

Value of Cover Crops

Dave VanSegbrook

Tupperville

vansseg@msni.net

Laura Van Eerd

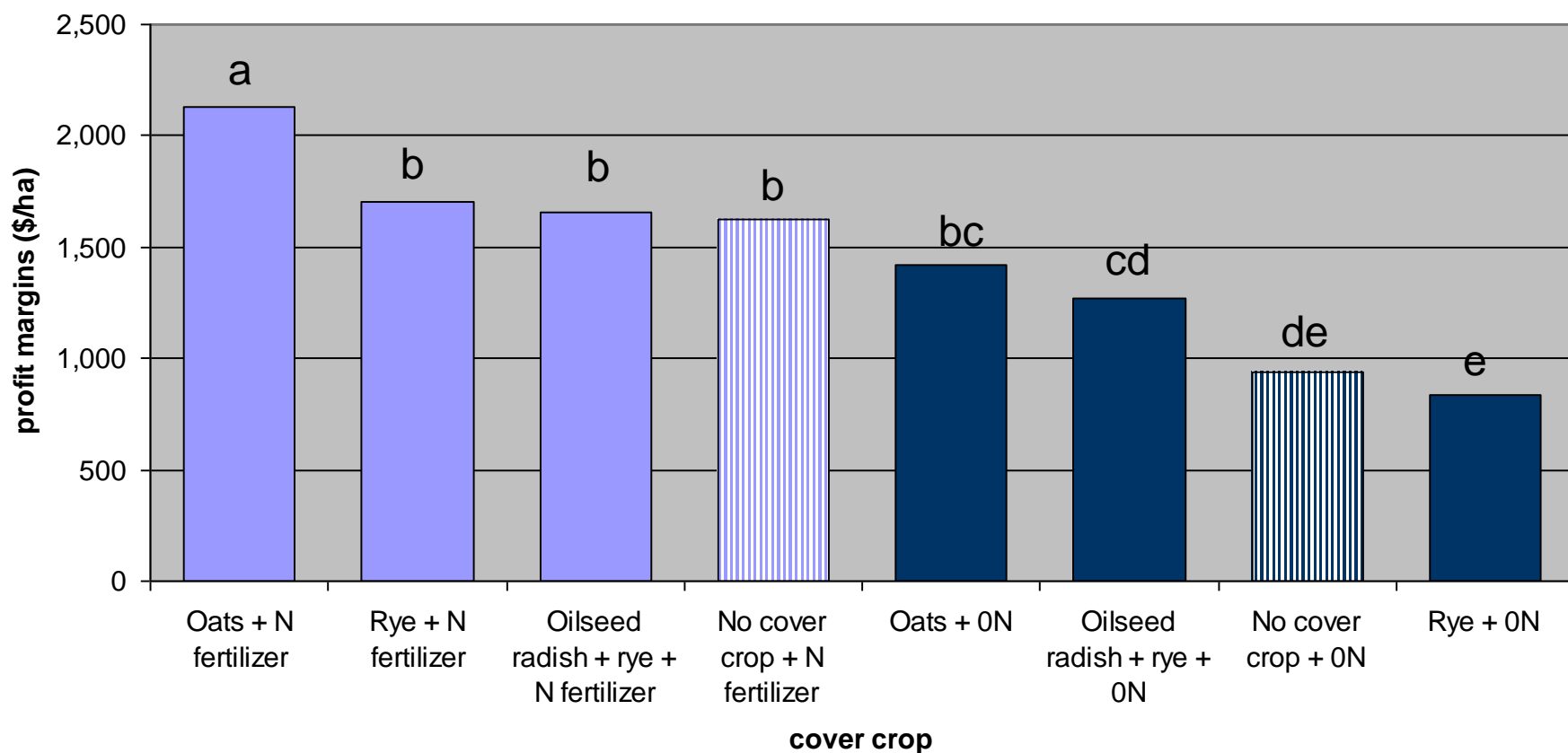
Univ.of Guelph, Ridgetown Campus

ph. 519-674-1500 x63644

lvaneerd@uoguelph.ca

Cover crops - what are they worth to you?

