb. In another instance, an employer unlawfully deducted twelve dollars from his workers' forty-dollar daily wage for transportation to the fields. *Id.*

34. *See* Lantz et al., *supra* note 19, at 518 ("If you get the [protective] suit, then your check will be $40 lower and you will not have enough for you and your family to eat."). Federal regulations strictly prohibit such practices. *See* EPA Worker Protection Standard, 40 C.F.R. § 170.112(c)(4)–(5) (2002) (requiring growers to provide farmworkers with "personal protective equipment" and to ensure that the equipment is inspected, cleaned, and stored properly).

35. *See* 29 U.S.C. § 152 (2000) ("The term 'employee' shall include any employee . . . but shall not include any individual employed as an agricultural laborer . . . .").

36. *See* FERRISS & SANDOVAL, *supra* note 1, at 191–235 (describing the rise of the United

Imaged with the Permission of N.Y.U. Review of Law and Social Change

with an over-saturated labor market fueled by weak enforcement of immigration laws, the exclusion of farmworkers from the NLRA works to keep an already politically powerless group from combating poor wages and substandard working conditions collectively. Ironically, the under-enforcement of immigration laws ensures that migrant laborers constantly fear deportation. As discussed in Part II.3.a, *infra*, most workers produce falsified documentation of legal residency to obtain employment. Under the Immigration Reform Control Act of 1986 ("IRCA"),[37] a grower can immunize himself from governmentally imposed penalties by making a "good faith" effort to review the paperwork produced by the farmworker.[38] The immunity allows the grower to employ low-wage workers lacking legal status, without fear of sanctions. An asymmetrical power relationship develops in which the employer—cognizant of the "good faith" immunity bestowed on him by IRCA—can use his knowledge of his employees' lack of legal residency to suppress worker complaints with threats of deportation. Further, language barriers lead to confusion and fear, thereby preventing farmworkers from exercising their legal rights and challenging the unlawful practices of growers.[39] Finally, most migrant workers move between job sites frequently, making it difficult for them to gain the knowledge and mutual trust necessary for collective action.[40] These factors taken as a whole—intimidation, misinformation, difficult work, low pay, transience, and fear of deportation—infuse fear into the workplace, leading to worker silence and ultimately fueling an "intergenerational cycle of poverty [that] plagues farmworkers."[41]

B. The Pesticide Industry

Many workplace hazards threaten the health and safety of the American farmworker, including extreme heat, unsanitary working conditions, and lack of drinking water. But the hazard that poses the greatest long-term health danger to farmworkers is the agriculture industry's longstanding commitment to the use of conventional pesticides. Ingested and absorbed every day through the field

---

Farm Workers movement in the 1970s, and the passage of California's Agricultural Labor Relations Act, which gave California farmworkers a right to organize and bargain collectively). UFW membership surpassed 100,000 by the early 1980s. *Id.* at 231. *But see* Butterfield, *supra* note 3 (reporting that UFW membership dropped to 20,000 by 1990).

37. Pub. L. No. 99-603, 100 Stat. 3359 (codified as amended in scattered sections of 8 U.S.C.).

38. 8 U.S.C. § 1324a(b)(1)(A)(ii) (2000).

39. For example, a report on child farmworkers found that two young field laborers in Arizona were told by their employer that he "could take the girls to court" for speaking with a researcher about the dilapidated condition of their housing. HUMAN RIGHTS WATCH, *supra* note 13, at 14–15 (recounting the tactics of intimidation of an Arizona cantaloupe grower who leased his farmland from the state).

40. *See* Part II.D.3(a), *infra*, discussing unionization and collective action.

41. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 12 (outlining the cyclical consequences of worker silence regarding pesticides and other workplace conditions).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

worker's nose, mouth, and skin, pesticides are toxic substances designed to kill living organisms.[42]

Although Cesar Chavez became famous as the leader of the farmworkers' rights movement for his fight against low wages and poor working conditions, the lesser-known issue that defined Chavez's last decade of battles was the use of pesticides.[43] Chavez believed that pesticides were silent killers and that reducing exposure to these toxins was central to improving farmworkers' quality of life. But Chavez and other advocates encountered a chemical industry with considerable economic and political power. Chavez and his allies succeeded in improving pesticide safety, however slightly, only after overcoming vigorous opposition from agribusiness.

With nearly $12 billion spent annually on pesticides, the manufacturing, distribution, and application of synthetic chemicals is big business.[44] There are 118 American firms that manufacture pesticides[45] and another 2,200 formulators who prepare approximately 20,726 different pesticide formulations for sale.[46] An estimated 4.5 billion pounds of active-ingredient chemicals are used in pesticides annually.[47] In addition, the United States comprises thirty-two percent of the $37.05 billion world pesticide market.[48]

Throughout the 1990s, despite increasing concerns over food safety and a rising demand for organically grown produce, the use of pesticides steadily increased. For example, pesticide use in California increased forty percent from 1991 to 1998.[49] Use of known carcinogenic pesticides in California increased by 127 percent during that same period.[50] Industry watchers conclude that "there is no concrete commitment to pesticide use reduction either nationally or

---

42. *Id.* at 19 (listing the various methods of pesticide exposure).

43. *See* FERRISS & SANDOVAL, *supra* note 1, at 235 (describing Chavez's efforts to improve conditions for agricultural workers exposed to pesticides).

44. MARK J. CARPENTER & GEORGE W. WARE, DEFENDING PESTICIDES IN LITIGATION § 1:1, at 1 (2003) (citing ARNOLD A. ASPELIN, U.S. EPA, PESTICIDE INDUSTRY SALES AND USAGE: 1996 AND 1997 MARKET ESTIMATES (1999)).

45. ARNOLD A. ASPELIN, U.S. EPA, PESTICIDE INDUSTRY SALES AND USAGE: 1994 AND 1995 MARKET ESTIMATES 3 (1997).

46. CARPENTER & WARE, *supra* note 43, at § 1:2 at 3 (citing ARNOLD A. ASPELIN, PESTICIDE INDUSTRY SALES AND USAGE: 1996 AND 1997 MARKET ESTIMATES (1999)).

47. *See* Ralph Lightstone & William W. Monning, *How to Handle a Pesticide Case*, *in* 2 A GUIDE TO TOXIC TORTS § 23.02[1][d][ii], at 23-17 (Margie Searcy-Alford ed., 2003).

48. CARPENTER & WARE, *supra* note 44, § 1:2, at 3 (citing ARNOLD A. ASPELIN, PESTICIDE INDUSTRY SALES AND USAGE: 1996 AND 1997 MARKET ESTIMATES (1999)).

49. SUSAN KEGLEY, STEPHANIE ORME, & LARS NEUMEISTER, CALIFORNIANS FOR PESTICIDE REFORM, HOOKED ON POISON: PESTICIDE USE IN CALIFORNIA: 1991–1998, at 6 (2000) [hereinafter HOOKED ON POISON] (discussing the increasing use of pesticides throughout the 1990s); *see also* FIELDS OF POISON, *supra* note 20, at 14 (reporting a thirty-seven percent increase in pesticide use in California from 1991 to 1995 to more than 192 million pounds of active ingredients).

50. HOOKED ON POISON, *supra* note 49, at 6; *see also* FIELDS OF POISON, *supra* note 20, at 14 ("As use of these toxic pesticides increases, so too does the risk of exposure among the farmworker population.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

in California."[51] Since 1945, the worldwide application of pesticides increased sixty-fold, with three billion kilograms used per year.[52] The United Nations Food and Agriculture Organization projects that "a sustained increase is to be expected in the use of pesticides in the coming decades."[53] Absent a new strategy for attaining greater occupational protections, the increasing dependence on carcinogenic pesticides will continue to threaten the health and safety of farmworkers.

C. Factors Affecting Exposure to Pesticides

The vast majority of pesticides are synthetically created compounds. The term "pesticide" is defined quite broadly by the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), the federal law that charges the EPA with pesticide registration and labeling.[54] According to FIFRA, the term "pesticide" encompasses, among other things, any substance intended to destroy a pest or act as a plant regulator.[55] FIFRA categorizes pesticides by their active[56] and inert[57] ingredients. The active ingredients attack the target pest.[58] Both active and inert ingredients can be dangerous to humans, yet the EPA restricts the disclosure of a pesticide's inert ingredients, contending that such information constitutes a trade secret.[59] The exclusive attention paid to active ingredients ignores the health hazards posed by inerts, which can comprise ninety-nine percent of the end-use product.[60] Historically, the lack of registration data available on inerts has

51. *See id.* (summarizing the conclusions of the Pesticide Action Network, a coalition of over 400 citizen groups that monitors the increased use of synthetic pesticides).

52. *See* David Pimentel, *Overview of the Use of Genetically Modified Organisms and Pesticides in Agriculture*, 9 IND. J. GLOBAL LEGAL STUD. 51, 59 (2001) (summarizing the data related to worldwide pesticide usage and poisonings).

53. LUIS GONZÁLEZ VAQUÉ, PESTICIDE LABELING LEGISLATION 3 (1988) (discussing projections regarding the proliferation of pesticides in agriculture).

54. 7 U.S.C. § 136–136y (2000).

55. *Id.* § 136(u) ("The term 'pesticide' means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, and (3) any nitrogen stabilizer . . . .").

56. *Id.* § 136(a).

57. *Id.* § 136(m).

58. There are roughly 875 active ingredients registered in the United States. *See* ASPELIN, *supra* note 45, at 2.

59. 7 U.S.C § 136h(d)(1)(B) (2000). A registering pesticide manufacturer must file a "confidential statement of formula" with the EPA, which lists the active and inactive ingredients of the pesticide. However, the EPA has allowed manufacturers to substitute ingredients in the actual formulation of the pesticide without updating the confidential statement of formula. *See* Lightstone & Monning, *supra* note 47, § 23.02[1][d][ii], at 23-17.

60. *See* Lightstone & Monning, *supra* note 47, § 23.02[1][d][ii], at 23-17 ("The so-called 'inert ingredients' may be inert to the target pest, but highly toxic to humans. The inert ingredients usually constitute a majority of the contents of a pesticide . . . . Inerts may be ninety-nine percent of the product's contents."); *see also* DAN FAGIN, MARIANNE LAVELLE, & CENTER FOR PUBLIC INTEGRITY, TOXIC DECEPTION: HOW THE CHEMICAL INDUSTRY MANIPULATES SCIENCE, BENDS THE LAW, AND ENDANGERS YOUR HEALTH 135 (1996) (noting that "inerts are anything but benign to

Imaged with the Permission of N.Y.U. Review of Law and Social Change

presented serious challenges to farmworkers whose injuries may have been caused by these purportedly inactive ingredients or their byproducts.

Nevertheless, the cloak over these ingredients was lifted somewhat in 1996 when a federal district court held that the common chemical names of inert ingredients in pesticides could be revealed pursuant to a Freedom of Information Act ("FOIA") request.[61] Assuming the holding is followed in other jurisdictions, the required disclosure will assist farmworkers with ascertaining whether their injuries were caused by a pesticide's inert ingredients, active ingredients, or both.

Pesticides present varying levels of occupational risk depending on their physical properties and routes of exposure. For example, among powder, dust, and granular forms of the same pesticide, powder and dust are substantially more dangerous because of their ability to be inhaled and quickly absorbed through the lungs.[62] Pesticides enter a farmworker's body through oral, dermal, and inhalation routes of exposures.[63] Reflecting these variations, the EPA registers three separate lethal dose/concentration measurements for each pesticide based on the three types of exposure.[64] The most common form of pesticide exposure for field workers is dermal, which may occur during a farmworker's day-to-day interaction with pesticide residue on leafs and soil.[65] A lack of washing facilities in the fields increases the likelihood of oral exposure when hand-to-mouth contact occurs. A farmworker may also inhale pesticides during crop dusting or from soil tilling.[66]

Although the categories of exposure appear to be easily compartmentalized, in reality these interactions do not occur in isolation, and farmworkers must cope with multiple, daily exposures to field poisons. Unfortunately, state and federal laws do not account for these multiple exposures when establishing intervals at which farmworkers may reenter a field after a pesticide application. Although the EPA considers cumulative effects when setting safe pesticide residue levels

---

the people who use them; they sometimes include toxic chemicals that are as harmful as the active ingredients" and commenting on the "loophole" in federal regulations that allows for inert ingredients to be treated as "trade secrets").

61. *See* Northwest Coalition for Alternatives to Pesticides v. Browner, 941 F. Supp. 197 (D.D.C. 1996) (holding that common pesticide names are not "trade secrets" under FOIA because they do not reveal the pesticide's specific chemical formula).

62. Lisa Peck Lindelef, *California Farmworkers: Legal Remedies for Pesticide Exposure*, 7 STAN. ENVTL. L.J. 72, 79–80 (1988) (describing the basic routes of pesticide exposure).

63. HUMAN RIGHTS WATCH, *supra* note 13, at 19; Lightstone & Monning, *supra* note 47, § 23.03[2], at 23-22 to 23-23 (discussing the dangers and frequency of various types of exposure).

64. Lightstone & Monning, *supra* note 47, § 23.03[2], at 23-22 to 23-23 (explaining how pesticide toxicity to humans varies by routes of exposure).

65. *Id.* § 23.03[2], at 23-23 ("Most pesticides readily penetrate human skin.").

66. *See* Mary Cabrera, *Legal Remedies for Victims of Pesticide Exposure*, 1 KAN. J.L. & PUB. POL'Y 113, 113 (1991) (describing the multiple ways farmworkers are exposed to pesticides in the field and at home); *see also* Lightstone & Monning, *supra* note 47, § 23.03[2], at 23-23 (contending that inhalation exposure occurs "not only during the application process, but from airborne residues stirred along with dust from treated surfaces.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

for food consumers, *occupational risk* assessments are based on a single, confined exposure to the field poison.[67] This methodology is inapplicable to farmworkers, who experience multiple, cumulative exposures not only in the fields, but also through consuming contaminated water and wearing clothing that has absorbed pesticide residue.[68] The following section outlines farmworkers' elevated rates of pesticide-related injuries.

D. Farmworkers and Pesticide Injuries

Although research on the effects of pesticides on humans is inadequate, the limited data available suggest a link between pesticide exposure and the extraordinary number of farmworkers who suffer from chronic diseases.[69] With farmworkers experiencing the highest rate of chemical-related occupational illnesses in the country,[70] it is little wonder that farm work is considered among the three most dangerous jobs in the United States.[71] The occupational death rate for farmworkers is five times greater than the national average for all industries.[72] The American farmworker is almost twenty-five times more likely to develop a pesticide-related illness than the general population.[73]

The most important differentiation among pesticide harms is between acute and chronic effects. Acute harm is marked by its relative immediate and short-term manifestation, while chronic diseases may have a long latency period.[74] The most severe acute harm from pesticide exposure, albeit rare, is sudden death.[75] More common are day-to-day symptoms such as nausea, vomiting, skin irritation, dizziness, upper respiratory irritation, and headaches.[76] Compared to the general population, migrant populations suffer disproportionately high rates

67. *See* FIELDS OF POISON, *supra* note 20, at 12.

68. *See* Part II.D.2, *infra*, discussing the failure of administrative agencies to account for multiple exposures when establishing worker safety standards.

69. *See* FIELDS OF POISON, *supra* note 20, at 17–20 (citing several studies of acute and chronic pesticide-related injuries among farmworkers).

70. Shannon Adair Tool, *Farmworkers and FIFRA: Laboring Under the Cloud*, 31 SW. U. L. REV. 93, 94 (2001); *see also* Pamela A. Finegan, *FIFRA Lite: A Regulatory Solution or Part of the Pesticide Problem?*, 6 PACE ENVTL. L. REV. 615, 624 (1989) (reporting on Labor Department data showing that farmworkers and commercial pesticide applicators experience the highest rate of occupational injuries from pesticide exposure).

71. *See* FIELDS OF POISON, *supra* note 20, at 24; Lindelef, *supra* note 62, at 73.

72. FIELDS OF POISON, *supra* note 20, at 10 (noting that the death rate of agricultural workers is 20.9 per 100,000 compared to the rate of 3.9 per 100,000 for other industries).

73. Migrant Legal Action Program, *Legal Rights of Migrant and Seasonal Workers in 1985*, 19 CLEARINGHOUSE REV. 1108, 1110–11 (1986).

74. *See* Marion Moses, *Farmworkers and Pesticides*, *in* CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 166 (Robert D. Bullard ed., 1993).

75. NATURAL RESOURCES DEFENSE COUNCIL, *supra* note 10, at 23.

76. *See, e.g.*, Moses, *supra* note 76, at 166; NATURAL RESOURCES DEFENSE COUNCIL, *supra* note 10, at 23 (listing some forms of acute harm, such as nausea, vomiting, diarrhea, wheezing, rashes, headaches, and dizziness).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

of pesticide-related acute harm.[77] Chronic, long-term harm includes cancer, birth defects, reproductive and developmental problems, and nervous system damage.[78] Pesticide exposure has been linked to elevated rates of leukemia, non-Hodgkin's lymphoma, and sterility,[79] as well as hypertension and diabetes.[80] Birth defects and still births are more common among farm area residents, and exposure to pesticides during the first trimester of pregnancy increases the risk of neonatal death by over five times.[81] Farmworkers also suffer from higher-than-normal rates of cancers of the prostate, testis, mouth, lung, liver, and stomach.[82]

A recent ten-year study of California farmworkers found that Hispanic field laborers developed stomach cancer at rates seventy percent greater than the comparable non-agricultural Hispanic population.[83] The study also indicated that male farmworkers faced an elevated risk of developing brain cancer, and female farmworkers were more likely to develop uterine cancer.[84] Although drawing no definitive conclusions, the study suggested that exposure to pesticides may explain the elevated risk levels.[85]

Despite these serious chronic effects, nearly all of the research, legislation, and registration requirements for pesticides are geared toward the acute aspects of both exposure and harm. For example, the EPA calibrates Restricted Entry Intervals ("REIs") to acute responses. REIs, which designate the length of time a farmworker must wait before entering a field following a pesticide application, are supposed to be a crucial form of protection for farmworkers. However, like

---

77. *See* Lantz et al., *supra* note 19, at 512 (referencing the pressing public health concern associated with the high rates of acute harm suffered by migrant workers).

78. *See* Lightstone & Monning, *supra* note 47, § 23.03[6][b]–[f], at 23-29 to 23-32 (reporting on studies that demonstrate links between pesticides and reproductive disorders, teratogenicity, carcinogenicity, neurotoxicity, dermatitis, and other chronic effects); *see also* FIELDS OF POISON, *supra* note 20, at 19–20 (listing cancer, birth defects, stillbirths and developmental effects as examples of the chronic harm farmworkers experience); ROBERT F. WASSERSTROM & RICHARD WILES, WORLD RESOURCES INSTITUTE, STUDY 3, FIELD DUTY: U.S. FARMWORKERS AND PESTICIDE SAFETY 4 (1985) (describing the conclusions of pesticide expert John Davies indicating that "chronic-high" levels of exposure to pesticides may result in delayed neurotoxicity, sterility, cancer, and birth defects, while "chronic-low" levels of exposure likely cause cancer, stillbirths, and abortions).

79. Marion Moses, *Pesticide-Related Health Problems and Farmworkers*, 37 AM. ASS'N OCCUPATIONAL HEALTH NURSES J. 115, 120–24 (1989).

80. Lantz et al., *supra* note 19, at 512.

81. *Id.*

82. FIELDS OF POISON, *supra* note 20, at 19 (noting that "the true risk of elevated cancer among farmworkers may actually be higher, since farmworkers also experience higher death rates due to accident and other diseases").

83. Paul K. Mills & Sandy Kwong, *Cancer Incidence in the United Farmworkers of America (UFW) 1987–1997*, 40 AM. J. INDUS. MED. 596, 598 (2001) (reporting that rates of leukemia, stomach cancer, uterine cancer, and cervical cancer among farmworkers were elevated by fifty-nine percent, sixty-nine percent, sixty-eight percent, and sixty-three percent, respectively).

84. *Id.*

85. *Id.* at 600 ("Occupational exposures, particularly to pesticides, may explain the elevated risk of leukemia and brain cancer.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

most other regulations involving pesticides, the EPA acknowledges that REIs protect farmworkers only from acute effects and do nothing to address chronic harm.[86] The greater attention paid to acute harm extends to farmworkers themselves, who report being more concerned about the short-term effects of pesticide poisonings, while expressing less fear of chronic ailments such as cancer.[87]

Given that acute injuries typically occur immediately following an exposure incident, plaintiffs with acute pesticide-related injuries face a reduced burden of proving exposure and causation compared to those who are exposed to low doses of pesticides over the long term. As discussed in Part III, *infra*, the reduced burden of proving exposure and causation in cases involving acute poisonings makes these visible, short-term exposures far more viable candidates for successful tort litigation (at least in the near term) than the latent harm typically associated with long-term exposure.

E. Data Gap: Underreporting of Pesticide Poisonings

No one knows exactly how many of the nation's four million migrant and seasonal agricultural laborers are poisoned each year. Local studies suggest that the number must be large. For example, a recent survey of farmworkers in Colorado found that half had suffered acute injuries related to pesticide exposure, including skin rashes, inflamed eyes, headaches, and irritation of the nose and throat.[88] An EPA-sponsored study in Oregon found that nearly two-thirds of the state's farmworkers had been directly exposed to pesticides by breathing toxic fumes and that over one-third had experienced symptoms related to acute pesticide exposure, including headaches and joint pain.[89]

Epidemiologists and policymakers have tried to estimate the scope of the problem nationwide. One study, extrapolating from state data, suggested that doctors probably identify between 10,000 and 40,000 cases per year.[90] The EPA and other observers have placed the actual number of poisonings (including unreported and misdiagnosed cases) at 300,000 per year.[91] The World Heath Organization estimates that three million people are poisoned by pesticides

86. *See* FIELDS OF POISON, *supra* note 20, at 29 ("The U.S. EPA acknowledges that most REIs are set to prevent acute poisoning, but are not designed to protect workers from chronic health effects.").

87. Lantz et al., *supra* note 19, at 517 (reporting the concerns of Hispanic migrant agricultural workers in central Wisconsin).

88. *See* Coleman Cornelius, *Report: Farmworkers Plagued by Pesticides*, DENVER POST, Aug. 19, 2002, at A1 (summarizing the findings of a survey conducted by Colorado Legal Services).

89. OFFICE FOR CIVIL RIGHTS AND ENVTL. JUSTICE, U.S. EPA, OREGON FARMWORKER WORKER PROTECTION STANDARD (WPS) PILOT AND SURVEY 6 (1999).

90. *See* NATURAL RESOURCES DEFENSE COUNCIL, *supra* note 10, at 23.

91. *See* U.S. GEN. ACCOUNTING OFFICE, PUB. NO. GAO/HRD-92-46, HIRED FARMWORKERS: HEALTH AND WELL-BEING AT RISK 3 (1992).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

annually, resulting in 220,000 deaths and 735,000 chronic injuries.[92] But estimates of actual numbers vary widely,[93] and they necessarily involve much guesswork. In 1993 the U.S. General Accounting Office concluded that there was no reliable national estimate of the extent of occupational injuries resulting from pesticide exposures.[94]

The absence of dependable statistics on farmworker poisonings can be attributed primarily to the fact that there is no national system for recording pesticide-related injuries. Over twenty years ago, a study by the U.S. General Accounting Office reported a near-universal failure both on the state and federal levels to adequately report pesticide misuse.[95] Two decades later, there still is no national system for recording pesticide-related injuries,[96] and state-based collection of this data remains patchy at best. The result, according to one study of farmworker poisonings, is that the EPA is "'flying blind' in setting farmworker safety standards: Without comprehensive data on poisoning rates and human exposure, the Agency has been unable to formulate appropriate reentry intervals—even when the will to act is there."[97] In the absence of a national monitoring scheme, regulators must rely on the data collection efforts of state public health departments. Approximately twenty-five states have mandatory reporting systems that could provide information on pesticide-related illness,[98] but in most of those states reporting categories are not specific enough to identify occupational exposure among farmworkers.[99] In fact, California is

92. WORLD HEALTH ORGANIZATION, OUR PLANET, OUR HEALTH: REPORT OF THE WHO COMMISSION ON HEALTH AND ENVIRONMENT 79–81 (1992).

93. *See* U.S. GEN. ACCOUNTING OFFICE, PUB. NO. GAO/PEMD-94-6, PESTICIDES ON FARMS: LIMITED CAPABILITY EXISTS TO MONITOR OCCUPATIONAL ILLNESSES AND DISEASES 2 (1993) (showing widely divergent estimates of the number of annual poisonings, ranging from 20,000 to 300,000).

94. *See id.* at 7 (concluding that "there was no capability to accurately determine the national incidence or prevalence of pesticide illnesses that occur in the farm sector").

95. *See* U.S. GEN. ACCOUNTING OFFICE, PUB. NO. CED-82-5, STRONGER ENFORCEMENT NEEDED AGAINST MISUSE OF PESTICIDES 20 (1981).

