

The Regulation of Pesticide Use in California

This article describes the blend of federal, state and county controls on pesticide use in California. It then critically examines that regulatory system and proposes a means of making pesticide regulation more effective.

Pesticides¹ are widely used in industry, at home in the family garden, and on the farm for the purpose of eliminating destructive insects, rodents and other pests. All too often, however, agricultural pesticides not only fail to destroy the pests they were designed to eradicate, but also result in unintended poisonings and secondary pest resurgence. Despite these problems, pesticide use has increased dramatically during the years since World War II, resulting in predictions that pesticide use in the United States will double during the next ten years.² Unfortunately, California leads the nation in this trend by consuming 50,000 tons of 250,000 tons of pesticides applied nationwide each year and five per cent of all pesticides used world wide.³ This heavy dependence on pesticides as the primary method of pest control has led to widespread concern that pesticides will poison the environment.⁴ The concern is well founded. In recent years, pesticides have been found to cause the

1. CAL. FOOD & AGRIC. CODE § 11404 (West 1968), defines a pesticide as any economic poison defined in § 12753 of the CAL. FOOD & AGRIC. CODE Section 12753 (West 1968), defines economic poison as:

(a) any spray adjuvant, (b) any substance or mixture of substances which is intended to be used defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any and all insects, fungi, bacteria, weeds, rodents, or predatory animals or any other form of plant or animal life which is, or the director may declare to be, a pest, which may infest or be detrimental to vegetation, man, animals or households, or be present in any environment whatsoever.

The CALIFORNIA AGRICULTURE CODE was renamed the CALIFORNIA FOOD AND AGRICULTURE CODE by 1972 CAL. STATS. 468.

2. STAFF OF SUBCOMM. ON ADMIN. PRAC. AND PROC. OF THE SENATE COMMON ON THE JUDICIARY, 94TH CONG., 2D SESS., REPORT ON THE ENVIRONMENTAL PROTECTION AGENCY AND THE REGULATION OF PESTICIDES 3 (Comm. Print 1976).

3. S. Lewis, California's Pesticide Regulatory Program and Farmworker Safety Issues Related to the Use of Organophosphate Pesticides i (1977) (unpublished report of the Cal. Assembly Office of Research).

4. See generally R. CARSON, SILENT SPRING (1962).

poisoning of farmworkers, the sterilization of factory workers, the decimation of populations of birds, and the destruction of large numbers of fish.⁵ Pesticides have also been shown to cause cancer and congenital birth defects.⁶

Despite these dangers, pesticides are probably necessary to prevent our crops from being consumed by pests before they [can ever] reach the market.⁷ Rather than banning the use of pesticides, therefore, we must take actions which will minimize the harm pesticides cause without preventing their use altogether. Government can contribute to this goal by encouraging the development of alternate forms of pest control technology and by strictly regulating those pesticides that still must be used.⁸ To date, however, neither government nor private industry has done much to develop alternate pest control technologies. Those government programs which have been devised to limit the unsafe use of pesticides have been misdirected and ineffective.

5. *Id.* See also The Daily Democrat, March 10, 1978, at 8, col. 1, which reported that hearings are now being held on DBCP, a chemical which has been closely linked to sterility in male chemical workers; Sacramento Bee, Feb. 27, 1978, at 23, col. 5, which accounted a report of the California Department of Food and Agriculture that over 31,000 hives of bees are destroyed each year by agricultural pesticides; Sacramento Bee, Feb. 16, 1978, at B3, col. 1, reporting that a grower in Colusa County, California was fined for a pesticide run-off which killed over 5,000 catfish. Sacramento Bee, Jan. 25, 1978, at B2, col. 5, which reported that U.S. District Court Judge MacBride denied a motion to dismiss a complaint alleging that pesticide operators killed 1000 ducks in a Glen County alfalfa field. See also CAL. DEP'T OF FOOD & AGRIC., DRAFT REPORT ON ENVIRONMENTAL ASSESSMENT OF PESTICIDE REGULATORY PROGRAMS (1978).

6. See, e.g., U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, REPORT OF THE SECRETARY'S COMMISSION ON PESTICIDES AND THEIR RELATIONSHIP TO ENVIRONMENTAL HEALTH (1969).

7. But see Lappe and Collins, *Are Pesticides On Our Side?*, Sacramento Bee, Nov. 12, 1977, (Forum) at 5, col. 5. The authors maintain that pesticides are not necessary or beneficial as a means of maintaining a high level of food production. They point out that 47% of all insecticides used in agriculture are applied to non-food crops such as cotton. They argue that if pesticide use were eliminated, crop losses from pests would rise only 7%, from 33.6% to 40.7%.

8. See generally P.S. Corbet and R.F. Smith, *Integrated Control: A Realistic Alternative To The Misuse of Pesticides?*, THEORY AND PRACTICE OF BIOLOGICAL CONTROL 661 (1976).

Alternate forms of pest control have been synthesized into a system of pest control called Integrated Pest Management (IPM) which employs pesticides, biological control (parasites, predators, and pathogens which will destroy target pests) and cultural controls (irrigation, field size, time of planting, crop rotation, and other farming techniques) in a coordinated effort to economically minimize crop damage caused by pests. A successful IPM program is almost invariably accompanied by a reduction in the use of pesticides. An IPM program can also minimize the secondary pest resurgence so commonly observed when pesticides are used as the sole form of pest control.

Though IPM technologies remain undeveloped in a number of crops, IPM has been successful in a number of instances. For example, IPM programs developed for cotton in Texas reduced pesticide use 50% while permitting farmers to obtain high yields. At the same time, neighboring areas relying exclusively on pesticides had to abandon cotton farming due to the pest problem. See also Comment, *Beyond Pesticides: Encouraging the Use of Integrated Pest Management in California*, this volume.

This article will examine critically those government programs which are intended to prevent the unsafe application of pesticides in California. It will first discuss how the pesticide regulatory program has deteriorated, through numerous legislative amendments, from a simple program designed to prevent the sale of adulterated poisons into a massive bureaucratic complex which fails to protect either the public health or the environment. It will then describe the regulatory system as it exists today, including the effect the division of responsibilities between federal, state and county governments has on the regulation of pesticide use. Finally, this article will present a number of possible solutions to the problems raised herein.

I. HISTORY OF PESTICIDE REGULATION IN CALIFORNIA

Pesticides were originally regulated for the purpose of preventing the consumer fraud which occurred through the marketing of adulterated or misbranded pesticides, rather than for the purpose of protecting the public health or the environment.⁹ Indeed, the limited and often isolated use of pesticides at the turn of the twentieth century presented few, if any, environmental dangers.¹⁰ As the years passed, however, pesticide use steadily increased, creating a great number of public health and environmental problems. Rather than reevaluate the entire field of pesticide regulation, federal and state legislators chose instead to amend the then existing regulatory machinery.¹¹ The result is the present regulatory system, built on a foundation of pesticide registration, which, as will be shown, is incapable of preventing the use of dangerous pesticides. Recently, however, the state legislature has attempted to prevent pesticide abuse by controlling when and how farmers may apply pesticides.¹²

California entered the field of pesticide regulation nine years before the federal government. In 1901, the state legislature enacted a statute intended to control the quality of Paris Green and to prevent fraud in its

9. The Insecticide Act of April 26, 1910, 36 Stat. 331 (1910) (*repealed by* The Federal Insecticide, Fungicide and Rodenticide Act of June 25, 1947, current version at 7 U.S.C. § 136 (1976)). The stated purpose of the act was to prevent the manufacture, sale, or transportation of misbranded or adulterated lead arsenates and Paris Greens. There was no mention of a concern for health.

10. Pesticide use did not increase to a substantial level until the advent of DDT during World War II and the subsequent development of increasingly effective pesticides. See Simmonds, Franz, & Sailer, *History of Biological Control*, THEORY AND PRACTICE OF BIOLOGICAL CONTROL 25 (1976).

11. The Insecticide Act of April 26, 1910, 36 Stat. 335 (1910), (*repealed by* The Federal Insecticide, Fungicide and Rodenticide Act of June 25, 1947, current version at 7 U.S.C. § 136 (1976)), which was *amended and superseded by* The Federal Environmental Pesticide Control Act of October 21, 1972, 7 U.S.C. §§ 136-136y (1976).

12. CAL. FOOD & AGRIC. CODE §§ 11401-12121 (West 1968 & Cum. Supp. 1978).

manufacture.¹³ The legislature at that time was not concerned with the effects pesticides might have on public health and the environment.

Early federal legislation affecting pesticides dealt primarily with the interstate sale of pesticides and did not directly affect California. These early actions, however, serve as a basis for understanding the logic behind later federal programs which directly affect California. The federal government first addressed the control of pesticides in 1910, when Congress enacted a bill prohibiting the manufacture of any misbranded or adulterated pesticide in the District of Columbia or any territory of the United States.¹⁴ The same measure also forbade the shipment of adulterated pesticides in interstate or foreign commerce.¹⁵ In enacting this legislation, Congress was motivated by the same interests as California. Environmental protection was not at issue.

