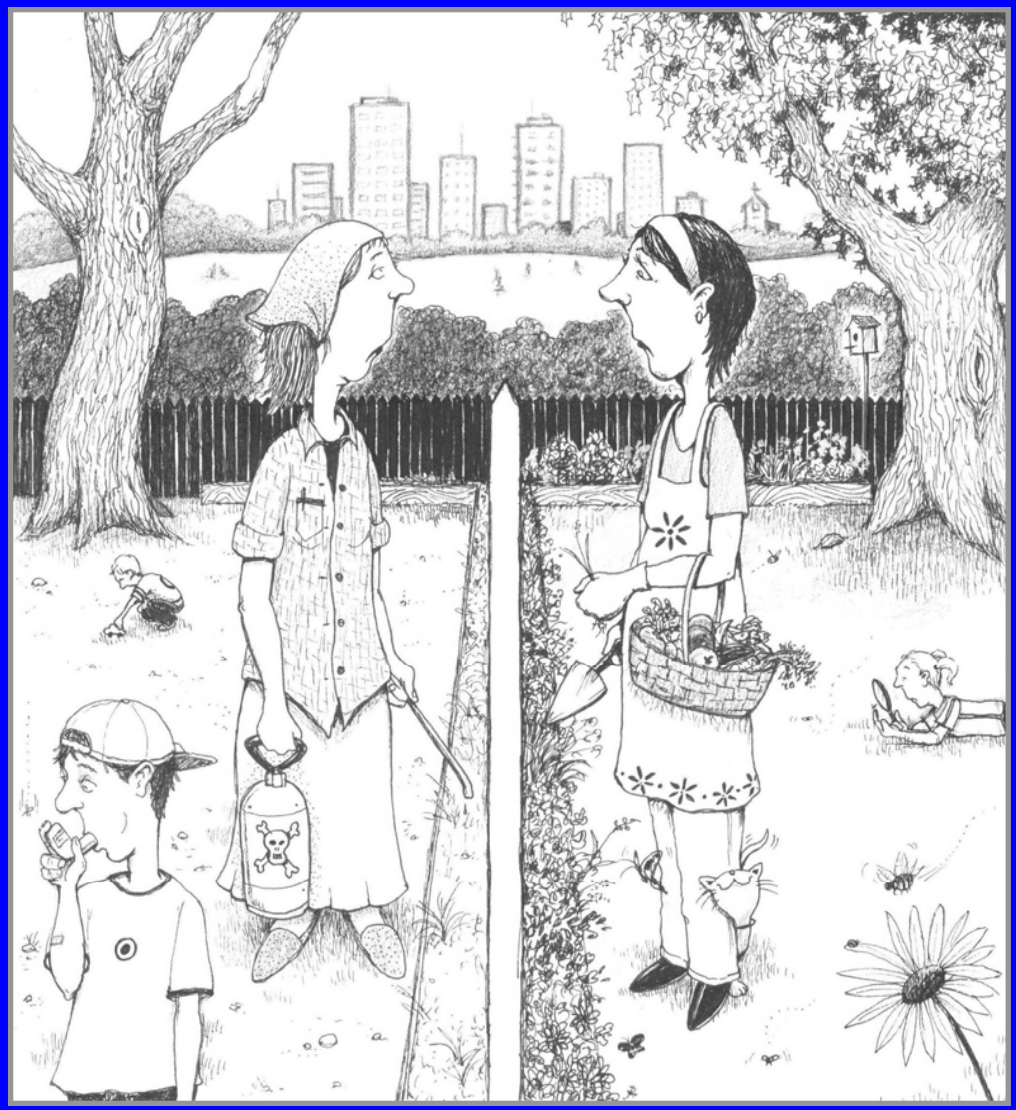

Facilitating Implementation of Residential Turf IPM

Fifth National IPM Symposium

St. Louis, Missouri
April 4-6, 2006

Jay Feldman
Beyond Pesticides

BEYOND PESTICIDES

Background on Beyond Pesticides

- Founded 1981
- Citizens and Scientists
- Information Clearinghouse
- Policy and Regulatory Advocacy
- Successes
  - School Safety
  - Organic Gardening and Farming
  - Golf and the Environment Initiative
  - Parks
- Approaches
  - Provide Models and Tools
  - Technical Assistance and Education
  - Media Attention
  - Policy Adoption
  - Networking

BEYOND PESTICIDES

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

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.

