

**Name: Myung Jin (John) Kang**

**Silvopastoral soil carbon and microbial community effects from strip-thinning widths and grazing dynamics**

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**Committee names: Dr. Wendy Gardner, Dr. Jillian Bainard**

**Abstract of your research** - There is limited research on silvopastures in BC and their potential benefits on carbon sequestration with their implementation method. I will be exploring soil characteristics at the five-year interval in a Lodgepole pine (*Pinus contorta* var. *latifolia*) plantation that was converted into a silvopasture by strip-thinning at three widths (10m, 15m, 20m). This resulted in paired strips of pasture and forest along with their controls across three blocks. Pasture strips were initially seeded with agronomic forage species and installed with grazing exclosures evenly between the strip-width treatments. Soil will be sampled throughout the different strip widths and at the exclosures to measure the changes in soil carbon and nitrogen in their different fractions: inorganic matter, particulate organic matter, and mineral associated organic matter. Microbial functional enzymes and communities can also be quantified to see how their abundances relate with soil characteristics. This research will give novel insight into how large-scale treatments may affect soils in silvopastures.