96. *See, e.g.*, Tim Flood and Michelle Novoa, *Occupational Exposure to Toxic Materials and Pesticides*, *in* ARIZONA COMPARATIVE ENVIRONMENTAL RISK PROJECT REPORT 94, 100 (1995), *available at* http://earthvision.asu.edu/acerp/section3/Chp_12HH.html (reporting the conclusions of both the U.S. General Accounting Office and the Arizona Department of Health and Safety that "a serious problem" of underreporting exists with regard to pesticide-related injuries and illnesses). In 1978 the EPA launched the Pesticide Incident Monitoring System, which adopted a patchwork approach to monitoring farmworker poisonings throughout the states. The program was eliminated in 1981 under cuts by the Reagan administration. *See* U.S. GEN. ACCOUNTING OFFICE, *supra* note 94, at 9.

97. WASSERSTROM & WILES, *supra* note 78, at 53.

98. *See* U.S. GEN. ACCOUNTING OFFICE, *supra* note 93, at 28.

99. *See id.* at 13 (noting that as of 1993 only eight states required specific reporting of pesticide-related illnesses, and that only California tracked incidents by occupation); FIELDS OF POISON, *supra* note 23, at 23 (noting that other states now track pesticide illnesses by occupation); *see also* Bureau of National Affairs, *State Reporting Systems Provide Few Details on Pesticide Illness Cases*, 23 OCCUPATIONAL SAFETY & HEALTH REP. 1013, 1013 (1994) (citing a lack of data on pesticide exposures and pesticide-related illnesses).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

one of the only states to keep records on illness categories related to occupational pesticide exposure on farms.[100]

The absence of recording mechanisms is exacerbated by physicians' lack of training regarding pesticide-related poisonings. Physicians frequently misdiagnose pesticide poisonings as the stomach flu, bronchitis, or asthma.[101] For example, one report involving twenty infants and children who were severely poisoned by a pesticide revealed that the medical center treating the infants and children misdiagnosed sixteen of the twenty cases.[102] In addition to a lack of training, many of the rural health clinics that treat farmworkers do not have the capability to test for pesticide residue that might appear in a worker's blood or urine after an exposure incident.[103] As discussed below, any attempt to reduce the rate of chemical-related occupational disease among farmworkers should include a comprehensive testing and monitoring system.

Even if record-keeping procedures were in place, farmworkers would still be reluctant to go to doctors and inform them of their injuries because of workplace structures designed to discourage such reporting. Neither labor contractors nor farmworkers receive adequate training to recognize the symptoms of pesticide exposure. Whether out of malice or ignorance, growers have been known to tell poisoned workers that they must "be hung over" or have "eaten bad tacos"[104] when in fact they are suffering from the ill effects of a pesticide exposure. In one recent poisoning incident in Colorado, twenty migrant workers were doused by a crop duster with a pesticide used to kill mites and worms. The workers gasped for breath, vomited, and experienced swollen eyes and numbness in their tongues. A foreman ordered them to continue working, stating that the crop duster had sprayed them only with soap and water.[105]

Furthermore, growers may threaten an injured farmworker with termination or prosecution for workers' compensation fraud if the company doctor does not find signs of pesticide poisoning. Some growers even go so far as to threaten workers with retaliation and physical harm for blowing the whistle on illegal

100. FIELDS OF POISON, *supra* note 20, at 19. In fact, California is a leader among the states because of its fairly detailed reporting system, which requires treating physicians to report suspected pesticide poisonings to county health officials. *Id.*; *see also* Bureau of National Affairs, *supra* note 99, at 1013 (noting that "only California's program is well-developed"); Lindelef, *supra* note 62, at 77.

101. *See* FIELDS OF POISON, *supra* note 20, at 17–18.

102. NATURAL RESOURCES DEFENSE COUNCIL, *supra* note 10, at 6 ("Mistaken diagnoses included bleeding in the brain from an aneurysm, head trauma, diabetic acidosis, severe bacterial gastroenteritis, pneumonia, and whooping cough.").

103. *But see* Part III.C.5(a), *infra*, discussing the test for detecting depleted cholinesterase levels, which is indicative of organophosphate poisoning.

104. *See* FIELDS OF POISON, *supra* note 20, at 23 (describing the experiences of several farmworkers who were discouraged from seeking medical treatment after a poisoning).

105. *See* Cornelius, *supra* note 88 (describing a poisoning incident in June 2002).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

activities on farms.[106] Because the majority of field laborers lack legal residency, threats of deportation and lost wages pose stark incentives to remain silent.[107] Perhaps the most egregious tactic used by growers to discourage workers from reporting injuries is the use of "incentive programs" in which an entire crew of farmworkers is "rewarded" with a barbecue or small bonus if no farmworker reports a workplace injury.[108] One farmworker advocacy group comments, "In this way, employers use peer pressure to discourage reporting and disingenuously portray these programs as 'health and safety' programs."[109]

This sort of intimidation causes farmworkers to feel powerlessness about their ability to reduce their risk of pesticide exposure. In fact, one of the few focus group studies of farmworkers found "a strong sense of fatalism and powerlessness among the participants in regard to reducing their pesticide exposure . . . . [I]t was the belief of many participants that there was no recourse for reducing exposure, given their dependence upon the work."[110] This problem is compounded by the seasonal nature of the work. Farmworkers frequently return to the same grower each year seeking reemployment. A person who has previously complained or filed a workers' compensation claim is less likely to receive a job offer when the next harvest arrives. Cognizant of the future costs associated with protesting pesticide exposure, most farmworkers remain silent. One California farmworker described her experience seeking medical attention after a poisoning: "I know that if I don't work I don't get paid so I prefer to go to work. I found out that other workers also had rashes on their hands. I don't know if they ever went to the doctor."[111]

II.
THE ADMINISTRATIVE STATE

"While pesticide producers, users, and consumers benefit from the use of pesticides . . . costs are *distributed disproportionately* throughout the population (in terms of acute and chronic toxic effects such as cancer)."[112] That was the conclusion of the EPA twenty years ago after the agency compared the level of pesticide exposure among farmworkers to that among non-agricultural groups.

106. *See* FIELDS OF POISON, *supra* note 20, at 23 (concluding that threats of retaliation have a "chilling effect on an entire workplace").

107. *Id.* at 12 ("Low income and fear of job loss provide strong incentives to stay on the job rather than take time off to visit the doctor when pesticide poisoning is suspected.").

108. *Id.* at 23.

109. *Id.* (describing the actions of some California growers to discourage farmworkers from reporting workplace injuries).

110. *See* Lantz et al., *supra* note 19, at 518 (summarizing the findings of a focus group study of fifty-five Hispanic migrant agricultural workers in central Wisconsin).

111. *See* FIELDS OF POISON, *supra* note 20, at 13 (referencing the statements made by a California farmworker who is also a mother of five).

112. OFFICE OF PESTICIDE PROGRAMS, U.S. EPA, REGULATORY IMPACT ANALYSIS: DATA REQUIREMENTS FOR REGISTERING PESTICIDES UNDER THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT 27 (1982) (emphasis added).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Having evaluated the "disproportionate distribution" of "costs," the EPA came to the unremarkable conclusion that farmworkers bore the brunt of pesticide harm. Two decades later, the EPA has not yet implemented effective mechanisms for mitigating this disparity. This section addresses the administrative state and its proven inability to protect farmworkers from pesticides.

A. The Federal Insecticide, Fungicide, and Rodenticide Act of 1947

Like the administrative state itself, pesticide regulation evolved slowly throughout the twentieth century. The first piece of pesticide legislation, the Insecticide Act of 1910,[113] regulated the sale of pesticides but did not address health and safety concerns.[114] In fact, no law governed pesticide registration throughout the first half of the twentieth century. The seminal law regarding pesticide registration was the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 ("FIFRA"),[115] which was enacted to ensure the safe and effective use of pesticides and to address the proliferation of pesticides following World War II. In its original form, FIFRA required the labeling of pesticides,[116] the seizure of misbranded pesticides,[117] and the registration of pesticides[118] with the United States Department of Agriculture ("USDA"). Yet because FIFRA relied on the assurances of manufacturers regarding pesticide effectiveness, it was in essence a toothless statute.[119] The Secretary of Agriculture was not authorized to reject registrations of "highly dangerous pesticides," and little consideration was given to the adverse health effects caused by the registrant.[120]

FIFRA's enactment was remarkable in that the significant involvement of farm and business lobbyists fostered a near-bipartisan legislative consensus that any pesticide law should not impede "free pesticides markets."[121] The Act's passage followed "deep lobbying by the chemical industry."[122] Such lobbying led to a "bias tilt[ing] overwhelming[ly] toward the almost uncritical faith in the

113. Insecticide Act of 1910, Pub. L. No. 61-152, 36 Stat. 331, *repealed by* Federal Insecticide, Fungicide, and Rodenticide Act of 1947, 61 Stat. 163, 172–73.

114. *See* Adair Tool, *supra* note 70, at 96 (noting that "health and environmental concerns were not at issue" when the Insecticide Act was passed).

115. 7 U.S.C § 136–136y (2000); *see also* Di Florio & McLees, *supra* note 11, at 150 (summarizing the history of FIFRA).

116. *See* Pub. L. No. 80-104, 61 Stat. 163, 166 (1947).

117. 61 Stat. at 170.

118. *Id.* at 167.

119. *See* CHRISTOPHER J. BOSSO, PESTICIDES AND POLITICS: THE LIFE CYCLE OF A PUBLIC ISSUE 58 (1987).

120. *See* Marshall Lee Miller, *Pesticides*, *in* ENVIRONMENTAL LAW HANDBOOK 523, 524–25 (Thomas F. P. Sullivan ed., 15th ed. 1999).

121. *See* BOSSO, *supra* note 119, at 62 ("One also might have observed a notable consensus about the issue that transcended cleavages of party, region, or political ideology. That consensus centered on the belief that federal regulation was a necessary but minimal evil . . . .").

122. *See id.*; *see also* FAGIN ET AL., *supra* note 60, at 134.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

pesticide paradigm."[123]

Enforcement of FIFRA was transferred from the USDA to the newly formed EPA in 1970.[124] Acknowledging that FIFRA lacked clear requirements and enforcement mechanisms,[125] Congress passed sweeping amendments to FIFRA in 1972 under the Federal Environmental Pesticide Control Act ("FEPCA").[126] The major development here was the addition of a cost-benefit calculation, which required the EPA to consider "any unreasonable risk to man or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide."[127]

The modern version of FIFRA focuses on the testing and registration of pesticides, making it unlawful to distribute or sell a pesticide unless it is first registered with the EPA.[128] FIFRA establishes the standards by which the EPA evaluates a manufacturer's test data, proposed label, and directions for use. The applicant submits a proposed pesticide label,[129] which creates an enforceable warning and outlines the appropriate crops for the pesticide. The label also establishes approved application methods, required protective equipment, dosages, and REIs.[130]

The applicant must submit test data to the EPA demonstrating that the pesticide "will perform its intended function without unreasonable adverse effects on the environment."[131] In addition to acute harm, manufacturers are theoretically mandated to report the long-term, chronic health effects associated with their pesticides. Following the 1972 amendments, older registrants were required to supply new testing data, which the EPA would use to reassess the registration. The process of reassessment was supposed to take three years, but in fact, older registrants were grandfathered into the scheme with incomplete

123. *See* FAGIN ET AL., *supra* note 60, at 134 ("Written with extensive input from chemical manufacturers and agribusiness, FIFRA was designed not to ensure that pesticides were safe but that they were lethal—that they would effectively kill insects, fungi, and weeds.").

124. Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623, 15,624 (Oct. 6, 1970); Linda J. Fisher, Peter L. Winik, Carolyne R. Hathaway, Ann Claassen & Jeffrey Holmstead, *A Practitioner's Guide to the Federal Insecticide, Fungicide, and Rodenticide Act: Part I*, 24 ENVTL. L. REP. 10449, 10452 (1994) (summarizing the transfer of power to the EPA).

125. *See* John P. Gasior, *Pesticide Safety Regulation Under the Federal Insecticide, Fungicide and Rodenticide Act: Debacle at the EPA*, 1 FORDHAM ENVTL. L. REP. 47, 49 n.7 ("In the 1960s, the USDA came under attack for being inefficient, failing to place adequate emphasis on pesticide safety, and ignoring recommendations of the Food and Drug Administration (FDA).").

126. Pub. L. No. 92-516, 86 Stat. 973 (1972) (without renaming FIFRA, codified as amended in scattered sections of 7 U.S.C.).

127. *See* 7 U.S.C. § 136(bb) (2000).

128. *See id.* § 136j(1)(A).

129. *See id.* § 136a(c)(1)(C) (setting forth labeling requirements); 40 C.F.R. § 156.10(a)(1) (2002) (requiring a label to contain information including the name and registration number of the pesticide, as well as hazard and precautionary statements).

130. *See* Lightstone & Monning, *supra* note 47, § 23.04[3][c], at 23-41 to 23-42 (outlining FIFRA's labeling requirements).

131. *See* 7 U.S.C. § 136a(c)(5)(C).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

data.[132] Today, manufacturers continue to delay producing updated data on the long-term effects of their products such that roughly half of all active ingredients on the market today lack complete chronic harm test data.[133]

By definition, a cost-benefit analysis would require the manufacturer to provide data on the pesticide's *benefits*; yet, FIFRA creates a presumption of efficacy that allows the EPA to waive these data requirements.[134] There is no set standard for determining an "unreasonable risk"; the EPA has stated that a risk is unacceptable if the pesticide is likely to cause more than "one additional case of cancer in the lifetime of 1,000,000 persons."[135] However, this figure is used to evaluate the increased cancer risk to *consumers*; no such standard exists for farmworkers.[136] In fact, food residue levels are set at a level to ensure a "reasonable certainty of no harm" to consumers; in contrast, FIFRA's "unreasonable risk of adverse effects" establishes a much lower threshold for protecting agricultural workers.[137] At least one commentator has argued that a presumption of dangerousness should exist if a pesticide causes cancer in more than one in 10,000 farmworkers based on a lifetime of exposure, measured by a daily inhalation rate.[138] Even if a pesticide is found to pose an unreasonable risk to workers, the EPA still has discretion to avoid suspending a registration if growers or agribusiness can demonstrate economic hardship.[139] Historically, when the EPA has defined what constitutes an "unreasonable risk," "economic

132. *See, e.g.*, Marina M. Lolley, *Carcinogen Roulette: The Game Played Under FIFRA*, 49 MD. L. REV. 975, 975 (1990) ("[M]any pesticides already on the market may have been registered when data about their impacts on health and the environment were very limited"); Kurt A. Strasser, *Cleaner Technology, Pollution Prevention and Environmental Regulation*, 9 FORDHAM ENVTL. L.J. 1, 37 (1997) ("Existing chemical products were grandfathered into registration when the statutes were enacted . . . . As a result, . . . most have never been subject to any careful review.").

133. *See* Part III.C.5(b), *infra*, discussing the difficulty of proving causation because of the pressure exerted by pesticide manufacturers to discourage research on chronic harm.

134. *See* Lightstone & Monning, *supra* note 47, § 23.04[1][c], at 23-36 to 23-39 (listing FIFRA's registration requirements); *see also* Adair Tool, *supra* note 70, at 106–07 ("While producers must demonstrate that the product will not cause an unreasonable risk, the EPA does not review the efficacy of most pesticide products. The EPA's reason[] for this is that the market is an adequate regulator of efficacy."

135. WASSERSTROM & WILES, *supra* note 78, at 21; *see also* Carol S. Curme, *Regulation of Pesticide Residues in Foods: Proposed Solutions to Current Inadequacies Under FFDCA and FIFRA*, 49 FOOD & DRUG L.J. 609, 615–16 (1994) (discussing the pesticide tolerance levels established by the EPA for consumers).

136. *See* Lolley, *supra* note 132, at 988 ("The level of risk at which a registration can be suspended is left largely to Agency discretion and consequently, so are human lives.").

137. The Food Quality Protection Act requires food tolerances to be established at a level at which there is a "reasonable certainty that no harm will result" to consumers. 21 U.S.C. § 346a(c)(2)(A) (2000).

138. *See* Lolley, *supra* note 132, at 1002–04 (arguing that a risk threshold of 1 in 10,000 should create a presumption against approval by the EPA).

139. 7 U.S.C. § 136d(b) (2000) ("The Administrator shall . . . include among those factors to be taken into account the impact of the action proposed in such notice on the production and prices of agricultural commodities, retail food prices, and otherwise on the agricultural economy . . . ."); *see also* WASSERSTROM & WILES, *supra* note 78, at 21.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

considerations have usually prevailed over concern for occupational health and safety."[140]

FIFRA also requires manufacturers to report any observed adverse effects of a pesticide, even after registration.[141] However, as with many FIFRA mandates, manufacturers frequently fail to comply with the requirement, as evidenced by the lack of filed reports involving farmworker poisonings, which would certainly be considered a reportable "adverse effect" under FIFRA.

B. The Worker Protection Standard

In its sweeping overhaul of FIFRA in 1972, Congress declined to add any language regarding farmworker protection. The omission left open the question as to which administrative agency—the EPA or the Occupational Safety and Health Administration ("OSHA")—was responsible for overseeing workplace protection standards for agricultural laborers. The jurisdictional dispute between the EPA and OSHA began in 1973, when OSHA promulgated emergency field reentry standards.[142] The Fifth Circuit struck down the standards on the ground that OSHA did not establish a pressing need for promulgating the emergency regulations.[143] Soon after OSHA's defeat, the EPA promulgated the Worker Protection Standard ("WPS") in 1974, which, although limited in scope, established reentry intervals for twelve highly toxic pesticides. Although this development was the administrative state's first real attempt to draft somewhat broad regulations related to farmworker protection, many farmworker advocates saw the WPS as a setback because it established the EPA, rather than OSHA, as the administrator of pesticide safety for farmworkers. The primary difference between OSHA and the EPA is the explicit cost-benefit analysis the EPA must undertake when promulgating farmworker safety standards. OSHA's seeding statute contains no such calculus, requiring the Secretary of Labor only "to assure as far as possible every working man and woman in the Nation safe and healthful working conditions . . . ."[144] FIFRA requires the EPA to consider the size of the business charged and the effect of the penalty on the business when

140. WASSERSTROM & WILES, *supra* note 78, at 7 (critiquing the cost-benefit analysis the EPA employs in its pesticide registration process).

141. 7 U.S.C. § 136d(a)(2) ("If at any time after the registration of a pesticide the registrant has additional factual information regarding unreasonable adverse effects on the environment of the pesticide, the registrant shall submit such information to the Administrator.").

142. *See* Emergency Temporary Standards for Exposure to Organophosphorous Pesticides, 38 Fed. Reg. 17214 (1973); Ellen S. Greenstone, *Farmworkers in Jeopardy*, 5 ECOLOGY L.Q. 69 (1975) (summarizing the early versions of OSHA's emergency reentry standard).

143. Florida Peach Growers Ass'n, Inc. v. United States Dep't of Labor, 489 F.2d 120, 129–32 (5th Cir. 1974).

144. 29 U.S.C. § 651(b) (2000); *see also* Am. Textile Mfrs. Inst., Inc. v. Donovan, 452 U.S. 490, 510–13 (1981); Industrial Union Dept. v. Am. Petroleum Inst., 448 U.S. 607 (1980) (holding that although OSHA does not require a cost-benefit analysis, legislative history demonstrates that OSHA was intended to eliminate significant harm, but not eliminate all risk of harm to workers).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

assessing civil penalties.[145] OSHA is not required to consider the effect of the penalty on the violator.[146]

Believing that the EPA's jurisdictional grab would ultimately prove harmful to farmworkers, two labor advocacy organizations brought suit to compel the Secretary of Labor to promulgate permanent farmworker pesticide safety regulations under OSHA.[147] The jurisdictional question between the two agencies appeared to favor OSHA because of its broad-based mandate to regulate workplace hazards. Nonetheless, the D.C. Circuit held that Congress had conferred exclusive jurisdiction over the regulation of farmworker pesticide exposure to the EPA under FIFRA.[148] Further, by promulgating rules such as the WPS, the EPA had foreclosed any OSHA involvement in the area of pesticides.[149]

Farmworker protection under the EPA stood relatively still for nearly twenty years. The EPA did not modify the WPS until 1992.[150] The goal of the revised WPS was to "reduce the risks of illness or injury resulting from workers' and handlers' occupational exposures to pesticides . . . ."[151] The move was based on the EPA's finding that the use of agricultural pesticides had increased since the 1974 creation of the WPS.[152] More important, the EPA determined that the "tens of thousands" of annual farmworker poisonings demonstrated the failures of the older version of the WPS.[153]

Today, the WPS requires growers to inform farmworkers of the location where pesticides are applied, as well as any restrictions on entering those

145. *See* Cabrera, *supra* note 66, at 114–15 (discussing the disadvantages of having the EPA responsible for regulating pesticide safety); Michael T. Olexa, *Pesticide Use and Impact: FIFRA and Related Regulatory Issues*, 68 N.D. L. REV. 445, 448–49 (1992) (summarizing the mitigating factors the EPA must consider in assessing a penalty).

146. *See* 29 U.S.C. § 666(j) (requiring the Commissioner to give "due consideration to the appropriateness of the penalty with respect to the size of the business of the employer being charged, the gravity of the violation, the good faith of the employer, and the history of previous violations").

147. *See* Organized Migrants in Cmty. Action, Inc. v. Brennan, 520 F.2d 1161 (D.C. Cir. 1975). For an insightful analysis of the plaintiff's motivations and the court's final decision, see *More Pesticide Power: EPA's Farm Worker Field Reentry Standards Oust OSHA's Jurisdiction*, 5 ENVTL. L. REP. 10216, 10217 (1975) ("At oral argument, plaintiffs admitted that this suit had been brought because they considered EPA's power to enforce reentry standards under FEPCA insufficient as compared to the Secretary of Labor's authority under OSHA.").

148. *See Organized Migrants in Cmty. Action*, 520 F.2d at 1165.

149. *See* 29 U.S.C. § 653(b)(1) (2000) ("Nothing in this section shall apply to working conditions of employees with respect to which other Federal agencies . . . exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health."); *Organized Migrants in Cmty. Action*, 520 F.2d at 1169.

150. Worker Protection Standard, 57 Fed. Reg. 38,102, 38,103 (Aug. 21, 1992) (codified at 40 C.F.R. §§ 156, 170 (2002)).

151. *See* 40 C.F.R. § 170.1 (2003).

152. *See* Worker Protection Standard, 57 Fed. Reg. at 38,103.

153. *Id.* at 38,105.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

areas.[154] The WPS also requires pesticide safety training for workers[155] and posted warnings if a field has been treated recently.[156] In addition, the WPS requires growers to provide workers with information on pesticide-related illnesses. In the event of a poisoning, workers are to receive "prompt transportation from the agricultural establishment ... to an appropriate emergency medical facility."[157] The employer shall inform the treating medical personnel as to the type of pesticide involved and the circumstances of the exposure.[158]

The EPA designates pesticide-specific REIs, which, as discussed above, prohibit farmworkers from entering recently sprayed fields. The length of the restricted interval for each pesticide can be as short as twelve hours, depending on the pesticide's toxicity.[159] During the thirty days following the expiration of an REI, the grower must make available to workers a decontamination site that must include soap, water, and eye washing facilities.[160] As discussed below, farmworkers are frequently injured when growers willfully violate REIs and prematurely send workers into poisoned fields.

C. State Enforcement

Although much attention is paid to the failure of federal pesticide regulations, the states play an equally important role in the sale and use of field poisons. FIFRA grants primary authority for enforcing pesticide-related regulations to the states.[161] After registering the product with the EPA, the manufacturer may be required to register the pesticide with the state as well.[162] Unfortunately for farmworkers, very few states conduct a separate review of the registrant, independent of the EPA's evaluation.[163]

With the largest agricultural economy and a farm workforce of 600,000,[164] California also has the most comprehensive scheme for farmworker protection.

---

154. 40 C.F.R. § 170.124 (2003).

155. *Id.* § 170.130.

156. *Id.* § 170.135. For a complete summary of the WPS requirements, see U.S. GEN. ACCOUNTING OFFICE, *supra* note 93, at 4–5.

157. 40 C.F.R. § 170.160; *see also* HUMAN RIGHTS WATCH, *supra* note 13, at 66 (outlining the WPS requirements).

158. 40 C.F.R. § 170.160 (describing the information an employer should provide to medical personnel in the event of a pesticide poisoning event).

159. *Id.* § 156.208(c)(2)(i)–(iii) (establishing REIs based on the toxicity of a pesticide's active ingredient).

160. *Id.* § 170.150 (requiring the decontamination facility to be no farther than one quarter of one mile from workers).

161. 7 U.S.C. § 136w-1 (2000).

162. *Id.* § 136v(a) ("A State may regulate the sale or use of any federally registered pesticide or device in the State, but only if and to the extent the regulation does not permit any sale or use prohibited by this subchapter").

163. *See* Lightstone & Monning, *supra* note 47, § 23.04[1][c], at 23-39.

