

PHOTOCOPY OF SECTIONS OF EPA REPORT OF 1972 DDT HEARINGS

In 1972, the U.S. Environmental Protection Agency held seven-months of hearings on DDT, producing a more than 9,000 pages of transcribed testimony. On April 25, 1972, EPA Hearing Examiner Edmund Sweeney issued a 113-page report, in which he concluded that DDT should **not** be banned. The Sweeney report appeared in the Federal Register (April 25, 1972, 40 CFR 164.32).

This PDF file contains the title page, the list of the petitioners and interveners, the contents pages, most of Section A, Section C, Section D (Sweeney's conclusions of law), and Section E.

The EPA Administrator William Ruckelshaus ignored these hearings and banned DDT on June 14, 1972, for what he later said were "political reasons."

In the future, *21st Century Science & Technology* will scan and post more pages from this report, in which the Hearing Examiner summarizes the issues involved and the evidence presented.

More documentation on DDT appears in other articles on the *21st Century Science & Technology* website, under "Online Articles."

Sept. 14, 2007

ENVIRONMENTAL PROTECTION AGENCY
Washington, D.C.

CONSOLIDATED DDT HEARING

**HEARING EXAMINER'S RECOMMENDED
FINDINGS, CONCLUSIONS, AND ORDERS
(40 CFR 164.32)**

Issued: April 25, 1972

**Edmund M. Sweeney
Hearing Examiner**

ENVIRONMENTAL PROTECTION AGENCY
Washington, D.C.

HEARING EXAMINER'S RECOMMENDED FINDINGS, CONCLUSIONS, AND ORDERS. (40 CFR 164.32)

In the Matter of:

A. Relating to PR Notice 71-1 issued January 15, 1971 in re DDT-

I.F.&R. No.	Petitioner	I.F.&R. No.	Petitioner
63	Stevens Industries, Inc.	87	Thompson-Hayward Chemical Co.
64	W. R. Grace & Company	88	Meherrin Agricultural & Chem. Co.
66	Cotton States Chemical Co.	89	Triangle Chemical Company
70	Woolfolk Chemical Works, Ltd.	90	Carolina Chemicals, Inc.
71	Octagon Process, Inc.	91	Southern Agric. Chemicals, Inc.
73	Micro Chemical Co., Inc.	92	Helena Chemical Company
74	Cleveland Chemical Co.	93	Kaiser Agricultural Chemicals
75	Coahoma Chemical Co., Inc.	96	Wyco, Inc.
77	Helena Chemical Co.	100	Valley Chemical Co.
78	Howerton Gowen Chemicals, Inc.	101	Olin Corporation
80	Cotton Producers Assoc.	102	Borden, Inc.
82	Daly-Herring Co.	103	Riverside Industries
83	Parramore & Griffin Co., Inc.	105	USDA (Plant Protection Div.)
84	Staple Cotton Services Assoc.	106	The Wallerstein Company
85	Standard Spray & Chem. Co.	107	Planters Chemical Company
86	FCX, Inc.	148	Riverside Industries

B. Relating to PR. Notice 71-3 issued March 12, 1971 in re TDE-

I.F.&R. No. 209 Olin Corporation

C. Relating to PR Notice 71-5 issued March 18, 1971 in re TDE-

I.R.&R. No. 121 Helena Chemical Company
I.F.&R. No. 149 Stark Bro's Nurseries and Orchards Co.
I.F.&R. No. 184 Olin Corporation
I.F.&R. No. 210 Borden, Inc.

D. Intervenors

The Secretary of Agriculture
I.F.&R. No. 97 H. P. Cannon & Son, Incorporated
I.F.&R. No. 223 Eli Lilly and Company
National Agricultural Chemical Association
Environmental Defense Fund, National Audubon Society, Sierra Club and West Michigan
Environmental Action Council



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A. STATEMENT OF THE CASE

I. SUBJECT MATTER

The subject matter of this consolidated hearing is one of the most controversial in circulation; DDT and what should be done with it. DDT is a well-known insecticide in practically every part of the world. It is of special concern because it is the most widely-used pesticide. The two most common allegations against DDT use are that it is detrimental to many non-target organisms, especially birds, fish, and crustaceans, and that it is possibly a carcinogen to man. On the other hand, precipitous removal of DDT from interstate commerce could seriously disrupt public health programs and agricultural yield, and probably would force widespread resort to highly toxic replacements. The need to know makes it appropriate to examine the status of DDT and to make administrative determinations therefrom.