California took its next step in 1921, when the legislature instituted a program requiring that all pesticides manufactured and sold within the state be registered with the director of agriculture.¹⁶ Though the legislature intended, as before, to prevent the marketing of misbranded or adulterated pesticides, it also provided for revocation of registration if the director determined the poison was dangerous to animals and the public health even when used properly.¹⁷ This, then, was one of the first attempts to have pesticide registration protect society from dangerous pesticides.

After World War II, the use of pesticides increased dramatically and both the state and federal governments responded by revamping their pesticide regulatory systems. In 1947, the federal government enacted the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which established labeling and registration requirements for pesticides sold interstate. FIFRA prohibited the manufacture and sale of adulterated products and required the registration and labeling of all pesticides shipped in interstate commerce.¹⁸ The purpose of FIFRA was to assure pesticide users that the poisons they purchased would be safe and effec-

13. Act of Feb. 28, 1901, ch. 53, 1901 Cal. Stats. 69.

14. See The Insecticide Act of April 26, 1910, 36 Stat. 331 (1910) (repealed by The Federal Insecticide, Fungicide and Rodenticide Act of June 25, 1947).

15. *Id.* This act did not purport to control the manufacture and sale of pesticides in intrastate commerce since such an action at this time would have been considered outside the scope of the Congressional power to regulate interstate commerce. Consequently, California did not have a similar law until 1911 when it expanded its 1901 legislation by establishing labeling requirements and forbidding the manufacture or sale of any adulterated poison. Act of May 1, 1911, ch. 653, 1911 Cal. Stats. 1248 (repealed 1921).

16. Act of June 3, 1921, ch. 729, § 14, 1921 Cal. Stats. 1263 (repealed 1968).

17. *Id.*

18. The Federal Insecticide, Fungicide and Rodenticide Act of June 25, 1947, current version at 7 U.S.C. § 136 (1976), *amended and superseded by* The Federal Environmental Pesticide Control Act of October 21, 1972, 7 U.S.C. §§ 136-136y (1976).

tive.¹⁹

California made its first statewide effort to regulate pesticide application when the legislature enacted legislation requiring the licensing of pest control operators, persons who spray or dust crops with pesticides as an occupation.²⁰ Previously, the county agricultural commissioners had been solely responsible for this and other direct controls on pesticide application.²¹ The legislature further amended this legislation during the late 1960's and early 1970's, in response to the public's new found environmental awareness.²² These later changes established the state's regulatory System as it exists today. The legislature's new concern for the environment was tempered, however, by their desire not to antagonize farmers with government interference. Therefore, instead of developing a new regulatory system specifically designed to control pesticides when they are applied, the old system, originally intended to protect the consumer, was bent to the new purpose of environmental protection.

The federal government finally assumed a preeminent role in pesticide regulation with the adoption of the Federal Environmental Pesticide Control Act of 1972 (FEPCA).²³ Unfortunately, FEPCA is based on FIFRA, which used pesticide registration and labeling to regulate pesticides. As a result, FEPCA is better suited to preventing the sale of adulterated pesticides than preventing the use of dangerous poisons.

With the enactment of FEPCA, the present three-tiered regulatory system involving governments at the federal, state and county levels became firmly established as the structure responsible for preventing pesticide abuse and the dangers which accompany it.²⁴ Unfortunately, because of the patchwork nature of pesticide control legislation, federal, state and county agencies often have overlapping responsibilities.

19. *Continental Chemiste Corp. v. Ruckelshaus*, 461 F.2d 331, 335 (7th Cir. 1972). The court pointed out that the fundamental purpose of FIFRA was to ensure that any pesticide, when used according to its label, would be safe. It also mentioned that registration was intended to prevent the sale of any pesticides until the manufacturer can prove that the poison will be safe when used in accordance with the label. *Id.* at 339.

20. Act of July 20, 1949, ch. 1043, 1949 Cal. Stats. 1939, as amended by CAL. FOOD & AGRIC. CODE §§ 11401-12121 (West 1968 & Cum. Supp. 1978).

21. See Dunning, *Pests, Poisons and the Living Law: The Control of Pesticides In California's Imperial Valley*, 2 *ECOLOGY L.Q.* 644 (1972). The county agricultural commissioners are county officials, appointed by the county board of supervisors. CAL. FOOD & AGRIC. CODE § 2121 (West 1968). They are responsible for the administration and local enforcement of the programs set forth in the code. CAL. FOOD & AGRIC. CODE § 2281 (West Cum. Supp. 1978).

22. Act of Sept. 3, 1969, ch. 1414, § 5, 1969 Cal. Stats. 2895, as amended by CAL. FOOD & AGRIC. CODE §§ 12001-12121 (West Cum. Supp. 1978).

23. The Federal Environmental Pesticide Control Act, 7 U.S.C. §§ 136-136y (1976).

24. See also Dunning, *supra* note 21 for a more complete account of the California regulatory program including the role played by the county agricultural commissioners.

II. THE THREE-TIERED SYSTEM

Under the three-tiered system, the federal government promulgates regulations and policies, the state implements a regulatory program, and the county agricultural commissioners enforce the program. FEPCA grants the federal Environmental Protection Agency (EPA)²⁵ the power to register pesticides, exercise exclusive authority over pesticide labeling, establish standards for the certification of restricted pesticide applicators, issue experimental use permits, register producers of pesticides and monitor pesticide residues.²⁶ Nevertheless, FEPCA still permits states to operate their own regulatory programs subject to certain limitations. Thus, while provisions of FEPCA specifically strip the states of the power to alter pesticide labeling and packaging requirements established by the EPA,²⁷ the states may enact more stringent pesticide registration standards than those established by the EPA.²⁸ Consequently, the states may still register pesticides as long as state regulations do not permit the sale or use of any pesticide which use the EPA has forbidden.²⁹

The states may also certify their own pesticide applicators after submitting an acceptable plan to the Administrator of the EPA.³⁰ The EPA has given contingent approval to the plan submitted by California, pending the promulgation of further state regulations.³¹ California's plan not only includes the applicator certification program embodied in its own statutes, but also describes all the facets of the state's regulatory program.³² Thus, acceptance of the California plan by the Administrator of the EPA permits California's regulatory program to continue functioning intact.

25. In an attempt to make the pesticide regulatory program more effective, President Nixon transferred the authority for administering FIFRA from the U.S. Department of Agriculture to the Environmental Protection Agency, which was also entrusted with the administration of other programs intended to safeguard the environment. Reorg. Plan No. 3 of 1970, 3 C.F.R. 199 (1970), *reprinted in* 5 U.S.C. app., at 827 (1976) *and in* 84 Stat. 2086 (1970).

26. *See* 7 U.S.C. §§ 136a,b,c,e,r (1976).

27. *Id.* § 136v(b).

28. 7 U.S.C. § 136v(a) (1976).

29. *Id.*

30. 7 U.S.C. § 136b(a)(2)(A)-(E) (1976), allows the Administrator of the EPA to permit state certification of pesticide applicators if the state submits a plan which, (A) designates a state agency which will be responsible for administering the plan in the state, (B) contains satisfactory assurances that such state agency has or will have the legal authority and qualified personnel necessary to execute the plan, (C) gives satisfactory assurances that the state will devote sufficient funds for administration of the plan, (D) provides that the state agency will make periodic reports to the Administrator, and (E) contains satisfactory assurances that state standards for certification of applicators conform to those of the EPA.

31. 42 Fed. Reg. 35,184 (1977).

32. CAL. DEPT OF FOOD & AGRIC., STATE PLAN FOR THE CERTIFICATION OF APPLICATORS OF RESTRICTED MATERIALS (1977).

Under this plan, California continues to maintain its own registration program, alongside that of the EPA. In addition, the state is responsible for licensing pesticide applicators and pest control advisors.³³ Finally, the state is required to provide the EPA with an annual report on pesticides use in California.³⁴

The success or failure of the regulatory scheme embodied in the state plan depends largely on the state's willingness to enforce it, even though the EPA is ultimately responsible for ensuring that the plan is followed. The reason the success of the plan depends on the willingness of the state to enforce it is that even though the EPA may withdraw approval of a state plan which is not being properly enforced by the state, the EPA does not have a large enough staff to directly enforce the regulatory program.³⁵ Therefore, if the Administrator withdrew approval of the state plan, the EPA would either have to allow the state to continue using pesticides with little federal control or completely prohibit the use of restricted materials in the state. The latter course of action, even if upheld in court, would have such dramatic political and economic repercussions that it is unlikely the EPA would carry it out. Nor is it likely that the EPA could order the state to properly execute the plan, since such an action would probably violate the separation of powers between state and federal governments.³⁶ Thus, even though the EPA is the ultimate authority in pesticide regulation, the state program's quality will largely determine the effectiveness of pesticide regulation.

