THE MENACE OF HERBICIDES

Granville F. Knight, M.D., F.A.C.A.
Santa Monica, Ca.

I. Introduction.

Pesticides, which are wishfully ~~, and I might say wistfully~~, unfortunately being used in an attempt to control pests of all types, have become part of our lives.[1] Unfortunately, newer chemicals such as the organic phosphates and the chlorinated hydrocarbon types may be posing more problems than they were supposed to control. This is particularly true of the pre- and post- emergence herbicides, including the phenoxy compounds as exemplified by "Agent Orange" (a 50-50 mixture of 2,4-D and 2,4,5-T). This defoliant mixture was used for years in Vietnam until mounting evidence of serious damage to the population and the environment resulted in a ban on its use in 1970.

Few individuals are aware that chemical warfare has been waged against our citizens for more than twenty years. Moreover, it is still being waged in our national forests throughout the country. Whereas the Environmental Protective Agency last year banned the use of liquid 2,4,5-T around homes and near water supplies, this herbicide is still approved for brush control on all grazing lands and forests throughout the United States. No one knows what residues of TCDD may be found in our cattle.

In this paper, I hope to provide evidence - both theoretical and practical - indicating the extreme dangers attendant upon continued use of herbicides such as the phenoxy group, paraquat and others.

II. History of Herbicides - Types

1. Dessicants - petroleum oils, fire.

2. Soil sterilants - arsenic compounds, K-chlorate

3. Growth stimulators. Plants grow themselves to death.
   (a) Phenoxy herbicides
   (b) Triazines (SLIDES)
   (c) Paraquat

III. Phenoxy herbicides - 2,4-D, 2,4 DP & DB, etc., 2,4,5-T, 2(2,4,5-TP) (Silvex) (SLIDES)

1. Widespread use.

2. Contamination by dioxins

3. Toxic properties per se.

4. Extreme toxicity of dioxins (TCDD)

IV. Other Herbicides, insecticides, fungicides, etc. Possible potentiation.

Hg treatment of seeds - mass poisoning Indonesia, etc.

V. Symptomatology

VI. Examples:

1. Globe

2. Socorro ?, New Mexico - Silvex - cattle deaths.

3. Lapland - reindeer (2,4-D)

4. Oregon - hunters

5. Effect of 2,4-D on embryos - France

6. Vietnam

Menace of Herbicides (continued)

7. Australia - 2,4,5-T

8. Monitoring in S. M. More than 1/2 blood samples after spraying in mountains showed chemicals in blood.

9. Charlotte and daughter

10. Case of Paraquat poisoning.

VII. Diagnosis

Difficult unless suspected. History most important. Symptoms: Findings: Lab work: EEG: urine or blood specimens: GHT Labs. RBC cholinesterase. Urinary.

VIII. Treatment

Symptomatic. High vitamin and mineral and protein intake. Liver injections and P.o. phenobarbital and/or atropine. (Latter - large doses for organic phosphate poisoning.) Atropine vital for parathion poisoning.

IX. Conclusions:

Prevention of greatest importance. Stop use of as many as possible. Use other methods of brush control in mounts. (Controlled fires, etc.)