

The EPA has never examined lawn care pesticides for the *health effects of chronic, low level exposure*:

- central nervous system
- reproductive disorders
- fetal and child development disorders
- respiratory disease (asthma)

The EPA has never considered the health effects of exposures to combinations of multiple pesticides and other toxic chemicals, nor their additive, synergistic or cumulative effects. The EPA has not even considered combinations of closely related pesticides, such as atrazine and simazine in setting standards or granting registration.

Registration of a pesticide with the EPA does *not* mean that it is safe or environmentally friendly.

All pesticides are biocides, designed to kill or harm living organisms.

Lawn care pesticides don't always go where they're aimed or stay where they're put. Pesticides can:

- "Drift" into the air during application
- Vaporize or volatilize into the air
- Run off into bays, rivers, streams and lakes
- Leach into ground water

Pesticides pollute air and water and contaminate the soil and drinking water.

Lawn care pesticides can be absorbed by humans and wildlife by:

- Inhalation of pesticide drift and vapor from the air
- Skin penetration of pesticide drift and vapor or from direct contact
- Ingestion of drinking water contaminated with pesticides
- Ingestion by children from mouthing contaminated objects or fingers
- Ingestion by pets and wildlife from grooming or licking

Lawn care pesticides don't always just break down into harmless substances. Some can break down into a more toxic form. Others can combine or react with other chemicals in the air, water or soil. Others can persist in the soil, water or air.

Ask us for information about *alternatives to toxic lawn care pesticides.*

FACT

Facts about Alternatives to Chemical Trespassing, Inc.
PO Box 5922, Sarasota FL 34277-5922
a 501(c)(3) not-for-profit organization
working to stop urban pesticide pollution

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Health Hazards

Of

LAWN CARE PESTICIDES

FACT

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to Chemical Trespassing, Inc.

PO Box 5922
Sarasota, FL
34277-5922

For health hazard assessment, lawn care pesticides (insecticides, herbicides and fungicides) are tested generally in high doses for short term acute toxicity, carcinogenic effects, reproductive effects and teratogenic effects.

Extensive testing is done to determine the "LD-50" which is the lethal dose needed to kill 50% of the animals in the laboratory such as rabbits, dogs, guinea pigs, mice, rats, chickens, etc. The LD-50 testing is barbaric, out-moded, and does not give an accurate and complete picture of the health effects of pesticides.

The EPA is first now starting the process to consider the "endocrine-disrupting" effects of pesticides. The endocrine system involves the complex glandular organs that produce the hormones that are biochemical messengers to regulate vital bodily functions - including reproductive, metabolic and thyroid systems and sexual development.

Pesticides can mimic or obstruct hormone function in humans and wildlife, and cause disorders such as reproductive and developmental abnormalities, immune dysfunction, cognitive and behavioral problems, and cancer. Pesticides can be hormone-like or hormone antagonistic, exhibiting estrogenic, antiandrogenic (obstructing androgens), or thyroid-disrupting effects. Pesticides can disrupt the endocrine system or fool it into accepting erroneous instructions that distort normal development.

Hormone disruption occurs from pesticides in very small exposures, but not large doses.

Signs and symptoms of short term (acute) pesticide poisonings, according to Recognition and Management of Pesticide Poisonings, 5th edition 1999, available free from the EPA by calling 1-800-490-9198 (Document # EPA 735-R-98-003)

Organophosphate insecticides:

- Orthene^(R) (acephate), Dursban^(R) (chlorpyrifos), diazinon, Cygon^(R) (dimethoate), Oftanol^(R) (isofenphos), Cythion^(R) (malathion)
- Absorbed by inhalation, ingestion and skin penetration
- Signs and symptoms can include: headache, nausea, dizziness, sweating, salivating, tearing, rhinorrhea, muscle twitching, weakness, tremor, incoordination, vomiting, abdominal cramps, diarrhea, miosis, blurred or dark vision, anxiety, restlessness, depression, memory loss, confusion, toxic psychosis, respiratory depression, seizures, lethargy, coma.

N-Methyl carbamate insecticides:

- Sevin^(R) (carbaryl), Baygon^(R) (propoxur), Ficam^(R) (bendiocarb)
- Absorbed by inhalation and ingestion; and somewhat by skin penetration
- Signs and symptoms can include: malaise, muscle weakness, dizziness, sweating, headache, salivating, nausea, vomiting, abdominal pain, diarrhea, miosis with blurred vision, incoordination, muscle twitching, slurred speech; and in very serious exposures, central nervous system depression and pulmonary edema.

Pyrethroid Insecticides:

- Talstar^(R) (bifenthrin), Tempo^(R) (cyfluthrin), Demeton^(R) (cypermethrin)
- Signs and symptoms of toxicity include: abnormal facial sensation, dizziness, salivating, headache, fatigue, vomiting, diarrhea, and irritability to sound and touch; and in severe exposures, pulmonary edema and muscle fasciculations.

Herbicides:

Roundup^(R) (glyphosate)

- Irritating to eyes, skin, and upper respiratory tract

2,4-D^(R) (chlorophenoxy acid)

- Often mixed into commercial fertilizers
- Absorbed from the gastrointestinal tract, and from the lungs
- Irritating to skin and mucous membranes; vomiting, diarrhea, headache, confusion, and bizarre or aggressive behavior

atrazine*

- Often mixed into commercial fertilizers
- Irritating to the eyes, skin, and respiratory tract

*Note: Atrazine has been shown to cause mammary tumors in female rats (EPA Notice of initiation of special review Nov. 23, 1994).

Atrazine promotes the formation of "bad" estrogen that is linked to breast cancer.