33. An agricultural pest control adviser is any person who, "as a requirement of, or incidental to, his employment or occupation offers a recommendation to the producer of an agricultural product . . . concerning any agricultural use or who holds himself forth as an authority or general adviser on any agricultural use to a producer of an agricultural produce." CAL. FOOD & AGRIC. CODE § 11410 (West Cum. Supp. 1978).

34. STATE PLAN, *supra* note 32, at 28. The California Dep't of Food & Agric. must submit its report on or before March 15 of each year, concerning the previous calendar year.

35. 7 U.S.C. § 136b(b) (1976) grants the Administrator the authority to withdraw approval of a state plan if findings are made that the state is not properly administering the plan and that corrective actions are not being taken by the state.

36. *Brown v. Environmental Protection Agency*, 521 F.2d 827 (9th Cir. 1975), *vacated and remanded* 431 U.S. 99 (1977). The Environmental Protection Agency (EPA) formulated a plan for limiting the amount of air pollution created by cars in the South Coast Air Basin in California. The EPA insisted that California implement the plan. The state refused. The Court ruled that while the EPA could directly implement the plan and punish those individuals who violated it, the EPA could not force the state to implement it. The court avoided ruling on questions of federalism by stating that the Clean Air Act, upon which the EPA relied for its authority, did not authorize EPA jurisdiction over the state government. While this case might be distinguished from a situation in which the EPA attempted to enforce a pesticide applicator state plan, the judicial reluctance to allow a federal agency to direct state actions in the field of environmental protection, which is pervasive throughout this opinion, could very likely spread over into the pesticide area.

Completing the three-tiered system are the county agricultural commissioners, who derive their pesticide regulatory authority solely from the state and who continue to exercise extensive regulatory authority under the California State Plan, just as they did prior to the enactment of FEPCA.³⁷ California statutes authorize county agricultural commissioners to issue pesticide use permits, audit pesticide dealers, register agricultural pest control advisers, register pesticide applicators, and take general responsibility for enforcement of the entire program.³⁸

Taken together, the federal, state and county regulatory agencies attempt to regulate pesticide use by controlling the registration and marketing of pesticides, by licensing persons involved in recommending and applying pesticides, and by issuing permits for the use of restricted pesticides.³⁹ Overlapping authority in the administration of these programs has been largely eliminated by interagency agreement.⁴⁰ Considerable overlap still exists, however, in the area of pesticide registration.

III. REGISTRATION OF PESTICIDES

Both the state and federal governments use pesticide registration as the primary means of protecting the public and the environment from dangerous pesticides. The rationale is that if a dangerous pesticide is denied registration or is registered with certain use restrictions, the possibility of its being used in a harmful way diminishes.⁴¹ On the other hand, the legislature originally designed pesticide registration to serve as a means of guaranteeing that a manufacturer would sell only those unadulterated poisons which satisfied the claims made for the product. Registration was adequate for that purpose. It is not adequate for the purpose of safeguarding the environment. The amount of research needed to establish the purity and pest-killing properties of a poison, and thus effect the initial purpose of registration, pale beside the vast amount of research needed if registration is to serve to protect the envi-

37. CAL. FOOD & AGRIC. CODE § 11503 (West Cum. Supp. 1978) grants county agricultural commissioners the authority to adopt regulations, subject to approval by the director, which will be operative in the commissioners' counties.

38. CAL. FOOD & AGRIC. CODE § 14006.5 (West Cum. Supp. 1978) requires any person desiring to apply restricted use pesticides to be in possession of a use permit issued by the county agricultural commissioner. CAL. FOOD & AGRIC. CODE § 11732 (West Cum. Supp. 1978) requires that all persons applying pesticides for hire be registered with the county agricultural commissioner in the county where they want to work. CAL. FOOD & AGRIC. CODE § 12002 (West Cum. Supp. 1978) requires agricultural pest control advisers to register with the local county agricultural commissioner.

39. See text accompanying notes 40-127 *supra*.

40. Cooperative Agreement Between The State of California Dep't of Food & Agric., The California Agricultural Commissioners Association and the United States Environmental Protection Agency, Region IX (Oct. 24, 1975).

41. CAL. DEP'T OF FOOD & AGRIC., RESPONSE TO AUDITOR GENERAL REPORT ON PESTICIDES TO THE CALIFORNIA LEGISLATURE 35 (Joint Legislative Audit Comm. 1977).

ronment. Long-range studies of each pesticide are necessary before the EPA can safely register a pesticide. Even then, potentially dangerous pesticides can slip through. The recent disclosure that a commonly used pesticide can cause sterility among exposed male workers is an example of the registration system's failure to discover dangerous pesticides and to prevent their sale.⁴² Despite this failure, pesticide registration is the most highly developed area of the pesticide regulatory system. Furthermore, it is the only area in which the EPA takes a direct and active role.

Under FEPCA, the EPA has the primary responsibility for registering pesticides.⁴³ A pesticide must be registered with the EPA before it may be brought or sold in a state.⁴⁴ To register a pesticide, an applicant must submit an application to the Administrator of the EPA giving the properties and research data on the pesticide.⁴⁵ The Administrator will then review and accept the application if the pesticide adequately performs its intended function and meets certain other statutory requirements.⁴⁶

The Administrator may choose to register a pesticide for either restricted use or general use. If the health and environmental hazards created by the pesticide exceed established standards, the Administrator will register it for restricted use.⁴⁷ Only a person licensed as a certified

42. During the hearings on the circumstances which allowed DBCP to be marketed, the concern was expressed that registration safeguards might have failed because pesticide researchers who test the pesticides might have a conflict of interest since they often accept funds from chemical companies. The Daily Democrat, March 10, 1978, at 8, col. 1. A more extensive breakdown in the registration program was uncovered recently when EPA investigators discovered that IBT, one of the largest pesticide research firms, has been falsifying its pesticide toxicity data. The Sacramento Bee, March 9, 1978, at C20, col. 3. See also CAL. DEP'T OF FOOD & AGRIC., DRAFT REPORT ON ENVIRONMENTAL ASSESSMENT OF PESTICIDE REGULATORY PROGRAMS.

43. 7 U.S.C. § 136a(a) (1976).

44. *Id.*

45. 7 U.S.C. §§ 136a(c)(1)(A)-(F) (1976) specifies that each application for registration of a pesticide shall include: the name of the applicant, the name of the pesticide, a copy of the label including directions for use and claims made for the pesticide, a full description of all the tests made, the pesticide's formula, and a request that the pesticide be classified for either restricted or non-restricted use or both. The statute also stipulates that one applicant may not rely on the test data of another applicant unless the party who originally conducted the tests gives permission and receives a mutually agreeable sum in compensation. See also *Mobay Chem. Corp. Chemagro Agric. Div. v. Train*, 394 F. Supp. 1342 (W.D. Mo. 1975).

46. 7 U.S.C. § 136a(c)(5)(A)-(D) (1976) requires the Administrator to register a pesticide if it is determined that (A) its composition is such as to warrant the proposed claims for it, (B) its labeling complies with the requirements of this subchapter, (C) it will perform its intended function without unreasonable side effects on the environment, and (D) when used in accordance with widespread and commonly accepted practice it will not generally cause unreasonable environmental side effects.

47. *Id.* § 136a(d)(1)(C). The Administrator currently requires information on the pesticide's stability, its degradation products, its chemical behavior in the field, its oncogenic, mutagenic, and teratogenic properties, and other toxicity data. 40 C.F.R. § 162.8 (1977).

applicator of pesticides may apply restricted-use pesticides.⁴⁸ The Administrator may also subject restricted pesticides to other appropriate regulations.⁴⁹ Pesticides relatively less dangerous to people and less hazardous to the environment will be designated for general use.⁵⁰ The Administrator, however, may change the use classification or revoke the registration of any pesticide found to have an unreasonably adverse effect on the environment.⁵¹

The assumption behind pesticide registration is that unreasonably dangerous pesticides will be detected during the registration process, allowing the EPA to restrict their use accordingly. This assumption is unfounded. A staff report issued by a subcommittee of the U.S. Senate Committee on the Judiciary criticized the EPA for using old and faulty pesticide registration data, maintaining disorganized and useless files, delaying review of registration, planning poorly, and accepting superficial safety tests.⁵² The fact that the EPA banned various other pesticides only after they had been used for several years further indicates that the registration system has failed.⁵³

The cause underlying this failure is far more fundamental than the organizational problems detailed in the Judiciary Subcommittee's Staff Report. The EPA has over 30,000 pesticides to evaluate for registration.⁵⁴ Common sense indicates that laboratory tests for mutagenicity, carcinogenicity, teratogenicity, chemical stability, lethality, and properties of breakdown products for 30,000 pesticides will consume an enormous amount of time and money.⁵⁵ In addition, a complete study requires both short and long-term field studies to determine each pesticide's ultimate environmental effects. The impossibility of foreseeing all of the destructive effects of a given pesticide is obvious when one considers that the pesticide user will be applying each pesticide in a number of different ecological settings. Even if it were possible, the cost of such a task would be prohibitive. Yet only a thorough testing program can

48. 7 U.S.C. § 136a(d)(1)(C)(ii) (1976).