- | | |
|---------------------|----------|
| 1) No cover crop | |
| 2) Oats | 72 lb/ac |
| 3) Cereal rye | 60 |
| 4) Oilseed radish | 12 |
| 5) Mix rye + radish | 30+8 |
| 5) Forage peas | 150 |
| 6) Hairy vetch | 25 |

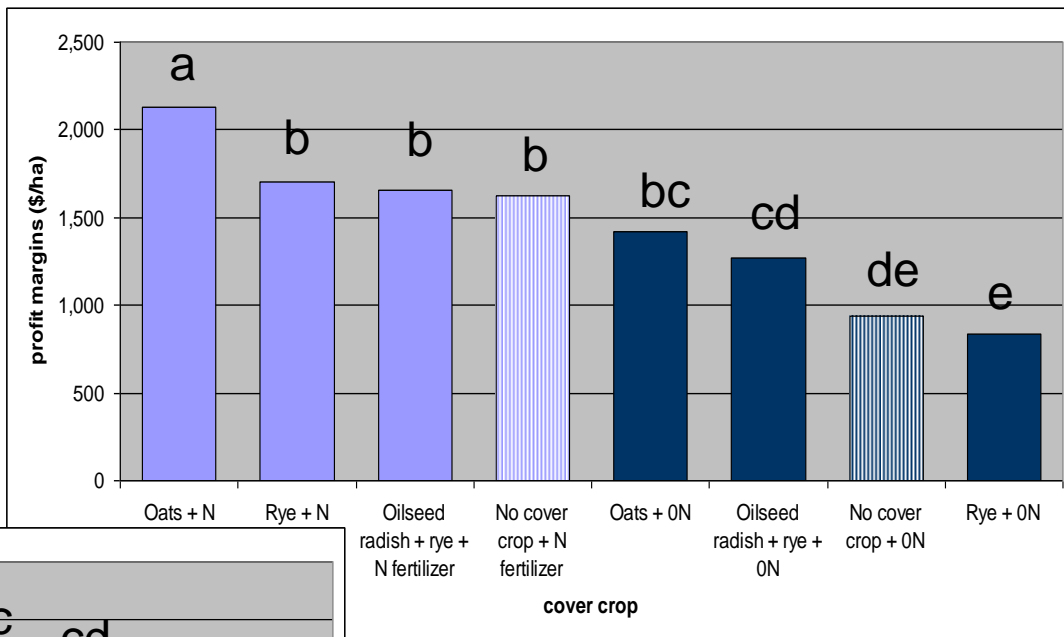


- Seeding cost of planting \$12/ac
- Cost of cover crop seed(\$/lb, \$/ac):
 - Oats - \$0.3227, \$26.14
 - Rye - \$0.2727, \$18.27
 - OSR - \$2.10, \$33.60
 - OSR + Rye - same as above, \$28.18
- Cost of the burndown was \$20.75/ac

