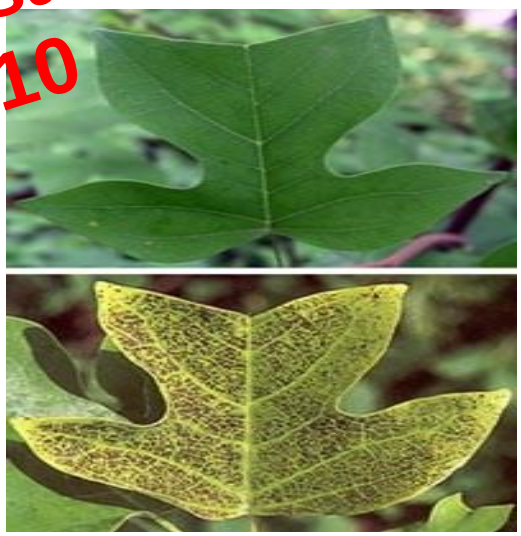
biological decomposition and from volcanic eruptions. Its high atmospheric concentrations produce various injuries to leaves such as interveinal and blade damage, necrosis of leaves and cellular collapse. However, moderate SO2 pollution results in chlorosis of leaves without cellular collapse. Pine trees are more susceptible than broad leaved trees and react by partial defoliation and reduced growth.

2. **Nitrogen oxides:** In plants, NO2 brings about bifacial necrosis leading to collapse of leaves, enhancement of green colour followed by chlorosis and extensive leaf drop. Ultimately there occur an increase in fruit drop and decrease in fruit crop.
3. **Photochemical smog:** Ozone, PAN and nitrogen dioxide severely injure many forms of plant life, destroying the cells of leaves, damaging the chloroplasts, and interfering with the plant's metabolic processes. PAN is known to block "Hill reaction" of photosynthesis. It results in bronzing and glazing of abaxial leaf surface which is due to plasmolysis and collapse of mesophyll cells around substomatal chambers. Epidermal and guard cells are not injured by PAN.
4. **Ozone**: Levels of ozone (O3) may rise in atmosphere due to human activities. In plants O3 enter through stomata and produces visible damage to leaves and results in decrease in yield and quality of plant products. Thus, O3 results in necrotic flecking of upper surface of leaf general chlorosis and bronzing, premature senescence of plants, precocious dropping of older leaves, reduced growth of shoots and roots, suppression of nodulation, reduction in seed set and yield. Ozone causes shrinkage of nuclei and cytoplasm or mesophyll cells which become granular and results in increased intercellular space.



5. **Fluorocarbons (Hydrogen fluoride):**

Natural sources of fluorides in the atmosphere are active volcanoes. Their man-made or artificial sources are petroleum refining etc. Fluoride burns the tip of plant leaves. Its low amounts impair plant growth; result in