49. *Id.*

50. 7 U.S.C. § 136a(d)(1)(B) (1976).

51. 7 U.S.C. § 136d(6); 40 C.F.R. § 162.11 (1977). The Administrator may suspend or revoke registration of a pesticide upon a showing that there is a substantial likelihood that the poison will pose an unreasonable risk to the environment. *See Environmental Defense Fund v. Environmental Protection Agency*, 510 F.2d 1292 (D.C. Cir. 1975); *Environmental Defense Fund v. Environmental Protection Agency*, 548 F.2d 998 (D.C. Cir. 1976).

52. *See note 2 supra.*

53. DDT, Aldrin and Dieldrin were all banned only after many years of use. For a case history of the banning of Aldrin and Dieldrin, *see Spector, Regulation of Pesticides By the EPA*, 5 *ECOLOGY L.Q.* 239 (1976).

54. *See note 2 supra.*

55. Mutagenic means capable of inducing mutations; teratogenic means capable of increasing the incidence of congenital malformations in the population. R. RIEGER, A. MICHAELIS AND M.M. GREEN, *A GLOSSARY OF GENETICS AND CYTOGENETICS* (1968).

detect unreasonably dangerous pesticides before they reach the marketplace. Consequently, no matter how effective the registration program or how responsibly people use pesticides, there will inevitably be a danger that a registered pesticide will create some environmental or public health tragedy.

This does not mean that the entire registration system should be dismantled. Pesticide registration is still necessary in its original capacity as a guard against consumer fraud. Registration may also be useful to identify obviously dangerous pesticides. Furthermore, it is helpful as a catalyst to stimulate research in pesticide chemistry and toxicology. Without registration requirements, our knowledge of pesticides would be even more deficient than it is. In view of the registration system's failure to screen out all dangerous pesticides before they are used, however, registration should be de-emphasized as a means of protecting the environment. Rather, government regulations should strive to restrict pesticide use to those instances when it is essential for crop protection. While California has made some moves in this direction by attempting to regulate pesticide application, it still places too much reliance on registration as a means of controlling poisons.⁵⁶

The registration program on which California still relies was continued after the enactment of FEPCA even though it results in state and federal overlapping functions.⁵⁷ State agricultural officials argue, however, that a state registration program is necessary to permit consideration of local conditions and to impose more stringent requirements for the protection of the public health and the environment.⁵⁸ On paper, the California statutes appear to be designed to do just that.⁵⁹

Under The California system, the Director of the State Department of Food and Agriculture (DFA) must forbid the use of any pesticide

56. Actually, California instituted its registration program before the federal government. *See* note 16 *supra*.

57. CALIFORNIA AUDITOR GENERAL, REVIEW OF THE CALIFORNIA PESTICIDE REGULATORY PROGRAM NO. 235.6, at 9 (1977). The report suggests that because of the federal pesticide registration program, the state program is a needless and duplicative expense. The report recommends that California's registration program be re-evaluated to determine which functions are duplicated on the state and federal levels and eliminate the duplication. The report estimates that this could save up to \$300,000 annually.

58. *Id.* at 36. The response prepared by the California Department of Food and Agriculture defended the continuation of the state registration program, maintaining that it is necessary to permit evaluation of local conditions and farm worker safety, and to compensate for the slow speed with which the EPA is moving to register all pesticides.

59. CAL. FOOD & AGRIC. CODE § 12824 (West Cum. Supp. 1978) states that all applications for pesticide registration shall be evaluated in an effort to eliminate the use of any economic poison which endangers the agricultural and non-agricultural environments, is not beneficial for the purposes sold, or is misrepresented. In carrying out this evaluation, the director is required to consider whether there are other, less destructive methods of pest control available, and whether the public benefits to be derived from the use of the pesticides outweigh the detriment to the environment.

found to endanger the environment.⁶⁰ Pursuant to this directive, the Director may refuse to register any pesticide proven to have serious, uncontrollable adverse environmental effects.⁶¹ Such refusal requires a showing that the pesticide's dangers outweigh its benefits.⁶² The Director may also refuse to register a pesticide for which there is a reasonably effective and practical alternative demonstratively less destructive to the environment.⁶³ In so doing, the Director may refuse to register a pesticide registered by the EPA. The Director may not, however, register a pesticide which the EPA has refused to register.⁶⁴

The chances of California's registration program detecting dangerous pesticides missed by the EPA, however, are slim. Both California and the EPA use the same data in determining whether to register a pesticide, though on occasion California will ask the applicant to conduct additional tests.⁶⁵ In contrast to California, which employs a staff of approximately 29 persons to evaluate registration applications, the EPA employs hundreds.⁶⁶ It makes no sense to assume that the state, working from the same data as the EPA, and with a much smaller staff, could do a better job, especially considering that the state, like the EPA, lacks the ability to adequately test each pesticide presented for registration.⁶⁷ The argument that state registration is needed to cope with local programs also collapses when one realizes that the ecological diversity within California is almost as great as that found nationwide. If the large federal registration program cannot accommodate local ecosystems, how can the smaller state programs do so? Besides, a state can better account for local situations by controlling pesticide use than by merely register-

60. CAL. FOOD & AGRIC. CODE § 12824 (West Cum. Supp. 1978).

61. *Id.* § 12825.

62. *Id.*

63. *Id.* § 12825(c). Some parties have come to view this section as a mandate requiring the director not to register a pesticide if there are alternate forms of pest control available. By failing to register a pesticide because other forms of pest control are available, however, persons planning pest management programs would have less flexibility in deciding how to deal with a given pest infestation. Although it is not currently feasible, a better solution might be to register the pesticide and regulate its use at the permit stage.

64. 7 U.S.C. § 136v(a) (1976).

65. Interview with Jake MacKenzie, Assistant Director of the Cal. Dep't of Food & Agric. in charge of the Division of Pest Management, in Sacramento, California (September 27, 1977). *See also* CAL. FOOD & AGRIC. CODE § 14004.5 (West Cum. Supp. 1978), which specifies that the director shall establish a list of restricted materials on the basis of (a) danger of impairment to public health, (b) hazards to applicators and farm workers, (c) hazards to domestic animals or to crops by direct application or drift, (d) hazard to the environment through drift into streams, lakes and wildlife sanctuaries, (e) hazards related to persistent residues, and (f) hazards to subsequent crops through persistent soil residues.

66. CAL. FOOD & AGRIC. CODE § 14006 (West Cum. Supp. 1978), requires the director to promulgate regulations for the use of restricted pesticides that will give reasonable assurance that the pesticide will not cause injury.

67. *See* text accompanying notes 52-55 *supra*.

ing pesticides. If a pesticide will be unreasonably harmful when used in a local region, forbidding or restricting its use in that region will suffice. Refusing to register the pesticide, on the other hand, denies the entire state the benefits of using the poison where it might be needed. If the regulatory program is going to respond to local problems and needs, it should do so at a county or regional level. Then pesticide use decisions could be made in response to actual situations.

IV. PESTICIDE MARKETING

A. *The Product Label*

Unlike pesticide registration, which was originally intended to prevent the *sale* of impure pesticides, the labeling requirements were originally intended to protect consumers from the unsafe *use* of pesticides.⁶⁸ Over the years, these requirements have changed somewhat in content, but their purpose has remained that of instructing the consumer in the pesticide's contents and proper use. The EPA now requires that all pesticides possess an adequate label before registration or sale.⁶⁹ It also stipulates that each label must contain such information as directions for use, the registration number, and a precautionary statement.⁷⁰ No pesticide may be used in a manner inconsistent with the directions and precautions on the label.⁷¹

Although California also requires that each product have a label before sale, federal legislation has specifically preempted the labeling area. The label required by the state must be identical to the one approved by the EPA.⁷² California may not alter an EPA approved label.⁷³ If California disapproves of a label approved by the EPA, its only recourse is to refuse to register the pesticide, directing the applicant to ask the EPA for a change in the pesticide's registration, so that the label will conform to California requirements.⁷⁴ Once approved, county agricultural commissioners use the label in policing pesticide use to ensure that the pesticide is registered and is being used according to the directions and precautionary statements on the label.⁷⁵

68. See note 19 *supra*.

69. 7 U.S.C. § 136a(c)(1)(C) (1976).