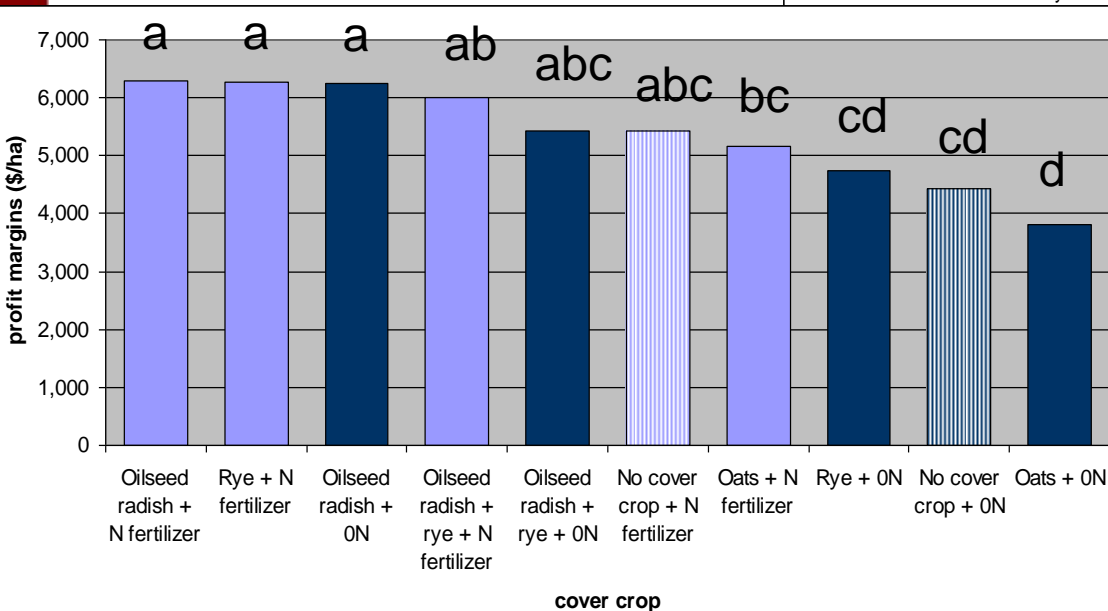
Economics – Cover Crops

Cover crops profits higher or as good as No-cover

Sweet corn 2007

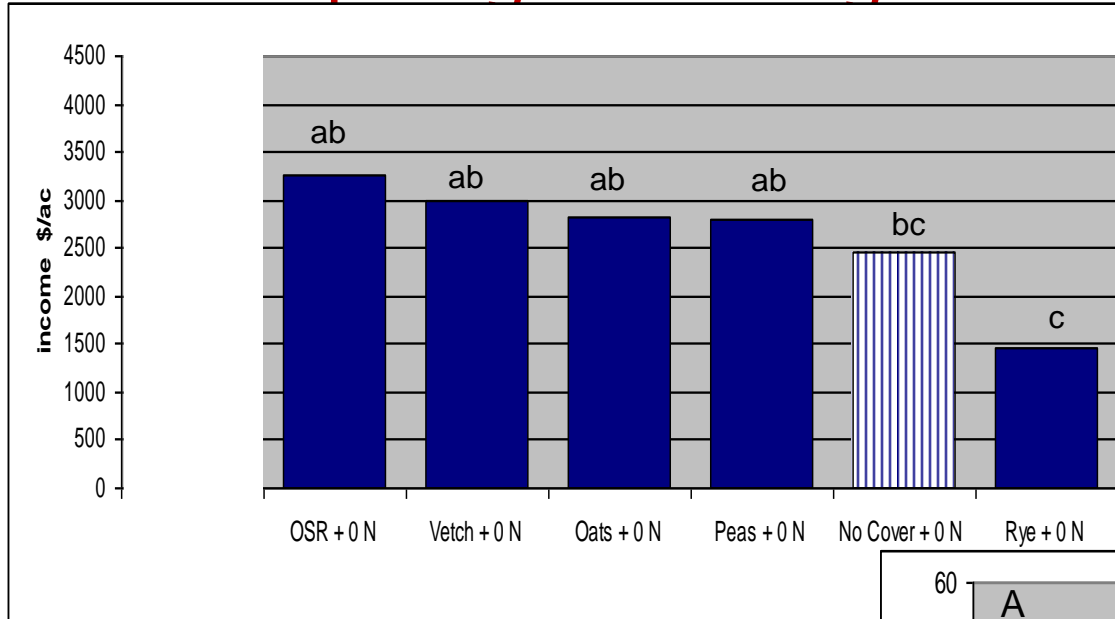


Sweet corn 2008



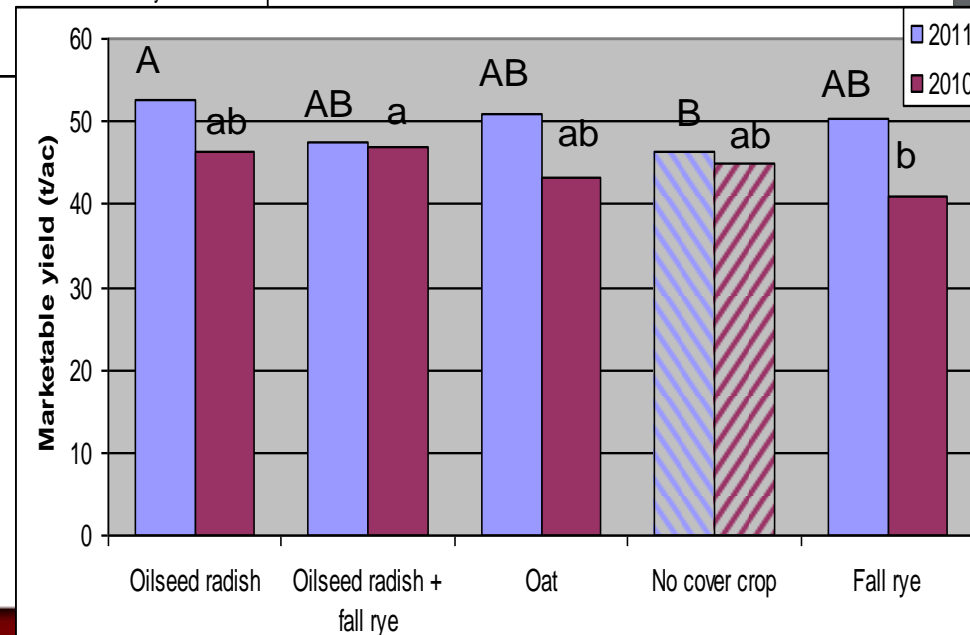
Economics – Cover Crops

Cover crops higher or as good as No-cover



Cucumbers 2009, 2010

Tomatoes 2010, 2011



pH	6.3
Soil texture	75:18:7 Sandy loam
% OM	3.5
CEC (cmol kg ⁻¹)	9.4
P (ppm)	52
K (ppm)	248
Ca (ppm)	927
Mg (ppm)	79

