

Air Pollution and Agriculture

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Introduction

The effects of air pollution are adverse and the dangers caused are becoming a worrying trend. Gaseous oxides which include oxides of sulfur, carbon and nitrogen pollute the air in a variety of ways leading to effects such as acid rain, respiratory infections, depletion of ozone layer, climate change and global warming. Particulate pollutants include dust and hydrocarbons (Mukherjee, 2002). This essay seeks to explain the effects of air pollution on agriculture.

Effects of Air Pollution on Agriculture

Air pollution affects agriculture in a number of ways ranging from the soil on which agricultural activities are conducted to the crops and animals that are produced on farms. An explanation of how air pollution affects the various aspects of agriculture is outlined in the following paragraphs.

Soil

The soil is a vital element in agriculture and agricultural production largely depends on its quality. Air contaminants like the oxides of sulfur and nitrogen cause acid rain that gets into the soil which causes leaching of vital nutrients as well as altering soil pH. Unfavorable pH not only kills the soil microbes but also creates an unsuitable environment for crop growth and development (Mukherjee, 2002).

Plants

Air pollution causes injury to plants and the damage can be seen in the form of slow growth in various crops, yellowing of leaves and damage to foliage in the form of necrotic lesions. The effects of oxidants such as ozone contained in the photochemical smog include reduction of yields and bleaching of leaf tissues. Particulate matter such as cement and lime

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dusts as well as carbon soot deposit on the leaves of the crops reducing the photosynthetic ability of the plants as well as hinder gaseous exchange. The overall effect of air pollution on plants are reduced yields and poor quality crop produce (Unsworth & Ormrod, 2013).

Animals

The quality of air is critical for the performance and production of farm animals. Just like in humans, air contaminants cause a variety of complications and disorders of livestock which leads to low-quality animal products (Unsworth & Ormrod, 2013).

Climate Change and Erratic Weather Patterns

Pollution of air causes adverse changes of weather elements. Depletion of the ozone layer as a result of the release of chlorofluorocarbons into the air causes radiation of dangerous ultraviolet rays on the plants and animals. Climate change due to global warming causes unpredictable rainfall and droughts which negatively affect rainfed agricultural activities (Unsworth & Ormrod, 2013).

Conclusion

Air pollution has negative implications on agriculture and its adversity on agriculture is due to the hazardous nature of the pollutants that damage the crops thus reducing the yield and the quality of the agricultural produce. The significant air pollutants include greenhouse gases, gaseous oxides and particulate matter. The greenhouse gases include carbon IV oxide, methane and others. These gases cause the 'greenhouse effect' in the atmosphere which results in global warming.

References

Mukherjee, N. (2002). *Alternative Perspectives On Livelihood, Agriculture And Air Pollution* (Vol. 1). Concept Publishing Company.

Unsworth, M. H., & Ormrod, D. P. (2013). *Effects of gaseous air pollution in agriculture and horticulture* (No. 32). Butterworth-Heinemann.

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