164. FIELDS OF POISON, *supra* note 20, at 11–12.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

California requires toxicology data from chemical manufacturers and reviews studies submitted to the EPA for federal registration.[165] Because "the best evidence has been amassed"[166] regarding California's administrative scheme for pesticide regulation, the state serves as a useful model for understanding the general structure and disadvantages of enforcing pesticide-related regulations on the state level.

California agencies charged with farmworker protection embody a division similar to the split of responsibilities between the EPA and OSHA on the federal level. Cal-OSHA does not monitor farmworker pesticide safety, despite the agency's broad mandate to promote occupational safety elsewhere.[167] The California Department of Pesticide Regulation ("CDPR"), a subdivision of the California Environmental Protection Agency,[168] is responsible for pesticide safety, regulation, and monitoring of pesticide exposures. The CDPR's responsibilities are divided between: (1) regulating pesticide use and safety and (2) monitoring applications and incidents of poisoning. On the first front, the CDPR is marked by the slow-going rulemaking process emblematic of the administrative state—a process that inevitably becomes more protracted when pesticide regulations are involved. For instance, the CDPR has been sued on multiple occasions by environmental organizations and farmworker advocates for its failure to regulate Methyl Bromide, a highly toxic soil fumigant used in strawberry fields.[169] In one notorious case, the CDPR failed to adopt regulations for Methyl Bromide for over a decade, despite an explicit statutory mandate from the California legislature.[170]

The CDPR's second primary responsibility—monitoring pesticide poisonings and pesticide use—is achieved through two reporting systems.[171] California's Pesticide Illness Surveillance Program ("PISP") requires treating

165. *See* Lightstone & Monning, *supra* note 47, § 23.04[1][c], at 23-39 (discussing California's heightened level of review of pesticide registrants).

166. WASSERSTROM & WILES, *supra* note 78, at 11 (explaining how California has done more than other states in the area of pesticide regulation).

167. *See* Lindelef, *supra* note 62, at 88.

168. *See* CAL. FOOD & AGRIC. CODE §§ 11451–11477 (West 2001). Created in 1991, the CDPR assumed the responsibilities and duties formerly held by the Department of Food and Agriculture related to the regulation of pesticides.

169. *See, e.g.*, Brief for Petitioner Environmental Defense Center, Envtl. Def. Ctr. v. Cal. Dep't of Pesticide Regulation (Cal. Super. Ct. Nov. 13, 2001) (No. 318270) (charging the CDPR with failure to comply with various administrative requirements regarding the regulation of Methyl Bromide); *see also* Part II.D.4, *infra*, discussing the pressure exerted by the chemical industry to limit the regulation of Methyl Bromide.

170. *See* Friends of the Earth v. Cal. Dep't of Pesticide Regulation, No. 996187 (Cal. Super. Ct. June 11, 1999) (ordering the CDPR to adopt regulations in compliance with a statutory mandate requiring use regulations); Victoria Clark, *Enforcement of Pesticide Regulation in California: A Case Study of the Experience with Methyl Bromide*, 31 GOLDEN GATE U. L. REV. 465, 510 (2001) (discussing the CDPR's repeated failure to properly regulate Methyl Bromide and concluding that the rulemaking process "has been long and arduous, and without satisfaction on the part of the organizations representing public health, the environment, and workers").

171. *See* FIELDS OF POISON, *supra* note 20, at 6.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

physicians to report suspected or known poisonings, which are then reported to local agricultural commissioners.[172] The data collected through the physician reports are organized by pesticide, type of injury, and occupation.[173] However, because the information is more often collected from workers' compensation reports than from the official pesticide illness reports required by law, the data on poisonings are often incomplete. Finally, like so much of pesticide data, PISP reports consider only the acute health effects of pesticides, and thus are of limited usefulness in cases of chronic pesticide harm.

California also incorporates a unique pesticide use reporting system that other states "are only beginning to emulate."[174] Growers are required to notify the local agricultural commissioner at least twenty-four hours prior to an application of a restricted pesticide.[175] Following an application, growers must file a pesticide use report, which contains the date of application and the type and amount of pesticides used in each application, as well as a description of the treated crop and acreage of the treated site.[176]

Despite California's detailed record-keeping system, inconsistencies and data gaps[177] often prevent investigators from isolating the particular pesticide responsible for a poisoning incident.[178] Nevertheless, if incorporated on a national level, a system that regularly records both pesticide applications and poisoning incidents would prove invaluable to farmworkers trying to prove exposure in a tort suit.

D. Causes of Regulatory Failure

If the administrative state is, as one commentator has stated, the "very salvation of the migrant workers,"[179] then field laborers should not expect deliverance any time soon. The failure of agencies to achieve meaningful farmworker protection has been marked by political foot-dragging and industry

---

172. *See* CAL. HEALTH & SAFETY CODE § 2950 (West 1992); CAL. LABOR CODE § 6409 (West 2003).

173. *See* Lightstone & Monning, *supra* note 47, § 23.08[1][e], at 23-102 to 23-103.

174. HOOKED ON POISON, *supra* note 49, at 16 (reporting that New York and Oregon have recently passed pesticide use reporting laws, while Texas, Wisconsin, Arizona, and Massachusetts are considering similar legislation).

175. CAL. CODE REGS. tit. 3, § 6434 (2002); Clark, *supra* note 170, at 502–03 (summarizing California's use reporting requirements).

176. Clark, *supra* note 170, at 503–04 (noting that, in practice, many pesticide use reports do not contain all of the required information).

177. HOOKED ON POISON, *supra* note 49, at 16 (describing the discrepancy between sales information and use data, suggesting that not all pesticide applications are being adequately documented under the reporting system); Clark, *supra* note 170, at 504 (commenting that the public often receives "inaccurate information" about the precise date of a pesticide application).

178. HOOKED ON POISON, *supra* note 49, at 16 (outlining the significant limitations of the California Pesticide Use Reporting System); *see also* FIELDS OF POISON, *supra* note 20, at 6 ("Nearly a third of the reported cases between 1991 and 1996 identify no specific crop associated with the poisoning incident.").

179. Di Florio & McLees, *supra* note 11, at 152.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

influence. Today, "serious doubt" exists as to "the adequacy of public health protections offered by state and federal pesticide regulatory practices."[180]

This section addresses how, within the EPA's cost-benefit calculus, political forces have consistently kept the price of pesticide regulation low for growers rather than develop a meaningful protective framework for farmworkers.[181] An understanding of the administrative breakdown places the importance of tort recovery for farmworkers in perspective. Juxtaposed to regulatory failure, an imperfect tort system may present a more effective method for achieving farmworker protection.

1. Enforcement

Agriculture Commissioner Report, Santa Cruz County, California, April 6, 1998:

> ***Inspection Finding**: Paraquat [extremely toxic herbicide] being used without waterproof apron, face shield or closed loading system. Worker wearing sandals. No training or supervision. No soap for washing. No current use permit or Notice of Intent. . . .*
>
> ***Consequence**: Told to comply with the law—no monetary fine.*[182]

The EPA relies on local and state officials to enforce the WPS and FIFRA's labeling and use requirements. One study of this system concluded, "Enforcement of the national WPS and state safety regulations is uneven, and many loopholes and exclusions exist."[183] Similarly, a federal review of state enforcement of the WPS called on the EPA to improve oversight of the states.[184] Indeed, despite California's designation as a "model state" for pesticide regulations, it still leads the nation in pesticide use and reported pesticide poisonings.[185] Echoing complaints heard in other states with less developed pesticide regulations, critics complain that the California system establishes inadequate warnings, lacks important scientific data, and is mired in agency

180. BRUCE JENNINGS, CALIFORNIA SENATE OFFICE OF RESEARCH, PESTICIDES AND REGULATION: THE MYTH OF SAFETY 1 (1991).

181. Dr. Marion Moses, a physician who studies the effects of pesticides on humans and who worked with Cesar Chavez and the United Farm Workers, says, "I believed with Chavez that legislation is not the answer. You've already got everything stacked against you. You have a regulatory agency that has a cost-benefit standard." Telephone Interview with Marion Moses, Director, Pesticide Education Center (May 8, 2001).

182. FIELDS OF POISON, *supra* note 20, at 26 (discussing the failure of state agencies to adequately enforce worker safety regulations).

183. *Id.* at 11.

184. *GAO Says EPA Needs to Act on Farm Pesticides, Children*, 18 No. 1 ANDREWS TOXIC CHEMICALS LITIG. REP. 8, 8 (2000) (reporting the General Accounting Office's conclusions that the EPA needs to improve its distribution of information regarding acute pesticide illnesses and the harmful effects of pesticides on children under twelve).

185. CALIFORNIA RURAL LEGAL ASSISTANCE, EDUCATING AGAINST FIELD POISONS, 1997 ANNUAL REPORT 14 (1998).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

inaction.[186]

The central flaw of the California model is its abdication of investigation and enforcement responsibilities to county agriculture commissioners, who have historically favored the needs of growers to the detriment of farmworker protection.[187] The wide discretion California gives to agricultural commissioners leads to weak and inconsistent enforcement.[188] For example, California agricultural commissioners issue fines for approximately one out of every ten known violations.[189] The California counties that consume the most pesticides incur the lowest number of fines, likely reflecting the influence growers have over agricultural commissioners in rural counties.[190]

Similar problems of under-enforcement exist in other states. A study among Colorado farmworkers found that fifty-nine percent of farmworkers had received no pesticide safety training and forty-eight percent had been sent into recently sprayed fields, in violation of the federally established REI for the pesticide.[191] EPA records show that of the twenty-three Colorado farms inspected in 2001, twenty were in violation of the WPS. Despite these clear violations, no fines were issued and the growers were given only warning letters.[192] As one enforcement officer concluded, "Obviously we have a regulation which is not being followed."[193] Unfortunately, warning letters are unlikely to increase compliance in the absence of harsher penalties. In Florida, the Department of Agriculture and Consumer Services ("FDACS") received only 56 reports of pesticide-related exposures from 1991 through 1996.[194] Based on these reports, FDACS found 31 violations but issued only *two fines* during the five-year period.[195] The lack of fines not only leads to more violations, but also sends a clear message to injured farmworkers that their poisoning-related complaints

186. *See* ANDREA DAVIS & BRUCE H. JENNINGS, CALIFORNIA SENATE OFFICE OF RESEARCH, REGULATION VS. PRACTICE: A REVIEW OF THE CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE'S PESTICIDE REGISTRATION PROCESS 1 (1990).

187. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 68 (reporting that it is "probably true for all state agriculture departments . . . that the department itself and most of its inspectors have traditionally served the needs of growers, not workers").

188. *See* Lindelef, *supra* note 62, at 91 (outlining the California administrative scheme and the overlap in authority among agencies).

189. FIELDS OF POISON, *supra* note 20, at 26 ("The vast majority of actions . . . were 'Notices of Violation' and 'Letters of Warning,' which carry no fine and are not recorded in permanent statewide records.").

190. *Id.* at 26–27.

191. *See* Cornelius, *supra* note 88.

192. *Id.* ("Workers were not being trained. There was no central location where the required information was being posted, and several of them did not have decontamination supplies.") (quoting Britta Campbell, EPA enforcement officer).

193. *Id.*

194. Elena Zlatnik, *A Pattern of Indifference Towards Farmworker Safety*, 18 J. PESTICIDE REFORM 11, 11 (1998) (questioning whether "Florida's report system is particularly flawed").

195. *Id.* (citing several examples involving investigators who failed to interview injured workers or read relevant medical files for evidence of poisonings).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

will not be investigated and prosecuted. Both state and federal laws prohibit retaliation against farmworkers who protest unsafe working conditions, yet investigations of attitudes among farmworkers reveal that many workers are dissuaded from reporting violations by: (1) employer intimidation and (2) fear of job loss.[196]

Even when violators are cited, growers often prefer to continue their illegal practices rather than conform to the law. For example, one grower in Monterey County, California was cited approximately thirty times in the span of four years for violations of pesticide use and farmworker safety regulations. Despite being issued these citations and signing a declaration promising to comply with all state and federal laws, the grower committed subsequent violations.[197] The ineffectiveness of fines may be partially attributable to their low cost relative to the cost of compliance. Between 1991 and 1996, nearly half of all citations issued in California were $150 or less, and only five percent exceeded $1,000.[198]

Adequate state enforcement of the WPS requirement that workers receive information on pesticide-related dangers could dramatically improve field safety. Unfortunately, a review of state enforcement of the WPS posting requirements in California concluded, "Dozens of county inspections revealed that farms lacked the mandatory posting and written warnings regarding the risks of pesticide exposure."[199] Among the juvenile farmworkers in Arizona interviewed by Human Rights Watch, not one had received information regarding pesticide danger and precautionary measures required by the WPS.[200] Similarly, an EPA survey found that over half of farmworkers in Oregon who complained of pesticide-related illnesses were offered no help or advice by their employers. The EPA survey also found that nearly half of farmworkers had not been provided federally mandated training regarding workplace safety and pesticide exposure.[201] A survey of Colorado farmworkers found that fifty-nine percent had received no training on pesticide safety, as required by the WPS.[202]

The non-enforcement of the WPS not only undermines farmworker safety, it also puts law-abiding growers at a competitive disadvantage. Noncompliant growers can save costs by refusing to provide farmworkers with federally mandated protective gear or by hastening worker reentry into recently sprayed fields in violation of REIs. In order to put compliant growers on an equal

196. *See* FIELDS OF POISON, *supra* note 20, at 7; *see also* Cornelius, *supra* note 88 (noting that in Colorado "[m]any migrant farmworkers are reluctant to report pesticide problems because they fear they will lose their jobs").

197. *See* FIELDS OF POISON, *supra* note 20, at 97.

198. *See id.* at 8–9 (recommending that the CDPR eliminate the "option of issuing notices of violation that carry no fine" and "increase fine levels for moderate and serious violations").

199. *See id.* at 22.

200. HUMAN RIGHTS WATCH, *supra* note 13, at 20 (noting that "some of the teens interviewed did not even know what pesticides were").

201. *See* OFFICE FOR CIVIL RIGHTS AND ENVTL. JUSTICE, U.S. EPA, *supra* note 89, at 10.

202. *See* Cornelius, *supra* note 88 (reporting on a survey of eighty-nine farmworkers in western Colorado).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

footing with violators, states must envision and implement a far more effective enforcement scheme. A race to the bottom among growers can be avoided only if the current patchwork enforcement scheme is abandoned in favor of a new methodology that includes both comprehensive monitoring and effective sanctions.

2. Weak Regulations Result in Poisonings, Even with Complete Compliance

Perhaps the greatest evidence of regulatory failure is the fact that even when growers comply with pesticide regulations, poisonings still occur frequently.[203] For example, a study of Washington state farmworkers revealed that twenty-two percent of poisonings associated with the insecticide Mevinphos occurred despite "reported adherence to all application requirements."[204] In California, over one hundred farmworkers suffered chemical burns and rashes from exposure to Omite CR while harvesting oranges. An investigation following the poisoning revealed that a forty-two day reentry interval for Omite CR was necessary to protect the workers, despite the federal REI of one day.[205] Similarly, the current 30-day REI for the pesticide Azinphos-Methyl would need to be extended to 80 to 100 days in order to provide adequate protection to workers.

The EPA claims that the WPS is the "primary means to reduce farmworkers' risk of exposure to pesticides."[206] Yet experts conclude that REIs are "ineffective or inadequate" at reducing pesticide exposure.[207] There are several reasons for this deficiency. First, the EPA designs REIs for an average 154-pound adult male, which by definition excludes large segments of the farmworker population, including children and adults who are substantially smaller or larger than the prototypical size chosen by the EPA.[208] There is no separate REI for children, despite the fact that as many as one million field laborers are under eighteen and thus are more susceptible to the harmful effects of field poisons.[209] Further, REIs do not account for the malnutrition that is

203. *See* FIELDS OF POISON, *supra* note 20, at 8 ("Farmworker experiences show that even pesticide applications which follow the letter of the law can result in exposure or illness.").

204. Centers for Disease Control and Prevention, U.S. Dept. of Health & Human Services, *Occupational Pesticide Poisoning in Apple Orchards—Washington, 1993*, 42 MORBIDITY & MORTALITY WEEKLY REP. 993, 994 (1994).

205. *See* Lightstone & Monning, *supra* note 47, § 23.04[5], at 23-46 ("[H]igh levels of pesticides were found on leaves and soil long after the EPA approved reentry interval expired.").

206. *GAO Says EPA Needs to Act on Farm Pesticides, Children, supra* note 184, at 8.

207. *See* WASSERSTROM & WILES, *supra* note 78, at 41.

208. *See* U.S. GEN. ACCOUNTING OFFICE, *supra* note 30, at 19–20; HUMAN RIGHTS WATCH, *supra* note 13 at 67 (explaining how the WPS does not adequately protect child farmworkers from pesticides).

209. Edward M. McDonald, Jr., *The Food Quality Protection Act of 1996: By Removing Chemical Irritants from Our Environment Will It Generate Trade Irritants to Replace Them?*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 749, 761 (2001); *see also* Part II.D.3(c), *infra*, discussing child labor in American agriculture.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

prevalent among farmworkers of all ages, leaving them more vulnerable to pesticide-related injuries.

REIs are established based on exposure to a single pesticide and do not address the synergistic effects that result from the combination of inert and active ingredients, as well as from the multiple applications of various end-use products on a single crop. In contrast, cumulative effects *are* considered for consumers when determining acceptable levels of pesticide residue in food.[210] The combined effects of occupational and non-occupational exposures are also not accounted for in REIs.[211] Moreover, REIs do not consider the higher levels of toxicity that may occur as a pesticide degrades. An investigation following the poisoning of ninety-four farmworkers in a California peach grove revealed that Parathion, the pesticide involved in the incident, had been sprayed some five weeks before the poisonings.[212] At the time of its use, Parathion's REI did not account for the fact that as the pesticide degraded, it released Paraoxon, a poison that is fifty-five times more toxic than the original pesticide.[213] Although Parathion is no longer in use, it should not take the poisoning of nearly one hundred farmworkers to force the EPA to reevaluate a pesticide's safety.

Even the EPA admits that its calculations do not factor in all of the variables that affect a pesticide's potential harmfulness to farmworkers.[214] For example, the agency concedes that pesticides may be toxic even after the REI expires.[215] Moreover, the likelihood that a pesticide will "leach into groundwater" or enter surface water, to which farmworkers may be exposed, varies with soil moisture, rainfall, and irrigation.[216] Thus, a national REI that is calibrated to a set of "average" conditions could either be overly restrictive or not restrictive enough, depending on the particular environmental conditions that are present during a given application.

In addition to miscalculating REIs, the EPA has woven a rich tapestry of exceptions into the WPS that preclude its model of safety from being realized.

---

210. McDonald, *supra* note 209, at 760–61.

211. *See* FIELDS OF POISON, *supra* note 20, at 12 ("This cumulative exposure is not taken into consideration when setting standards for 'safe' levels of worker exposure to pesticides, which assume that workers will only be exposed to a pesticide in the field.").

212. *See* WASSERSTROM & WILES, *supra* note 78, at 1–2.

213. *See id.* ("[N]one of the peaches sampled in these groves exceeded the allowable standards for parathion residues in food. In other words, tolerance levels set by law to protect consumers don't protect workers from exposure to foliage, soil, and other sources.").

214. *See* John M. Megara, *The Rose Industry Exception for Early Entry Into Pesticide Treated Greenhouses: Romance in Regulation*, 25 B.C. ENVTL. AFF. L. REV. 941, 948 (1998).

215. *Id.* at 948 n.60 (discussing an EPA study of farmworker poisonings in which the median time that pesticide residue remained toxic and caused a poisoning incident was twenty-nine days after an application). A California study of forty-four incidents of multiple case systematic illnesses found that the average pesticide poisoning occurred twenty days following an application. *Id.* (citing 57 Fed. Reg. 38,102, 38,123 (Aug. 21, 1992) (codified at 40 C.F.R. §§ 156, 170 (2002)).

216. *See* James Baird, *Defeat Runoff with BMPs and Buffer Strips*, GROUNDS MAINTENANCE, Apr. 2001, LEXIS, News Library (discussing the effect of rainfall and other weather conditions on pesticide loss in surface runoff).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

For example, the WPS allows farmworkers to enter a field before the expiration of an REI if they are performing short-term tasks not involving direct hand labor.[217] Exceptions also exist for laborers who have "minimum contact" with treated surfaces, irrigators, and workers employed by crop advisors. Further, any grower may obtain an exception to the rules from the EPA.[218] In determining whether to grant such an exception, the EPA evaluates whether the "benefits of the exception outweigh the costs, including the value of the health risks attributable to the exception."[219] Under such a calculus, it is often the case that the "costs" of farmworker poisonings will be outweighed by the even greater economic benefits bestowed on the grower by the REI exception. The EPA may even establish an exception by declaring an "agricultural emergency," defined as an unforeseeable event that requires early entry into a treated area to avoid "substantial economic loss" to the grower.[220]

Even if a farmworker must enter a field prior to an REI's expiration, the grower is still required to provide workers with "personal protective equipment"; yet many industry watchers are "skeptical about the effectiveness" of such a scheme because "field workers may remove [the equipment] or use it incorrectly."[221] One report on farmworkers in central Wisconsin uncovered the egregious example of farmworkers being charged forty dollars to use protective gear.[222]

Thus, the WPS model incorporates two primary methods for reducing farmworker pesticide exposure: (1) field "quarantines" through REIs; and (2) requiring farmworkers to wear protective clothing. Both methods "have a long history of failure" and should not be the central protective mechanism of any regulatory scheme charged with farmworker protection.[223]

3. Agricultural Exceptionalism

The agricultural industry enjoys a host of special benefits and exceptions in federal laws, including the National Labor Relations Act, overtime requirements, and OSHA's oversight of workplace safety related to pesticides. Agricultural

217. *See* 40 C.F.R. § 170.112(c)(1) (2002) (defining a "short term" entry as no more than one hour in a twenty-four-hour period).

218. *See id.* § 170.112(e).

219. *See id.* § 170.112(e)(3).

220. *Id.* § 170.112(d)(1). For a thorough discussion of the WPS exceptions to REIs, see Megara, *supra* note 214, at 949–50.

221. Megara, *supra* note 214, at 950 (suggesting that requiring the use of personal protective equipment "may cause more problems [than] it solves").

222. *See* Lantz et al., *supra* note 19, at 518.

223. Ralph Lightstone, *Pesticides: In Our Food, Air, Water, Home, and Workplace*, *in* CALIFORNIA'S THREATENED ENVIRONMENT: RESTORING THE DREAM 195, 202–03 (Tim Palmer ed., 1993) (observing that quarantine and protective gear are "two strategies to protect workers . . . [that] have a long history of failure"); *see also* Cabrera, *supra* note 66, at 114 ("[P]rophylactic measures such as protective clothing, washing facilities, and reentry intervals have not eliminated the serious problem of pesticide related injuries.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

exceptionalism encompasses the unmatched legislative privileges and exemptions enjoyed by agribusiness.[224] With agricultural exceptionalism in the backdrop, it is unlikely that farmworker health and safety will be improved through legislative and administrative mechanisms. Therefore, a brief sketch of agricultural exceptionalism lends itself to an understanding of the history and power of those forces that continue to oppose laws directed at farmworker protection.

a. Collective Action

Public law allows farmers and planters to engage in mutual aid and collective action.[225] Farmers can also form cooperatives to improve their marketing and bargaining abilities.[226] In addition, Congress provides billions of dollars in federal aid to state and local governments for agricultural assistance.[227] While *farmers* have historically been granted expansive power to engage in collective action, *farmworkers* receive quite the opposite treatment from the National Labor Relations Act ("NLRA"). Since its New Deal inception, the NLRA has stated, "The term 'employee' shall include any employee . . . *but shall not include any individual employed as an agricultural laborer*."[228] Like so many examples of agricultural exceptionalism, the exclusion of farmworkers from the NLRA lacks any basis in logic, and was largely the product of agribusiness influence.[229] Without the ability to unionize and bargain collectively, farmworkers, whose political voice and economic viability are already dwarfed by their employers in agribusiness, are unable to combat low wages and substandard working conditions.

Some states, such as California, have enacted legislation to provide farmworkers with limited rights to unionize.[230] Despite the well intended nature of these policies, the statutes have not translated into substantial gains in the number of unionized laborers in the agricultural sector.[231] For example, the

224. *See* Luna, *supra* note 14, at 489–90 (discussing the history of agricultural exceptionalism).

225. *See id.* at 490–91 (discussing the benefits of mutual aid and protection enjoyed by farmers); *see also* 7 U.S.C. § 291 (2000) (allowing farmers to form trade associations).

226. 7 U.S.C. § 2301.

227. *See* U.S. CENSUS BUREAU, *supra* note 12, at 314 (showing that in 1990, Congress spent up to $1.285 billion annually in agricultural aid).

228. 29 U.S.C. § 152 (2000) (emphasis added); *see generally* WILLIAM B. GOULD IV, A PRIMER ON AMERICAN LABOR LAW 27–31 (1986) (discussing the historical background of the NLRA).

