

Beneficial Management Practices (BMPs) to Enhance Carbon Sequestration and Reduce Greenhouse Gas Emissions from Agroforestry Systems

PROJECT DESCRIPTION

Increasing atmospheric greenhouse gas (GHG) concentrations are a perennial problem causing global climate change. In Canada, about 10% of the GHG emission is from crop and livestock production systems. Agroforestry systems, which integrate trees into the agricultural landscape, has been recognized as a carbon sequestration activity by IPCC under afforestation and reforestation activities. Our previous Agricultural Greenhouse Gases Program (AGGP) project studied three different agroforestry systems (silvopasture, shelterbelt and hedgerow) across 36 sites in central Alberta and quantified the function of trees in agroforestry systems in sequestering carbon and reducing GHG emissions. Based on results from previous research, silvopastoral systems with the combination of trees and perennial understory vegetation were more beneficial in reducing GHG emissions and increasing soil carbon storage. The objective of this research is to test potential BMPs (enrichment planting in forested areas in agroforestry systems, biochar and manure pellet applications in the herbland) to reduce GHG emissions and increase ecosystem carbon sequestration. An intern will be involved in overall project execution, including field sampling and lab analysis.

FACULTY-DEPARTMENT

Faculty of Agricultural, Life & Environmental Sciences- Renewable Resources

DESIRED FIELD OF (STUDENT) STUDY

Soil science, plant science, ecology, or environmental science

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

2

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)
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INTERNSHIP START DATE

July 3, 2018

INTERNSHIP END DATE

October 3, 2018

ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.