

The following is a summary of a program presented by a Golf Course Superintendents Association in the East.

Environment — Pollution — Pesticides

Program: Metropolitan Golf Course Superintendents Association, July 23, 1970 — Walter Androsko.

Environmental Quality — one of the high priority issues of our times, also political and very emotional. A survey indicated that 51% of people interviewed were deeply concerned and 35% somewhat concerned about problems of environmental quality.

People and Their Requirements Cause Pollution — urban crowding, population explosion, industrialization, luxury use and consumption of goods and service, modern transportation, agriculture and horticulture, homes and gardens each adds to the total problem. 500,000 chemicals are used in the United States with little known about their total effects upon the environment.

An ecologist has estimated that this old World could support a population of one billion without a serious pollution problem. We now have 3½ billion people and heading for 6 billion by the year 2,000. New York State has a birthrate of 300,000 each year; a deathrate of 190,000 for a net gain of 110,000 persons each year.

The United States with 6% of the world's people causes 50% of the world's pollution and uses 60% of the world's resources. The United States has a program to encourage industrialization in many of the emerging countries.

New York State Department of Environmental Conservation — newly created will take over many of the environmental functions of various other departments. Pesticide control functions will be under this department. **Hearings were held at 10 A.M., Monday, August 3, 1970, Room 20, New York Academy of Medicine, 2 East 103rd St., New York City** for the purpose of developing a list of "restricted use" pesticides. Mr. Henry L. Diamond is the new Commissioner.

Pesticides

Pesticides are a part of the pollution problem and contribute "for and against" environmental quality.

Problems: improper usage, persistence, toxicity, contamination, storage, disposal of unused pesticides and empty containers.

- Read the label — follow directions
- Practice safety precautions
- Know the toxicity of pesticides used man, animals, fish, etc.
- Problems of storage and fires.

Pesticides add to the quality of the environment
Control insects and diseases — food, horticulture, house pests.

- 1970 Westchester leaf defoliation problems
- Various Cankerworms
- Gypsy moth
- Aerial Spraying

1971 — Insect Potentials

Considerations

Am I familiar with chemicals used under my directions?
LD50-figures, toxicity — man, plants, animals.

Do I set a good example for my men when I handle pesticides?

Do not smoke, keep out of drift, wash after using, flush materials spilled, wear proper clothing, clean up equipment.

Are pesticides stored to present a minimum hazard?
Locked, labeled, vandalism, mistakes, children.

In case of fire-run-off, smoke drift.

Do I have a program to dispose of "empty containers"?

Are containers "really empty"?

Are containers made totally non-usable?

Are piles of containers allowed to accumulate?

Where and how are they disposed of?

What about old pesticides that won't be used?

Most widely used pesticides in 1969 — Parathion LD50 - 4 - 18 deaths in 1961, Toxaphene - LD50 - 80 - 0 deaths, Carbaryl LD50 - 850 - 0 deaths, D.D.T. - LD50 - 118 - 0 deaths, Endrin LD50 - 7 - 1 death. Herbicides only 1 death reported - 2,4-D ester - LD50 - 700 - 1 death. Fungicides no deaths reported.

Other: asperin LD50 - 365 - 182 deaths in 1961 Strychnine LD50 - 1 - 1 death, Lead arsenit (?) 50 LD50 - 10 - 29 deaths in 1961.

Pollution causing fish kill in U.S. in 1967 — 11 million fish killed: Industrial wastes 72%, Municipal wastes 5.8%, pesticides 3%, fertilizers 0.1%, manure-silage drainage 11%.

U.S.D.A. — insect research effort of \$18 million — 51% budgeted for biological control: parasites, predators, pathogens, sterility, photo period, attractants, resistance. Conventional insecticide research — 16%. About 100,000 insect species in the U.S. of which 10,000 classified as pests.

U.S. Pesticide sales — big business: 1968 — fungicides \$70 million sales, insecticides — \$335 million, Herbicides \$505. Estimated for 1975 — fungicides \$75 million, insecticides \$526 million, herbicides \$950 million.

Control of malaria in Ceylon with D.D.T. — 1950 — cases of malaria 2,000,000; 1950's D.D.T. mosquito eradication program begun; 1962 — 31 cases; 1963 — 17 cases; 1964 — 150 (D.D.T. use stopped); 1965 — 308; 1966 — 499; 1967 — 3,466; 1968 — 1,000,000; 1969 — Eradication program initiated again.

* July 25, 1969, report from Health, Education and Welfare, Atlanta, Georgia.

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