229. *See* Victoria V. Johnson, *Did Old MacDonald Have a Farm?* Holly Farms Corp. v. National Labor Relations Board, 69 U. COLO. L. REV. 295, 295 n.7 (1998) (noting that "the strength of the agricultural lobby" was at least one contributing factor to the exclusion); *see also* Michael H. LeRoy & Wallace Hendricks, *Should 'Agricultural Laborers' Continue to Be Excluded from the National Labor Relations Act?*, 48 EMORY L.J. 489, 536–37 (1999) (presenting empirical support for extending collective bargaining rights to agricultural laborers).

230. *See* Agricultural Labor Relations Act of 1975, CAL. LAB. CODE § 1152 (West 2003).

231. *See generally* Maria L. Ontiveros, *Forging Our Identity: Transformative Resistance in*

Imaged with the Permission of N.Y.U. Review of Law and Social Change

United Farm Workers, the primary farmworker union in California, has seen its membership drop from its high in the early 1980s of 100,000[232] to roughly 25,000 as of 1998.[233]

The possibility of farmworkers coming together to bargain for increased wages or safer working conditions is diminished further by immigration laws that guarantee growers a steady stream of undocumented workers. The Immigration Reform Control Act of 1986 ("IRCA")[234] although claiming to crack down on illegal immigrants by requiring employers to verify the legal work status of their workers, exempts temporary foreign workers[235] and encourages growers to look the other way when making hiring decisions. The statute requires growers to make a good faith effort to verify documentation.[236] Even if a grower's entire workforce lacks legal status, if the employer reasonably determined that the workers had provided facially authentic paperwork, the employer is immune from penalties. In practice, the rule allows growers to employ undocumented foreign workers who are reluctant to challenge the employer's unlawful practices because they fear deportation. By "guarantee[ing] an oversupply of labor," IRCA enables growers to pay the lowest wages possible, while at the same time stymieing collective action.[237] A report on farm working conditions concluded, "[T]he glut has driven down wages and led to a variety of abusive employment practices."[238] As one farmworker said during a peer discussion, "If I refuse to go into the field, there are many others who would be happy to do it so their families could eat."[239]

b. Wage and Hour Law

Farmworkers are also excluded from the overtime protections of the Fair Labor Standards Act ("FLSA").[240] The exemption was a victory for

---

the Areas of Work, Class, and the Law, 33 U.C. DAVIS L. REV. 1057, 1060–62 (2000) (discussing the need to redefine unionization in the agricultural sector).

232. *See* FERRISS & SANDOVAL, *supra* note 1, at 191–235 (recounting the rise of the UFW in the 1970s and early 1980s).

233. Tracy E. Sagle, *The ALRB—Twenty Years Later*, 8 SAN JOAQUIN AGRIC. L. REV. 139, 168–69 (1998) (discussing how the UFW has changed strategies from boycotts to field organization); *see also* Butterfield, *supra* note 3; Andy Furillo, *With Union in Decline, California Farm Workers Turn Elsewhere*, SACRAMENTO BEE, May 22, 2001, at A1, *available at* 2001 WL 21906607.

234. Pub. L. No. 99-603, 100 Stat. 3359 (codified as amended in scattered sections of 7, 8, 18, 20, 29, and 42 U.S.C.).

235. 8 U.S.C. § 1101(a)(15)(H)(ii)(a) (2000).

236. *Id.* § 1324a(b)(1)(A)(ii) ("A person or entity has complied with the requirement . . . with respect to examination of a document if the document reasonably appears on its face to be genuine.").

237. *See* Ontiveros, *supra* note 231, at 1063 (discussing how farmers and workers circumvent IRCA's documentation requirements).

238. *See* Butterfield, *supra* note 3.

239. Lantz et al., *supra* note 19, at 512.

240. 29 U.S.C. § 213(a)(6), (b)(12) (2000) (excluding "any employee employed in

Imaged with the Permission of N.Y.U. Review of Law and Social Change

agribusiness, which engaged in hard lobbying during the 1937 passage of FLSA.[241] In fact, the agriculture lobby was successful in excluding farmworkers from a myriad of New Deal legislation designed to protect employees.[242] Although farmworkers may pursue claims of lost wages through the Migrant and Seasonal Agricultural Workers Protection Act ("AWPA"),[243] AWPA is also spotted with exemptions for certain family farms, small businesses, and poultry operations.[244]

In addition to being limited in their substantive rights under wage and hour laws, farmworkers are also restricted with respect to their ability to enforce those rights. Farmworkers have historically pursued their AWPA claims with the assistance of free legal clinics funded by the Legal Services Corporation ("LSC").[245] Although LSC lawyers are allowed to assist farmworkers with AWPA claims, they are strictly forbidden from bringing class actions, representing undocumented workers, and from claiming court-awarded attorneys' fees.[246]

The breadth of agricultural exceptionalism extends even to children. Although FLSA was amended in 1966 to prohibit agricultural labor by children under age twelve, it was amended again in 1977 to allow children ages ten and eleven to work under limited circumstances.[247] The minimum work age in other industries is fourteen.[248] Despite the agricultural lobby's contention that rural communities rely on the younger work age to employ children during planting and harvesting seasons, a study of child labor in American agriculture concludes, "The differential treatment of children working in agriculture as opposed to children working in other occupations is indefensible and discriminatory."[249]

Child labor remains commonplace in the agricultural fields of the United

---

agriculture").

241. *See* Patrick M. Anderson, *The Agricultural Employee Exemption from the Fair Labor Standards Act of 1938*, 12 HAMLINE L. REV. 649, 652–54 (1989).

242. *See* Martha L. Noble, *Erosion of Agricultural Labor Exemptions in Employment Law: Recent Developments Relevant to Arkansas*, 1996 ARK. L. NOTES 71, 72 (1996) (discussing the exclusion of agricultural workers from New Deal legislation).

243. 29 U.S.C. §§ 1801–1872.

244. *Id.* § 1803(a).

245. *See* Luna, *supra* note 14, at 496 (reviewing the agricultural lobby's success at weakening Legal Service's ability to assist farmworkers).

246. *See* Laura K. Abel & David S. Udell, *If You Gag the Lawyers, Do You Choke the Courts? Some Implications for Judges When Funding Restrictions Curb Advocacy by Lawyers on Behalf of the Poor*, 29 FORDHAM URB. L.J. 873, 877 (2002); Julie Davies, *Federal Civil Rights Practice in the 1990's: The Dichotomy Between Reality and Theory*, 48 HASTINGS L.J. 197, 245–46 (1997).

247. 29 U.S.C. § 213(c). *See* WASSERSTROM & WILES, *supra* note 78, at 46–51 (summarizing the history of child labor on farms and the failure of the Department of Labor to set REIs specific to children); *see generally* Davin C. Curtiss, *The Fair Labor Standards Act and Child Labor in Agriculture*, 20 J. CORP. L. 303, 314–15 (1995) (outlining FLSA's numerous exemptions for child laborers in agriculture).

248. *See* Butterfield, *supra* note 3.

249. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 11.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

States. An estimated 800,000 to 1.5 million children are farmworkers,[250] and children as young as five years old may be seen working alongside their parents in the fields.[251] Young people are particularly susceptible to pesticides because they: (1) drink more fluids and breathe more air per pound than adults; (2) have more extended contact with contaminants through hand-to-mouth activity; and (3) are still developing both physically and neurologically.[252] Children of farmworkers endure significantly higher levels of pesticide exposure than other children.[253] A study of California farmworkers found that forty percent of children working in the fields had diminished cholinesterase levels, which indicates exposure to organophosphate pesticides.[254] Various studies have found that children with significant exposure to pesticides contract cancer at higher rates than other children,[255] and childhood brain tumors and leukemia are more common among those exposed to pesticides prenatally or as infants.[256] Cancer clusters have been found in some agricultural towns, with childhood cancer occurring at rates three to thirty-five times above normal.[257] Thus, by allowing children to work in the fields at younger ages, the doctrine of agricultural exceptionalism affects the health and safety of the most vulnerable segment of an already exploited group.

c. Occupational Health and Safety

Congress established the Occupational Safety and Health Administration ("OSHA") in 1970. Despite its broad jurisdiction over nearly every industry in the United States, OSHA has been prevented from governing farmworker

250. Nixon, *supra* note 29, at 30; *see generally* Luna, *supra* note 14, at 498–99 (addressing the presence of children in American fields).

251. *GAO Says EPA Needs to Act on Farm Pesticides, Children*, *supra* note 184, at 8 (reporting that seven percent of farmworkers with children under the age of six take their children with them in the fields "at least sometimes" because of the lack of daycare).

252. U.S. GEN. ACCOUNTING OFFICE, *supra* note 30, at 17 (noting that children are more vulnerable to the harmful effects of pesticides because of their developing body and organs); FIELDS OF POISON, *supra* note 20, at 10 (discussing the vulnerability of children to pesticide exposure).

253. *See* CALIFORNIA RURAL LEGAL ASSISTANCE, *supra* note 185, at 15 (describing the many types of exposure farmworker children face).

254. ROBERT REPETTO & SANJAY S. BALINGA, WORLD RESEARCH INSTITUTE, PESTICIDES AND THE IMMUNE SYSTEM: THE PUBLIC HEALTH RISKS 13 (1996).

255. Jack Leiss & David Savits, *Home Pesticide Use and Childhood Cancer: A Case-Control Study*, 85 AM. J. PUB. HEALTH 2 (1995) (finding that children exposed to pesticide yard treatments contract soft tissue cancers at four times the normal rate); Marla Cone, *Human Immune Systems May Be Pollution Victims*, L.A. TIMES, May 13, 1996, at A14 (reporting that eighty percent of children living in a village in the former Soviet Union with high pesticide levels had elevated immune deficiencies).

256. FIELDS OF POISON, *supra* note 20, at 10.

257. *See* Cabrera, *supra* note 66, at 114 (summarizing reports of childhood cancer clusters in several California farmworker communities); *see also* Luna, *supra* note 14, at 502 (discussing leukemia patterns in McFarland, Fowler, Rosamond, and Earlimart, California).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

pesticide safety since the early 1970s.[258] Because farmworkers are excluded from OSHA with regard to pesticide safety, they are not covered by the Hazard Communication Standard,[259] which requires employers to inform workers about chemical-related workplace hazards.[260] Thus, although the Hazard Communication Standard mandates measures such as informing office workers of their printer toner's toxicity,[261] OSHA does not mandate educating farmworkers about the much greater toxic dangers they encounter in their workplaces. Even though OSHA is technically responsible for non-pesticide-related occupational safety on farms, the federal government spends very little to ensure that farmworkers' places of work are safe. In 1985, the federal government spent an average of $4.34 per worker on occupational safety, $181 per mineworker, and $0.30 per farmworker.[262] The fact that agriculture is the third most dangerous employment sector in the United States makes this disparity even more troubling.[263] The following section considers whether adequate worker protection can be attained by an administrative state dominated by industry interests.

4. Political Influence and Agency Capture

Critics of the administrative state tend to use the term "agency capture" quite freely when referring to the private sector's control over governmental bodies; despite the fact that detractors toss about the term loosely, it may be quite fitting for the EPA. As evidenced above, farmers and agribusiness have successfully lobbied Congress and the EPA to pass a myriad of unique statutes and regulatory exemptions designed to protect agricultural interests. A comparison of congressional influence on the EPA in the field of air pollution versus pesticides during the late 1970s concluded that the EPA's pesticide regulations "[s]tart[ed] from a vastly weaker position [and were] . . . much more vulnerable to Congressional intervention and industry pressure."[264] In short, the

258. *See* Part II.B, *supra*, discussing the jurisdictional battle between the EPA and OSHA.

259. 29 C.F.R. § 1910.1200 (2002) (requiring employers to label hazardous substances and educate workers). The Hazard Communication Standard applies to most workplaces. *See* Nelson A. Clare, *Hazardous Chemicals in the Workplace: The Employer's Obligation to Inform Employees and the Community*, 20 ST. MARY'S L.J. 307, 308 (1989) (discussing the expansion of the Hazard Communication Standard from the manufacturing sector to nearly all private employers that use any type of hazardous chemical).

260. FIELDS OF POISON, *supra* note 20, at 22.

261. *See* Perkins Coie, *Do You Know These Important Areas of Safety/Health Responsibility*, 3 No. 9 OR. EMP. L. LETTER 5 (1997), *available at* LEXIS, News Library ("[T]hings such as copier toner, glues, and cleaning substances are also covered.").

262. *See* FIELDS OF POISON, *supra* note 20, at 25.

263. *See Id.* at 24; Lindelef, *supra* note 62, at 72, 73.

264. GEORGE HOBERG, PLURALISM BY DESIGN: ENVIRONMENTAL POLICY AND THE AMERICAN REGULATORY STATE 147 (1992) (arguing that stronger pesticide regulations were "never fully implemented" and that Congress "shackled the [EPA] with procedural encumbrances deliberately designed to impede agency action").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

"EPA sought autonomy from industry and failed; it sought autonomy from Congress and failed."[265] As a result, the EPA frequently acts at the behest of growers and pesticide manufacturers, ignoring the needs of farmworkers who lack a political voice.

The erosion of FIFRA exemplifies the power of the agriculture lobby within Congress. FIFRA was designed to *prohibit* the sale of any pesticide that proved to be "injurious to living man."[266] The current cost-benefit analysis the EPA must undertake during pesticide registration was the product of the agriculture industry's lobbying efforts in Congress, which, after receiving a steady stream of industry dollars, abandoned the idea of prohibiting dangerous chemicals, instead acquiescing to the cost-benefit approach.[267] As one commentator noted, FIFRA was the creation of the House and Senate agriculture committees, "whose top priority has always been the protection of agribusiness."[268] The cost-benefit approach allows manufacturers and growers to claim "economic hardship" as a defense to more restrictive regulations or less-toxic pesticide alternatives. For example, for decades growers have objected to any restrictions on the use of the strawberry fumigant Methyl Bromide, which was responsible for nineteen deaths from 1982 to 1997 and 454 poisonings from 1982 to 1993 in California.[269] When moderate safety restrictions on the use of Methyl Bromide in California were proposed in 2000, the industry balked. Says one attorney for California Rural Legal Assistance: "They claim that life will not go on without it. They won't be able to make another strawberry."[270] The result has been numerous delays and modifications to weaken the regulations related to the application and eventual phase-out of the pesticide.[271]

The EPA may be more susceptible to industry influence given the amorphous nature of the FIFRA mandate, which calls on the agency to approve pesticide registrations unless a chemical poses an "unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."[272] Because the EPA could

---

265. *Id.* at 148.

266. *See* WASSERSTROM & WILES, *supra* note 78, at 19 (discussing how FIFRA was intended to ban any pesticide that did not meet "rigorous standards of efficacy, quality, and public safety").

267. *See generally* FAGIN ET AL., *supra* note 60, at 123–34 (noting the power of the agribusiness lobby and describing specific examples of influence over legislators).

268. *Id.* at 134.

269. *See* Pesticide Action Network North America, *Fact Sheet: Methyl Bromide Use in California* (2000), *at* http://www.panna.org/resources/documents/mbUseInCA.pdf.

270. Telephone Interview with Mike Meuter, Staff Attorney, California Rural Legal Assistance (May 8, 2001).

271. *See* Madonna J. Backstrom II, *Methyl Bromide: The Problem, the Phase Out, and the Alternatives*, 7 DRAKE J. AGRIC. L. 213, 219–26 (2002) (discussing the phasing out of Methyl Bromide under the Clean Air Act and the Montreal Protocol and exemptions passed in response to pressure from farming interests).

272. *See* 7 U.S.C. § 136(bb) (2000) (defining "unreasonable adverse effects on the environment").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

conceivably approve the registration of nearly any pesticide under such a vague mandate, the agency is left vulnerable to outside pressure, especially when the cost-benefit determination is usually based on industry-generated data. It is little wonder that the EPA devotes the bulk of its pesticide-related resources to processing registrations rather than promulgating worker protection standards.[273]

When the EPA does act, it is often to appease the agriculture lobby. For instance, the WPS was modified five times during its first five months;[274] these "modifications," included expanding the categories of workers exempted from the WPS and reducing the length of REIs for certain pesticides.[275] The results of the changes were "blatantly anti-worker," according to farmworker advocates, yet "[a]gricultural groups ... expressed satisfaction with the changes." In addition to weakening regulations, objections from growers can infuse long delays in the process of promulgating worker safety standards. In fact, the WPS's negotiated rulemaking lasted seven years, which at the time marked the longest period of any such rulemaking for any federal agency.[276] As a result of the agricultural industry's lobbying, the EPA has adopted inadequate standards, which are dubbed "grower protection standards" by critics.[277]

The most well known example of agency delay in the area of farmworker health and safety is the case of *Farmworker Justice Fund v. Brock*,[278] which involved OSHA's delay in promulgating basic sanitation standards for farmworkers. Although OSHA had required employers in other industries to provide drinking water, toilets, and hand-washing facilities since 1974,[279] it took nearly fifteen years of intense litigation to force the agency to promulgate the same standards for farmworkers. If a federal agency takes nearly fifteen years to provide basic amenities such as toilets to farmworkers, it is little wonder that the far more controversial regulations related to pesticide safety have been held at a standstill. The same is true on the legislative side, with one commentator

273. *See* Elise M. Burton, *Interagency Race to Regulate Pesticide Exposure Leaves Farmworkers in the Dust*, 8 VA. ENVTL. L.J. 293, 303 (1989).

274. *See* Luna, *supra* note 14, at 501.

275. *See* Deborah VanPelt, *Farmworker Protections Compromised, Advocates Say*, TAMPA TRIB., Apr. 29, 1995, at 4, LEXIS, News Library.

276. *See* Cary Coglianese, *Assessing Consensus: The Problems and Performance of Negotiated Rulemaking*, 46 DUKE L.J. 1255, 1279 n.111, 1281 (1997). *But see* Philip J. Harter, *Assessing the Assessors: The Actual Performance of Negotiated Rulemaking*, 9 N.Y.U. ENVTL. L.J. 32, 41–42 (2000) (stating that although the WPS took an "enormous amount of time" for approval, it does not represent most negotiated rulemakings).

277. *See* Michael Weisskopf, *EPA Draws New Line for Farmhands, Chemicals; Union Consultant Calls Plan 'Timid,'* WASH. POST, June 30, 1988, at A17.

278. *See* Farmworker Justice Fund, Inc. v. Brock, 811 F.2d 613 (D.C. Cir. 1987); *see also* Sidney A. Shapiro & Thomas O. McGarity, *Reorienting OSHA: Regulatory Alternatives and Legislative Reform*, 6 YALE J. ON REG. 1, 54–55 (1989) (calling the *Farmworker Justice Fund* case a good example of the difficulty courts have with determining "unreasonable delay").

279. 29 C.F.R. § 1910.141(b)-(d) (2002); *Farmworker Justice Fund, Inc.*, 811 F.2d at 614 ("[R]esistance to issuing the standard, a counterpart of which is already in place for every other OSHA-covered type of employment, has been intractable.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

observing that "Congress has been gridlocked on pesticide reform for the last 30 years."[280]

Influence over federal agency action is heightened by dramatic shifts in funding and priorities that occur during different political administrations. For example, the EPA's budget was reduced forty-four percent and staffing dropped by nearly one-third under the Reagan administration.[281] Further, an EPA program that created a "Rebuttable Presumption Against Registration" ("RPAR") for the most toxic pesticides lost seventy-five percent of its staff during the early 1980s.[282] In fact, not one pesticide was subjected to RPAR review from April 1981 through March 1984.[283]

The changes in funding that coincide with new administrations also influence state enforcement of farmworker protection laws. For example, the Texas Commissioner of Agriculture is elected and is responsible for farmworker protection. In 1990, a conservative rancher who made campaign promises to delay enforcement of tougher pesticide laws was elected to the position. An investigation following his election found that "[s]uspensions of farmers' pesticide licenses, frequently used under [the previous Agriculture Commissioner], have been all but eliminated."[284] Furthermore, no criminal referrals for illegal spraying were made, and farmworker complaints were answered so slowly that "workers now believe that it is pointless to make them . . . ."[285]

Shortly before his death in 1993, Cesar Chavez commented that there had been "[a]lmost no movement at all" in pesticide regulation since the early 1970's. Chavez said, "The grower lobby—the agriculture lobby is one of the toughest lobbies in the country . . . . And so you really have not been able to . . . through public policy, do anything that really even . . . comes near protecting those people that need the protection . . . ."[286] Based on their historical exclusion from protective statutes, farmworkers simply cannot count on legislation or regulatory enforcement to reduce their exposure to pesticide-

280. *See* David Holmstrom, *Control of Farm Chemicals Needs Overhaul*, CHRISTIAN SCI. MONITOR, Oct. 6, 1994, at 7 (referring to a pest-management consultant's observations of Congress's handling of pesticide legislation).

281. *See* Richard N. Andrews, *Deregulation: The Failure at EPA, in* ENVIRONMENTAL POLICY IN THE 1980S: REAGAN'S NEW AGENDA 161, 165–66 (Norman J. Vig & Michael E. Kraft eds., 1984).

282. H.R. REP. NO. 1147, 98th Cong., 2d Sess. 41 (1984).

283. *Id.*; Butterfield, *supra* note 3 (reporting that the Reagan administration eliminated a program designed to staff migrant health clinics with physicians, resulting in "widespread staff shortages").

284. Randy Lee Loftis, *State Faulted on Pesticide Enforcement*, DALLAS MORNING NEWS, Apr. 26, 1995, at 33A.

285. *Id.* (reporting that farmworker complaints regarding pesticides took "months or even years" to be answered).

286. *See Geraldo: Cesar Chavez, Warren Stickle; Agricultural Workers on Pesticide Poisoning* (Investigative News Group, Dec. 22, 1992), LEXIS, News Library, Transcripts file.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

related risks. It is against this backdrop of regulatory failure that farmworkers should consider other options for redressing injuries caused by pesticides.

III.
TORT RECOVERY

As a pesticide mixer and loader, Miguel Farias came in contact with agricultural chemicals frequently. On the morning of July 13, 1993, Farias's employer, Evans Fruit Company, began using the pesticide Phosdrin to treat aphid infestations in its apple orchards in rural Washington. Phosdrin is a highly toxic nerve agent. Even before Evans Fruit Company began using Phosdrin, the pesticide had a long track record of injuring farmworkers, including more than 500 suspected poisonings in California from 1982 to 1989 and at least five farmworker deaths.[287] Despite Phosdrin's documented risks, Evans Fruit company decided to use the highly toxic pesticide in its Washington orchards where Farias and others worked.[288] Shortly after his exposure to Phosdrin, Farias suffered acute organophosphate poisoning and was hospitalized. This reaction was predictable, given that Phosdrin has been shown to cause nausea, vomiting, abdominal cramps, and even death. Despite WPS requirements, Evans Fruit Company did not make safety training available to Farias, nor to any of the mixers, loaders, or applicators working in the apple orchards. Farias and other Washington farmworkers sued Amvac under negligence and design defect theories. Under the latter cause of action, Farias argued that Phosdrin was defectively designed because other pesticides existed that were equally cost-effective without the toxic side effects of Phosdrin. After the suit was dismissed by a lower court, Farias achieved victory when the Washington Supreme Court, acting upon the Ninth Circuit's certification, ruled that a risk-utility test could be applied to Phosdrin under Washington products liability law.[289]

In the wake of years of unsuccessful lawsuits brought by farmworkers against pesticide manufacturers, the survival of Farias's strict liability claim against Amvac marked a significant step for farmworkers seeking redress for injuries related to pesticide exposure. Following the decision, Farias still maintained the burden of proving that he was exposed to Phosdrin and that the pesticide caused his injuries. Although these causation issues represent a high hurdle for many plaintiffs, Farias's case offers a glimpse into the future of pesticide litigation and the development of tort claims brought by farmworkers against chemical manufacturers.

---

287. Opening Brief of Plaintiffs-Appellants at 4, Ruiz-Guzman v. Amvac Chem. Corp., 2000 WL 1763212 (9th Cir. 2000) (No. 98-35088) (mem.), *available at* 1998 WL 34086283.

288. Telephone Interview with Patti Goldman, Staff Attorney, Earthjustice Legal Defense Fund, Inc. (May 5, 2001).

289. Ruiz-Guzman v. Amvac Chem. Corp., No. 98-35088, 2000 WL 1763212 (9th Cir. Nov. 28, 2000) (mem.) (holding that FIFRA does not preempt use of the risk-utility test to prove a design defect claim under Washington law); Ruiz-Guzman v. Amvac Chem. Corp., 7 P.3d 795, 800 (Wash. 2000) (applying the risk-utility test).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Because state and federal courts have held unanimously that FIFRA neither provides a private right of action[290] nor allows for enforcement through citizen suits,[291] farmworkers cannot sue growers or manufactures directly for their failure to comply with the Act. Accordingly, farmworkers must rely on common law tort theories in order to obtain recovery for their injuries.[292] This section analyzes the most promising common law theories for victims of pesticide exposure, possible defenses for growers and manufacturers, and the overall limitations of the tort system in pesticide exposure cases.