The full professional name of DDT is 1,1,1-trichloro-2,2-bis(p-chlorophenyl) ethane. Technical DDT is composed of approximately 75% p,p'-DDT isomer and 20% o,p'-DDT isomer and 5% other isomers and other compounds. The active insecticidal ingredient in DDT formulations is the p,p'-DDT isomer. The melting point of that isomer is 108.5° C. The molecular weight of DDT is 354.5 grams. Vapor pressure of DDT is 1.0×10^{-7} mm. mercury at 20° C. DDT has a water solubility of approximately 1.2 parts per billion. One of the attributes of DDT which make it desirable as an insecticide, is its persistence.

As the testimony demonstrates, the questions raised are not confined to DDT itself. Its metabolites and isomers are question-raisers on their own. The metabolites DDE and DDD (alias TDE) are prominent factors in the pros's-and-con's of this case. In fact, TDE (dichloro diphenyl dichloroethane) was the subject of cancellation notice PR Notice 71-5, one of the three notices under consideration. For ease of reference here, it seems best to use the term DDT to mean, interchangeably, either DDT itself and/or one of its metabolites.

In addition to PR Notice 71-5, which was issued March 18, 1971, as an intention to cancel all products containing TDE, two other notices comprise the aggregate basis for this public hearing (Tr. 1:5): PR Notice 71-3 was issued March 12, 1971, and indicated the cancellation of registrations of certain products bearing directions for use on food in the absence of finite tolerances or exemptions; and PR Notice 71-1 issued January 15, 1971.

PR Notice 71-1 is the most important of the three because it declared a cancellation of the registrations of all products containing DDT not theretofore the subject of a cancellation notice. In a preamble the Notice refers to: the concern of the scientific community for several years over the levels of DDT in the environment; the recent official actions taken to restrict the uses of DDT; and the remand holding of the Circuit Court in Environmental Defense Fund v. Ruckelshaus, 439 F.2d 584 (1971). Cancellation action is based on the determination that continued registration of products

containing DDT is contrary to certain of the misbranding sections of the controlling law.

Copies of PR Notices 71-1, 71-3, and 71-5 are incorporated herein and carried as Attachment A1, A2, and A3.

II. THE PARTIES

This being an adversary proceeding, there are the usual parties: petitioners and respondent; and, in addition, the intervenors. A total of thirty-seven.

The petitioners are those registrants who seasonably filed and prosecuted their objections to the cancellation notices and their requests for a public hearing. These are 1) the Plant Protection Division of the United States Department of Agriculture (USDA) 1/; 2) 27 corporate-registrants, 2/ which for ease of communication are referred to collectively as Group-Petitioners (GP); 3) Wyco, Inc.; 4) the Wallerstein Company; and 5) Stark Brothers Nurseries and Orchards. 3/

The respondent is the Director of the Pesticide Regulation Division of the Environmental Protection Agency (Resp.).

The parties who were given intervenor-status have varied classification:

a) The Secretary of Agriculture (Int.-USDA). His reason for seeking participation, as given in his motion:

The Secretary is charged with broad responsibilities in connection with the total agribusiness of the Nation, including the attainment of reasonable quantities of food and fiber.

1/ Docket I.F.&R. No. 105.

2/ With an aggregate of 33 actions here. The applicable docket I.F.&R Nos. are: 63, 64, 66, 70, 71, 73, 74, 75, 77, 78, 80, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 100, 101, 102, 103, 107, 148, 209, 121, 184, and 210.

3/ Wyco, docket I.F.&R. No. 96; Wallerstein, docket I.F.&R. No. 106; and Stark Brothers, docket I.F.&R. No. 149, each chose not to actively participate in the presentation of witness testimony; and with the understanding of respondent that each of those cases will be decided individually.

* * * In the interest of the Secretary of Agriculture extend beyond those of the Pesticide Registration Division.

