



ses

school of environmental sciences

The MSc Thesis Examination for

Jessica Awrey

will be held on

Friday, May 7, 2021

At 9:00 a.m.

Long-term cover crop impacts on processing tomato production: fruit yield and quality, disease, and plant N content

EXAMINATION COMMITTEE:

Dr Kari Dunfield (Chair)

Dr Laura Van Eerd (Advisor)

Dr Steven Loewen (Internal-External)

Dr Cheryl Trueman (Committee member)

ADVISORY COMMITTEE:

Dr Laura Van Eerd (Advisor)

Dr Cheryl Trueman (Committee member)

Dr Kimberley Schneider (Committee member)

Everyone is welcome to attend.

Previous research on the long-term cover crop experiment at Ridgeway, Ontario (LTccExpt) demonstrated greater soil health with cover crops than without, which led to the hypothesis that tomato health would be enhanced. In 2019, the control had greater defoliation and percent red fruit compared to the radish treatment, indicating earlier fruit maturity and foliar disease when grown without cover crops. In 2019, tomatoes grown without cover crops had greater incidence and severity of anthracnose fruit rot than those grown after cover crops; though, in 2020, results were similar but not significant. Consistent with previous research at LTccExpt, fruit yields with cover crops were greater than or equivalent to yields without cover crops. Long-term annual cover crop adoption (grown nine times over twelve years) did not negatively influence tomato production, and there was some indication of enhanced fruit quality (lesions, pH, soluble solids, colour) and nutritional composition (micronutrients, macronutrients, antioxidant activity).