A. Potential Defendants

An injured farmworker may seek relief from a large number of parties, including his employer, the pesticide applicator, and the pesticide manufacturer.[293] In addition, pesticide applicators—who typically work on a contract basis for growers—may be liable for a host of injuries resulting from the misapplication of pesticides and field drift. Finally, because FIFRA prohibits any type of pesticide application that deviates from the approved label, an applicator may be held liable under a negligence per se theory for failing to follow the label's directions.

Growers, farm operators, and employment contractors may manage field laborers directly, and all three groups are potentially liable for ordering farmworkers to enter a recently sprayed field before the expiration of an REI. A farmworker's employer may also be liable for failure to provide protective clothing and for failure to train and warn farmworkers regarding pesticide dangers. Depending on the facts, these claims will typically be brought under theories of negligence, negligence per se, or possibly under strict liability as an abnormally dangerous activity. Finally, a farmworker may bring a products liability claim against the pesticide manufacturer or formulator for a defectively designed product.[294]

---

290. Thomas v. Union Carbide Agric. Prod. Co., 473 U.S. 568, 585–86 (1985); Hughes v. S. States Coop., Inc., 180 F. Supp. 2d 1295, 1298 n.2 (M.D. Ala. 2001) (noting that although "FIFRA does not completely preempt all state common law claims [it does] abrogate[] a private right of action"); Jeffers v. Wal-Mart Stores, Inc., 84 F. Supp. 2d 775, 779–80 (S.D.W. Va. 2000).

291. Almond Hill Sch. v. U.S. Dep't of Agric., 768 F.2d 1030, 1038 (9th Cir. 1985) (denying a plaintiff's attempt to enforce FIFRA through 42 U.S.C. § 1983); Fiedler v. Clark, 14 F.2d 77, 79 (9th Cir. 1983); *see also* Rodriguez v. Am. Cyanamid Co., 858 F. Supp. 127, 130 (D. Ariz. 1994) ("The delicate remedial balance inherent in this broad grant of administrative discretion could be upset by the bringing of private suits . . . .") (citing *Almond Hill*, 768 F.2d at 1038).

292. *See* CARPENTER & WARE, *supra* note 44, § 5:1, at 94 (commenting that most pesticide cases rely on common law theories because applicable statutes do not generally provide for a private right of action).

293. *See* Lightstone & Monning, *supra* note 47, § 23.06, at 23-62 to 23-72 (setting forth an extensive list of potential defendants in pesticide cases).

294. These potential defendants and possible claims certainly do not encompass the entire tort universe for farmworkers; however, this article addresses these particular causes of action because they hold the most promise for compensating victims of pesticide exposure.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

B. Tort Theories of Recovery for Farmworkers

1. Products Liability

Over the next several decades, products liability theories will most likely become the strongest causes of action brought by farmworkers against pesticide manufacturers and formulators.[295] Most states' product liability statutes hold liable a commercial manufacturer, seller, or distributor for supplying a product that is unreasonably dangerous and causes injuries to a foreseeable plaintiff. The theory is promising because it generally avoids problems of FIFRA preemption and focuses the factfinder's inquiry on the dangerousness of the pesticide, rather than on the reasonable care of the defendant.[296] If agribusiness were held liable for its injurious products, manufacturers and formulators would have an economic incentive to develop pesticides that are effective and safe—a result that FIFRA has failed to produce.

Products liability theories are usually based on defects in the manufacture, design, or warning of a pesticide.[297] With regard to growers and applicators, certain pesticide application techniques may be considered abnormally dangerous activities, resulting in a form of strict liability distinct from products liability. Below is an outline of the products liability claims farmworkers are most likely to bring.[298]

a. Manufacturing Defects

Claims related to manufacturing defects allege that an error in manufacturing resulted in a particular end-use product that deviates from the typical end-use product the manufacturer normally produces. For example, in the Agent Orange cases, perhaps the most famous litigation related to pesticides, Vietnam veterans alleged that defects in some of the large batches of the herbicide 2,4,5-T resulted in high levels of Dioxin in certain end-use products.[299] The plaintiffs contended that the Dioxin caused a host of maladies from cancer

295. *See* Lindelef, *supra* note 62, at 106 ("Products liability theory is one of the more promising vehicles for recovery in pesticide exposure cases . . . .").

296. *But see* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (1998) (following a strict liability theory for manufacturing defects, but applying a fault-based scheme for claims of design defects).

297. *Id.* ("A product is defective when, at the time of sale or distribution, it contains a manufacturing defect, is defective in design, or is defective because of inadequate instructions or warnings.").

298. *See* CARPENTER & WARE, *supra* note 44, § 5:1, at 93–130 (discussing theories of tort liability in pesticide cases).

299. *See In re* Agent Orange Prod. Liab. Litig., 611 F. Supp. 1223 (E.D.N.Y. 1985); CARPENTER & WARE, *supra* note 44, § 5.7, at 101–03 (discussing the Agent Orange litigation and manufacturing defect theories); *see also* Frank A. Lalle, *Agent Orange as a Problem of Law and Policy*, 77 NW. U. L. REV. 48 (1982).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

to birth defects.[300]

The Third Restatement of Torts defines manufacturing defects in terms of strict liability.[301] In contrast to design defects, the inquiry for manufacturing defects ignores the level of care taken by the manufacturer and simply asks whether the product deviates from its intended design.[302] However, like other toxic torts, pesticide litigation typically does not involve manufacturing defect claims because of the particular problems of proof associated with this theory of liability.[303] In order to prevail on a manufacturing defect theory, a plaintiff must prove not only the type of pesticide involved in a particular exposure, but the actual batch or lot number of the end-use product that caused her injury.[304] In most circumstances farmworkers will have difficulty proving that the formulation of the actual chemical involved in the accident deviated from the formulation intended by the manufacturer because many applicators do not keep accurate records of the pesticides involved in their daily spraying activities.

Even if the injurious pesticide is collected and impurities are detected, farmworkers will still have to establish a causal link between the existence of the impurities and their injuries.[305] Proving exposure and causation will be the greatest hurdle for most farmworkers in toxic tort litigation. As discussed in Part III.C.5, *infra*, a comprehensive system for monitoring pesticide purchases, use, and applications would assist farmworkers with proving exposure and obtaining recovery for pesticide-related injuries. An even more effective policy for documenting exposures would involve testing farmworkers to detect the presence of pesticide residue in their systems. However, until farmworkers are able to isolate the specific end-use product used on a particular crop on a given day, the manufacturing defect theory will not play a practical role in pesticide exposure litigation.

---

300. *In re* Agent Orange Prod. Liab. Litig., 611 F. Supp. at 1231, 1246. Although the plaintiffs proved the existence of a manufacturing defect by showing the presence of Dioxin in some batches of Agent Orange, they were unable to prove that the Dioxin caused their injuries. *Id.* at 1259–63; *In re* Agent Orange Prod. Liab. Litig., 597 F. Supp. 740, 782 (E.D.N.Y. 1984).

301. RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (1998) (defining theories of liability for harm caused by the products of commercial sellers and distributors).

302. *Id.* ("A product . . . contains a manufacturing defect when the product departs from its intended design even though all possible care was exercised in the preparation and marketing of the product . . . .").

303. JEAN MACCHIAROLI EGGEN, TOXIC TORTS IN A NUTSHELL 22 (1995) ("Although toxic tort actions may certainly arise from manufacturing defects, such claims are less frequent in the toxic tort context than design defects or failure to warn.").

304. *See* CARPENTER & WARE, *supra* note 44, § 5:7, at 102–03 (suggesting that defendants will usually be able to prove that a pesticide was properly formulated by comparing a sample of a lot or batch number with the formulation registered with the EPA).

305. *See., e.g.*, Kotler v. Am. Tobacco Co., 731 F. Supp. 50, 51 (D. Mass. 1990) (holding that proof of a defective manufacturing cannot support a damage award in the absence of proof that a tobacco pesticide caused the plaintiff's death).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

b. Design Defects

Design defect claims brought under a risk-utility theory represent the single most promising tort for enabling victims of exposure to obtain compensation from pesticide manufacturers. Design defect cases compel courts to formulate a workable definition of what constitutes an "unreasonably dangerous" or "defective" product. A defectively designed pesticide is challenged not because the end-use product deviates from the manufacturer's original design; rather, the theory focuses on the choices made by the pesticide manufacturer in designing the product.

Like the common law of most states, Washington products liability law, which was applied in Miguel Farias's case discussed above, holds a manufacturer liable for injuries caused by products that are unreasonably dangerous as designed.[306] Courts may determine whether a product is unreasonably dangerous using either a "consumer expectation" test or a "risk-utility" test. The risk-utility test, which the Third Restatement of Torts outlines, is the most widely accepted definition of a design defect.[307] Under this approach, a product is defective in design:

> when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe . . . .[308]

The focus under this theory is on the hazard posed by the pesticide in relation to its benefit. When applying the risk-utility test, the factfinder considers: (1) the benefits achieved through the challenged product; (2) the technological and economic feasibility of an alternative product; and (3) whether the alternative product is safer than the challenged product or if it introduces new hazards.[309] As to the third part of the inquiry, the alternative product may still represent a better design, even if it introduces new risks that the challenged design did not pose. If those new risks are outweighed by the harm presented by the challenged formulation, the alternative version will still be considered "safer," on balance.

The risk-utility definition of design defects presents several possibilities for farmworkers. In essence, the test allows factfinders to compare the injurious pesticide with its less-toxic alternatives. Manufacturers' current production of

306. WASH. REV. CODE ANN. § 7.72.030(1) (West 1992).

307. *See* CARPENTER & WARE, *supra* note 44, § 5:11, at 107 (arguing that the risk-utility test is the most widely accepted products liability theory).

308. RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2(b) (1998).

309. *See* CARPENTER & WARE, *supra* note 44, § 5:11, at 108 (summarizing Page Keeton, *The Meaning of Defect in Products Liability Law: A Review of Basic Principles,* 45 MO. L. REV. 579, 592–93 (1980), and noting that the "pure form" of the test considers the expense and dangers of alternative designs, as compared to the challenged design).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

decades-old formulations of carcinogenic and teratogenic pesticides exposes them to liability for failure to formulate and distribute pesticides that are technologically feasible, equally cost-effective, and far less harmful to farmworkers. Applying the risk-utility test in Miguel Farias's case, the Ninth Circuit[310] held in *Ruiz-Guzman v. Amvac* that a farmworker could offer evidence of alternative products—rather than alternative formulations of the same product—in order to prove liability. The plaintiffs in *Ruiz-Guzman* argued that several other pesticides were in existence at the time the more toxic Phosdrin was used, and that these alternatives were equally effective at similar costs to the manufacturer and grower. The defendant, Amvac, contended that in order to succeed on a risk-utility theory, a plaintiff would have to show the existence of an alternative chemical formulation of the same product, rather than a completely different product that was equally cost-effective.[311] The Ninth Circuit found for the plaintiffs on this issue, affirming the Washington Supreme Court's use of the definition of an "alternative product" used in the Third Restatement of Torts.[312] The Third Restatement of Torts defines alternative products as "other products already available on the market [that] may serve the same or very similar function at lower risk and at a comparable cost. Such products may serve as reasonable alternatives to the product in question."[313]

The EPA will not necessarily deny a pesticide registration even if other safer products are on the market that serve the same function as the more dangerous applicant.[314] Certain alternative pesticides have proven to be far less harmful to humans than conventional poisons, yet equally effective.[315] Despite this evidence, "industry influence and co-optation" by pesticide manufacturers have stifled the production and use of safer pesticides.[316] Nevertheless, the mere existence of less-toxic, equally effective pesticides suggests that farmworkers will be able to make useful comparisons between the injurious pesticide and feasible alternative products.

---

310. Ruiz-Guzman v. Amvac Chem. Corp., No. 98-35088, 2000 WL 1763212 (9th Cir. Nov. 28, 2000) (mem.).

311. Ruiz-Guzman v. Amvac Chem. Corp., 7 P.3d 795, 800, 801 (Wash. 2000).

312. *See id.*

313. RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. f (1998).

314. JOHN M. JOHNSON & GEORGE W. WARE, PESTICIDE LITIGATION MANUAL § 3.02[1][b][iii], at 3-18 (1999). *But see id.* at 3-18 n.85 (noting that the EPA policy may eventually change).

315. *See, e.g.*, Beyond Pesticides, *Safety Source for Pest Management, at* http://www.beyondpesticides.org/infoservices/pcos/ipm.htm (last visited Sept. 8, 2003); Pesticide Action Network North America, *Non-chemical Alternatives to Methyl Bromide, at* http://www.panna.org/resources/documents/mbAlternatives.dv.html (last visited Sept. 8, 2003) (outlining the many alternatives to the highly toxic fumigant Methyl Bromide); *see also* HOOKED ON POISON, *supra* note 49, at 43 (referring to the "number of success stories" of integrated pest management systems).

316. *See* HOOKED ON POISON, *supra* note 49, at 43–44 ("[E]fforts are undermined by commercial interests that see [integrated pest management] as a threat to conventional . . . agriculture . . . .").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Although modern academic discourse has shifted from the Second Restatement of Torts to the Third, many courts still apply a version of the consumer expectation test outlined in the Second Restatement. Under the Second Restatement, a product is defective if, "at the time it leaves the seller's hands, it is in a condition not contemplated by the ultimate consumer, which will be unreasonably dangerous to him."[317] Left ambiguous in this definition is whether to incorporate an objective or subjective test.[318] If a subjective approach is taken, then the focus is on the actual knowledge of the injured farmworker. As discussed above, the WPS requires growers to inform farmworkers of pesticide hazards. If the WPS were strictly enforced, farmworkers would be well versed on the dangers of pesticides, thus defeating a consumer expectation claim. As discussed above, most growers have not satisfied their WPS-imposed duty to inform farmworkers of pesticide dangers. Thus, a plaintiff employing a consumer expectation test could offer evidence of a grower's noncompliance to prove a lack of subjective knowledge of the risks associated with the pesticide in question. Costly damage awards could motivate manufacturers to require that better information be disseminated to farmworkers in order to avoid this type of liability. It is unclear what difference, if any, an objective test would have on the consumer expectation test. If the inquiry focuses on the "reasonable farmworker" then the lack of knowledge regarding pesticide danger that arises from the under-enforcement of the WPS could be used to demonstrate a pesticide's defective design. On the other hand, if the objective test is defined as a "reasonable consumer" who has read the pesticide warning label, then injured farmworkers may be denied recovery under a consumer expectation approach.

The California Supreme Court fashioned an even more plaintiff-friendly version of design defects in *Barker v. Lull Engineering Co.*,[319] which adopted both the consumer expectation and risk-utility tests. Under this approach, if a plaintiff can establish that a product did not perform as expected, the burden of proof shifts to the defendant to establish that the product was not defective. Moreover, if a farmworker cannot prove that the pesticide failed to perform as an ordinary consumer would expect, the risk-utility test can still be invoked.[320] Likewise, the plaintiff in *Ruiz-Guzman*[321] asserted a design defect claim through both the risk-utility and consumer expectation tests.[322] Unlike *Barker*, however,

317. RESTATEMENT (SECOND) OF TORTS § 402A, cmt. g (1965).

318. *See* CARPENTER & WARE, *supra* note 44, § 5:9, at 105 (suggesting that the reasonable user would not use a pesticide in a manner inconsistent with the manufacturer's label and arguing that FIFRA preemption may apply to the consumer expectation test).

319. Barker v. Lull Eng'g Co., 573 P.2d 443 (Cal. 1978).

320. *See* J. Stanley McQuade, *Products Liability—Emerging Consensus and Persisting Problems: An Analytical Review Presenting Some Options*, 25 CAMPBELL L. REV. 1, 46 (2002) (noting that *Barker*'s plaintiff-friendly approach has not been followed by most courts).

321. Ruiz-Guzman v. Amvac Chem. Corp., No. 98-35088, 2000 WL 1763212 (9th Cir. Nov. 28, 2000) (mem.).

322. WASH. REV. CODE ANN. §§ 7.72.030(1)(a) & (3) (West 1992).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Washington law does not utilize a burden-shifting approach, and the burden ultimately remains with the plaintiff to prove the existence of a design defect. With regard to the consumer expectation test, the Ninth Circuit held in *Ruiz-Guzman* that the inquiry implicated the pesticide label, which FIFRA preempts.[323]

The future of products liability theories for farmworkers lies in the risk-utility test, as defined by the Third Restatement of Torts. Under this theory, farmworkers suing pesticide manufacturers will focus their presentation on the availability of alternative designs for current pesticides in use. As discussed above, this may eventually become a fruitful theory to assert against pesticide manufacturers that have shunned less-toxic alternatives in favor of more dangerous formulations of older pesticides. However, regardless of whether the particular definition of a design defect is framed by a consumer expectation or risk-utility test, plaintiffs will still have to establish causation, which, as discussed below, is typically a farmworker's most difficult burden in pesticide cases, especially when chronic harm is involved.

c. Warning Defects

The most common theory of liability asserted by plaintiffs in products liability litigation involves a manufacturer's alleged failure to warn of the risks associated with the product.[324] However, because failure-to-warn claims in pesticide litigation usually require plaintiffs to attack the pesticide's EPA-approved label, preemption defenses will likely defeat most claims for defective warnings.[325] Putting preemption aside for a moment, however, the essence of a warning claim is that a product lacks an adequate warning that would prevent the product from being unreasonably dangerous. Failure-to-warn claims are usually asserted under negligence or strict liability theories.[326] The Third Restatement of Torts represents the modern trend of framing the failure-to-warn inquiry in

323. *See* Ruiz-Guzman v. Amvac Chem. Corp., No. 98-35088, 2000 WL 1763212 (9th Cir. Nov. 28, 2000) (mem.); *see also* Part III.C.1, *infra*, discussing the large role FIFRA preemption plays in state tort claims.

324. Edward J. Higgins, *Gone But Not Forgotten: Manufacturers' Post-Sale Duties to Warn or Recall*, 78 MICH. BAR. J. 570, 570 (1999); *see also* Hildy Bowbeer, Wendy F. Lumisch & Jeffrey A. Cohen, *Warning! Failure to Read This Article May Be Hazardous to Your Failure to Warn Defense*, 27 WM. MITCHELL L. REV. 439, 440 (2000) (suggesting that the warning-based claims are popular because they are not as highly technical, confusing, or difficult to develop as design and manufacturing defect theories).

325. *See* CARPENTER & WARE, *supra* note 44, § 5:16, at 114 ("Nonetheless, courts considering the question have been virtually unanimous in finding that pesticide injury claims based on failure to warn theories are challenges to the product label and therefore are preempted by FIFRA."); Lightstone & Monning, *supra* note 47, § 23.09[1][b], at 23-113 to 23-216 (reporting that "virtually all" federal courts and most state courts hold that FIFRA preempts common law causes of action related to a failure to warn or convey information about a product through its label); Part III.C.1, *infra*, discussing FIFRA preemption of warning-based tort suits.

326. *See* Anderson v. Owens-Corning Fiberglass Corp., 810 P.2d 549, 558–59 (Cal. 1991) (distinguishing between the two types of failure-to-warn theories).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

terms of negligence,[327] asking whether the manufacturer could have warned of the product's danger at the time of marketing. Such an approach to defective warning claims may cut off a defendant's liability if the manufacturer did not know or should not have known of the pesticide's danger. In contrast, strict liability failure-to-warn claims are won once a plaintiff proves that a warning is inadequate. Thus, a defendant can be held liable even if "utterly non-negligent" in formulating the warning.[328] Although such a strict construction of a manufacturer's duty to warn would theoretically benefit farmworkers, in practice the inquiry will almost certainly focus on the manufacturer's knowledge and culpability at the time of production such that the liability categories of "negligent failure to warn" and "strict liability failure to warn" may connote a distinction without a difference.[329] Regardless of whether the claim is based more in negligence or strict liability, any claim involving a pesticide's warning or label will most likely be barred by the FIFRA preemption defense, as discussed below.

2. Strict Liability for Abnormally Dangerous Activities

Given the hazardous application methods growers utilize, farmworkers may hold growers liable for engaging in an abnormally dangerous activity. This cause of action is most applicable to instances in which farmworkers are injured from pesticide drift and crop dusting. Many farmworkers could potentially assert this cause of action; surveys of farmworkers in North Carolina and Florida suggest that nearly half of all farmworkers have been sprayed with pesticides from airborne applications.[330] In fact, acute farmworker poisonings in California are most commonly caused by field residues and pesticide "drift" from adjacent fields.[331] "Drift" occurs when a pesticide is applied to a nearby field, wherein wind or inaccurate application causes the poison to miss its target and drift into an area occupied by farmworkers. For example, of the poisonings that resulted in pesticide-related illnesses in California from 1991 to 1996, forty-four percent occurred from spray drift.[332]

According to the USDA, approximately sixty-five percent of pesticides in the United States are applied from the air, despite the fact that up to seventy

327. *See* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2(c) (1998) (describing a defective warning as one in which "the foreseeable risks of harm posed by the product could have been reduced or avoided by the provision of reasonable instructions or warnings . . . .").

328. Bowbeer et al., *supra* note 324, at 442 (citing Moorman v. Am. Safety Equip., 594 So. 2d 795, 800 (Fla. Dist. Ct. App. 1992)).

329. *See id.* at 443–44; John Howie & Ladd Sanger, *Failure to Warn: The Difference Between Strict Liability and Negligence from a Plaintiff's Perspective*, 13 AIR & SPACE LAW 3, 3 (1999) (arguing that defective warning theories based in strict liability and negligence involve similar inquiries).

330. WASSERSTROM & WILES, *supra* note 78, at 40–41 ("Yet, both the EPA and the Federal Aviation Administration have done little to relieve the problem.").

331. *See* HUMAN RIGHTS WATCH, *supra* note 13, at 19.

332. FIELDS OF POISON, *supra* note 20, at 15.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

percent of field poisons applied in this manner miss their targets.[333] The fact that growers prefer aerial spraying, a highly inaccurate application method, over other more precise systems, may expose them to liability for negligence or for engaging in an abnormally dangerous activity.[334] In fact, some commentators have projected that plaintiffs in future pesticide exposure cases will be more successful at holding applicators strictly liable for engaging in abnormally dangerous activities.[335]

Unlike the products liability theories discussed above, which are primarily directed at pesticide manufacturers and formulators, abnormally dangerous activity liability is more likely to attach to applicators and growers. Once an activity is designated "abnormally dangerous," the applicator becomes strictly liable, and the inquiry is limited to causation and damages.

The draft Third Restatement of Torts defines an abnormally dangerous activity as one that "creates a foreseeable and highly significant risk of physical harm even when reasonable care is exercised by all actors; and . . . the activity is not a matter of common usage."[336] In contrast to the strict "two-criteria standard"[337] of the Third Restatement of Torts, the Second Restatement of Torts lists six factors to evaluate whether an activity is abnormally dangerous: (1) "existence of a high degree of risk of some harm to the person . . . ."; (2) "likelihood that the harm that results from it will be great"; (3) "inability to eliminate the risk by the exercise of reasonable care"; (4) "extent to which the activity is not a matter of common usage"; (5) "inappropriateness of the activity to the place where it is carried on"; and (6) "extent to which its value to the community is outweighed by its dangerous attributes."[338] In assessing whether strict liability should attach, all six factors should be considered; "[a]ny one of them is not necessarily sufficient of itself in a particular case, and ordinarily several of them will be required for strict liability."[339]

Because farmers utilize aerial spraying so frequently, it might appear that

333. WASSERSTROM & WILES, *supra* note 78, at 39–40 (noting that EPA scientists estimate that forty to seventy percent of standard ultra-low volume sprays applied from the air at low wind speeds and ten to forty percent of denser low volume sprays miss their target). In contrast, "tractor-mounted boom spray rigs" are ninety to ninety-five percent accurate. *Id.*

334. *See generally* HUMAN RIGHTS WATCH, *supra* note 13, at 16 (describing a poisoning incident caused by aerial spraying: "When I was fourteen I worked in the fields . . . . I woke up one night, I couldn't breathe; I was allergic to something they were spraying in the fields . . . . They sprayed the fields in the morning. We'd be out there when they were doing it, or when they were leaving, or we could see them doing other fields. They'd spray by plane.").

335. JOHNSON & WARE, *supra* note 314, § 3.06, at 3-42.

336. *See* RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL HARM (BASIC PRINCIPLES) § 20 (Tentative Draft No. 1, 2001).

337. *Id.* at § 20 cmt. k ("If the defendant's activity satisfies the [two] criteria . . . the activity is abnormally dangerous. Otherwise, the activity is not abnormally dangerous.").