* * * Accordingly, the Secretary is desirous of presenting a totally objective analysis of all relevant considerations with respect to the subject of DDT. * * *

b) National Agricultural Chemicals Association (Int.-NACA), a trade organization whose motion reads: 4/

That the NAC is a membership corporation * * *, the members of which produce and formulate approximately 90 percent of the pest control chemicals used on this country's farms and orchards, and upon the behalf of its members, the NAC takes action in appropriate judicial and regulatory proceedings to promote the orderly administration of the [FIFRA], and other actions under which pesticide and residues of pesticidal chemicals are regulated.

c) H. P. Cannon & Son (Int.-Cannon), not a corporate-registrant, and who sought intervention because:

[Cannon] will show in these objections that, although it is not a registrant as to this use of DDT, it has standing to object to cancellation of the registration and to request a public hearing * * *.

Cannon finds itself in the position of being totally unable to obtain sweet peppers for processing on the Delmarva Peninsula unless its growers have available DDT for control of the European corn borer.

d) Eli Lilly and Company (Int.-Lilly), a corporate-registrant not filing seasonably and whose motion states:

Lilly will be adversely affected by permanent cancellation of TOPOCIDE's (R) registration as a

4/ Int.-NACA took no active part in these proceedings.

result of its loss of ability to market the product. Lilly will not adequately be represented by the present parties; products involved are not comparable.

e) Environmental Defense Fund, Inc.; National Audubon Society; West Michigan Environmental Action Council; and Sierra Club (Int.-EDF et als) who sought to represent the public-interest, and who stated in their motions for intervention:

In the proceedings before EPA, the Department of Agriculture and the Courts, [EDF, et als] have demonstrated their interest in eliminating the adverse effect on the environment of DDT. Their role in bringing about these cancellation proceedings has been crucial. In addition, they will add considerable depth to the proceedings because of their expertise in crucial areas concerning DDT.

As can be seen from the line-up of the parties, there was a clear division of purpose between the positions taken on each side of the aisle in this hearing: the Respondent and Int.-EDF et als defending the proposed cancellations of DDT registrations; and all other parties opposing the cancellations.

III. THE LAW INVOLVED

1. These cases arise out of and are governed by the Federal Insecticide, Fungicide, and Rodenticide Act (Act) (FIFRA), 61 Stat. 163, as amended (73 Stat. 286; 75 Stat. 18, 42) and particularly by Act of May 12, 1964, (P.L. 88-305, 78 Stat. 190); 7 U.S.C. 135-135k.

The pertinent parts of the Act are:

a. Sec. 2. For the purposes of this Act --

* * * *

z. The term "misbranded" shall apply --

* * * *

(2) to any economic poison --

* * * *

(c) if the labeling accompanying it does not contain directions for use which are necessary and if complied with adequate for the protection of the public;

(d) if the label does not contain a warning or caution statement which may be necessary and if complied with adequate to prevent injury to living man and other vertebrate animals, vegetation, and useful invertebrate animals;

* * * *

(g) if in the case of an insecticide, nematocide, fungicide, or herbicide when used as directed or in accordance with commonly recognized practice it shall be injurious to living man or other vertebrate animals, or vegetation, except weeds, to which it is applied, or to the person applying it;

b. Sec. 4.c.

* * * The Secretary, in accordance with the procedures specified herein, may suspend or cancel the registration of an economic poison whenever it does not appear that the article or its labeling or other material required to be submitted complies with the provisions of this Act. Whenever, the

Secretary refuses registration of an economic poison or determines that registration of an economic poison should be cancelled, he shall notify the applicant for registration or the registrant of his action and the reasons therefor. Whenever an application for registration is refused, the applicant within thirty days after service of notice of such refusal, may file a petition requesting that the matter be referred to an advisory committee or file objections and request a public hearing in accordance with this section. A cancellation of registration shall be effective thirty days after service of the foregoing notice unless within such time the registrant (1) makes the necessary corrections; (2) files a petition requesting that the matter be referred to an advisory committee; or (3) files objections and requests a public hearing.

