

The Politics of Food & Agriculture

Lecture 8

Environmental Politics and Law PLSC

215b/EVST 255b

February 9, 2009

Professor John Wargo



Central Problems

- Food Availability
- Food Prices
- Species Dependence
- Biological Diversity
- Cultivated Taste
- Overconsumption
- Water Use
- Energy
- Processing
- Packaging
- Waste

Environmental & Health Problems

- Pesticides
- Fertilizers
- Biological Contaminants
- Worker Safety
- Coloring Agents
- Flavors & Colors: Natural & Artificial
- Packaging Materials
- Processing Effects
- Contamination: Food, Water, Air
- Genetic Modification

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Deeper Problems...

- Fractured Law & Regulatory Responsibility
- Private Science
- Trade Secrecy
- Worker Safety
- Narrative Advantage of Producers
- Advertising: Cultivating Taste
- Public Subsidies
- Land Values
- Loss of Farmer Knowledge
- Consumer Intelligence



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Pesticides: Statutory Framework

- FFDCA
- FIFRA
- FQPA
- SDWA
- RCRA
- CERCLA/Superfund
- TSCA
- HMTA
- NEPA
- ESA
- Wilderness Act
- CAA
- CWA
- OSHA

PERSISTENCE OF ORGANISM IN MOSQUITO

- Malaria parasite: 9-12 days
- Encephalitis virus: 10-25 days
- AIDS Virus: 1-2 days



MALARIA

- **300-500 million clinically disabled**
- **40% of World's Population Are At Risk**
- **Tropical Africa: 90% Incidence & Mortality**
- **20th Century Mortality: 100 Million**

Susceptible Populations

- **Children in Endemic Areas**
- **Epidemics: All age groups affected**
- **Refugees and Migrant Populations**
- **Armed Conflict: Heightened Exposure**
- **Those With Reduced Immunity**

Mixing Paris Green By Hand
Malaria Control: Natal, Brazil 1939



DDT and Malaria Control in WW II
Sanitation in the Solomon Islands
Incidence: 3000/1000



Pesticides and the Image of
Sanitation and Health Promotion

- Fumigating Refugees in Europe
1943-1946
- Hans Dusted With DDT During
Naples Typhus Epidemic
1943
- Paul Muller Awarded
Nobel Prize in Medicine in 1948
for Discovering DDT



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"DDT is good for me-e-e!"

GOOD FOR FRUITS—Bigger apples, juicier fruits that are free from unsightly scums and all benefits resulting from...

The great expectations held for DDT have been realized. During 1946, exhaustive scientific tests have shown that, when properly used, DDT kills a host of destructive insect pests, and is a benefactor of all humanity.

Pennsalt produces DDT and its products in all standard forms and is now one of the country's largest producers of this amazing insecticide. Today, everyone can enjoy added comfort, health and safety through the insect-killing powers of Pennsalt DDT products... and DDT is only one of Pennsalt's many chemical products which benefit industry, farm and home.



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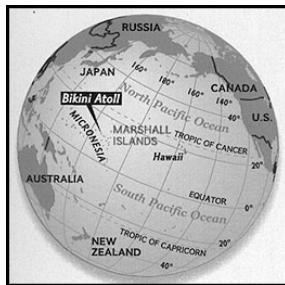
DDT: ENVIRONMENTAL FATE

❖ PERSISTENCE:

- ❖ SOIL: 10-35+ YEARS
- ❖ ATMOSPHERE: 3 YEARS
- ❖ WATER: 12 YEARS
- ❖ HUMAN TISSUES: 4-6 YEARS

❖ MOBILITY: GLOBAL CIRCULATION

*Atmospheric Concentrations Vary by Latitude:
But why?*



DDT in HUMAN TISSUES

- DDT Found in 99% of Human Samples-Past 40 Years
- 1970 DDT LEVELS: 5-10 ppm Milk Fat
- 2000 DDT LEVELS: < 1-2 ppm Milk Fat... Where Banned
- Zimbabwe: 25 ppm Milk Fat in Malaria Control Areas

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New York (1971)

Wisconsin (1970)

And Vermont (1969)

Vermont Joins DDT Ban

MONTPELIER, Vt., Nov. 29 (AP)—The Vermont Agriculture Department announced yesterday that it was joining the United States Department of Agriculture and banning the use of DDT pesticides in the state except in certain specified situations.