70. 40 C.F.R. § 162.10(a) (1976).

71. 7 U.S.C. § 136j(a)(2)(G) (1976).

72. *Id.* § 136v(b).

73. Interview with Jake MacKenzie, *supra* note 65.

74. *Id.*

75. Interview with Herbert Chandler, Yolo County Agricultural Commissioner, in Woodland, California (September 1, 1977).

B. Pesticide Producers and Dealers

Another facet of pesticide regulation is the control of manufacturers and dealers. The purpose for these controls is better to account for the quantity of pesticides sold and the identity of the sellers, thereby decreasing the chance that unregistered pesticides will be sold. Toward this end FEPCA requires that all pesticide producers register with the EPA⁷⁶ books and records of production and sales⁷⁷ and make themselves available to government inspection.⁷⁸

California similarly requires that both pesticide manufacturers⁷⁹ and dealers⁸⁰ be licensed by the Director of the Department of Food and Agriculture. Dealers are further regulated in that they may not sell a restricted pesticide unless purchasers present their use permits or statements that they have obtained use permits.⁸¹ The regulations also require that dealers prepare and maintain records of all pesticides sold or delivered during the preceding year, stating who sold the pesticide and the written recommendation, if any.⁸² In addition, no dealer may sell a pesticide with the knowledge that its use will be contrary to the directions on the label.⁸³

As in registration and labeling, the county agricultural commissioners have the responsibility of ensuring that dealers comply with the law. In furtherance of this obligation, county agricultural commissioners periodically inspect dealers' establishments and audit their records.⁸⁴

Regulating pesticide use through restrictions on manufacturers and dealers or through registration and labeling, however, does not prevent people from taking properly registered, labeled, and purchased pesticides and applying them in unnecessary situations. Registration, labeling and marketing controls are too indirect to prevent pesticide overuse and abuse. An effective regulatory system must monitor the decision to

76. 7 U.S.C. § 136e (1976), 40 C.F.R. § 167 (1977).

77. 7 U.S.C. § 136f (1976).

78. *Id.* § 136g.

79. CAL. FOOD & AGRIC. CODE § 12811 (West 1968).

80. CAL. FOOD & AGRIC. CODE § 11407 (West Cum. Supp. 1978) defines a pesticide dealer as any person, including a manufacturer, who sells pesticides or solicits sales of pesticides to users for agricultural use or any other use for controlling agricultural pests. CAL. FOOD & AGRIC. CODE § 12811 (West 1968) requires each person so defined to obtain a license from the director before any pesticides may be offered for sale. *See also* CAL. FOOD & AGRIC. CODE § 12101 (West Cum. Supp. 1978); CAL. DE'PT OF FOOD & AGRIC., STATE PLAN FOR THE CERTIFICATION OF APPLICATORS OF RESTRICTED MATERIALS 9 (1977). As of 1976 there were 1,048 licensed dealer locations in California.

81. CAL. FOOD & AGRIC. CODE § 14010 (West Cum. Supp. 1978). Pursuant to the state plan, the director will also require the seller of a material listed as restricted by the EPA, but not the state, to obtain proof that the purchaser is a certified applicator before selling the pesticide. CAL. ADMIN. CODE, tit. 3, § 2461 (proposed Sept. 15, 1977).

82. 3 CAL. ADMIN. CODE § 3131.

83. *Id.* § 3132.

84. *Id.* § 3131.

use a pesticide and the manner in which it is applied to eliminate wasteful and environmentally harmful uses of pesticides.

V. CONTROL OF PESTICIDE APPLICATION

Although FEPCA requires that users apply all registered pesticides according to the directions and precautions on the labels⁸⁵ and that only certified applicators or those under the direct supervision of a certified applicator may apply restricted pesticides, in California the state government and not the federal government has the responsibility for enforcing these requirements.⁸⁶ The basis for this exercise of power stems from an EPA approved state plan and California law.⁸⁷

The state's regulatory program involves recommendations for pesticide use issued by licensed advisers, pesticide use reports, the certification of pesticide applicators, and the issuance of pesticide use permits by county agricultural commissioners.⁸⁸ Unfortunately, however, the program has not eliminated pesticide abuse. The inability of the use permit system to prevent the unnecessary use of pesticides is one of the primary reasons for the failure.

A. Pesticide Use Permits

A person desiring to possess or use a restricted pesticide must first obtain a use permit from the local county agricultural commissioner.⁸⁹ Before issuing a permit, the county agricultural commission must consider a number of factors intended to ensure that the pesticide will not endanger public health or the environment when used.⁹⁰ Most importantly, the county agricultural commissioner is not supposed to issue a use permit if there is a reasonably effective and practical alternate material or procedure which is demonstrably less destructive to the environment.⁹¹

85. 7 U.S.C. § 136a(d)(C)(ii) (1976).

86. *Id.* § 136b(b). See also 42 Fed. Reg. 35,184 (1977).

87. 42 Fed. Reg. 35,184 (1977).

88. See text accompanying notes 89-127 *infra*.

89. CAL. FOOD & AGRIC. CODE § 14006.5 (West Cum. Supp. 1978). Note, however, that the director has exempted certain restricted pesticides from the permit process when they are used in the home or as poison baits for the control of insects and arthropods. CAL. ADMIN. CODE, tit. 3, § 2463.

90. Before issuing a permit the county agricultural commissioner must consider the proximity of the field to be treated to various inhabited areas, neighboring crops, problems of secondary pest resurgence, weather conditions, bee activity, and the storage and disposal of pesticides and containers. CAL. FOOD & AGRIC. CODE § 14006.5(a)-(f) (West Cum. Supp. 1978).

91. *Id.* CAL. FOOD & AGRIC. CODE § 12825 (West Cum. Supp. 1978) requires that the director consider less harmful alternative methods of pest control before registering a pesticide. This requirement is also imposed on the commissioner when issuing a permit.

If properly implemented, therefore, the use permit system could guarantee that pesticides would not be used unless absolutely necessary. In theory, the county agricultural commissioners and their staffs determine the need for the pesticide, the existence of less harmful alternatives, and the benefits to be derived from the pesticide's use prior to the issuance of each permit.⁹² In reality, many commissioners issue seasonal permits which allow the applicator to apply a restricted pesticide any time during the season.⁹³ Even when permits are issued prior to each pesticide application, commissioners rarely consider less destructive alternatives.⁹⁴ Thus, pesticide overuse and needless environmental insults result.⁹⁵

Critics have argued that the county agricultural commissioners are incapable of properly enforcing permit requirements because of conflicts of interest.⁹⁶ These conflicts arise from the fact that the local county boards of supervisors, which often are influenced by farming interests in agricultural counties, appoint the county agricultural commissioners.⁹⁷ County agricultural commissioners are thus torn, critics

Currently, however, practical considerations preclude the commissioner from making such an evaluation before the issuance of each permit.

92. CAL. FOOD & AGRIC. CODE § 12825 (West Cum. Supp. 1978).

93. CALIFORNIA AUDITOR GENERAL, REVIEW OF THE CALIFORNIA PESTICIDE REGULATORY PROGRAM NO. 235.6, at 11 (1977).

There appears to be little uniformity in the permit issuing procedures followed in the various counties. Some counties issue permits on a job basis, but other do not. Some counties require that permits be issued to both growers and applicators, while other maintain separate standards for growers and applicators. Still other counties will issue seasonal permits but will require the filing of a notice of intent before each application. *Id.* One possible solution to this lack of uniformity involves the mill tax levied on all pesticides sold in California. The revenue collected from this tax is currently distributed to the counties in proportion to how much they spent on pesticide regulation with respect to the rest of the state. If mill tax revenues were withheld from those counties which failed to standardize their procedures, it is argued that uniformity would be more readily achieved.

94. The permit application currently distributed by the California Department of Food & Agriculture for use by the county agricultural commissioners does not ask for a summary of the analysis which led to the decision to use a pesticide. All the form requests is that the applicant state the crop to be sprayed, the pest to be controlled and the pesticide to be used. A single permit application can be used to obtain permission for a number of pesticide applications.

95. The California Attorney General believes that the permit process is a project as used in the California Environmental Quality Act, thus requiring the preparation of an environmental impact report before each permit is issued. Such a report could remedy the environmental concerns over the current permit process, but might be impractical. 59 OP. CAL. ATTY. GEN. 300 (1976). In response to this opinion, the legislature enacted AB 3765. This bill declares, as state policy, that the environmental protection mandated by the CAL. FOOD & AGRIC. CODE should be achieved through the procedures established in section 21080.5 of the CAL. PUBLIC RES. CODE. 1978 Cal. Stats. Ch. 308. For a further discussion, see text accompanying notes 138-150, *infra*.