* * *

Other Pertinent Rules and Regulations and Law Applicable:

2. Interpretations With Respect to Warning, Caution, and Antidote Statements Required To Appear On Labels of Economic Poisons.

40 CFR 162.100 et seq; and particularly Interpretation Number 18, 40 CFR 162.116 (Re-promulgated by Environmental Protection Agency. 36 F. R. 22518, November 25, 1971).

3. Reorganization Plan No. 3 of 1970 (35 F. R. 15623; U.S. Code Cong. & Ad. News, p. 2996, 2998, 91st Cong. 2d Sess., 1970) which transferred the responsibilities for administering FIFRA; and which reads in pertinent part:

Sec. 1. Establishment of Agency. (a) There is hereby established the Environmental Protection Agency hereinafter referred to as the "Agency". (b) There shall be at the head of the Agency the Administrator of the Environmental Protection Agency, hereinafter referred to as the "Administrator". * * *

Sec. 2. Transfers to Environmental Protection Agency. (a) There is hereby transferred to the Administrator:

* * * *

(8)(1) The functions of the Secretary of Agriculture under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 135-135k), * * *.

4. Rules Governing the Appointment, Compensation, and Proceedings of an Advisory Committee; and Rules of Practice Governing Hearings Under the Federal Insecticide, Fungicide, and Rodenticide Act. (40 CFR 164.1 et seq.)

5. The Administrative Procedure Act (5 U.S.C. 551, et seq.).

IV. THE ISSUES

The issues that have been tried in this case sound both in law and in equity. The notices of cancellation fall quite squarely in the statutory requirements tailored by certain segments of the "misbranding" section of FIFRA. But equally important, I think, are the equitable considerations of evaluating DDT as to its risks, vis-a-vis its benefits.

The questions to which the evidence was addressed included: (1) The nature and magnitude of the foreseeable hazards associated with DDT; and whether the hazard, if any, is inherent in the normal use of DDT or whether it results primarily from misuse; and (2) the nature of the benefit conferred by the use of DDT; whether its absence would merely cause some inconvenience to would-be users, or would cause serious risk to public health or disruption of important social needs. Likewise, available alternatives and their propensities (Exh. GP-19, Attachment A, post).

In that light, I define the issues here as follows:

A. Is the economic poison DDT, as offered under the registrations involved herein, misbranded because:

[2.z.(2)(c)] - the labeling accompanying it does not contain directions for use which are necessary and if complied with adequate for the protection of the public; or [2.z.(2)(d)] - the label does not contain a warning or caution statement which may be necessary and if complied with adequate to prevent injury to living man and other

vertebrate animals, vegetation, and useful invertebrate animals; or [2.z.(2)(g)] - when used as directed or in accordance with commonly recognized practice it shall be injurious to living man or other vertebrate animals, or vegetation, except weeds, to which it is applied, or to the person applying DDT?

B. Does the use of the economic poison DDT, as offered under the registrations involved herein, produce a risk that unreasonably outweighs its benefit?

C. FINDINGS OF FACT

Based upon the evidence in this case, I make the following

Findings of Fact:

1. The Petitioners are registrants under FIFRA.
2. The registrations involved here were properly issued under FIFRA.
3. Notices of cancellations by PR Notices 71-1; 71-3; and 71-5 were authentically issued on the dates stated thereon, and applied to the registrations involved herein.
4. The Petitioners filed objections to the pertinent notices of cancellation and requested a public hearing within 30 days following receipt thereof.
5. The parties were represented by legal counsel of their choice during the proceedings herein.
6. The parties had all reasonable opportunity to offer and to present all evidence, oral and written, which would be relevant and material to the issues involved here.
7. The subject matter of this proceeding is DDT, an economic poison under FIFRA.
8. Technical DDT [1, 1, 1 - trichloro - 2, 2 - bis (p-chlorophenyl) ethane] is composed of approximately 75% p, p' - DDT isomer and 20% o, p' - DDT isomer and 5% other isomers and other compounds. The active insecticidal ingredient in DDT formulations is the p, p' - DDT isomer; and whose melting point is 108.5° C. The molecular weight of DDT is

354.5 grams; the vapor pressure is 1.0×10^{-7} mm. mercury at 20° C; and its water solubility is approximately 1.2 parts per billion.