DDT Ban Voted in Wisconsin

Special to The New York Times

MADISON, Wis., Jan. 8—The Wisconsin Senate today completed legislative action and sent to Gov. Warren P. Knowles a bill that imposes an immediate statewide ban on the sale and use of the pesticide DDT.

State Ban on 10 Pesticides, Including DDT, Is in Effect

ALBANY, Dec. 31 (AP)—Beginning New Year's Day, DDT and nine other pesticides will be banned in New York State under regulations of the Environmental Conservation Department.

The regulations also forbid the purchase, sale and distribution of 62 so-called restricted pesticides without a permit issued by the state agency.

Supplies of the restricted pesticides on hand today may be used until next Dec. 31 without a permit. The 10 banned pesticides, however, may not be bought, sold or used after today.

Banned, besides DDT, are Bandane, BHC, DDD, Endrin, mercury compounds, selenites and selenates, sodium fluoracetate, strobane and toxaphene. Restricted materials include strychnine and phosphorus-based poisons.

British Support Continued DDT Use

NY Times: Dec. 18, 1969.

British Panel Finds No Evidence of DDT Peril

Special to The New York Times

LONDON, Dec. 17 — An official report published here today recommended that some uses of DDT and other pesticides in agriculture, industry and the household be curbed.

Nevertheless, it found no evidence that such "persistent organochlorine pesticides" had adverse effects on man and said there was no case "at present" for their withdrawal.

Sees No Case for a Ban but Urges That Some Uses of Pesticides Be Curbed

presence of persistent pesticides in the environment even at low concentrations should be reduced. Its recommendations included the following: Seed dressings of aldrin, dieldrin or heptachlor should not be used in agriculture and

finance to wildlife of pesticide residues in the environment. The United States Department of Health, Education and Welfare has recommended that almost all sales of DDT be halted in two years. Prime Minister Pierre Elliott Trudeau announced in November that Canada would restrict the use of the pesticide by 90 per cent. Sweden will ban it next year.

Soviet Ban in 1970

New York Times: May 14, 1970

What Do These Differing Regulatory Actions Suggest About the Potential for Uniformity of Regulation (Leveling the Playing Field)?

DDT PRODUCTION BANNED IN SOVIET

Russians Also Act to Curb Use of Other Pesticides

Special to The New York Times

MOSCOW, May 13 — The Ministry of Agriculture disclosed today that it had banned the further production of the pesticide DDT which is used to protect food and fodder crops.

In reply to criticism leveled by the newspaper Komsomolskaya Pravda about careless use of such chemicals, the ministry also said that it was taking steps to restrict the use of other pesticides, including zinc phosphides, which were recently blamed for the killing of some rare wildlife.

DDT BANNED IN U.S. ALMOST TOTALLY, EFFECTIVE DEC. 31

Ruckelshaus Decides After 3-Year Fight That Risk to Environment Is Too High

COURT APPEAL IS FILED

Farmers Are Given Time for Instruction in the Use of a Substitute Pesticide

By E. W. KENWORTHY
Special to The New York Times

WASHINGTON, June 14 — William D. Ruckelshaus, administrator of the Environmental Protection Agency, banned today almost all uses of DDT, the long-lived toxic pesticide that lodges in the food chain of men, animals, birds and fish.

New York Times
June 16, 1972 Pg. 45.

Three Crops Affected

Mr. Ruckelshaus's order is effective Dec. 31, 1972. In the meantime, he explained, growers of cotton, peanuts and soybeans — the three crops that account for almost the total domestic use of DDT—will get instruction in the handling of a substitute pesticide, methyl parathion. The substitute is toxic, but unlike DDT, it degrades quickly.

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Dicofol: NY Times: Mar 20, 1984

E.P.A. Considers a Ban On Pesticide Using DDT

Special to The New York Times
ORLANDO, Fla., March 19 — A pesticide popular with citrus and cotton growers and home gardeners is under Federal scrutiny because it contains the banned pesticide DDT.

Official announcement of the "fast track review" of Dicofol by the United States Environmental Protection Agency is expected Wednesday in Washington, sources in the agency said.

