

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN

SEMINAR ON AIR POLLUTION
Teheran, 21-29 April 1969

EM/SEM, AIR, POL./6
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ENGLISH ONLY

EFFECTS OF POLLUTION ON VEGETATION

O U T L I N E

by

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1. (a) Early history - damage caused by air pollutants from metal smelting and chemical industries. Gases, smoke and particulate pollutants; including sulfur dioxide, fluorides, sulfuric acid mist, toxic metals, cement dust, alkali dust, etc.
- (b) History of photochemical smog and oxidant damage
2. Symptoms and Diagnosis of leaf injury
 - a. Acute injury
 - b. Chlorotic injury
 - c. Growth alterations
 - d. Environmental and nutritional factors
3. Aids to Diagnosis
Sulfur Dioxide

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- a. Exposure equations-toxic and non-toxic limits and symptoms
 - b. Relative susceptibility of Species-influence of environmental factors
 - c. Yield-leaf destruction equations
 - d. Effects on photosynthesis and stomatal movement
4. Hydrogen fluoride and fluorides
- a. Exposures and symptoms
 - b. Relative susceptibility of species-accumulation of fluoride in plant tissues - Influence of environmental factors
 - c. Toxic limits and hazard of accumulation of fluoride in leaves of forage crops to animals
 - d. Effects on photosynthesis
5. Ozone
- a. Exposure and symptoms
 - b. Relative susceptibility and toxic limits
6. Oxidants and photochemical pollutants (PAN)
- a. Exposure and symptoms
 - b. Toxic limits and relative susceptibility
7. Ethylene
- a. Symptoms and exposure
 - b. Toxic limits

8. Particulate matter
 - a. Effects of sulfuric acid mist
 - b. Smoke
 - c. Miscellaneous aerosol pollutants

9. Assessment of effects on vegetation in relation to criteria and standards of air quality