

Establishment of Annual Crop - Living Mulch System

Jessica F. Frey*, and Joanne R. Thiessen Martens
University of Manitoba Department of Soil Science, Winnipeg, MB

*Corresponding author: umfreyj@myumanitoba.ca

The use of perennial cover crops in temperate regions outside of the usual margins of the growing season provides well-documented benefits to the soil. The nitrogen-fixing ability of legume crops is of particular interest. In a growing season that typically consists of 90-110 frost-free days, establishing a living mulch system at the time of seeding the grain crop may be necessary to allow sufficient time for cover crop growth. To achieve the producer's goals, the intercrop must provide sufficient grain yield. A well-established living mulch using perennial legumes allows the understory crop to maintain its performance throughout a subsequent growing season with the continued presence of living roots in the ground between cash crops.

Preliminary results are for a spring wheat-living mulch system established in May 2023 at four Manitoba sites. Four legume species and one grass species were seeded in the same row and at the same depth as wheat. Data collection included wheat and living mulch establishment; wheat and cover crop mid-summer biomass; wheat yield and protein; and cover crop fall biomass. Results presented will include wheat and living mulch establishment, wheat yields and protein content, and biomass for both crops.

Submission Note: The author is intending to submit an updated abstract soon