338. RESTATEMENT (SECOND) OF TORTS § 520 (1976).

339. *Id.* cmt. f; *see also* Gerald W. Boston, *Strict Liability for Abnormally Dangerous Activity: The Negligence Barrier*, 36 SAN DIEGO L. REV. 597, 601–28 (1999) (discussing the development of the abnormally dangerous activity doctrine).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

factors four and five weigh in favor of a finding that such activity is appropriate and valuable. Nevertheless, the inaccuracy of the application method could mean that it is "inappropriate" to crop dust near farmworkers due to the high likelihood that a pilot will miss her target or that the pesticide will drift and harm workers laboring in adjacent fields. In addition, the "matter of common usage" test, set forth in factor four, might be difficult for plaintiffs to overcome because growers often utilize aerial spraying as a method of application. However, the method is not universal because of the high cost of crop dusting, which prevents many small farms from applying pesticides from the air.[340] Even if factor four weighs against plaintiffs in certain cases, farmworkers should draw the courts' attention to the Restatement's direction that no one factor is determinative. Finally, plaintiffs can contend that growers should not be relieved of liability simply because the majority of the agriculture industry chooses to engage in an abnormally dangerous activity. Factor six is simply a cost-benefit analysis, and the injured farmworker should prevail here, assuming the activity is exceptionally dangerous and harmful, as compared to its negligible benefits.

Several courts have found the aerial application of pesticides to be abnormally dangerous.[341] If a court determines that crop dusting is abnormally dangerous, employers will not be immune from liability on the ground that an independent contractor conducted the application.[342] Because many growers continue to use less accurate application methods to treat their crops with pesticides, farmworkers should attempt to hold growers liable for engaging in this abnormally dangerous activity.

3. Negligence

Currently, theories of liability charging growers and pesticide manufacturers

340. *See, e.g.*, Langan v. Valicopters, Inc. 567 P.2d 218, 223 (Wash. 1997) ("Although we recognize the prevalence of crop dusting and acknowledge that it is ordinarily done in a large portion of the Yakima Valley, it is carried on by only a comparatively small number of persons . . . and is not a matter of common usage.").

341. *See, e.g.*, Roberts v. Cardinal Services, Inc., 266 F.3d 368, 380 (5th Cir. 2001) (finding crop dusting and blasting with explosives to be ultrahazardous activities under Louisiana law); SKF Farms v. Superior Court, 200 Cal. Rptr. 497 (Cal. Ct. App. 1984) (holding that crop dusting is an ultrahazardous activity such that liability may be imposed without fault); Bella v. Aurora Air, Inc., 566 P.2d 489, 495 (Or. 1977) (en banc) (holding that when damage to an adjacent crop occurs from the aerial spraying of a pesticide, the defendant is liable for engaging in an abnormally dangerous activity); Loe v. Lenhardt, 362 P.2d 312, 317 (Or. 1961) (noting the "high degree of danger inherent in the spraying of agricultural chemicals by aircraft"). *But see* Bennett v. Larsen Co., 348 N.W.2d 540 (Wis. 1984) (finding that aerial pesticide application is not abnormally dangerous because its benefits outweigh its risks).

342. *See* Stephen A. Evans, *Using the Abnormally Dangerous Activity Doctrine to Hold Principals Vicariously Liable for the Acts of Toll Manufacturers*, 21 B.C. ENVTL. AFF. L. REV. 587, 601–02 (1994) (discussing the abnormally dangerous activity exception to the independent contractor rule); *see, e.g.*, Boroughs v. Joiner, 337 So. 2d 340, 342 (Ala. 1976) (finding aerial pesticide application to be an ultrahazardous activity and holding the defendant strictly liable, notwithstanding the fact that the pesticide was applied by an independent contractor).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

with negligent failure to warn are the most common claims brought in the pesticide arena.[343] Although future claims will likely be thwarted by the FIFRA preemption doctrine,[344] negligence actions for injuries resulting from pesticide drift or misapplication may still be brought.[345]

Negligence causes of action will most commonly be brought against an errant applicator. Plaintiffs can use direct or inferential evidence to prove that the defendant performed the pesticide application negligently. For instance, Juan Gonzales, a Texas farmworker who was covered with the pesticide Methyl Parathion when a crop duster malfunctioned,[346] successfully sued the pilot and owner of the plane for negligence. Using the doctrine of *res ipsa loquitur* to prove that the defendants breached the standard of care owed to him, Gonzales argued that such an accident would not ordinarily occur without negligence and that the instrumentality (the crop duster) was under the defendants' exclusive control.[347] Gonzales' claims of negligence and gross negligence, as well as his award of punitive damages, were upheld on appeal.[348] His case exemplifies the sort of fact pattern most conducive to successful tort recovery for injured farmworkers. Like Miguel Farias, who exhibited acute reactions almost immediately after being exposed to Phosdrin, Gonzales experienced symptoms that were easily linked to Methyl Parathion. As observed above, exposure is easier to prove in cases involving the classic "drenching" of a farmworker, as opposed to incidents involving long-term, lower-level exposure. Thus, causes of action for negligent application may be more successful because they typically involve a visible, acute reaction.

4. Negligence Per Se

A negligence per se theory can be brought by a farmworker who establishes a defendant's duty of reasonable care through a code of conduct defined by a statute or regulation. Courts generally require proof that the plaintiff is among the class of victims who suffered the type of harm the statute was intended to prevent.[349] Farmworkers can easily look to FIFRA and the WPS for establishing standards of care regarding pesticide application. However, because courts are generally more willing to define a standard of care based on a statute rather than

343. *See* Lightstone & Monning, *supra* note 47, § 23.03[7], at 23-72 to 23-76 (summarizing negligence actions brought against growers, applicators, and manufacturers).

344. *See* Part III.C, *infra*, discussing common defenses in pesticide litigation.

345. *See, e.g.*, Louderback v. Orkin Exterminating Co., 26 F. Supp. 2d 1298 (D. Kan. 1998) (holding an exterminator liable for negligently exposing the plaintiff to a chemical used to treat termites); Bradley v. Brown, 852 F. Supp. 690 (N.D. Ind. 1994).

346. *See* Farm Services, Inc. v. Gonzales, 756 S.W.2d 747, 749 (Tex. Ct. App. 1988).

347. *See id.* at 752.

348. *See id.* at 754.

349. *See* RESTATEMENT (SECOND) OF TORTS § 286 (1965); *see generally* Paul Sherman, *Use of Federal Statutes in State Negligence Per Se Actions*, 13 WHITTIER L. REV. 831 (1992) (discussing state tort actions and the use of federal statutes to form standards of care).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

a regulation,[350] WPS violations may be more difficult to mold into negligence per se claims.

Recall that FIFRA requires manufacturers to report to the EPA additional factual information regarding "unreasonable adverse effects on the environment" of the pesticide following registration.[351] A manufacturer's failure to update the EPA on new epidemiological studies or observed pesticide harms not only violates FIFRA but may also breach a duty of notice to future users as a matter of law. In addition to FIFRA's requirement that manufacturers update the EPA on the pesticide's adverse effects, other possible duties established by the statute include the requirement that growers and applicators not use the pesticide in a manner inconsistent with its federally approved label.[352]

Similarly, the WPS charges employers with the duty to protect farmworkers from exposure related to early field reentry.[353] A farmworker who is injured after being sent into a field prior to the expiration of an REI may have a negligence per se claim based on the grower's violation of a regulatory duty. This theory is especially attractive given the extent of regulatory failure. Because the administrative state has been unable to enforce its own regulations, farmworkers who bring claims against growers under a negligence per se theory may create a more effective enforcement mechanism, thereby providing an incentive for growers and applicators to comply with the law. As with all claims that conceivably involve a pesticide's label, negligence per se theories run the risk of being defeated on federal preemption grounds.[354] Nevertheless, because they involve the product's label indirectly, claims attacking a pesticide's mixing or application are far less susceptible to FIFRA preemption than failure-to-warn claims.[355]

C. Problems of Proof and Defenses

Regardless of what theory of recovery plaintiffs assert in pesticide cases, the primary difficulty for most farmworkers will be establishing a causative link between the pesticide exposure and the resultant injury. The burdens of proof in a pesticide tort action are no different than for any other toxic tort—a

350. *See* WILLIAM LLOYD PROSSER & W. PAGE KEETON, PROSSER AND KEETON ON THE LAW OF TORTS 229–31 (5th ed. 1984); *see also* CARPENTER & WARE, *supra* note 44, § 5:18, at 123–24 (outlining theories and defenses to negligence per se claims).

351. 7 U.S.C. § 136d(a)(2) (2000).

352. *See id.* § 136j(a)(2)(G).

353. 40 C.F.R. § 170 (2002); *see also* CARPENTER & WARE, *supra* note 44, § 5:18, at 123–24 (outlining theories and defenses to negligence per se claims).

354. *See* Part III.C.1, *infra*, discussing the preemption defense.

355. *See, e.g.*, Jack v. Orkin Exterminating Co., Inc., No. 97-CV-7012, 2001 WL 25641, at *4 (E.D.N.Y. Jan. 5, 2001) (mem.) ("[T]he only state common law tort claims that are preempted by FIFRA are those based on inadequate labeling and packaging. To the extent that plaintiffs' action is based on the failure to properly apply the pesticide, the claim is not subject to FIFRA preemption.") (citing Dewing v. Orkin Exterminating Co., 897 F. Supp. 44 (N.D.N.Y. 1995)).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

farmworker must prove by a preponderance of the evidence that the pesticide exposure caused her injury or was at least a substantial contributing factor to the injury. Nevertheless, because causation is such an obstacle, especially in chronic harm cases, it is included in this section on defenses. In reality, other than the issue of preemption, most farmworker tort suits for pesticide exposure succeed or fail based on the plaintiff's causation evidence. This section evaluates the challenges farmworkers face in bringing tort actions against growers, applicators, and manufacturers. Rather than serve as a bleak statement on the impossibility of achieving recompense through tort actions, the section is meant to realistically address the limitations of tort law for compensating victims of pesticide exposure. A practical view of the challenges facing plaintiffs may lead to improved data collection and legal doctrine so that injured farmworkers will eventually enjoy more success in the courtroom.

1. Preemption

Any tort action involving pesticides must consider FIFRA's preemption clause: "Such State shall not impose or continue in effect any requirement for labeling or packaging in addition to or different from those required under this subchapter."[356] Before the Supreme Court's landmark preemption decision in *Cipollone v. Liggett Group, Inc.*,[357] appellate courts were split as to whether FIFRA preempted a state tort claim based on a failure to warn. Prior to *Cipollone*, many courts analyzed pesticide preemption claims under *Ferebee v. Chevron Chemical Co.*,[358] which held that FIFRA did *not* preempt state tort claims and that FIFRA compliance was not an absolute defense to such actions. Following *Cipollone*, however, most courts have barred state tort claims related to a pesticide manufacturer's failure to warn or convey information.[359]

The extent of FIFRA preemption is still being vigorously debated in the courts and among commentators. Over the next decade, the still-unsettled threshold determination will be whether, in the absence of any explicit guidance from the Supreme Court, FIFRA preemption is governed by *Cipollone* or by the

356. 7 U.S.C. § 136v(b) (2000).

357. Cipollone v. Liggett Group, Inc., 505 U.S. 504 (1992).

358. Ferebee v. Chevron Chem. Co., 736 F.2d 1529 (D.C. Cir. 1984) (holding that EPA approval of the label for the pesticide Paraquat is not a defense to a failure-to-warn claim).

359. *See, e.g.*, Nat'l Bank of Commerce v. Dow Chem. Co., 165 F.3d 602, 608 (8th Cir. 1999) (holding that FIFRA preempts claims alleging failure to warn or inadequate labeling); MacDonald v. Monsanto Co., 27 F.3d 1021 (5th Cir. 1994) (holding that FIFRA preempts state common law claims based on improper labeling); King v. E.I. Dupont de Nemours & Co., 996 F.2d 1346, 1348 (1st Cir. 1993); Shaw v. Dow Brands, Inc., 994 F.2d 364 (7th Cir. 1993) (holding that in addition to negligence-based claims, FIFRA preempts strict liability claims challenging the pesticide label); *see also* CARPENTER & WARE, *supra* note 44, § 7:10–18, at 177 ("[E]very federal appellate court to have considered the question and the vast majority of state appellate courts considering the issue have held that FIFRA expressly preempts label-based claims concerning an EPA-approved pesticide.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

decision the Supreme Court made four years later in *Medtronic, Inc. v. Lohr*,[360] which held that the Medical Device Amendments of 1976[361] did not preempt failure-to-warn claims. The Supreme Court found preemption lacking in *Medtronic* because the FDA did not ensure the safety and effectiveness of the medical device in question and because many loopholes existed in the registration process.[362] The same argument could be applied to the registration of pesticides with the EPA, which commonly waives data requirements and approves pesticides without thorough review.[363] Accordingly, in the wake of *Medtronic*, some judges have questioned whether FIFRA was intended to preempt failure-to-warn claims or *any other* common law theories.[364]

Farmworkers may be able to challenge the validity of FIFRA preemption by analogizing *Medtronic* to FIFRA and by highlighting the Supreme Court's statement in *Wisconsin Public Intervener v. Mortier*—the Court's most recent ruling on FIFRA—that Congress did not intend "to occupy the entire field of pesticide regulation."[365] Although not addressing state common law claims explicitly, the tenor of the statement suggests that states can impose additional restrictions on pesticides, which at the very least include non-label-based tort actions.

Notwithstanding the plausible arguments against preemption, courts have generally held that FIFRA preempts common law claims that would require a manufacturer to alter its EPA-approved label in order to avoid liability.[366] However, courts have refused to extend the FIFRA bar beyond labeling actions,

---

360. Medtronic, Inc. v. Lohr, 518 U.S. 470 (1996).

361. Pub. L. No. 94-295, 90 Stat. 539 (codified as amended in scattered sections of 15, 21, and 42 U.S.C.).

362. *Medtronic*, 518 U.S. at 492–94.

363. For an analysis of the Supreme Court's preemption doctrine under FIFRA, see Sandra Feeley, *Dancing Around the Issue of FIFRA Preemption: Does It Really Still Matter that the Supreme Court Has Not Made a Decision?*, 16 J. NAT. RESOURCES & ENVTL. L. 125 (2002) (arguing in favor of *Cipollone* preemption). *But see* Sandi L. Pellikaan, *FIFRA Preemption of Common-Law Tort Claims after Cipollone*, 25 ENVTL. L. 531 (1995) (arguing that most courts have misapplied *Cipollone* in defining the scope of FIFRA preemption); Brian M. Brown, *Federal Preemption of State Tort Law Failure to Warn Claims by FIFRA: Injury Without Relief?*, 4 S.C. ENVTL. L.J. 147, 163–64 (1995) (distinguishing FIFRA preemption from *Cipollone*); R. David Allnut, *FIFRA Preemption of State Common Law Claims after Cipollone v. Liggett Group, Inc.*, 68 WASH. L. REV. 859, 871–80 (1993) (arguing against FIFRA preemption).

364. *See* Sleath v. West Mont Home Health Servs., 16 P.3d 1042 (Mont. 2000); Brown v. Chas. H. Lilly Co., 985 P.2d 846, 850–52 (Or. App. 1999); *see also* Valerie Watnick, *Federal Preemption of Tort Claims Under FIFRA: The Erosion of a Defense*, 36 U. MICH. J.L. REFORM 419, 453–54 (2003) (explaining how FIFRA preemption has been narrowed by state and federal courts in the wake of *Medtronic*).

365. Wisconsin Pub. Intervener v. Mortier, 501 U.S. 597, 613 (1992).

366. *See, e.g.*, Nat'l Bank of Commerce v. Dow Chem. Co., 165 F.3d 602 (8th Cir. 1999) (holding that FIFRA does not preempt design defect claims); Lescs v. William R. Hughes, Inc., No. 97-2278, 1999 WL 12913, at *3 (4th Cir. 1999); Taylor AG Indus. v. Pure-Gro, 54 F.3d 555 (9th Cir. 1995); Lowe v. Sporicidin Int'l, 47 F.3d 124 (4th Cir. 1995) (noting that FIFRA preempts any claim that could be construed as requiring alteration of the EPA-approved label); Jenkins v. Amchem Products, Inc., 886 P.2d 869 (Kan. 1994).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

holding that FIFRA directs states to regulate pesticide safety, except in the area of pesticide labeling and packaging.[367] For example, in the case of Miguel Farias and the Washington farmworkers, the Ninth Circuit concluded that although FIFRA preempted any state tort claim that would require the manufacturer to change its product label,[368] the risk-utility test involved in design defect claims was a separate inquiry. On the other hand, the Ninth Circuit noted that the consumer expectation test was vulnerable to FIFRA preemption. Amvac, the manufacturer defendant, successfully argued that the consumer expectation test encroached on the EPA-approved label,[369] stating in its brief:

> [S]uch an analysis would require the jury to second-guess the adequacy of the EPA-approved label for Phosdrin . . . . Thus, allowing a plaintiff to prosecute a design defect claim using the consumer expectation test when the product at issue contains a government approved (and mandated) label "would allow the anomalous circumstance that a consumer is entitled to expect a product to perform more safely than its government-mandated warnings indicate."[370]

Assuming courts continue to extend *Cipollone* to FIFRA, the next battleground will likely be fought over which causes of action are in fact "label-based," and therefore vulnerable to preemption. Agribusiness and growers will continue to argue that nearly every tort claim implicates the EPA label at some level. For example, a negligence per se claim will often establish a legal duty based on the pesticide's application instructions found on the label. Even a

---

367. *See, e.g.*, Hart v. Bayer Corp., 199 F.3d 239, 244–45 (5th Cir. 2000) (holding that FIFRA does not mandate complete preemption of state law claims); Worm v. Am. Cyanamid Co., 5 F.3d 744, 748 (4th Cir. 1993); Arkansas-Platte & Gulf P'ship v. Van Waters & Rogers, Inc., 981 F.2d 1177, 1179 (10th Cir. 1993) (holding that FIFRA preemption extends only to label-based claims); Higgins v. Monsanto Co., 862 F. Supp. 751, 757 (N.D.N.Y. 1994).

368. Ruiz-Guzman v. Amvac Chem. Corp., No. 98-35088, 2000 WL 1763212 (9th Cir. Nov. 28, 2000) (mem.).

369. *See* Brief of Defendant/Appellee Amvac Corporation at 38–39, Ruiz-Guzman v. Amvac Chem. Corp., 2000 WL 1763212 (No. 98-35088) (9th Cir. 2000) (mem.), *available at* 1998 WL 34086282 (citing Lescs v. Dow Chem. Co., 976 F. Supp. 393, 399 (W.D. Va. 1997), which held that FIFRA cuts off liability for a pesticide manufacturer sued on a design defect theory based on the consumer expectation test). "Plaintiff cannot proceed under a consumer expectations theory to show defective design because such a claim is preempted by FIFRA. Dursban [the pesticide that allegedly caused the plaintiff's injury] . . . is regulated by a federal legislative scheme which broadly preempts state claims based on federally approved labeling. For this court to allow a claim of defective design based on consumer expectations would represent an unwarranted end-run around federal preemption." *Lescs*, 976 F. Supp. at 399. *But see* Nat'l Bank of Commerce v. Dow Chem. Co., 165 F.3d 602, 608–09 (8th Cir. 1999) (holding that FIFRA does not preempt design defect claims notwithstanding the EPA-approved label or packaging); Jeffers v. Wal-Mart Stores, Inc., 171 F. Supp. 2d 617, 624 (S.D.W. Va. 2001) (applying a conflict-preemption analysis and holding that EPA approval of a pesticide's label does not preempt design defect claims).

370. Brief of Defendant/Appellee Amvac Corporation at 37–38, Ruiz-Guzman v. Amvac Chem. Corp., 2000 WL 1763212 (No. 98-35088) (9th Cir. 2000) (mem.), *available at* 1998 WL 34086282 (quoting Papike v. Tambrands Inc., 107 F.3d 737 (9th Cir. 1997)).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

design defect claim requires the factfinder to engage in a cost-benefit inquiry similar to the one the EPA undertakes during the registration process. But because FIFRA's preemption is explicitly directed at encroachment on the EPA's *label*, and not the EPA's overall registration process, the statute's preemptive reach should not extend to non-label-based claims that merely require juries to conduct a cost-benefit analysis. Because the Supreme Court has held that FIFRA was not meant to occupy the entire pesticide field, FIFRA preemption should not prevent states from governing pesticides through common law actions unrelated to the EPA-approved label.

2. Workers' Compensation

Farmworkers who are covered under a workers' compensation scheme will be unable to sue their employers for most workplace injuries.[371] However, there are several reasons why the workers' compensation shield is not as relevant to pesticide poisonings as other occupational injuries. First, growers have historically tried to avoid paying workers' compensation insurance by classifying farmworkers as "independent contractors"[372] or by hiring farm labor contractors to hire, supervise, and pay farmworkers. While this strategy may allow a grower to avoid paying workers' compensation insurance premiums, it also exposes the employer to tort liability. In some instances courts have held that farm labor contractors are the direct employers of farmworkers, thus situating growers as third parties who may be liable in tort.[373] In other cases, growers and labor contractors are found to be the farmworkers' joint employers.[374]

Second, reflecting the reach of agricultural exceptionalism, thirteen states do not require workers' compensation coverage for farmworkers, and twenty-six

371. *See generally* Lightstone & Monning, *supra* note 47, § 23.07[6], at 23-87 to 23-90 (outlining the workers' compensation defense with regard to pesticide-related injuries).

372. *See, e.g.*, S. G. Borello & Sons, Inc. v. Dep't of Indus. Relations, 769 P.2d 399, 407–10 (Cal. 1989) (holding that a grower had wrongfully avoided paying workers' compensation coverage for fifty "cucumber share farmers" by misclassifying them as "independent contractors" rather than employees).

373. *See, e.g.*, Martinez-Mendoza v. Champion Int'l Corp., 340 F.3d 1200 (11th Cir. 2003) (holding that a paper manufacturer was not a joint employer with a farm labor contractor who hired workers because the manufacturer did not exercise supervisory control over the workers); Ricketts v. Vann, 32 F.3d 71, 76 (4th Cir. 1994) (holding that a watermelon grower was not a joint employer and therefore was not liable for alleged violations of AWPA because he was "completely disassociated" from the farmworker's employment); *see also* HUMAN RIGHTS WATCH, *supra* note 13, at 15 (discussing the centrality of farm labor contractors in the structure of agricultural production).

374. *See, e.g.*, Maldonado v. Lucca, 629 F. Supp. 483, 487–88 (D.N.J. 1986) (holding that an operator of a blueberry farm was a joint employer with the crew leader who provided the operator with laborers because, although the crew leader handled day-to-day supervision of the workers, the operator designed and managed the harvesting process and payment system); Haywood v. Barnes, 109 F.R.D. 568, 587–92 (E.D.N.C. 1986) (applying AWPA and FLSA and holding that the owners and operators of a farm were joint employers of migrant laborers because of the control they exercised in the employment setting).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

states allow for more limited coverage in agriculture than in other industries.[375] Therefore, the workers' compensation defense will be vulnerable or unavailable to growers in these states. Even if a state technically requires field laborers to be covered by workers' compensation, a grower may not comply, in which case the worker can argue that the workers' compensation defense should not apply. For example, although agricultural workers in California have theoretically been covered by the workers' compensation system since 1959, a study nearly two decades later showed that seventy percent of farmworkers in the state had not even heard of workers' compensation.[376] If a farmworker has not been informed of her right to seek workers' compensation-related benefits or has been intimidated from demanding coverage, the worker can argue that it would be unjust to allow the employer to nevertheless invoke the workers' compensation shield.

Even if a farmworker is covered, the workers' compensation defense does not extend to intentional or reckless conduct, such as being ordered by a grower to enter a recently sprayed field.[377] Other employer activities that fall outside the ambit of the workers' compensation bar may include ordering farmworkers to handle pesticides in a manner inconsistent with the pesticide label or an employer's failure to evacuate farmworkers from a field following a poisoning incident.[378] If a field laborer suffers a pesticide-related illness and is covered by workers' compensation, advocates recommend that the farmworker file a claim, as the workers' compensation investigation may lead to the discovery of evidence that can later be used in a tort action against a third party.[379]

3. Defenses to Design Defect Claims

As discussed above, courts are slowly adopting the type of risk-utility analysis outlined by the Third Restatement of Torts for design defect claims. Given this tendency, pesticide manufacturers may adopt a state-of-the-art defense. The Third Restatement of Torts relieves a defendant of liability if the alternative design offered by the plaintiff was not technologically feasible at the

375. Office of Workers' Compensation Programs, U.S. Dep't of Labor, *State Workers' Compensation Laws, Table 3: Coverage of Agricultural Workers* (Jan. 2001), *available at* http://www.dol.gov/esa/regs/statutes/owcp/stwclaw/stwclaw.htm.

376. Julie Barreto, *Women Farmworkers in California*, 10 GOLDEN GATE U. L. REV. 1117, 1144 n.173 (1980).

377. *See* John T. Burnett, *The Enigma of Workers' Compensation Immunity: A Call to the Legislature for a Statutorily Defined Intentional Tort Exception*, 28 FLA. ST. U. L. REV. 491, 500–05 (2001) (discussing the intentional tort exception to employer immunity); Joan T.A. Gabel & Nancy R. Mansfield, *Practicing in the Evolving Landscape of Workers' Compensation Law*, 14 LAB. LAW. 73, 76 (1998) (noting an increase in the number of injured workers who forego workers' compensation benefits and seek recovery through intentional torts and theories of dual capacity and bad faith to avoid the workers' compensation shield).