The high priority study, described by the sources as "very unusual," could lead to a ban on Dicofol or restrictions on its use by the end of the year.

Dicofol is made from DDT by adding one oxygen molecule. Rohm and Haas Company produces about two-thirds of the estimated three million pounds of Dicofol used each year in this country. The company makes Dicofol in Italy because of United States restrictions on DDT, a company spokesman said. An E.P.A. official said samples of Dicofol contain 9 percent to 15 percent DDT.

NY Times: May 23, 1986

By KEITH SCHNEIDER

Special to The New York Times

WASHINGTON, May 22 — The Environmental Protection Agency took action today to reduce DDT contamination of streams and lakes in the South and West by directing manufacturers to change the formulation of a widely used insecticide containing the outlawed chemical.

About three million pounds of the insecticide, dicofol, is used by farmers in the United States each year. Most of it is sprayed across cotton fields and citrus groves in Florida, Texas, Arizona and California to control damaging mites.

The environmental agency, which said that 2.5 percent of the current formulation for dicofol consisted of DDT and other compounds closely related to DDT, ordered manufacturers to reduce that level to one-tenth of 1 percent by Dec. 31, 1988. Manufacturers that do not comply face the loss of their registration licenses, the agency said.

CITING CHILDREN, E.P.A. IS LIMITING USE OF A PESTICIDE

2D CHEMICAL RESTRICTED

Agent Widely Used on Fruits and Vegetables Is Linked to Illness in Farm Workers

By MATTHEW L. WALD

WASHINGTON, Aug. 2 — The Environmental Protection Agency today banned most uses of a pesticide applied widely for years on fruits and vegetables and tightened restrictions on another, in the first regulations intended specifically to protect children.

Starting next year, the pesticide methyl parathion may not be used on a wide variety of crops from apples to turnips. The pesticide, mainly used by farmers, has already been heavily regulated for years.

Last year, 42 million pounds of methyl parathion were applied over 49 million acres, but 75 percent of the pounds produced cotton, corn and wheat, which are not affected by today's ban. No figures were available on use of the second chemical, azinphos methyl. But the chemicals are widely used on such a variety of fruits and vegetables that it is difficult for consumers to know if they are present in commercially

New York Times

August 3, 1999

Methyl Parathion Ban Announcement by EPA

The Effect of Climate Change on Worldwide Malaria Distribution

Changes in malaria potential transmission across GCMs



Source: Ambio Vol. 24, June 1995

DDT, Target of Global Ban, Finds Defenders in Experts on Malaria

By SHERYL GAY STOLBERG

WASHINGTON, Aug. 28 — It has been 27 years since the United States banned the pesticide DDT, and the payoff is undeniable. The peregrine falcon, once pushed to the brink of extinction, came off the endangered species list this month, and the bald eagle may soon follow. Brown pelicans are flourishing in Florida. On the shores of Long Island, the ospreys are back.

Now the United Nations is drafting a treaty that may lead to a worldwide ban on DDT. But the negotiations, set to resume in Geneva next month, are drawing opposition from an unlikely quarter: public health professionals, who say DDT is necessary to stop the spread of malaria, a disease that kills as many as 2.7 million people each year, mostly children in undeveloped countries.

seconds," said Dyann F. Wirth, a malaria expert at the Harvard School of Public Health and president of the American Society of Tropical Medicine and Hygiene. "That could go up dramatically if we lose this important control tool."

Dr. Wirth is among more than 370 medical researchers in 57 countries who are urging that the treaty allow DDT to be sprayed in small quantities on the interior walls of homes, where it acts as a repellent to the disease-carrying insects. The scientists argue that if the pesticide, which is cheap and effective, must be eliminated, it should be phased out gradually, and only if Western countries conduct research on the more expensive alternatives and help pay for them.

Some type of public health excep-

New York Times: Aug 29, 1999

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WHO gives indoor use of DDT a clean bill of health for controlling malaria...Sept 2006

"We must take a position based on the science and the data,"

"One of the best tools we have against malaria is indoor residual house spraying. Of the dozen insecticides WHO has approved as safe for house spraying, the most effective is DDT."

Dr Arata Kochi, Director of WHO's Global Malaria Programme.

What Does a National Ban Mean in a Global Marketplace?