9. Under the registrations involved herein DDT is used as an insecticide in combination with other chemical compounds such as toxaphene, methyl parathion, parathion, endrin, guthion, etc.

10. DDT has the property of persistence.

11. The factors affecting persistence of DDT are: (a) chemical structure; (b) formulation; (c) concentration; and (d) soil considerations, viz. (i) type, (ii) organic matter, (iii) rainfall, (iv) temperature, (v) microbial population, (vi) mineral content, (vii) acidity.

12. DDT can be transported from the target area by physical drift, soilbonded run-off with water, and volatilization.

13. DDT is soluble in fat or lipid tissue.

14. DDT is extremely low in acute toxicity to man.

15. DDT is not a safety hazard to man when used as directed.

16. The daily dietary intake of DDT in milligrams per kilogram body weight as computed in the "Market Basket" survey showed a decline from previous years to 0.0004 in 1970.

17. Carcinogenicity studies have been conducted with mice, rats, and some other animals.

18. Some tests of the effect of DDT on humans were conducted with pesticide workers, volunteer-prisoners, and employees in a DDT manufacturing plant.

19. Studies of the effects of DDT on mammalian reproduction were conducted with beagle dogs and rats.

20. DDT can have a deleterious effect on freshwater fish and estuarine organisms when directly applied to the water.

21. DDT is used as a rodenticide.

22. DDT can have an adverse effect on beneficial animals.

23. DDT is concentrated in organisms and can be transferred through food chains.

24. DDT is essential for the uses described in Admission No. 2.

25. The use of DDT in the United States dropped from a peak of 79 million pounds in 1959 to just under 12 million pounds in 1970.

26. The labels involved herein were approved by the appropriate authority under FIFRA.

27. The language on the labels involved herein is in substantial compliance with Interpretation No. 18.

D. CONCLUSIONS OF LAW

Based upon the evidence and the Findings of Fact in this case, I make the following Conclusions of Law:

1. Under the Act, its implementations, the governing rules of practice, and other laws applicable, this Hearing Examiner has jurisdiction over the subject matter and the parties to this proceeding.

2. The intervenors were accorded and exercised all rights commensurate with the full requirements of their participation herein.

3. The registrations involved here were properly issued under the Act.

4. Notices of Cancellation identified as PR Notices 71-1, 71-2 and 71-5, were properly issued under the Act on the dates stated and they applied to the registrations herein.

5. The Petitioners seasonably filed objections to the pertinent notices of cancellation and requested a public hearing.

6. The quantum of proof herein is the preponderance of the evidence.

7. The labels involved herein are in substantial compliance with the Act.

8. DDT as offered under the registrations involved herein is not misbranded as defined in sections 2.z.(2)(c), 2.z.(2)(d), and 2.z.(2)(g) of the Act.

9. DDT is not a carcinogenic hazard to man.

10. DDT is not a mutagenic or teratogenic hazard to man.

9, 6,
10, 11

11. The uses of DDT under the registrations involved here do not have a deleterious effect on freshwater fish, estuarine organisms, wild birds, or other wildlife.

12. The adverse effect on beneficial animals from the use of DDT under the registrations involved here is not unreasonable on balance with its benefit.

13. The use of DDT in the United States has declined rapidly since 1959.

14. DDT as offered under the registrations involved herein is not misbranded as defined in sections 2.z.(2)(c), 2.z.(2)(d), and 2.z.(2)(g) of the Act because it does not create a risk that is unreasonable on balance with the benefit.

15. The continued registration of the products involved herein is not contrary to the provisions of Sections 2.z.(2)(c), 2.z.(2)(d), and 2.z.(2)(g) of the Act (7 U.S.C. 135(z)(2)(c), 135(z)(2)(d), 135(z)(2)(g)).

16. The Petitioners have met fully their burden of proof.

17. There is a present need for the continued use of DDT for the essential uses defined in this case.

18. P.R. Notices 71-1, 71-3, and 71-5 should be vacated, except where otherwise treated by specific order.

19. The pertinent registrations, corrected to indicate only the essential uses defined in Admission No. 2, herein, should be restored to the same force and effect each carried just prior to the issuance of P.R. Notices 71-1, 71-3, and 71-5.