378. *See* Lightstone & Monning, *supra* note 47, § 23.07[6][a], at 23-89.

379. *See id.* § 23.07[6], at 23-87.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

time of production.[380] However, this defense will fail in most cases because pesticide manufacturers have repeatedly declined to produce alternative, less-toxic pesticide formulations that were in fact technologically feasible at the time of production.

The Third Restatement of Torts eliminates one crucial defense theory that is found in the Second Restatement. Comment K to the Second Restatement of Torts § 402A allows a product to be designated as "unavoidably unsafe" if its utility greatly outweighs its risk.[381] Several jurisdictions have applied the Comment K defense to prescription drugs, designating the products as unavoidably unsafe and cutting off any strict products liability for design defects.[382] In the case of Miguel Farias and the Washington farmworkers, the Ninth Circuit held that Comment K might apply to pesticides, but stated, "It is the function of the jury to weigh the risks and utility of the pesticide."[383] Plaintiffs should remind courts that the Third Restatement of Torts dropped Comment K altogether,[384] probably because it requires the kind of cost-benefit analysis that factfinders are competent to conduct through a risk-utility inquiry. Other courts have refused to extend the Comment K defense to pesticides.[385]

Defendants may play with the exact wording of the particular state's definition of a "design defect." For example, in Farias's case, Amvac argued that the Washington Products Liability Act's risk-utility test required the plaintiff to show that a safer, alternative formulation of the *same product* was available at the time of production.[386] Thus, under Amvac's theory, the existence of a less toxic, equally effective pesticide would be irrelevant; the focus would be only on the chemical formulation of the pesticide in question. Just as the Ninth Circuit rejected this argument, commentators have traditionally framed the risk-utility test as an inquiry into the feasibility and safety of an alternative product, rather than an alternative design of the challenged product.[387] Accordingly, courts have held that limiting the test to alternative designs of the same product is "unreasonably narrow."[388]

---

380. *See* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d (1998).

381. RESTATEMENT (SECOND) OF TORTS § 402A cmt. k (1965).

382. Young v. Key Pharms, Inc., 922 P.2d 59, 63–64 (Wash. 1996); Brown v. Superior Court, 751 P.2d 470 (Cal. 1988).

383. Ruiz-Guzman v. Amvac Chem. Corp., No. 98-35088, 2000 WL 1763212 (9th Cir. Nov. 28, 2000) (mem.); Ruiz-Guzman v. Amvac Chem. Corp., 7 P.3d 795, 804 (Wash. 2000).

384. The Third Restatement distinguishes between prescription drugs and other areas of products liability. *See* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 6 (1998).

385. *See* Arkansas-Platte & Gulf P'ship v. Dow Chem. Co., 886 F. Supp. 762, 767 (D. Colo. 1995); Kennan v. Dow Chem. Co., 717 F. Supp. 799, 812 (M.D. Fla. 1989).

386. Brief of Defendant/Appellee Amvac Corporation at 33–34, Ruiz-Guzman v. Amvac Chem. Corp., 2000 WL 1763212 (No. 98-35088) (9th Cir. 2000) (mem.), *available at* 1998 WL 34086282.

387. *See, e.g.*, Page Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30, 37–38 (1973) (stating that the "infeasibility and additional cost of making a safer product" should be considered in the risk-utility test).

388. Brown v. Superior Court, 751 P.2d 470, 478 (Cal. 1988) (attacking the contention of a

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Manufacturers will likely contend that the scope of FIFRA preemption extends to design defect theories. Agribusiness will argue that any consideration of a pesticide's formulation naturally includes scrutiny of the product's label. This defense should fail because the primary purpose of the product label is to provide warning and use instructions, not to recite chemical formulations. Courts should distinguish between the risk-utility and consumer expectation definitions of design defects when considering a preemption argument. Although a consumer expectation test may involve consideration of the information imparted to consumers through the pesticide's label, the risk-utility test involves no such inquiry. Therefore, while the consumer expectation test is arguably susceptible to FIFRA preemption, the risk-utility analysis is not. Barring causation problems, the inapplicability of FIFRA preemption to design defect claims brought under a risk-utility theory evinces the attractiveness of this approach compared to other theories.[389]

Finally, with regard to the preemption of design defect claims, farmworkers should ascertain whether they were poisoned by the pesticide's active or inert ingredients. As discussed above, inert ingredients are not listed on the EPA-approved label, notwithstanding the fact that they constitute up to ninety-nine percent of an end-use product and can be highly dangerous to humans. For example, a mass-poisoning of 100 California farmworkers involving the chemical Omite CR was triggered by the pesticide's inert properties.[390] Because the pesticide label does not reference the potentially dangerous inert chemicals contained in the reformulated product, defendants cannot assert FIFRA preemption as a defense to claims involving these types of poisonings.

4. Other Defenses

A plaintiff may encounter a statute of limitations problem depending on her jurisdiction. Most states have developed some version of the discovery rule, which prevents the statute of limitations from running until a plaintiff discovers or through reasonable diligence should have discovered the injury. In acute poisoning incidents, the statute of limitations will rarely be an issue because if farmworkers decide to seek treatment, they will do so shortly after the exposure incident. The statute of limitations presents more of a problem when the

---

drug manufacturer that argued that "there is no possibility for an alternative design for a drug like DES, which is a scientific constant compound in accordance with a required formula"); *see also* Castrignano v. E.R. Squibb & Sons, Inc., 546 A.2d 775, 781 (R.I. 1988) ("Initially we reject defendant's specious contention that a prescription drug, a fixed chemical composition, cannot be defectively designed because there are no alternatives to its configuration. The defendant's interpretation of the design-defect theory is too restricted, especially since there may be alternative drugs available that could replace the drug with the dangerous side effects.").

389. Courts have declined to extend FIFRA preemption to design defect claims. *See* Nat'l Bank of Commerce v. Dow Chem. Co., 165 F.3d 602 (8th Cir. 1999); Lowe v. Sporicidin Int'l, 47 F.3d 124, 129–30 (4th Cir. 1995); Jeffers v. Wal-Mart Stores, Inc., 171 F. Supp. 2d 617, 620–21 (S.D.W. Va. 2001).

390. *See* Part II.D.2, *supra*, discussing the poisoning incident involving Omite CR.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

pesticide exposure causes latent harm. Farmworkers are less likely to go to a doctor—and therefore less likely to be diagnosed with a chronic disease and seek legal redress—because they are not given the information needed to identify these diseases. Further, farmworkers have exhibited "a strong sense of fatalism and powerlessness" with regard to their ability to avoid pesticide exposure and chronic diseases such as cancer.[391] Thus, to address the statute of limitations problem in the latent injury context, outreach workers should direct education efforts at farmworkers, encouraging them to obtain treatment and seek legal redress once they have discovered their injury.

In negligence cases, defendants can raise defenses of contributory or comparative negligence and assumption of risk. The validity of these defenses will turn on the individual facts of each case, such as whether a farmworker used protective gear, had permission to enter the field, or had prior knowledge of the pesticide's danger—with the presence or absence of posted warning signs being especially relevant.[392] Nevertheless, even with postings, if an employer orders farmworkers to enter a recently sprayed field, an assumption of risk defense is untenable given the involuntary nature of the workers' encounter with the pesticide.[393]

5. Causation

Proving causation remains the greatest hurdle for farmworkers attempting to obtain legal redress for their pesticide-related injuries. Depending on the jurisdiction and cause of action, plaintiffs will have to prove that a particular pesticide either caused their injury or substantially contributed to their injury. Establishing either fact will be difficult, given the dearth of evidence regarding the harmful effects of pesticides.

In the modern pesticide tort suit, as with any cases involving a toxic tort, an injured farmworker must be able to establish that she was exposed to the pesticide in question. Once a plaintiff has offered sufficient proof of exposure, she must then demonstrate that the pesticide was the cause in fact and proximate cause of her injury, which will typically require proof of a scientific link between the chemical and the disease. The following section outlines the challenge of establishing these elements in pesticide-related litigation.

391. Lantz et al., *supra* note 19, at 512.

392. *See* Lightstone & Monning, *supra* note 47, § 23.09[3], at 23-130 to 23-131.

393. *See id.* at 23-131 ("Unfortunately, even when signs have been posted, they are often not conspicuous or visible to an entrant. Workers have been sent into posted fields by employer[s]. Again, the power of labor contractors and farm employers over migrant and seasonal workers is formidable."); *see also* David G. Owen, *Products Liability: User Misconduct Defenses,* 52 S.C. L. REV. 1, 31–36 (2000) (noting that the defense applies only if a plaintiff has encountered a known risk both freely and voluntarily).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

a. Exposure

Unlike a smoker who may have used the same product for twenty years, farmworkers are exposed to many agricultural chemicals throughout their careers. A physician who oversees farmworker health clinics observes, "I've never known a farmworker who was exposed to only one pesticide."[394] Rather, agricultural laborers interact with various pesticides on different crops during their daily work in the fields. As one commentator notes, "After years of labor in a number of fields for a number of growers or farm labor contractors, it is almost impossible to pinpoint which exposure, if any one in particular, caused the subsequent illness or injury."[395] Further, many of the chronic maladies caused by pesticides, such as cancer, tumors, and lung failure, are not the type of "signature diseases" present in other toxics litigation such as clear cell adenocarcinoma in diethylstilbestrol ("DES") cases or asbestosis in asbestos litigation.[396]

The case of *Mascarenas v. Miles, Inc.*[397] represents the problems farmworkers face in proving exposure. The plaintiff employee alleged that he contracted "an extremely rare form of cancer as a result of alleged exposure to the crop pesticide Guthion 2L . . . ."[398] Indicative of the problems of proof faced by farmworkers, the court in *Mascarenas* found that the plaintiff had failed to investigate the specific pesticide to which he had been exposed immediately after the exposure event.[399] The plaintiff was able to prove through circumstantial evidence that: (1) Guthion was sold to farmers for application on nearby sugarcane crops; (2) the plaintiff was in the vicinity of the crops during pesticide applications; and (3) the plaintiff was drenched in some type of pesticide. Dismissing the complaint on summary judgment, the court concluded that "the most that can be said from plaintiff's argument is that he was sprayed with some pesticide" but not necessarily Guthion.[400]

Despite the structural problems farmworkers face in identifying the specific chemicals growers use, the barriers to proving exposure are not insurmountable. If a farmworker's injury is identified relatively soon after the exposure incident,

394. *See* Tom Joyce, *The Politics of Pesticides: Farmers, Pests, and Government Face Off in Battle of the Bugs*, YORK DAILY RECORD, Apr. 17, 2000, at A1, 2000 WL 9761249 (quoting Marion Moses of the Pesticide Education Center).

395. Lindelef, *supra* note 62, at 102.

396. *See, e.g.*, David A. Grossman, *Warming up to a Not-So-Radical Idea: Tort-Based Climate Change Litigation*, 28 COLUM. J. ENVTL. L. 1, 24 (2003) (noting that asbestosis and clear cell adenocarcinoma are signature diseases in the contexts of asbestos and DES respectively).

397. Mascarenas v. Miles, Inc., 986 F. Supp. 582 (W.D. Mo. 1997).

398. *Id.* at 583. The court went on to note that "[p]roof of exposure to the products is an essential element of plaintiff's claims and . . . without evidence of such exposure plaintiff's claims collapse." *Id.* at 587.

399. *Id.* at 588.

400. *Id.* at 589 ("Nothing in the record, let alone in plaintiff's 'circumstantial evidence' argument, connects Guthion 2L to plaintiff.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

application records may indicate when and where a particular pesticide was used. Moreover, pesticide dealers typically maintain sales records that indicate the type of pesticide sold, date of sale, and location of delivery.[401] Although growers are less likely to document specific application data,[402] a system requiring growers to file pesticide records with government agencies is feasible. For example, in California, all applicators and farm operators are required to file pesticide use records with the local agricultural commissioner.[403] Such information can be invaluable to a farmworker trying to prove that a particular pesticide was applied on a specific day. National legislation could require growers to keep detailed records of specific pesticide applications as well. Such a requirement is attractive from a policy perspective because it would allow growers to demonstrate compliance with national pesticide residue requirements and reentry intervals, while at the same time providing crucial information to farmworkers about the specific times and places of pesticide applications.

As is true in many areas of pesticide litigation, proving exposure in acute poisoning cases is significantly easier than in cases involving chronic harm. Although modern techniques allow toxicologists to measure even minimal traces of pesticide residue in blood or urine,[404] these tests are largely unavailable in rural medical clinics where most post-poisoning specimens are taken. Further, in order for tests to accurately record the presence of pesticides, the specimens typically must be collected within forty-eight hours of exposure.[405] Given that poisoning incidents are often misdiagnosed and farmworkers are frequently intimidated from seeking medical care, it is unlikely that these tests will be conducted within that timeframe.

Notwithstanding these practical difficulties, one category of pesticides that can feasibly be detected through laboratory testing is organophosphates, a common class of pesticides that attacks the nervous system by lowering production of the enzyme cholinesterase.[406] According to one estimate, organophosphates cause over half of all occupational poisonings and deaths in the world.[407] Given farmworkers' widespread exposure to organophosphates and the fact that a relatively simple blood test can detect diminished cholinesterase levels,[408] farmworkers would be much more likely to obtain

401. Lightstone & Monning, *supra* note 47, § 23.08[c], at 23-95 to 23-96 (suggesting that the records of pesticide dealers may be subpoenaed to assist with proving exposure).

402. *But see id.* at 23-96 (contending that "[a]s a matter of business practice" farms may maintain application records).

403. *See* Part II.C, *supra*, discussing California's unique pesticide reporting system.

404. *See* Lightstone & Monning, *supra* note 47, § 23.08[1][a][i], at 23-92.2.

405. *Id.* § 23.08[a], at 23-92.2.

406. *See* Pimentel, *supra* note 52, at 59 (discussing the world-wide level of pesticide-related injuries).

407. *See* FIELDS OF POISON, *supra* note 20, at 18 (noting that "organophosphate pesticides are responsible . . . for most of the occupational deaths and poisonings in the U.S. and throughout the world").

408. *See Pesticide Handlers Win Right to Medical Monitoring in Wash.*, 9 NO. 1 ANDREWS

Imaged with the Permission of N.Y.U. Review of Law and Social Change

recovery for injuries caused by exposure to this highly toxic class of pesticides if a comprehensive testing system were in place. However, the test for depressed cholinesterase is not without its drawbacks. As is the case with most pesticide-related tests, the specimen must be taken within forty-eight hours of exposure to record the depressed level of cholinesterase.[409] Further, because every person has a different "normal" level of cholinesterase, the test for diminished cholinesterase is unreliable without a baseline reading for each farmworker. Thus, an effective monitoring system would test a farmworker's cholinesterase level prior to exposure, as well as periodically after the worker enters the fields. For example, California requires cholinesterase baseline testing for certain agricultural workers exposed to highly toxic pesticides.[410] Although, the California requirement applies only to mixers, loaders, and applicators, it is a step in the right direction and should be extended to all farmworkers. The Washington Supreme Court recently ordered Washington's labor department to enact a program for mandatory cholinesterase testing in order to detect organophosphate and carbamate poisoning among farmworkers.[411] A similar monitoring system should be implemented nationally to allow meaningful comparisons of post-poisoning cholinesterase levels with farmworkers' baseline levels. In fact, this system should not be limited to monitoring organophosphate exposures but should include periodic testing for all categories of pesticides used in the particular agricultural region where farmworkers are employed. Requiring regular testing for the presence of various pesticides in a worker's bloodstream or urine would provide the best evidence for establishing exposure. If conducted consistently throughout a worker's career, the testing might eventually enable injured parties to establish exposure even for chronic diseases involving long-term, low-level contact.

b. Causative Link Between the Pesticide and the Harm Suffered

Farmworkers will often have to offer expert scientific evidence, such as toxicology and epidemiological data, in order to raise an inference that a particular pesticide caused the injury in question. The presentation of scientific expert testimony in federal courts must comply with the Supreme Court's decision in *Daubert v. Merrell-Dow Pharmaceuticals, Inc.*[412] In determining the

---

MASS TORT LITIG. REP. 18 (2002) ("[T]he National Institute of Occupational Safety and Health and the World Health Organization recognize routine blood cholinesterase monitoring as an important tool in the prevention of poisoning among workers who regularly handle these neurotoxic pesticides.").

409. *See* Lightstone & Monning, *supra* note 47, § 23.08[1][a][i], at 23-92.2 (explaining some of the limitations of cholinesterase testing).

410. CAL. CODE REGS. tit. 3, § 6728(c)(1)–(5) (2002) (requiring the testing of workers who mix, load, or apply dangerous organophosphate or carbamate pesticides).

411. *See* Rios v. Washington Dep't of Labor & Indus., 39 P.3d 961, 974 (Wash. 2002) (mandating that the Washington Department of Labor and Industry develop rules for testing farmworkers who come in contact with cholinesterase-inhibiting pesticides).

412. Daubert v. Merrell-Dow Pharm., Inc., 509 U.S. 579 (1993).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

admissibility of scientific experts, *Daubert* directs federal courts to consider: (1) whether the scientific method used to determine the evidence can be repeated by other scientists; (2) the extent to which the evidence has undergone peer review; (3) whether the scientific theory has a known rate of error; and (4) whether the method has been generally accepted in the relevant scientific community.[413] In a later decision, the Court emphasized that the *Daubert* analysis involves descriptive factors—rather than required elements—for establishing the reliability of scientific evidence in court.[414]

The pre-*Daubert* standard, articulated in *Frye v. United States*,[415] asks only whether the method utilized by the expert is generally accepted in the relevant scientific community. Although *Frye* makes this inquiry a required element for admissibility, *Daubert* designates the "relevant scientific community" inquiry a non-determinative factor for admissibility. This change arguably makes *Daubert* a more "liberal" standard by admitting certain minority scientific theories if they are found to be reliable, notwithstanding the fact that the relevant scientific community has not yet accepted such methods. Although *Daubert*'s test is theoretically more inclusive than *Frye*'s rigid approach, in practice courts have used *Daubert* to exclude testimony by scientific experts who fail to rely on the expensive, conventional studies that are conspicuously absent in pesticide research.[416] The case of *National Bank of Commerce of El Dorado v. Dow Chemical Company*[417] exemplifies this trend. In that case, the guardians of a girl with birth defects sued the manufacturers of the pesticide Dursban claiming that in utero exposure to the pesticide caused the child's injuries. One of the plaintiff's five expert witnesses attempted to present her opinion, backed by four case reports, that Dursban caused the injuries as alleged. Noting the absence of any "traditional" scientific evidence such as in vitro studies, animal studies, or epidemiological data,[418] the court found that the expert's opinion was not sufficiently reliable under *Daubert*.[419]

---

413. *Id.* at 593–94.

414. *See* Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999) (noting that a judge determining the admissibility of evidence "must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable").

415. Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).

416. *See* CARPENTER & WARE, *supra* note 44, § 9:10, at 217 ("Ironically, even though the tone of Justice Blackmun's opinion suggests that Rule 702 and the *Daubert* decision were meant to 'liberalize' the standards for the admission of scientific evidence, their effect has so far been largely the opposite.").

417. Nat'l Bank of Commerce v. Dow Chem. Co., 965 F. Supp. 1490 (E.D. Ark. 1996).

418. *See id.* at 1507–09 (concluding that the plaintiff's expert failed to present reliable evidence obtained using relevant scientific methodologies).

419. *Id.* at 1524, 1541. Many state courts still apply the traditional *Frye* test. *See* Castillo v. E.I. Du Pont De Nemours & Co., Inc., 854 So.2d 1264, 1276 (Fla. 2003). In *Castillo*, the plaintiff, Donna Castillo, attempted to prove through extrapolation of animal testing that human fetal exposure to the fungicide Benlate 50 DF caused her son to develop microphthalmia, a condition that causes children to be born without fully formed eyes. Finding that Castillo was drenched in Benlate by a crop duster during her pregnancy and that the exposure caused her son's injury, a jury

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Notwithstanding the fact that courts interpreting *Daubert* favor epidemiological evidence,[420] based on the D.C. Circuit's decision in *Ferebee v. Chevron Chemical Company*,[421] there is a strong argument that epidemiological evidence should not be required to prove causation, and other evidence should be considered. In *Ferebee*, a pre-*Daubert* decision, the D.C. Circuit upheld the admissibility of the testimony of two physicians who, based on their examinations of the plaintiff and their review of the scientific literature, believed that the herbicide Paraquat caused the decedent's pulmonary fibrosis. The court reasoned that the physicians' testimony regarding a causative link between the herbicide and injury should be admitted "[a]s long as the basic methodology employed to reach such a conclusion is sound."[422] Indeed, the court stated that epidemiological studies were not required in order for the expert testimony to be admissible because the plaintiff should not have to wait until a "'statistically significant' number of people have been injured or until science has had the time and resources to complete sophisticated laboratory studies of the chemical."[423] From a justice-oriented perspective, it stands to reason that injured farmworkers should not be penalized for the gap in scientific data caused by political influence beyond their control.[424]

Even if farmworkers seek to rely on the meager registration data available, there are several limitations that may make these studies suspect in the courtroom. First, nearly all pesticide data are derived from animal testing.[425]

---

awarded Castillo $4 million. *Id.* at 1267. The Florida Supreme Court affirmed the trial court's application of the *Frye* test to admit expert testimony that exposure to the fungicide caused the microphthalmia. *Id.* at 1268; *see also* 21 N. 11 Andrews Toxic Chemicals Litig. Rep 3 (July 24, 2003).

420. *See* Lightstone & Monning, *supra* note 47, § 23.08[d], at 23-97 ("Courts and commentators frequently describe epidemiological studies as the best source of information about human response to toxic substances and their possible teratogenic effects.").

421. Ferebee v. Chevron Chem. Co., 736 F.2d 1529 (D.C. Cir. 1984).

422. *Id.* at 1535–36.

423. *Id.* at 1536 (noting that "the test for allowing a plaintiff to recover in a tort suit of this type is not scientific certainty but legal sufficiency," such that a reasonable juror could conclude that the pesticide involved caused the plaintiff's injury.).

424. *See* Part II.A, *supra*, discussing FIFRA and the data gaps present in the pesticide registration process; *see also* Lightstone & Monning, *supra* note 47, § 23.08[1][e][ii], at 23-100 (describing how factors including grandfathered labels and the EPA's waiver of certain data requirements contribute to the inadequate data available for many registrants); Lindelef, *supra* note 62, at 82 (concluding that "the data on pesticide effects are incomplete"). In 1986, Albert Meyerhoff, Senior Attorney for the Natural Resources Defense Council, testified before the Congressional Committee on Agriculture, Nutrition and Forestry: "By the end of FY 1985, EPA had issued 117 Registration Standards. But for only eight of these did EPA have complete health and safety data submitted at the time the standards were issued. Indeed, for twenty-one pesticides, standards were issued with no chronic health effects data whatsoever . . . . EPA's current re-registration program is re-registration by sleight of hand." Gasior, *supra* note 125, at 54 n.35. Unfortunately, data disparities remain in the registration and re-registration processes. *See generally* Lightstone & Monning, *supra* note 46, § 23.08[1][e][ii], at 23-100 (describing how the EPA continues to grapple with data gaps today).

425. *See* CARPENTER & WARE, *supra* note 44, § 2:11, at 40–41 (noting that toxicological data

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Using this data to explain the pesticide's effects on humans requires projections that are frequently dismissed because they lack a reliable scientific basis. In the absence of epidemiological evidence, courts have found animal-based testing to be insufficient to prove causation.[426] The holding in the Agent Orange litigation explicitly foreclosed the admission of conclusions based on animal studies if the expert did not consider other relevant epidemiological data.[427] Further, as is the case with data involving the registration of prescription drugs, nearly all of the scientific research conducted on pesticides is funded by the manufacturers seeking EPA approval.[428] In the mid-1970s, nearly forty percent of pesticide toxicology data were cast into doubt after a manufacturer-funded lab submitted falsified research.[429] Another practical problem with using EPA toxicology results in the courtroom is that the data apply only to the technical grade pesticide, i.e. the "active" ingredients, which, as noted above,[430] may constitute only one percent of the end-use product. The combination of inert and active ingredients can result in a dangerous end product that lacks adequate, if any, toxicology data.

Chemical manufacturers frequently use the industry-created data gap to argue that insufficient evidence exists to prove causation in court. For example, Eric Wintemute, president and CEO of Amvac, the defendant in the Miguel Farias case, defended his company stating, "[T]here is no collection of data that is worthwhile to make those judgment calls.... [T]here can be many applications of different molecules, and it is impossible to distinguish any one as the contributing factor [in worker health problems]."[431] Similarly, a pesticide lobby group states, "There is no scientific or documented evidence that pesticide application when used in accordance with label instructions has caused harm to human health."[432] But farmworkers can argue that agribusiness should not be

---

is generated primarily through testing done with laboratory rats and other animals).