96. Lewis, *Pesticides: An EIR For The Chemical Feast*, PERSPECTIVE 2 (April 1977).

97. See generally Dunning, *Pests Poisons and the Living Law: The Control of Pesticides In California's Imperial Valley*, 2 ECOLOGY L.Q. 639 (1972).

maintain, between their obligation to enforce an unpopular pesticide regulatory program and their ties to the farmers. There is no concrete evidence to support this contention, however. The real problem with enforcing the permit system is probably both logistical and political. Logistically, county enforcement staffs are too small and are not adequately trained in the various pest control technologies to enable them to properly evaluate permit applications and issue permits each time a pesticide is to be applied. Even if county staffs were equal to the task of performing a proper evaluation before the issuance of each permit, the state would have to require strict application of the law so as to relieve the commissioner of the sole responsibility for enforcing an unpopular program. Without such a requirement, commissioners might succumb to local pressure and fail to enforce the law. It would be difficult for a conscientious commissioner to justify enforcing the law if neighboring commissioners ignore the law with impunity. But if the state required all commissioners uniformly to adhere to the permit process, the state would bear the burden of local discontent, allowing the commissioners to do their job without fear of reprisals. Any solution will therefore have to incorporate increased staffing, improved training, and uniform enforcement. The permit problem, however, cannot be solved solely by controlling the actions of the county agricultural commissioners. Much will also depend on the permit applicant and the advice received from another important element of the scheme, pest control advisers.

B. *Agricultural Pest Control Advisers*

Most of the pesticides applied in California are used upon the recommendation of a person called an agricultural pest control adviser.⁹⁸ Advisers are responsible for recommending pest control methods to farmers. Recognizing the impact that pest control advisers can have on the quantity and type of pesticides used within the state, the California legislature enacted laws to control the activities of advisers.⁹⁹ The pesticide regulatory plan submitted to the EPA by California recognizes agricultural pest control advisers as an essential part of the pesticide regulatory program.¹⁰⁰

To become an adviser a person must meet certain minimum qualifications, pass an examination and obtain a state license.¹⁰¹ They must

98. See note 33 *supra*.

99. CAL. FOOD & AGRIC. CODE §§ 12001-12054 (West Cum. Supp. 1978).

100. CAL. DEP'T OF FOOD & AGRIC., STATE PLAN FOR CERTIFICATION OF APPLICATORS OF RESTRICTED MATERIALS 55-61 (1977).

101. Advisers are licensed by the state and must renew their licenses annually. CAL. FOOD & AGRIC. CODE § 12001 (West Cum. Supp. 1978). They may be licensed in one or more of a number of categories including insects, plant pathogens, weeds and vertebrate pests. *Id.* § 12022. Any person who has not possessed an adviser's license within the past

then register with the county agricultural commissioner in the counties where they wish to practice.¹⁰² Advisers are also required to make their recommendations in writing and deliver copies to the growers, the applicators, and the dealers.¹⁰³ The recommendation may not conflict with the pesticide label or with the supplementary printed directions authorized by the Director of the Department of Food and Agriculture or the county agricultural commissioner.¹⁰⁴ This last provision is difficult to enforce, however, since commissioners never see the recommendations unless they specifically request them.¹⁰⁵

If altered, the adviser system could become the basis for a completely revitalized pesticide regulatory system. The first facet of the adviser program in need of change is the recommendation itself.¹⁰⁶ Currently, the recommendation only has to contain information on the crop to be treated, the target pest, and the type and amount of the pesticide to be used.¹⁰⁷ The legislature should require advisers to include an environmental analysis and to justify their recommendations to use pesticides rather than some other form of pest control. If this were done, county agricultural commissioners might be able to use the information contained in the recommendation to make more meaningful decisions regarding the issuance of permits. If the commissioners could rely on the information contained in the recommendations, they might also be able to save enough time to enable the issuing of permits on a job by job basis. But before the recommendation can be used by commissioners in this way, it will be necessary to stiffen the educational requirements for

twelve months must either have sixty units of college level biological science courses or thirty semester units and twenty-four months of technical experience. CAL. ADMIN. CODE, tit. 3, §§ 3120, 3121. Furthermore, the director has the authority to establish those standards which are deemed necessary to carry out the purposes of this chapter. CAL. FOOD & AGRIC. CODE § 12024 (West Cum. Supp. 1978).

102. CAL. FOOD & AGRIC. CODE §§ 12002, 12031 (West Cum. Supp. 1978).

103. *Id.* § 12003. The adviser need not submit a copy to the county agricultural commissioner, however, unless expressly requested to do so. CAL. FOOD & AGRIC. CODE §§ 12004, 12973 (West Cum. Supp. 1978). A written recommendation is any instrument or device on any agricultural use as to any agricultural application on any particular piece of property. *Id.* § 11411.

104. CAL. FOOD & AGRIC. CODE § 12972 (West Cum. Supp. 1978).

105. *Id.* § 12004.

106. In a petition submitted to the Dep't of Food & Agric. on August 29, 1977, the Environmental Defense Fund (EDF) requested that pest control advisers be required to complete a report for each recommendation made and that the report be reviewed by commissioners or the director. The suggested report requires information which the adviser would have to collect in making a recommendation using IPM technology. The revised recommendation would also require advisers to give specific reasons for choosing one form of pest control over another. Commissioners would have to review the recommendation before it could be implemented. The review would have to be made within 72 hours of receiving the report. the 72-hour restriction could be waived by the commissioner in an emergency. The EDF recommendation could serve as the basis for a more effective regulatory system.

107. CAL. FOOD & AGRIC. CODE § 12971 (West Cum. Supp. 1978).

pest control advisers and eliminate their affiliations with the chemical industry.¹⁰⁸

Chemical companies currently employ ninety per cent of the 2500 actively practicing pest control advisers.¹⁰⁹ While many of them do not work on a commission basis, it is reasonable to assume that their salaries reflect their ability to sell pesticides, as would the salary of any other sales agent. This vested interest in the continued sale of pesticides has led many critics to complain that there is a conflict of interest between the desire of advisers to make sales and their obligation to provide farmers with a pest control program which will use the least amount of pesticides.¹¹⁰ Supporters of the present system of pest control advisers, on the other hand, cite the personal integrity of the advisers and their competition with other advisers as primary reasons why an adviser will not give a farmer anything but the best of advice.¹¹¹ While it might be difficult to envision almost 2500 people intentionally profiting from the dispensing of inferior advice, there is some evidence which indicates that pest control advisers affiliated with chemical companies recommend more pesticides and cost the farmer more per acre than independent advisers.¹¹² It is also true that affiliated pest control advisers rarely consider ways to control pests other than spraying pesticides.

The overuse of pesticides, however, is not due to a lack of integrity of affiliated advisers. It is more the result of inadequately trained advisers and the reluctance of farmers to take a chance with their crops by trying a different form of pest control. Competition among advisers fails to reduce pesticide use for the same reasons. If all the advisers use the same techniques and the farmers are happy with the results, it is un-

108. CAL. FOOD & AGRIC. CODE § 12024 (West Cum. Supp. 1978) already grants the director the authority needed to increase the educational qualifications for any person desiring a pest control adviser's license. Section 12024 stipulates that the director shall establish the minimum requirements for pest control advisers by education and examination to carry out the purposes of this division. No other limitations are placed upon the director. Requiring advisers to acquire more training in IPM techniques would also be in accord with the stated purpose of CAL. FOOD & AGRIC. CODE § 11501 (West Cum. Supp. 1978) of encouraging the development and implementation of pest management systems. Some moves toward enhancing educational requirements are now being taken. The Director of the California Department of Food & Agriculture recently announced that advisers must now take 40 hours of pest management instruction in order to encourage the development and implementation of IPM. *The Daily Democrat*, Jan. 25, 1978, at 2, col. 4.

109. R. Rominger, Director of the Dep't of Food & Agric., Answers to State Senator Arlen Gregorio's Interrogatories, Question 7(A)(i) (April 26, 1977).

110. Lewis, *supra* note 96, at 1-2.

111. Interview with Ivan Smith, Executive Secretary of the Western Agricultural Chemicals Assoc. in Sacramento, California (September 21, 1977).