❖ 192 NATION STATES RECOGNIZED BY UN

❖ 115 COUNTRIES SUBMITTED DATA TO UN ON POP'S

47 BAN ALDRIN
47 BAN CHLORDANE
51 BAN DIELDRIN
51 BAN DDT
45 BAN ENDRIN
47 BAN HEPTACHLOR
34 BAN HCB
39 BAN MIREX
42 BAN TOXAPHENE
NO NATION BANS DIOXINS AND FURANS

***Persistent Organic Pollutant Treaty (POPS)
23 October 2003 - Entry into force of Protocol***

1. 90 Nations including US and EU have signed the Treaty
2. Eliminate any discharges, emissions and losses of these 16 POPs.
 - 11 pesticides--DDT, aldrin, dieldrin, lindane, hexachlorobenzene and heptachlor
 - 2 industrial chemicals (hexabromobiphenyl and PCBs) and
 - 3 by-products/contaminants--dioxins/furans, hexachlorobenzene and polyaromatic hydrocarbons.

Pure Food and Drug Act of 1906

January 1906, Upton Sinclair published *The Jungle*

Described filthy slaughtering conditions in the Chicago stockyards.

Pure Food and Drug Act was passed on June 30, 1906.

- The act forbade foreign and interstate commerce in "adulterated" or "fraudulently labeled" food and drugs.
- Products could now be seized and condemned,
- Offending persons could be fined and jailed.
- Fresh, canned or frozen food shipped in interstate commerce must be "pure and wholesome".

Insecticide Act 1910

- *Prohibited the sale of fraudulently labeled pesticides, and set standards for their purity.*
- *Designed to protect farmers from dangerous or impotent pesticides.*

Federal Food Drug and Cosmetic Act 1938

- FDA authorized to set limits for chemicals in foods
- Tolerances were established for some pesticides
- Color required to be added to pesticides to prevent their being mistaken for flour or sugar.
- *Miller Amendment 1954:*
 - Required tolerances for all pesticides
- *Delaney Amendment 1958:*
 - Zero tolerance for carcinogens in foods
 - Pesticides Defined as Food Additives if Concentration
 - Raw to Processed Food: Led to Ban of Parent Chem.
 - E.g. apple juice and Alar.

FIFRA 1947

Federal Insecticide, Fungicide & Rodenticide Act

- *Defined Pesticides as “economic poisons” (benefit/risk balancing)*
- *Required Product USDA Registration prior to interstate/int’l trade*
- *Extended Regulation to Herbicides and Rodenticides*
- *Required Warning Labels to protect uses, public, non-target species*
- *Required Ingredient List other than Inerts*
- *No USDA authority to remove hazardous chemicals from market*

1964 FIFRA Amendments

- Rachel Carson’s *Silent Spring* Published in 1962
- Required Signal Words: *Caution, Warning, Hazard*
- *USDA Secretary Given Authority to Remove Pesticides From Market based upon “imminent hazard to public”*

EPA Created in 1970:

- Given Responsibility to Manage Pesticides
- Consolidated Unit in Other Federal Agencies
- USDA Staff Moved to EPA

Federal Environmental Pesticide Control Act of 1972

- Amended FIFRA: New Standard for Registration...
- “No Unreasonable Adverse Effects on Environment”
- General vs. Restricted Use Categories Created
- Intrastate Sales of Pesticides Regulated

FIFRA Amendments:

1975:

- Sec. of Agric. must be notified of pending cancellations
- Consideration of the economic effects of regulations
- Conditional Registration Allowed Absent Full Data

1975: Review of Older Pesticides

- 1988 Congress mandated a 9 year review deadline
- Costs of Registration Responsibility of Manufacturer

Fractured Science, Fractured Law

- EPA, FDA, USDA
 - EPA: Registration and Tolerance Setting Responsibility
 - FDA: Enforcement of Limits in Domestic & Imported Foods
 - USDA: Enforcement in Meat and Poultry, Econ Benefits Assess.
- Different Jurisdictions, Data Sets, Budgets, Political Territories, & Cultural Predispositions to Worry About Different Risks....
- Effect: Confusion and Delay in Implementation
 - Bureaucratic Inertia and Momentum: Supertanker....