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https://scholar.google.com/citations?user=Hp5LMHwAAAAJ&hl=en

Summary

A surge in global population over the past half-century has created several significant issues, including the deterioration of soil and water systems due to agricultural practices. The contamination of soil by heavy metals and microplastics has emerged as a growing concern, posing threats to plant growth and ecosystem health. My research aims to investigate the combined impact of heavy metal and microplastics contamination on plant growth, focusing on their toxic effects on agricultural crops. The study will utilize a comprehensive approach, integrating field observations and laboratory experiments to assess the effects of heavy metal and microplastics pollution on plant physiology and growth parameters. Specifically, the research will examine the influence of heavy metals, such as lead, cadmium, and chromium, in combination with microplastics on key plant growth indicators, including root development, shoot biomass, and chlorophyll content. Additionally, the potential for bioaccumulation of heavy metals and microplastics in plant tissues raises concerns regarding food safety and environmental health. By elucidating the combined impacts of heavy metal and microplastics contamination on plant growth, this research aims to provide valuable insights for agricultural management and environmental stewardship. The development of effective mitigation strategies and environmental monitoring systems is essential to safeguarding crop production, food safety, and ecosystem resilience in the face of emerging contaminants.

Research Expertise

- Microplastics Toxicity
- Pesticides Pollution
- Heavy Metal Contamination
- Agroforestry Practices
- Bioremediation
- Nutrient Cycling