OOD FOR STEERS—Beef grows meatier owadays . . . for it's a scientific fact that—ompared to untreated cattle—beef-steers ain up to 50 pounds extra when protected rom horn flies and many other pests with DT insecticides.

KNOX OUT FOR THE HOME—helps to make healthier, more comfortable homes . . . protects your family from dangerous insect pests. Use Knox-Out DDT Powders and Sprays as directed . . . then watch the bugs "bite the dust"!

KNOX OUT FOR DAIRIES—Up to 20% more milk . . . more butter . . . more cheese . . . tests prove greater milk production when dairy cows are protected from the annoyance of many insects with DDT insecticides like Knox-Out Stock and Barn Spray.

GOOD FOR FRUITS—Bigger apples, juicier fruits that are free from unsightly worms . . . all benefits resulting from DDT dusts and sprays.

GOOD FOR ROW CROPS—25 *more barrels of potatoes per acre* . . . actual DDT tests have shown crop increases like this! DDT dusts and sprays help truck farmers pass these gains along to you.

KNOX OUT FOR INDUSTRY—Food processing plants, laundries, dry cleaning plants, hotels . . . dozens of industries gain effective bug control, more pleasant work conditions with Pennsalt DDT products.

PENN SALT

CHEMICALS

87 Years' Service to Industry • Farm • Home

PENNSYLVANIA SALT MANUFACTURING COMPANY

WIDENER BUILDING, PHILADELPHIA 7, PA.

What's In A Pesticide?

- **Active Ingredients** - active against target pest. By definition, definition, it kills living things.

- **Inert Ingredients** - often as toxic as the active ingredient. ingredient. Protected as "secret business information." Make up the largest percentage of a pesticide formulation. formulation. Inerts make product more effective.

- **Contaminants and impurities** - often responsible for additional product hazards. Dioxins are contaminants in in 2,4-D, created as a function of the production process.

- **Metabolites** - often more hazardous than active ingredients. ingredients. Breakdown products that form when pesticide pesticide mixes with air, water, soil or living organisms.

Inert Ingredients

- 800 out of 1200 are classified as “of unknown toxicity.”
- 57 classified as “highly toxic” due to known carcinogenicity, adverse reproductive effects, birth defects, neurotoxicity and/or other chronic chronic effects.
- 394 inerts are active ingredients in other products.
- More than 200 inerts are considered hazardous hazardous pollutants and/or hazardous waste under federal environmental statutes.

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EPA Registration of Pesticides

- Health data comes from from the manufacturer
- Product Labels do not give full information
- Toxicity testing on active active ingredient only – not product
- Cumulative and synergistic effects not tested or understood
- Missing data on neurological & endocrine disrupting effects
- Low level exposure not tested
- Toxicity data only for healthy adult males
- No Tracking of poisoning poisoning Incidents

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American Medical Association

"Particular uncertainty exists regarding the long-term health effects of low dose pesticide exposure…

Considering [the] data gaps, it is prudent … to limit pesticide exposures … and to use the least toxic chemical pesticide or non chemical alternative."

- AMA, Council on Scientific Affairs. 1997

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US General Accounting Office

"The general public receives limited and misleading information on pesticide hazards" and is misled on pesticide safety by statements characterizing pesticides as "safe" or "harmless."

- U.S. General Accounting Office. 1997. Nonagricultural Pesticides: Risks and Regulation. GAO/RCED-86-97.

