MWP

MWP – Young Researcher Abstract 2025

Project title: Natural Regeneration of broadleaves on *Phytophthora*-infested soils	
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Abstract (approx. 200 words)**:**

Climate change is expected to intensify the impact of soil-borne pathogens such as *Phytophthora*, posing a serious threat to forest health and long-term ecosystem stability. My research focuses on understanding how broadleaved tree seedlings respond to *Phytophthora* pathogens and how these insights can support the development of low-risk, climate-adaptive regeneration strategies.

With rising temperatures and soil moisture changes stressing the trees and favoring pathogen activity, traditional planting with nursery stock may be increasingly challenging. Natural regeneration offers an alternative solution, potentially reducing disease spread through planting materials. By identifying early indicators of disease tolerance and mapping microbial interactions in seedlings, this research can guide forest managers toward more informed decisions. The results can benefit forestry through resilient forest regeneration protocols and reduced pathogen-related losses. Overcoming current knowledge gaps in soil-pathogen dynamics is critical, and my work aims to bridge science and practice to ensure sustainable forest regeneration strategies under a warming climate.

Key words:

Climate change, *Phytophthora*, Forest health, Natural regeneration, Soil-pathogen dynamics