426. *See In re* Agent Orange Prod. Liab. Litig., 611 F. Supp. 1223, 1250–51 (E.D.N.Y. 1985) (holding that expert doctors' conclusions involving animals and high-level chemical exposures were unreliable, in light of the fact that the doctors failed to consider relevant epidemiological evidence). *But see* Castillo v. E.I. Du Pont De Nemours & Co., Inc., 854 So.2d 1264, 1276 (Fla. 2003) (affirming a lower court's admission of expert testimony that relied on a study involving rats and the fungicide Benlate).

427. *See In re* Agent Orange Prod. Liab. Litig., 611 F. Supp. at 1250–51.

428. *See* Adair Tool, *supra* note 70, at 104 (arguing that although the use of manufacturer studies saves the EPA's limited resources, there is an inherent conflict of interest present in the process).

429. *To Amend the Federal Insecticide, Fungicide, and Rodenticide Act: Hearings Before the Senate Comm. on Agric., Nutrition, and Forestry on S. 2215 and S. 2346*, 99th Cong. 161 (1986); *see also* Gasior, *supra* note 125, at 54–55 (describing the fallout from the submission of falsified toxicology reports by Industrial BioTest Laboratories, an independent laboratory used by a large number of pesticide manufacturers).

430. *See* Part I.C., *supra*, discussing pesticide properties.

431. Holmstrom, *supra* note 280, at 7.

432. Rachel's Environment and Health Weekly, *Corporate Manipulation of Scientific Evidence: A Tale of Two Industries, Tobacco and Pesticides,* in CHEMICAL INJURY AND THE COURTS: A LITIGATION GUIDE FOR CLIENTS AND THEIR ATTORNEYS 208 (Linda Price King ed.,

Imaged with the Permission of N.Y.U. Review of Law and Social Change

unjustly enriched by the absence of extensive toxicology and epidemiological data that it helped to create. If experts can draw reliable conclusions based on an examination of the patient or on a comparison of the injury to similar incidents involving the same harmful product, they should be allowed to express an opinion linking the pesticide to the farmworker's disease.

It remains unclear how courts will treat the admissibility of causation-related scientific evidence in future pesticide exposure cases. On the one hand, the widespread trend among judges applying *Daubert* has been to require scientific evidence in the form of long-term, comprehensive studies—the very data that agribusiness and the pesticide industry have resisted producing. On the other hand, courts should bear in mind the equitable considerations outlined in *Ferebee*,[433] as well as the fact that *Daubert* announced a "flexible" standard[434] for determining the admissibility of expert scientific opinions. Taken together, the strict interpretation of *Daubert* and the data gap discussed above have impeded successful recovery for plaintiffs suffering from chronic pesticide-related harm.

c. Mechanisms for Easing the Causation Burden

Nearly every type of products liability case requires plaintiffs to prove that the named defendant manufactured the particular injurious product to which they were exposed.[435] While always a challenging task, this burden is especially difficult to meet for farmworkers who are unable to identify what types of chemicals their employers use in the fields. The most provable exposure case is one in which a farmworker is doused in a pesticide, causing an immediate, visible reaction. However, even under such facts, a plaintiff still must identify the manufacturer involved. This task can be difficult given that growers and applicators are not required to keep daily records of the products used in the fields. Just as detailed pesticide residue information is required to protect the health of consumers, the EPA should mandate that growers maintain daily pesticide application records to protect the health of farmworkers, allowing them to identify the specific pesticide and manufacturer involved in a given exposure. This section addresses several changes to traditional causation requirements that would increase farmworkers' chances of obtaining recovery in pesticide exposure cases, while ensuring that only culpable defendants are held liable.

1999).

433. Ferebee v. Chevron Chem. Co., 736 F.2d 1529 (D.C. Cir. 1984).

434. Daubert v. Merrell-Dow Pharm., Inc., 509 U.S. 579, 594–95 (1993).

435. Mitchell v. Gencorp Inc., 165 F.3d 778, 781 (10th Cir. 1999) ("It is well established that a plaintiff in a toxic tort case must prove that he or she was exposed to and injured by a harmful substance manufactured by the defendant.") (citing Wright v. Willamette Indus., Inc., 91 F.3d 1105, 1106 (8th Cir. 1996)); Wintz v. Northrop Corp., 110 F.3d 508, 515 (7th Cir. 1997); Allen v. Pa. Eng'g Corp., 102 F.3d 194, 199 (5th Cir. 1996).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

i. Alternative Liability and Market Share Liability

In the case of a sudden, isolated poisoning, when the pesticide is known, but the particular manufacturer is not, a plaintiff may be able to rely on theories of alternative and market share liability. Alternative liability applies when every party that could have caused an injury is joined in a single action. The plaintiff must prove that each defendant is negligent or strictly liable, without having to identify the particular defendant who caused the injury in question.[436] The rationale of the burden shifting is that defendants who engage in culpable conduct are in a better position to identify the actual wrongdoer than an injured plaintiff.[437] The same rationale applies to the relationship between farmworkers and pesticide manufacturers. A farmworker suffering from mysterious chemical burns or indeterminate symptoms is in no position to evaluate the possible chemicals and chemical makers responsible for her injury. In contrast, pesticide manufacturers with internal epidemiological studies and other toxicology data—which are frequently not submitted to the EPA and are guarded as trade secrets—are in a far better position to prove or disprove their product's association with an injury.[438] Pesticide distributors also maintain customer records and could track whether their product was sold to the farm in question.

Although the fairness rationale that justifies shifting the causation burden to defendants certainly applies to situations involving farmworkers and pesticide manufacturers, alternative liability will nevertheless be inapplicable to most pesticide injury cases because all potentially culpable defendants must be joined in a single action. Courts will dismiss claims based on alternative liability when plaintiffs fail to join all possible manufacturers.[439] There are more than 100 basic pesticide producers and 2,100 formulators in the United States.[440] In order

436. The theory was developed in the landmark decision of *Summers v. Tice*, 199 P.2d 1 (Cal. 1948), which involved a plaintiff with an eye injury caused by a single bullet. Two negligent quail hunters were sued, only one of whom could have fired the injurious bullet. The court held that once the plaintiff had proved by a preponderance of the evidence that both defendants acted negligently, the burden shifted to the defendants to prove that their conduct was not the cause of the injury. *Id.* at 4; *see also* RESTATEMENT (SECOND) OF TORTS § 433(B)(3) (1965) ("Where the conduct of two or more actors is tortious, and it is proved that harm has been caused to the plaintiff by only one of them, but there is uncertainty as to which one has caused it, the burden is upon each such actor to prove that he has not caused the harm.").

437. *See, e.g.*, Meene v. Celotex Corp., 861 F.2d 1453, 1466 (10th Cir. 1988) (citing *Summers*, 199 P.2d at 1).

438. Lightstone & Monning, *supra* note 47, § 23.08[1][e][iii], at 23-101 ("[R]egistrants may be expected to have substantial records concerning the toxicity of a pesticide which have neither been published nor submitted to the EPA.").

439. *See, e.g.*, Marshall v. Celotex Corp., 651 F. Supp. 389, 392 (E.D. Mich. 1987); Setliff v. E. I. DuPont de Menours & Co., 38 Cal. Rptr. 2d 763, 769 (Cal. Ct. App. 1995) (rejecting the plaintiff's alternative liability theory in which the plaintiff had not joined all of the potential tortfeasors and was unable to identify the specific chemical causing his injury); Centrone v. C. Schmidt & Sons, Inc., 452 N.Y.S.2d 299, 303 (Sup. Ct. 1982) (noting that alternative liability requires proof of tortuous conduct on the part of each defendant).

440. *See* CARPENTER & WARE, *supra* note 44, § 1.2, at 3.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

to utilize an alternative liability theory, farmworkers will at least have to identify the general chemical involved and the companies that produce it. Because of the lack of record keeping on the part of applicators, the task of identifying the pesticide alone will be prohibitive for many plaintiffs. Even if the farmworker were able to identify the particular pesticide involved, the product may have been manufactured by several companies.

Like alternative liability, market share liability relieves plaintiffs of the burden of identifying a specific pesticide manufacturer. Unlike alternative liability, which requires joinder of all possible defendants, only a substantial share of the manufacturers must be joined under market share theory; guilty defendants are liable only for their proportional representation in the market of the particular product at the time of the injury. Most widely used in litigation involving the prenatal drug diethylstilbestrol ("DES"), the theory of market share liability requires plaintiffs to prove that: (1) the manufacturer of the injurious product cannot be identified; (2) all named defendants produced an identical product; and (3) the named defendants represented a substantial share of the market at the time of the injury.[441]

The primary advantage of market share theory over alternative liability is the requirement that the plaintiff join only a substantial share of the defendants, rather than the entire group of potentially guilty parties. Because eighteen chemical companies account for the majority of pesticide manufacturing,[442] joinder under market share theory is much more practicable than under the wider universe required by alternative liability. However, the drawbacks of market share theory are multifold. In contrast to alternative liability, which holds defendants jointly and severally liable, market share theory apportions liability based on a defendant's presence in the market. Therefore, plaintiffs are left without complete recovery unless the named defendants represent the entire market. Defendants will be held liable under a market share theory only if they manufacture an identical product.[443] Therefore, a farmworker could use this theory only if she could establish that the pesticide, commonly manufactured in its pure form, caused her injury. Because pesticides differ substantially in the various permutations that result from formulation, the market share theory will be of little use unless courts require likeness only in the base pesticide, rather than the reformulated end-use product.

441. *See generally* Sindell v. Abbott Labs., 607 P.2d 924, 936–37 (Cal. 1980) (explaining why market share theory is more appropriate than alternative liability when all relevant manufacturers produced an identical product). In certain circumstances, requiring the joinder of all possible defendants would preclude recovery. "[T]here is little likelihood that all the manufacturers who made DES at the time in question are still in business or that they are subject to the jurisdiction of the California courts." *Id.* at 936; *see also* Hymowitz v. Eli Lilly & Co., 539 N.E.2d 1069, 1078 (N.Y. 1989) (applying *Sindell* and adopting a national market share approach).

442. *See* CARPENTER & WARE, *supra* note 44, § 1.2, at 3.

443. *See, e.g.*, Hamilton v. Beretta U.S.A. Corp., 750 N.E.2d 1055, 1067 (N.Y. 2001) (concluding that "unlike DES, guns are not identical, fungible products").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Just as alternative and market share theories were creatively born out of equitable concerns, new approaches to causation are needed to assist injured farmworkers with proving causation. For example, a creative twist on the market share theory could involve joining all or most of a farmworker's former *employers*; this group of defendants would constitute the "market" that supplied the farmworker with a lifetime of exposure. The growers joined in the lawsuit would have to share a common form of liability; for example, perhaps every grower engaged in the abnormally dangerous activity of crop dusting. The farmworker would be required to prove that her injury was caused by a career of pesticide exposure from crop dusting. Although it might be unknown what particular exposure caused the plaintiff's injury, the growers would share common liability for engaging in the same abnormally dangerous activity. The duration of the plaintiff's employment with each defendant or the amount of pesticides applied by the defendants during the relevant period could represent the defendants' proportional liability. Of course, this variation extends market share theory well beyond its foundations in products liability law. Such a theory is probably too ambitious given that courts have been reluctant to embrace more conventional market share theories.[444] Nevertheless, it is important for lawyers to foster this sort of legal innovation to assist farmworkers with obtaining recovery for injuries related to more complicated exposure events.

ii. Concerted Action and Enterprise Liability

Plaintiffs in the toxic torts area have attempted, unsuccessfully, to charge manufacturers with joint and several liability under a concerted action theory.[445] Under the concerted action theory, a plaintiff must prove the existence of a common plan or agreement between the defendants to conceal the dangers of a commonly manufactured product; it is not enough to show that multiple named defendants were simultaneously negligent.[446] Evidence of concerted action is

444. *See, e.g.*, White v. Celotex Corp., 907 F.2d 104, 106 (9th Cir. 1990) (declining to apply market share liability in asbestos litigation); Lee v. Baxter Healthcare Corp., No. 89-2143, 1990 WL 27325 (4th Cir. Feb. 27, 1990) (rejecting market share liability under Maryland law); Blackstone v. Shook & Fletcher Insulation Co., 764 F.2d 1480, 1483 (11th Cir. 1985) (criticizing market share theory as applied to asbestos cases); Thompson v. Johns-Manville Sales Corp., 714 F.2d 581 (5th Cir. 1983) (holding that Louisiana law does not permit market share liability in asbestos cases); Jefferson v. Lead Indus. Ass'n, 930 F. Supp. 241, 246–47 (E.D. La. 1996) (declining to apply market share liability to lead paint litigation); Gaulding v. Celotex Corp., 772 S.W.2d 66 (Tex. 1989) ; *see also* Victor E. Schwartz & Leah Lorber, *State Farm v. Avery: State Court Regulation Through Litigation Has Gone Too Far*, 33 CONN. L. REV. 1215, 1232 n.65 (2001) ("The market share theory has been rejected by most United States courts and has been criticized by leading commentators because it departs from the bedrock principle that plaintiffs must prove that the specific product manufactured by the specific defendant *caused* the injury alleged.").

445. *See* EGGEN, *supra* note 303, at 158 (stating that most plaintiffs have been unable to meet the threshold showing that the defendants acted with knowledge of a common plan).

446. *See, e.g.*, City of New York v. Lead Indus. Ass'n, Inc., 597 N.Y.S.2d 698 (App. Div. 1993) (discussing concerted action requirements).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

unusual, although farmworkers may be able to use this theory in the event of fraudulent toxicology testing submitted by a group of manufacturers.[447]

Farmworkers may attempt to join manufacturers using enterprise liability theory, which holds manufacturers liable for having mutual control over industry safety standards.[448] However, because the EPA establishes these standards, the private control necessary for enterprise liability probably does not exist in the pesticide industry. Nonetheless, the influence agribusiness has over the EPA could be evidence that inadequate safety standards are in fact the product of manufacturer pressure and that the controlling parties should therefore be held liable under an enterprise theory. Like the flaws with alternative and market share theories of liability, the primary limitation of enterprise liability for farmworkers is its requirement that all or most potential defendants be joined in a single action.[449] Also, enterprise liability has historically been used only against industries controlled by a handful of companies.[450] Therefore, courts may find the theory inapposite to the pesticide industry, which has over 100 manufacturers and 2,000 formulators.

iii. Risk-Contribution Theory

Risk-contribution theory represents the greatest departure from traditional notions of causation.[451] Rather than requiring proof that a defendant's conduct was the proximate cause of a given injury, the focus of risk-contribution theory is on the creation of risk by the grower or pesticide manufacturer.[452] The farmworker would have to establish only that the defendant contributed to the type of risk that caused the alleged harm, rather than prove that the defendant's product actually caused the injury.

The risk-contribution theory is attractive from both a justice-oriented and economic standpoint. Like the market share approach, the primary rationale for the risk-contribution theory is that if it is impossible to identify the party responsible for a plaintiff's injury with absolute certainty, and the choice as to who will bear the cost of the harm is between a negligent defendant and an innocent plaintiff, it is more just that the negligent defendant bear the cost. As the California Supreme Court has explained, a complex society produces

447. *See* Part III.C.5(b), *supra*, discussing falsified data.

448. *See, e.g.*, Hall v. E. I. DuPont de Nemours & Co., 345 F. Supp. 353, 378 (E.D.N.Y. 1972) (allowing an action brought against the blasting cap industry to proceed in which only five or ten defendants comprised the entire industry).

449. *See* Lindelef, *supra* note 62, at 109.

450. One of the most well known applications of the theory involved the blasting cap industry, which was dominated by only a handful of companies. *See Hall*, 345 F. Supp. at 378.

451. *See* Glen Robinson, *Multiple Causation in Tort Law: Reflections on the DES Cases*, 68 VA. L. REV. 713, 716–17 (1982) (noting that the legal conception of causal responsibility does not allow for a general allocation of liability according to risk contribution).

452. *See id.*

Imaged with the Permission of N.Y.U. Review of Law and Social Change

harmful goods which cannot be easily traced back to an individual producer.[453] Therefore, the law should adapt to the changing nature of the amorphous harms produced by individual wrongdoers. As a normative matter, if society determines that pesticide manufacturers who engage in culpable conduct should bear the cost of the risks they create, then plaintiffs should not be saddled with the requirement of joining all defendants or identifying an individual wrongdoer. Because of today's regulatory failure, growers and manufactures are able to externalize the costs of their products to farmworkers and consumers. Attaching liability to defendants based on their proportional risk-contribution forces wrongdoers to pay for the risks they create, while providing an incentive to growers and manufacturers to increase pesticide safety so as to reduce the costs of the harms they are finally forced to absorb.[454]

Nonetheless, risk-contribution theory is not particularly useful to farmworkers in most cases because the theory traditionally requires proof of the injurious product, even in the absence of a known manufacturer. As discussed above, there rarely is a single identifiable pesticide involved in a chronic injury. However, risk-contribution theory could be combined with certain judicial presumptions to account for multiple, unidentified causative agents. Rather than requiring a showing of direct causation, courts could allow the causation burden to be met once a reasonable inference has been raised that the pesticide exposure caused the particular injury. It has been suggested that this inference could be established through the use of dose-response curves for each pesticide, which would indicate the increased risk of contracting a certain chronic ailment based on exposure to the particular pesticide.[455] Once a farmworker demonstrates that her multiple exposures to certain pesticides created a substantially elevated risk of harm, a rebuttable presumption would arise that the exposure was the cause of her injury.[456]

The inference of causation could be combined with risk-contribution in the following manner: Assume a farmworker develops kidney tumors after fifteen years of working in the fields. During that timeframe she worked for fifty different growers, often working for the same grower multiple times throughout

---

453. *See* Sindell v. Abbott Labs., 607 P.2d 924, 936 (Cal. 1980) ("In our contemporary complex industrialized society, advances in science and technology create fungible goods which may harm consumers and which cannot be traced to any specific producer. The response of the courts can be either to adhere rigidly to prior doctrine, denying recovery to those injured by such products, or to fashion remedies to meet these changing needs.").

454. *See* Robinson, *supra* note 451, at 739 ("From the standpoint of fairness, the critical point is the creation of a risk that society deems to be unreasonable, not whether anyone was injured by it.").

455. *See* Cabrera, *supra* note 66, at 119–20 (arguing that dose-response curves can assist factfinders with determining the heightened risk of chronic injuries created by certain pesticides).

456. *See id.* (arguing that certain judicial presumptions: (1) increase the likelihood that victims of toxic exposure will receive compensation; (2) enhance the credibility of epidemiological evidence; (3) encourage a fairer allocation of risk; and (4) further the objectives of tort litigation, including compensation, deterrence, and corrective justice).

Imaged with the Permission of N.Y.U. Review of Law and Social Change

the fifteen years. Assume the plaintiff can identify most of the products the growers purchased during that period based on sales records. Accurate application logs may even establish the date of application for certain pesticides. Further, assume that an ambitious pesticide monitoring system was implemented that required growers to pay for periodic monitoring of pesticide residue in workers' bloodstreams. Therefore, the plaintiff can present documentation of the pesticide residue levels in her system throughout her career. Based on this information, the injured farmworker can establish that she was exposed to multiple pesticides during her fifteen years of work. Although physician testimony cannot link one particular pesticide to the farmworker's kidney tumors, she can offer dose-response rates which show a substantially elevated risk of harm, thus raising a reasonable inference that, more probably than not, the synergistic effects of the multiple exposures caused the harm. From a risk-contribution theory, it should be irrelevant which agent, if any one, actually caused the injury. Assuming that all or most of the pesticides involved were defectively designed, for instance, liability would be assessed based on the manufacturer's overall contribution to the risk of harm encountered by the plaintiff. Although this approach certainly departs from traditional causation theories, it still requires proof of liability. Those manufacturers whose products were not defective could not be held liable under any theory. Only defendants who produced a defective product that increased the risk of injury would be liable, even if their specific product could not be linked to the actual harm.

Without such an approach, chemical manufacturers will continue to rely on farmworkers' multiple exposures to externalize the harmful costs of their pesticides. Although the proposition of using dose-response curves to infer risk-contribution is attractive as a theoretical matter, it remains far from practical in the near term. As discussed above, the data currently available on the chronic harm caused by pesticides are too limited to establish reliable dose-response levels for most chemicals. In order to determine the heightened risk that an interaction with a pesticide causes, far more developed epidemiological and toxicology data are needed.[457] Further, employers would need to keep accurate records of their workers' dates of employment and the types of pesticides used for each application. Finally, extensive monitoring of pesticide residue through urinalyses and blood tests would be needed in order to allow farmworkers to establish exposure to particular pesticides over their careers. Thus, with improved recording of farmworker employment, pesticide applications, and exposure levels, coupled with legal developments allowing for causative inferences and proportionate distribution of liability based on risk-contribution, the tort system could begin to compensate some victims of pesticide harm, even for latent injuries arising from long-term exposure.

457. *See generally* Adair Tool, *supra* note 70, at 95 ("Unfortunately, results from studies attempting to measure chronic effects of pesticides on farmworkers are widely understood to take decades.").

Imaged with the Permission of N.Y.U. Review of Law and Social Change

IV.
CONCLUSION: BRINGING IN A SAFER HARVEST

The farmworker population is the indispensable resource of an agricultural industry dependent on manual labor. Often coming to the United States in search of a better life, farmworkers soon discover that their occupation is defined by low wages, substandard housing, and difficult work. In the course of their labor, farmworkers are exposed to highly toxic pesticides, the health effects of which have not been fully determined. Even an EPA audit concludes that "it will be decades before the precise extent and nature of [chronic pesticide] effects are known."[458] Despite this lack of knowledge, studies confirm that farmworkers experience the highest rate of chemical-related, occupational disease in the country, as well as increased incidents of cancer and birth defects.[459]

A regulatory system exists that theoretically could reduce many of the health risks farmworkers encounter from pesticides. Nevertheless, the administrative state governing farmworker safety and pesticides is marked by delay and inefficiency. Unlike the seeding statutes of other agencies that do not specifically require cost-benefit analyses, the EPA's mandate under FIFRA directs the agency to consider the economic harm to agribusiness and farmers before promulgating rules related to farmworker safety. Given the heavy hand agribusiness holds over state and federal regulators, farmworkers are usually at the losing end of the cost-benefit calculus. The result has been an administrative state that overlooks, rather than prevents, farmworker poisonings. Local agricultural commissioners, who are charged with enforcing state and federal pesticide regulations, frequently privilege agricultural production over farmworker safety. Even when officials investigate poisoning incidents, fines are rarely issued and violations are repeated.

Compared to the tort system, the administrative state is theoretically more capable of promoting farmworker safety because of its ability to promulgate and consistently enforce strict regulations. Ideally, an administrative compensation scheme would provide quick redress to exposure victims. However, despite these potential advantages, a history of agency inaction and agribusiness influence makes administrative solutions to the problem of pesticide exposure unrealistic.

Tort law is therefore a less than perfect response to an administrative breakdown. Although failure-to-warn cases once predominated the landscape of pesticide litigation, FIFRA preemption will defeat most of these claims in the future. Based on a developing body of toxic tort law, products liability based on design defects will increasingly become the theory of choice for victims of

458. *GAO Says EPA Needs to Act on Farm Pesticides, Children, supra* note 184, at 8 (reporting the results of a U.S. General Accounting Office investigation of the EPA).

459. *See* Part I.D, *supra*, discussing farmworkers and pesticide-related injuries.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

pesticide exposure. The case of Miguel Farias and the Washington farmworkers represents a model for holding manufacturers liable for their defectively designed products. However, the case also speaks to the limitations of tort actions, specifically to the categories of exposure that are most likely to result in recovery; the Washington farmworkers displayed an immediate reaction following exposure, and the pesticide involved was readily identifiable. Absent such clear circumstances, proving causation will be the greatest challenge for farmworkers. Without legal advances that lower causation burdens for plaintiffs and raise risk-contribution liability for defendants, manufacturers will continue to rely on farmworkers' multiple exposures to shield themselves from the bulk of liability associated with chronic aliments.

However, even if farmworkers were to achieve tort victories for acute poisonings only, *any* form of liability would increase the incentive for growers to promote farmworker safety. The grower involved in the poisoning of José Antonio Casillas—the fifteen-year-old migrant worker who collapsed and died the day after being doused in Guthion Solupak—did not have such an incentive. Nor did Amvac—the manufacturer involved in the Miguel Farias case—feel a need to protect farmworkers when it sold Phosdrin to the grower of a Washington apple farm, despite the company's knowledge that Phosdrin had already poisoned hundreds of farmworkers in other areas.

Toxic tort litigation cannot remedy the structural deficiencies of the administrative state or abate the influence agribusiness has over pesticide regulation. Agribusiness influence is too prominent, regulatory failure is too pandemic, and tort recovery is too limited for pesticide poisonings to cease altogether. But tort actions can raise the price of maintaining the status quo for growers and manufacturers. By providing agribusiness with an incentive to reform its ways, litigation brought by farmworkers may compensate only a few, but catalyze changes that benefit many. In that way, tort recovery stands as an imperfect method for improving occupational safety, thereby offering some measure of workplace protection to farmworkers who have labored for generations in a poisoned field.

Imaged with the Permission of N.Y.U. Review of Law and Social Change

Imaged with the Permission of N.Y.U. Review of Law and Social Change