112. D. Hall, *The Performance of Independent Pest Management*, 29 CALIFORNIA AGRICULTURE 12 (October 1975). J.G. Edwards, *AGRICHEMICAL AGE* 4 (March 1977) claims that Hall's statistics are faulty, giving rise to erroneous conclusions.

likely the advisers will cut back on their own sales to try a different technique. In addition, independent advisers, who might prescribe fewer pesticides, have a difficult time competing with affiliated advisers, since affiliated advisers can offer their services as a gratuity of the company they represent, while independent advisers must charge a fee.¹¹³

One possible solution to the problem is to eliminate the affiliation between chemical companies and advisers, which would loosen the hold pesticides have on advisers. They might then be more willing to consider other means of pest control. The state should also increase the educational requirements for advisers and hold them liable for negligently prepared recommendations. The commissioners could then rely on the recommendations in deciding whether to issue a permit. Finally, the state should require that pesticide applicators adhere to the recommendation issued by the adviser. Alternatively, the commissioners could condition issuance of a permit on adherence to the recommendation, rather than directly requiring the applicator to adhere to the permit. Currently, the applicator may ignore the written recommendation.¹¹⁴ Although it is uncertain exactly how often the recommendation is disregarded, this loophole makes the entire recommendation system largely ineffective as a means of preventing pesticide abuse. Despite this failure of the recommendation process to control the decision to use pesticides, pesticide applicators are otherwise extensively regulated.

C. Pesticide Applicators

Prior to the EPA's acceptance of California's plan for the certification of pesticide applicators, California required that the state license persons in the business of applying pesticides as pest control operators.¹¹⁵ This requirement, however, did not apply to persons who sprayed their own land or the lands of a neighbor as a favor.¹¹⁶ FEPCA, however, requires that the state certify as competent all persons who apply restricted pesticides, including farmers.¹¹⁷ In response, the state plan incorporated federal terminology and established standards which satisfy federal requirements.¹¹⁸

113. Smith, *supra* note 111.

114. CAL. FOOD & AGRIC. CODE § 12978 (West Cum. Supp. 1978).

115. *Id.* § 11701 (West 1968) makes it unlawful for anyone to engage in the business of pest control for hire, unless such person has an agricultural pest control license for the then current year.

116. A person not regularly engaged in the business of pest control and who operated only in the neighborhood of his own property and as a favor to his neighbors is not required to procure a license. *Id.* § 11709. Section 11732, however, requires such persons to register with the county agricultural commissioner pursuant to this section.

117. 7 U.S.C. § 136a(d)(C)(ii) (1976).

118. CAL. ADMIN. CODE, tit. 3, §§ 2451, 2465.

Currently, under the state plan, persons who apply restricted pesticides to fields must either be certified applicators or under the supervision of one.¹¹⁹ There are two general classifications of certified applicators: private and commercial. Private applicators include persons who use or supervise the use of restricted materials on land owned by them or by their employer.¹²⁰ Although they must meet a number of requirements specified by the EPA, they need not file reports of any kind.¹²¹ The only check on whether the requirements are being met is an oral examination administered to private applicators by county agricultural commissioners at the time the use permit is issued.¹²² A danger exists, however, that unless private applicators are required to meet uniform standards, the county and state may make the oral examination nothing more than a meaningless formality.¹²³ Commercial applicators, on the other hand, include those persons to whom the state refers as agricultural pest control operators and all other persons applying pesticides as a business.¹²⁴ Agricultural pest control operators must pass a written examination administered by the Department of Food and Agriculture and meet certain other requirements established by the state.¹²⁵

Despite these requirements, the certified applicator does not have to be physically present at the application site.¹²⁶ A non-certified applicator may apply restricted materials as long as the certified applicator is aware of conditions at the site of application and is able to direct and control the method of pesticide application.¹²⁷ While this regulation loosens the control over applicators, certified applicators are still held liable for the mistakes of their employees under a master-servant theory. Thus, the effectiveness of the program is not threatened.

D. Pesticide Use Reports

All holders of restricted material permits who apply restricted materials must also submit a report of that use to the county agricultural com-

119. *Id.* § 2452(c).

120. *Id.* § 2451(a).

121. 7 U.S.C. § 136i(b) (1976). 40 C.F.R. § 171.5 (1977).

122. 40 C.F.R. § 171.5(b) (1977). CAL. ADMIN. CODE, tit. 3, § 2451(c)(i).

123. A private applicator registering with the commissioner need only give name and address, the number of units to be operated in the county, and any other information the commissioner might require. CAL. FOOD & AGRIC. CODE § 11732 (West Cum. Supp. 1978).

124. CAL. ADMIN. CODE, tit. 3, § 2451(b).

125. CAL. FOOD & AGRIC. CODE §§ 11702, 12971, 12975 (West Cum. Supp. 1978); CAL. ADMIN. CODE, tit. 3, §§ 3075, 3077, 3087.

126. Testimony of B. Betts, Deputy Director of the Dep't of Food & Agric. at Hearings on Proposed Changes in Pesticide Regulations, in Sacramento, California (Oct. 15, 1977).

127. CAL. ADMIN. CODE, tit. 3, § 2469.

missioner.¹²⁸ Commercial applicators who have already included that information in their operators' reports are not required to submit a separate pesticide use report.¹²⁹ However, the county agricultural commissioners may require supplementation of the use report if they deem it necessary to adequately control the use of restricted materials.¹³⁰

Pesticide use reports received by county agricultural commissioners are usually first looked over by secretaries who refer reports containing glaring errors or omissions to the pesticide enforcement staff.¹³¹ The staff then reviews the errors and reports the most blatant ones to the Department of Food and Agriculture.¹³² If applicators continually file incorrect reports, the commissioners may temporarily suspend their licenses until they comply with the law.¹³³

The pesticide use reporting system compiles a record of eighty-five per cent of all pesticides, restricted and non-restricted, used in California. Due to reporting and tabulation errors, however, twenty to thirty percent of the reports are not included in the cumulative report prepared by the Department of Food and Agriculture.¹³⁴ As a result, pesticide use reporting is not as valuable a tool for spotting pesticide abuse as it might be. These inaccuracies are not critical to effective regulation since use reporting is a control exercised after the pesticide application. Of more importance are those laws which deal with the major user of agricultural pesticides, the farmer.

E. Controls on Farmers

As the one who owns the land and decides whether to treat for pests, the farmer is a key figure in any successful regulatory program. Unfortunately, the farmer is not subject to many of the controls imposed on others. Rather than the written exam required of commercial applicators, the farmer needs only to take an oral exam to qualify as a certified applicator.¹³⁵ Farmers are also exempt from keeping the records required of other persons who are in the business of applying pesticides.¹³⁶ Since both commercial applicators and farmers are handling the same pesticides and present the same threat to their neighbors, the public, and the environment, there is no rational basis for distinguishing between commercial applicators and farmers in this way.

128. CAL. ADMIN. CODE, tit. 3, §§ 3090.2(b), 2465.

129. CAL. ADMIN. CODE, tit. 3, § 2459.

130. *Id.*

131. Chandler, *supra* note 75.

132. *Id.*

133. CAL. FOOD & AGRIC. CODE § 11708 (West Cum. Supp. 1978).

134. CAL. DEP'T OF FOOD & AGRIC., PESTICIDE USE REPORT TO THE CALIFORNIA LEGISLATURE (1976).

135. Chandler, *supra* note 75.

136. 7 U.S.C. § 136i(A) (1976).

Probably the most damaging exemption is the one which permits the farmer to ignore the written recommendation prepared by the pest control adviser.¹³⁷ Farmers can thus ignore their advisers even if the advisers are fully versed in all forms of pest control and offer the farmer a pest control program which will minimize pesticide use. The upgrading of adviser qualifications and the content of the written recommendations will be meaningless unless the state requires the farmer to adhere to the written recommendation or unless the county agricultural commissioner issues permits conditioned on the recommendation. Taken together, this deferential treatment accorded farmers will cripple any attempt the state might make to tighten up pesticide use controls. The elimination of farmer exemptions would thus be a step in the direction of a more effective regulatory program.

Pesticide regulation also involves pesticide registration, pesticide use permits, pest control adviser recommendations, and commercial pesticide applicators. If the controls functioned as they should, they might eliminate most, if not all, pesticide abuse. But the system does not function properly. It does not prevent the registration of dangerous pesticides. Nor does it prevent the issuance of use permits in instances where there are less damaging forms of pest control. Attempts to correct the defects have merely tended to make the system more complex and unwieldy. In response, legislators and public interest groups have proposed a variety of solutions.

VI. PROPOSED SOLUTIONS

A. Certification of A Pesticide Regulatory Program

The most recent plan for restructuring pesticide regulation arose in response to an Attorney General opinion which stated that the issuance of pesticide use permits constitutes a project within the scope of the California Environmental Quality Act (CEQA).¹³⁸ If literally applied, this opinion would have required every county agricultural commissioner to complete an environmental impact report (EIR) or negative declaration and comply with the public review process before issuing any use permits.¹³⁹ Such a procedure would have been impractical since advisers, applicators, and farmers must often make pest control decisions more rapidly than would be possible when complying with formal EIR procedures.

137. CAL. FOOD & AGRIC. § 12977 (West Cum. Supp. 1978) requires only that the applicator be in possession of a written recommendation or assume liability for the data normally contained in the recommendation. There is no requirement that the recommendation be adhered to.

