

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

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**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)

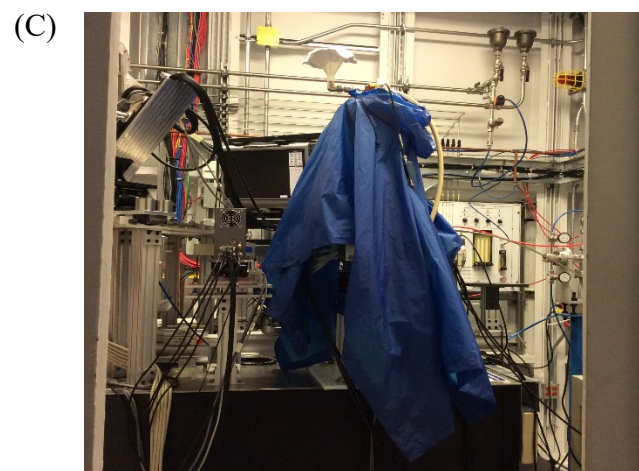
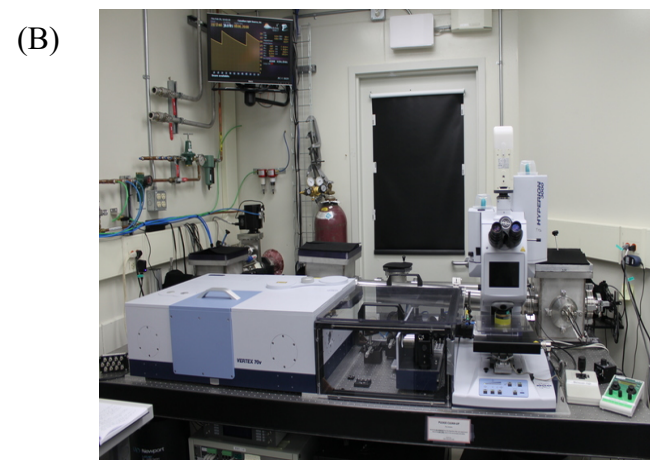


(B)



**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*.<sup>[1]</sup>

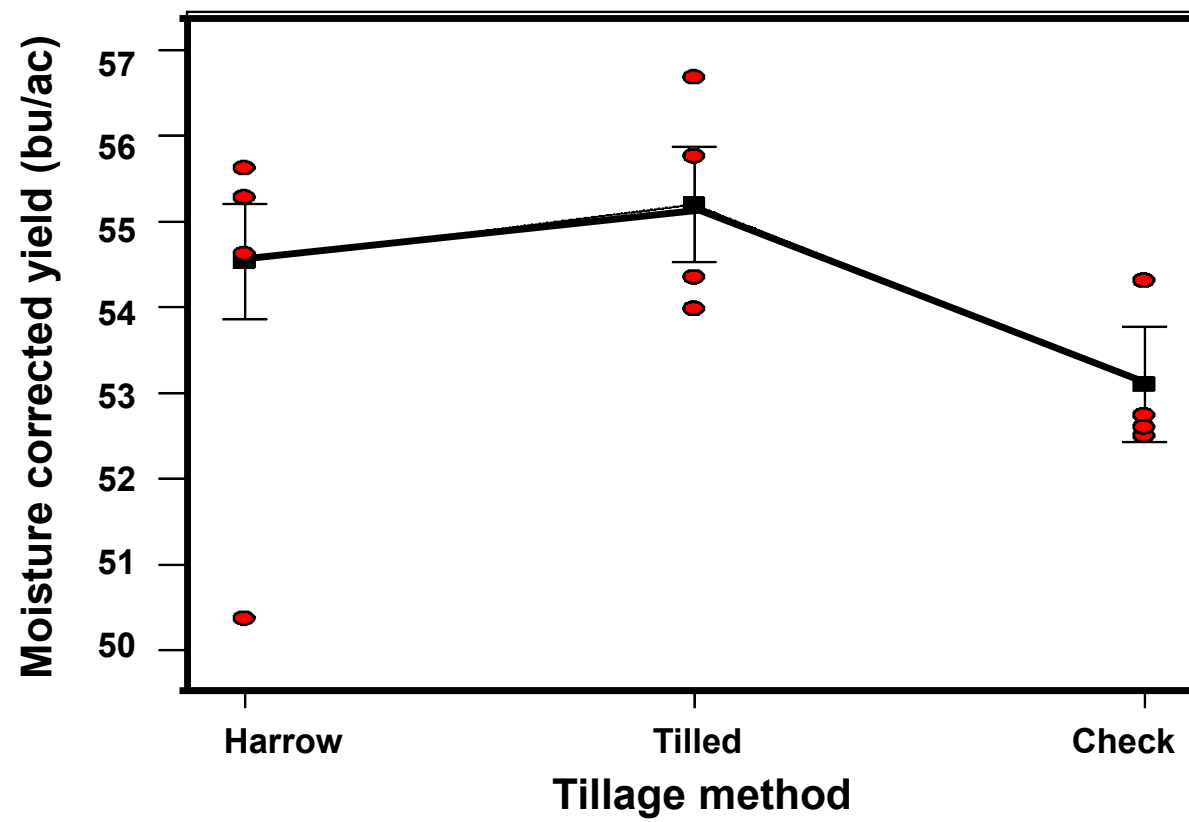


Figure S4. Main effect on moisture corrected yield.

## Reference

1. Xin, X.; Huang, G.; An, C.; Feng, R., Interactive Toxicity of Triclosan and Nano-TiO<sub>2</sub> 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.