

AGRONOMIC AND ENVIRONMENTAL IMPACTS OF GREEN MANURES AND ORGANIC FERTILIZERS ON ORGANIC CASH CROPS

CAROLINE CÔTÉ, CHRISTINE LANDRY, MARC-OLIVIER GASSER, SIMON P. GUERTIN,
MYLÈNE GÉNÉREUX, MYLÈNE MARCHAND-ROY AND JULIE MAINGUY

INTRODUCTION

- Synchronizing nutrients availability with crop needs is a big challenge in organic cash cropping.
- Very little research has been conducted on the agronomic and environmental effects of green manures and organic fertilizers in these crops.
- The objectives of this long term project are to evaluate nutrients availability and uptake, harvest yields and quality, and the fate of nitrates and of indicator and pathogenic microorganism in a corn-soy-bean-wheat-meadow rotation.

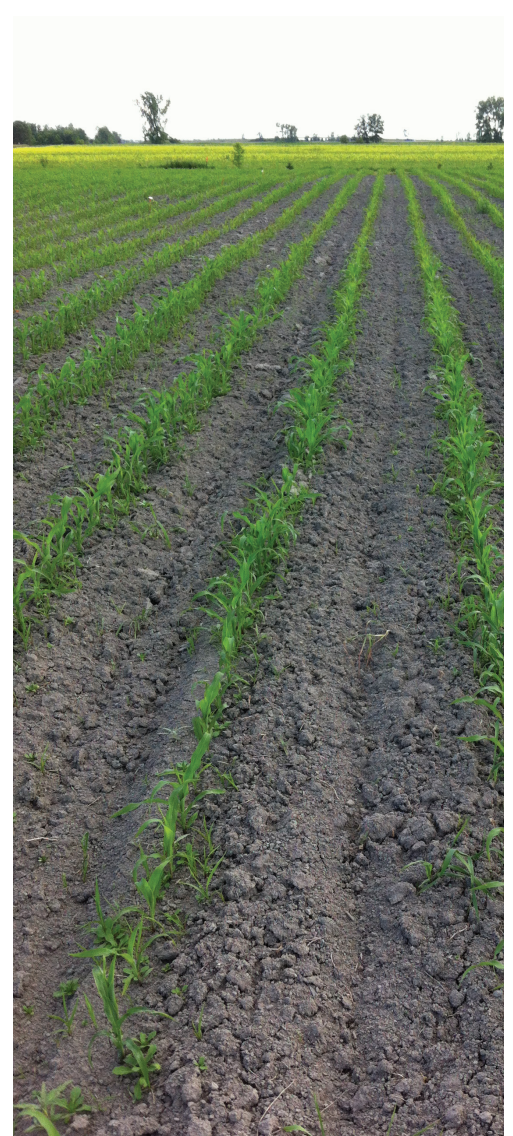
MATERIALS AND METHODS

- The experimental design is a split-plot factorial design including green manures (hairy vetch and crimson clover), bovine manure, composted bovine manure and a control as the main plot factor and organic fertilization (control, preplant or sidedress application of liquid hog manure, and preplant application of liquid dairy cattle manure) as the subplot factor in corn.
- Each treatment is repeated 3 times for a total of 60 experimental plots.



RESULTS

- In 2014, green manures were seeded on August 11 and incorporated on October 27, corresponding to a total nitrogen load of 46 and 38 kg/ha for the aerial biomass of hairy vetch and crimson clover respectively. Estimated available nitrogen from manure and composted manure fall application was 47 and 50 kg/ha respectively.
- First results on corn crop yields will be available in fall 2015.



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TO LEARN MORE

Caroline Côté, agr., Ph. D.
450 653-7368 ext. 310
caroline.cote@irda.qc.ca