138. OP. CAL. ATTY. GEN. 300 (1976).

139. CAL. PUB. RES. CODE §§ 21000-21176 (West Cum. Supp. 1978).

In response, the legislature exempted pesticide use from CEQA until July 1, 1978 and authorized the Department of Food and Agriculture to prepare an environmental assessment report on California's pesticide regulatory programs.¹⁴⁰ As the July 1 deadline for completion of the report neared, the legislature again acted, this time specifically exempting the issuance of pesticide use permits from any environmental impact report or negative declaration requirement.¹⁴¹ Instead, the legislature declared, as its intent, that protecting the environment from pesticides should be effected through procedures established in section 21080.5 of the California Public Resources Code.¹⁴²

Under this scheme, the Director of Food and Agriculture is required to submit a pesticide regulatory program to the Secretary of the Resources Agency for certification, no later than November 1, 1979.¹⁴³ Pesticide regulation will be exempt from CEQA until that time unless the Secretary refuses to certify the program, in which case the exemption shall be extended to January 1, 1981.¹⁴⁴ This implies that pesticide regulation will again be subject to the general provisions of CEQA should the Department of Food and Agriculture fail to have its program certified before 1981.

A certifiable program will have to contain provisions dealing with the registration and licensing of pesticides, dealers, pest control advisers, and applicators.¹⁴⁵ It will also have to contain provisions requiring the consideration of alternatives to pesticide use and mitigation measures necessary to minimize any significant environmental impact.¹⁴⁶ If the Secretary of the Resources Agency should later determine that the program no longer meets the certification requirements, he or she may revoke the certification.¹⁴⁷

Unfortunately, this plan suffers from three major flaws: (1) the Secretary may not revoke certification on the ground that the pesticide permit element of the program does not comply with the statutes and regulations intended to protect the environment;¹⁴⁸ (2) it gives county agricultural commissioners status as state agencies, so that each county could, in theory, submit its own regulatory program for certification;¹⁴⁹ and (3)

140. A.B. 3860, passed in August 1976, exempted pesticide use permits from the California Environmental Quality Act (CAL. PUB. RES. CODE §§ 21000-21176) until July 1, 1978.

141. A.B. 3765 was enacted by the state legislature as an emergency provision and approved by the governor on June 30, 1978. 1978 Cal. Stats. Ch. 308.

142. 1978 Cal. Stats. Ch. 308 § 3.

143. *Id.* § 5(b).

144. *Id.* § 5(a).

145. *Id.* § 5(c).

146. *Id.* § 6, amending CAL. PUB. RES. CODE § 21080.5(d)(2)(i).

147. *Id.*, amending CAL. PUB. RES. CODE § 21080.5(e).

148. *Id.* § 5(d).

149. *Id.* § 6, adding CAL. PUB. RES. CODE § 21080.5(i).

so much is left to the discretion of the Department of Food and Agriculture and the Secretary of the Resources Agency, that the inadequate *status quo* is likely to be perpetuated. The permit exemption is, perhaps, the most serious problem. If county agricultural commissioners can continue to issue permits when feasible alternatives or feasible mitigation measures are available, certification will become an ineffective means of protecting the environment. With respect to the second weakness in the plan, if each county can submit its own pesticide regulatory program for certification, uniform enforcement of state regulations will become more difficult, resulting in ineffective controls. Finally, by leaving so much of the program to the discretion of the two state agencies, pesticide regulation will continue to bend to political pressures, thereby making the program less responsive to its legitimate agricultural and environmental objectives. As a result, AB 3765 merely postpones any real solutions to the problem.

There is, however, one slight chance that this plan will be successful. The Department of Food and Agriculture released a draft of its environmental assessment report on California's pesticide regulatory program on October 3, 1978.¹⁵⁰ The Environmental Assessment Team, which prepared the report, reviewed statewide pesticide use patterns, the current regulatory program, and possible alternate technologies of pest control, and made several recommendations for revision of the regulatory program. If the Department uses this report as a basis for a complete re-evaluation of its program, some change for the better may result. Of all the plans currently under consideration, this one has the greatest chance of resulting in long range benefits. Other proposals currently being considered are too narrow in their focus. One example of this concerns those proposals dealing with one of the most important elements in the regulatory program, pest control advisers.

B. Eliminating the Chemical Affiliations of Agricultural Pest Control Advisers

The pest control adviser issue currently receiving the most attention is the question of adviser affiliations with chemical companies. A bill introduced in the California State Senate would have prevented advisers who have direct or indirect financial interests in the pesticides they recommend from registering as advisers with a county agricultural commissioner.¹⁵¹ This legislation, however, would merely tear down the old system without putting anything in its place. The bill does not include a phase-out plan and does not provide for the training of new advisers to

150. *The Daily Democrat*, October 3, 1978, at 20, col. 5.

151. See S.B. 669, Cal. Leg. Reg. Sess. (1977); S.B. 670, Cal. Leg. Reg. Sess. (1977); A.B. 1307, Cal. Leg. Reg. Sess. (1977); A.B. 254, Cal. Leg. Reg. Sess. (1977).

take the place of those affiliated advisers who choose not to become independent. Nor does the bill require that advisers receive education in alternate forms of pest control so that they are competent to advise farmers of alternatives.

Another bill relating to pest control advisers would have required that advisers submit their written recommendations to the county agricultural commissioners.¹⁵² Intended primarily as an information gathering device to see how the system is working and whether additional legislation is needed, the bill was killed in committee. The bill could have served as a means of determining whether affiliated advisers recommended more pesticides than independent advisers. Parties who feared it was the first step toward more rigid regulations opposed it.

C. *Educating the Users*

Many of the proposed solutions treat the symptoms of the ailment rather than the causes. For example, farmers patronize pest control advisers with chemical company affiliations because they can provide farmers with fairly effective, economical advice about pest control using the pesticides which farmers have grown to trust. To lessen this dependence on pesticides, farmers will have to learn that there are other forms of pest control which are as reliable as pesticides and which will not poison the environment or result in a secondary pest resurgence. Until the farmers gain an understanding of these facts, independent advisers recommending forms of pest control other than pesticides will be at a competitive disadvantage.

Any real solution will have to begin with research and education. The state should encourage research into improved methods of pest control as well as studies into the toxicological effects of pesticides through funding and other incentives.¹⁵³ Next, a line of communications between researchers and the advisers and applicators should be made possible through an educational program which keeps advisers informed of the latest advances in the field. Agricultural extension through the University of California might provide the vehicle for this communication.

Once this foundation is laid, the state can upgrade the requirements for pest control advisers and phase out affiliated advisers. This will facilitate the institution of the requirement that written recommendations include an environmental analysis and justify the decision to use a pesticide. Advisers who are negligent in making their recommendations will

152. A.B. 1389, Cal. Leg. Reg. Sess. (1977).

153. For a complete discussion of this point see Comment, *Beyond Pesticides; Encouraging the Use of Integrated Pest Management in California*, this volume. See also, CAL. DEP'T OF FOOD & AGRIC., DRAFT REPORT ON ENVIRONMENTAL ASSESSMENT OF PESTICIDE REGULATORY PROGRAMS (1978).

have their licenses revoked. To make the written recommendation more than just a formality, the program must require the farmer to adhere to it or alternatively to adhere to a job by job use permit based on the recommendation and imposed by the county agricultural commissioner. Permitting the commissioners to use the recommendation in making a decision about whether to issue a permit will save a great deal of county staff time and money since the commissioners will not have to make a lengthy analysis each time they issue a permit. Farmers may still deviate from the recommendation as long as they use fewer pesticides than were recommended. To be effective, the state must prevent evasion by uniformly enforcing these requirements. The legislation to implement these requirements will have to be specific enough to prevent circumvention of the law.

Pesticide registration is still a valid means of preventing consumer fraud and eliminating patently dangerous pesticides from use. Registration, however, should not be used as a primary means of environmental protection and should be replaced by the recommendation-permit system proposed here.

CONCLUSION

Pesticide regulation in California is dependent on pesticide registration, the certification and licensing of applicators, advisers and dealers, the preparation of written recommendations, and the issuance of use permits. In theory, the program should prevent the abuse and over-use of pesticides. In practice, it does not. The registration procedure fails to exclude dangerous pesticides. Written recommendations do not take all possible courses of action into account. Advisers are often inadequately trained. Use permits are issued even when the applicant fails to show that pesticide use is the least environmentally harmful way of controlling the pests in question.

Solutions directed solely to the county agricultural commissioners and the use permit, while reasonable, would be prohibitively expensive due to increased staff requirements. Solutions directed toward the registration process would result in increased expenditures without obtaining the desired results. A better solution is to regulate pest control advisers and their recommendations and to institute programs which develop and disseminate information. Then we can begin to provide the farmers with the pest control they need without endangering the public health and environment.

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