

The optimization of canola crop production through wheat residue management within a western Canadian context – A case study of Saint-Front, Saskatchewan

Xiaying Xin,^{a,b} Guohe Huang,^{b,*} David Halstead^c, Katelyn Gaetz^d, Leila Benmerrouche^c, Jing Huang^b, Yuwei Wu^b, Jinbo Zhang^e, Yupeng Fu^b and Nan Wang^b

^a School of Energy and Environment; State Key Laboratory of Marine Pollution (SKLMP), City University of Hong Kong, Kowloon, Hong Kong SAR, China

^b Institute for Energy, Environment and Sustainable Communities, University of Regina, Regina, Canada S4S 0A2

^c Saskatchewan Polytechnic, Prince Albert, Canada, S6V 7S4

^d Prairie Agricultural Machinery Institute, Humboldt, Canada S0K 2A0

^e Peking University, Beijing, China, 100871

This SI file contains:

7 Pages

4 Figures

List of figures

Figure S1. Field finish in (A) harrow treatment with a 100ft Degelman Strawmaster Pro heavy harrow; (B) tillage treatment with a 40ft Degelman Pro-Till high-speed disc.

Figure S2. Sampling site after post-seeding on (A) day 28; (B) day 56.

Figure S3. (A) The Canadian light source, (B) *Bruker Vertex 70v Interferometer / Hyperion 3000 IR Microscope on Mid-IR beamline*, (C) *Workstation on VESPERS beamline*.

Figure S4. Main effect on moisture corrected yield.



Figure S1. Field finish in (A) harrow treatment with a 100ft Degelman Strawmaster Pro heavy harrow; (B) tillage treatment with a 40ft Degelman Pro-Till high-speed disc.

(A)



(B)

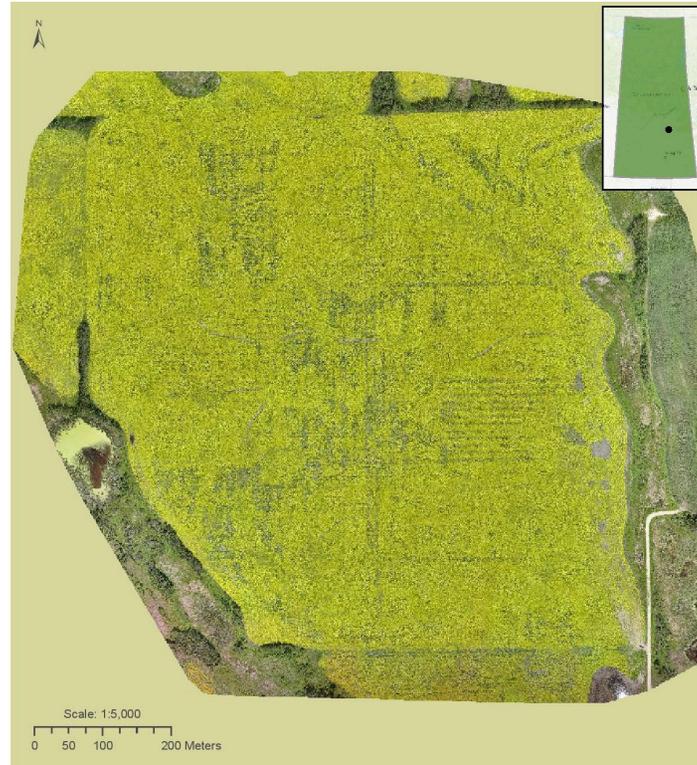


Figure S2. Sampling site after post-seeding on (A) day 28; (B) day 56.



Figure S3. (A) The Canadian light source, (B) *Bruker Vertex 70v Interferometer / Hyperion 3000 IR Microscope on Mid-IR beamline,* (C) *Workstation on VESPERS beamline.*[1]

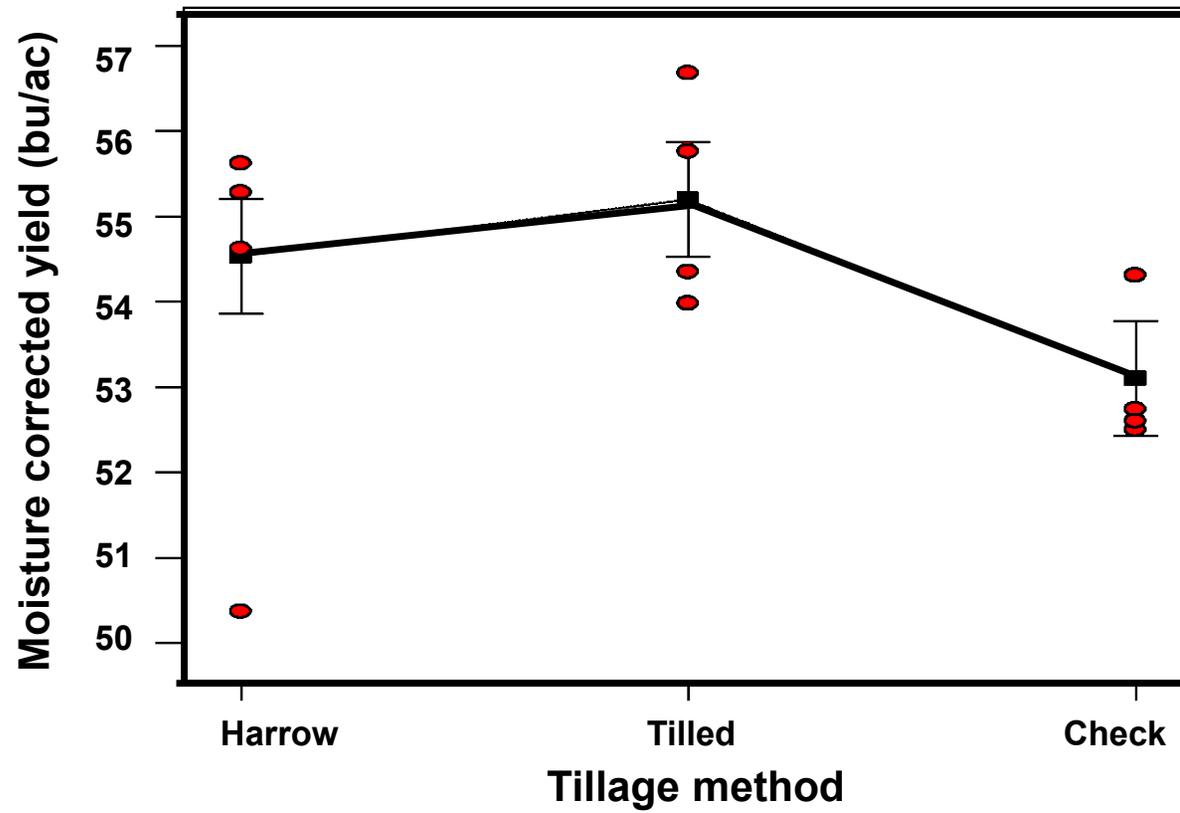


Figure S4. Main effect on moisture corrected yield.

Reference

1. Xin, X.; Huang, G.; An, C.; Feng, R., Interactive Toxicity of Triclosan and Nano-TiO₂ to Green Alga *Eremosphaera viridis* in Lake Erie: A New Perspective Based on Fourier Transform Infrared Spectromicroscopy and Synchrotron-Based X-ray Fluorescence Imaging. *Environmental Science & Technology* **2019**, 53, (16), 9884-9894.