E. OPINION

It is my opinion, and I so rule, that PR Notices 71-1, 71-3, and 71-5, involved herein, should be vacated, except where otherwise treated by specific order; and that the pertinent registrations, corrected to indicate only the essential uses defined in this action, should be restored to the same force and effect each carried just prior to said notices.

Petitioner USDA and Group-Petitioners have met their burden of proving that the labels involved here meet all the requirements of the Act. Likewise, those petitioners have proved preponderantly that the uses of DDT under their registrations do not create an unreasonable risk on balance with the benefits.

There was presented a lot of testimony, both oral and written. Much of it was pointed to a showing of the global extent of the presence of DDT. The purpose of expending so much expert opinion to make that point is somewhat obscure to me. During the hearing, an article appearing in a scientific publication (and allegedly based upon information from a source on Respondent's Counsel staff) stated that I did not understand the "subtle" case against DDT. Well, the only "subtle" aspect about the worldwide approach is the apparently assumed theory that no cause-and-effect showing is necessary to apply the global impact to the uses under the registrations at issue here.

Such limitless ambit of testimony possibly could be pertinent in a rule-making proceeding. At such a hearing all aspects of the

effects of all propenalties of the compound being investigated should be explored in order to discover all facets against the adverse effects of which detailed rules and regulations should be promulgated.

But the fact is: this hearing is not a rule-making proceeding. This hearing is an adjudicatory proceeding in every sense of the word. The rights of parties are at stake; and that includes the party commonly referred to as "the public interest." All parties here have a right to know the reasons, in reasonable detail, why the registrations involved should be cancelled; which includes the right to offer all relevant and material evidence, both pro-and-con, in support of their contentions; and the right to subject opposing theories to the test of cross-examination.

The public-interest was represented here by Intervenor Secretary of Agriculture on the side of continued, limited uses of DDT, and by Intervenor Environmental Defense Fund (and its colleagues) on the side of a total ban on all uses of DDT. The Secretary has a statutory duty and responsibility to the attainment of reasonable quantities of food and fiber for all the public; and Environmental Defense Fund has assumed the vital role of representing the interests of all of the public who feel they have no spokesman for their individual concerns for the future of the natural environment.

In my opinion, no one questions the testimony that DDT is found in varied and remote places. Likewise, that its persistence is at once both boon and bane.

During this hearing, the benefits and risks emanating from the uses of DDT were explored competently and thoroughly.

To be considered in the determination of the fate of the particular registrations in question, there has to be a preponderant showing that the present uses cause an unreasonable adverse effect.

That showing has not been made. That preponderance is the burden of the Respondent. I arrived at that conclusion by the application to this case of the rule of evidentiary burdens in any adjudicatory proceeding. In this case, the issuance of the PR Notices constituted a prima facie case for cancellation. The burden of proof was on the Petitioners to overcome that prima facie case by a preponderance of the evidence. That has been done by proving that the label-language for essential uses of DDT is adequate to accomplish the statutory purpose of the three "misbranding" sections (The first issue herein). Likewise, there has been proof that, on balance with the benefits, the present essential uses of DDT, under the registrations in question, do not create an unreasonable risk (The other issue herein).

The burden of going forward with the evidence passed to the Respondent (and to Int.-EDF, et als, insofar as they purposed to prove the case for Respondent). The burden of going forward with the production of evidence, irrespective of the number of times it shifts between the parties, does not stop until the evidentiary part of the hearing is closed. That burden was not met by Respondent. There was much evidence that reflected degrees of correlation between the presence of DDT and the phenomenon described.

Correlation is not a meaningful finding when cause-and-effect is the required conclusion.

Although it was not in issue here, there was ample evidence to indicate that DDT is not the sole offender in the family of pesticides; and that necessary replacements would in many cases have more deleterious effects than the harms allegedly caused by DDT.

In my opinion, the evidence in this proceeding supports the conclusion that there is a present need for the essential uses of DDT; that efforts are being made to provide a satisfactory replacement for DDT; and that a co-operative program of surveillance and review can result in a continued lessening in the risks involved.