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Why Reduce Lawn Pesticide Use? Vulnerable Groups

- infants and children
- pregnant women/fetuses
- the elderly
- compromised immune and nervous systems
- allergy or sensitivity to chemicals

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Why Reduce Lawn Pesticide Use? Health Impacts - Children

- Children more susceptible than adults. 50% of lifetime pesticide exposure occurs during the first first 5 years of life (National Academy of Sciences)
- Infants and toddlers exposed to herbicides within within first year of life = 4.5 times more likely to to develop asthma by age five (*EHP*, 2003)
- Of 30 commonly used lawn pesticides: 13 are probable or possible carcinogens; 13 linked with with birth defects; 21 with reproductive effects; 15 15 with neurotoxicity; 26 with liver/kidney; 11 with endocrine (hormonal) system disruption

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Why Reduce Lawn Pesticide Use? Environmental Impacts

- Of the 30 most common lawn pesticides: 17 have been detected in groundwater, and 23 have the potential to leach.
- Studies of major rivers and streams find that 96% 96% of all fish, 100% of all surface water samples samples and 33% of major aquifers contain one or or more pesticides at detectable levels.
- Runoff clogs watersheds, removes oxygen for fish fish (Dead zone), kills & collects in fish & crabs.
- Pesticides are toxic to dogs, birds, frogs, etc.
- Indoor contamination of carpets and dust.

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Common Lawn Pesticides

- **Roundup (glyphosate)**
  - **2.7x more likely to develop NHL. (*Am.Canc Soc*, 1999)**
  - **Endocrine effects in fetal growth at 10x lower than than recommended use in agriculture (*EHP*, 2005)**
- **Confront (triclopyr and clopyralid)**
  - **"Substantial" reproductive problems; breast cancer; cancer; genetic damage (*EPA*, 1993-1996)**
- **Gallery (isoxaben)**
  - **Cancer- causing carcinogen (OHSA)**
  - **Linked with birth defects (EPA)**

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Integrated Pest Management

- IPM eliminates or mitigates economic, health, and aesthetic damage caused by pests;
- Uses:
  - integrated methods,
  - site or pest inspections,
  - pest population monitoring/threshold setting,
  - sanitation, structural repairs, mechanical and biological controls, other non-chemical methods, and least least toxic pesticides as a last resort; and,
- Eliminates the unnecessary application of synthetic, synthetic, volatile pesticides.

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8 Steps to Toxic-Free Turf

- Develop healthy soil
- Plant well-adapted, pest-resistant grass varieties
- Aerate the lawn twice a year
- De-thatch
- Maintain proper pH
- Fertilize
- Water properly
- Mow correctly

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Treat Causes, Not Symptoms

- Weeds
- Insects
- Disease

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Alternatives to Pesticides

- **Educate on proper methods:**
  - **Adapted grass varieties, mow height, deep deep watering, aeration, dethatching, ph testing, etc.**
- **Organic slow-release fertilizers**
- **Natural Insect & Weed controls: insecticidal soaps, botanicals (garlic, hot pepper, vinegar, vinegar, etc.), Grubs→ Milky spore, nematodes, corn gluten pre-emergents, etc.**

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Not Included in Least Toxic Pesticides

Determined by government sources to likely be:

- **acutely or moderately toxic pesticides,**
- **carcinogen (causes cancer),**
- **mutagen (causes cell mutation),**
- **teratogen (causes birth defects),**
- **reproductive toxin,**
- **developmental neurotoxin (learning, behavioral disorders),**
- **endocrine disruptor,**
- **immune system toxin, and**
- **any application of the pesticide using a broadcast broadcast spray, dust, tenting, fogging, or baseboard spray application.**

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Target Chemical Use Sites

- Home Lawns
- Businesses
- School Grounds
- Golf Courses
- Parks
- Rights-of-way
- Other Public Spaces

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Local Government Model Initiative (Westchester County, NY)

"Pesticides can affect our health and contaminate our water supply – it's as simple as that." Andrew Spano, County Executive, Westchester County, NY (2004)

- **protect the health of Westchester County residents by by reducing their exposure to aesthetic pesticides, particularly those used on lawns.**
- **educate citizens about the risks of pesticide exposure and and the need for water quality protection.**
- **training and education materials on safe alternatives for for homeowners, landscapers, and businesses.**

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Precautionary Principle

- By the time there's undeniable proof of harm - the the damage will be too severe to correct.
- Today's pesticide problems are yesterdays; tomorrow's will be today's (e.g. DC stormwater)
- There are considerable gaps in our knowledge of impacts of chemicals once released into society.
- Base chemical use on proof of safety.
- Utilize known non-toxic, preventive or least-toxic toxic alternative methods and products.

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