

ANSWERS for STUDY GUIDE

"Acid Precipitation, Implications for Forest Productivity"

- 1) Precipitation that is below pH 5.6; burning of fossil fuels, particulates or gases emitted combine with water in atmosphere to form acids.
- 2) Aluminum affects gills of fish; kills eggs, fry & adult fish; kills aquatic insects; kills algae & aquatic plants. Either from the aluminum toxicity or from the acidity.
- 3) In the 4 range
- 4) Deciduous
- 5) Leaching of nutrients
- 6) Leached nutrients will be carried away from the root zone by ground water or surface water.
- 7) Decomposers are harmed; leaf litter not being broken down and recycled, nutrients not available for plants.
- 8) Water loss, no protection.
- 9) Mixed results; red maple and yellow birch experience impeded germination; Eastern Hemlock - no effect; white pine & white spruce - improved germination.
- 10) Fungi that are symbiotic to tree roots; they assist in the gathering and absorption of minerals and water through root hairs; they are killed by acid rain.
- 11) Poisoning from the aluminum that has been pulled away from clay particles in soil by acid rain; Affects absorption by root hairs, reduces growth & vigor.