Comparing planting costs

high	mid	low
Radish, Oilseed -Tradename	Millet, Pearl or Japanese	Buckwheat
Clover, Ladino	Sorghum-sudangrass	Cereals, Spring or Winter
Alfalfa	Mustard, Oriental	Ryegrass, Annual
Vetch, Chickling	Radish, Oilseed -General	60% WC Rye/40% OSR
	Clover, Red	60% Oats/40% OSR
	Sweetclover	50% F.Pea/50% Oats
	Pea, Field/Forage	40% HV/60% WC Rye
	Vetch, Hairy	
	%Oats Pea Vetch	
	50%Tim/30%fes/20%ARG	
	RC /Tim/alsike clover	
	70%PRG/30%OSR	

B. Ball-Coelho, K. Callow, R. Nurse, D. Benoit and D. Bernier

- Rye + hairy vetch mixture, fall drilled,
chemically killed **before no-till tomato.**
- Rye – allelopathic to weeds
 - Hairy vetch – most versatile of winter hardy legumes – well adapted to mixtures with rye (Snapp et al., 2005)
 - Tomato responds positively to no-till, and to rye/vetch CC

Rye + hairy vetch mixture, fall drilled,
chemically killed before NT tomato.

Costs:

- rye seed: $45 \text{ kg/ha} \times \$0.15/\text{kg} = \$2.75/\text{ac}$
- vetch seed: $40 \text{ kg/ha} \times \$3/\text{kg} = \$50$ + vetch rhizobia
- drill pass: $= \$11/\text{ac}$
- burndown glyphosate $4\text{L/ha} = \$16$ (or glyphosate $2.5 \text{ L/ha} + 2,4\text{-D } 1\text{L/ha}$) wait 2 wk to plant

Total Costs = \$195/ha = \$80/ac

Savings:

- reduced herbicide : = \$20/ac
(Poast or reduced rate metribuzin)
- Value of N: 60 kg/ha x \$1/kg = \$25/ac
- elimination of 2-3 tillage operations: = \$50/ac
(Lonsbary et al., 2004)
- assume yield neutral vs. conventional (conservative)
- **Total Costs** = **\$195/ha** = **\$80/ac**
- **Total Savings** = **\$230/ha** = **\$93/ac**
- **Profit** = **\$35/ha** = **\$13/ac**

Thank you

Dave VanSegbrook

519- 627-2947

vansseg@msni.net

Laura L. Van Eerd

519-674-1500 x63466

lvaneerd@uoguelph.ca

- Nitrogen plays a role
- Is there something else?
 - Improved soil health
 - Increase soil organic matter ?
 - Active fraction ?

Cover crops –Money Saver

- Makes economic sense
- Seeing slight yield boosts
- Soil organic matter
- Soil health, soil biota
- Minimize erosion
- No brainer

Midwest Cover Crop Council

<http://www.mccc.msu.edu/>



Illinois Indiana Iowa Michigan Minnesota North Dakota Ohio Wisconsin Ontario



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Shury seeding

WELCOME TO THE MIDWEST COVER CROPS COUNCIL WEBSITE

The goal of the *Midwest Cover Crops Council* (MCCC) is to facilitate widespread adoption of cover crops throughout the Midwest, to improve ecological, economic, and social sustainability.

WHO WE ARE?

The MCCC is a diverse group from academia, production agriculture, non-governmental organizations, commodity interests, private sector, and representatives from federal and state agencies collaborating to address soil, water, air, and agricultural quality concerns in the Great Lakes and Mississippi river basins (including Indiana, Michigan, Ohio, Manitoba, Ontario, Illinois, Wisconsin, Minnesota, Iowa, and North Dakota).

WHY COVER CROPS?

Cover crops are an effective tool to reduce soil erosion and increase nutrient recycling on farmlands, thereby also decreasing the soil and nutrient loads entering lakes and waterways. Cover crops can have numerous other benefits including improvement of soil quality, pest management, fertility management, water availability, landscape diversification, and wildlife habitat.

NEWS

New Bloom Dairy [Shury Seeding](#) video just loaded!

December 16, 2010

[Innovative No-Till: Using Multi-Species Cover Crops to Improve Soil Health \(Webinar\)](#)

Presented by ATTRA and
USDA-NRCS

Mark your calendar early, the
2011 MCCC meeting will be held
February 23-24 in Ada, OH



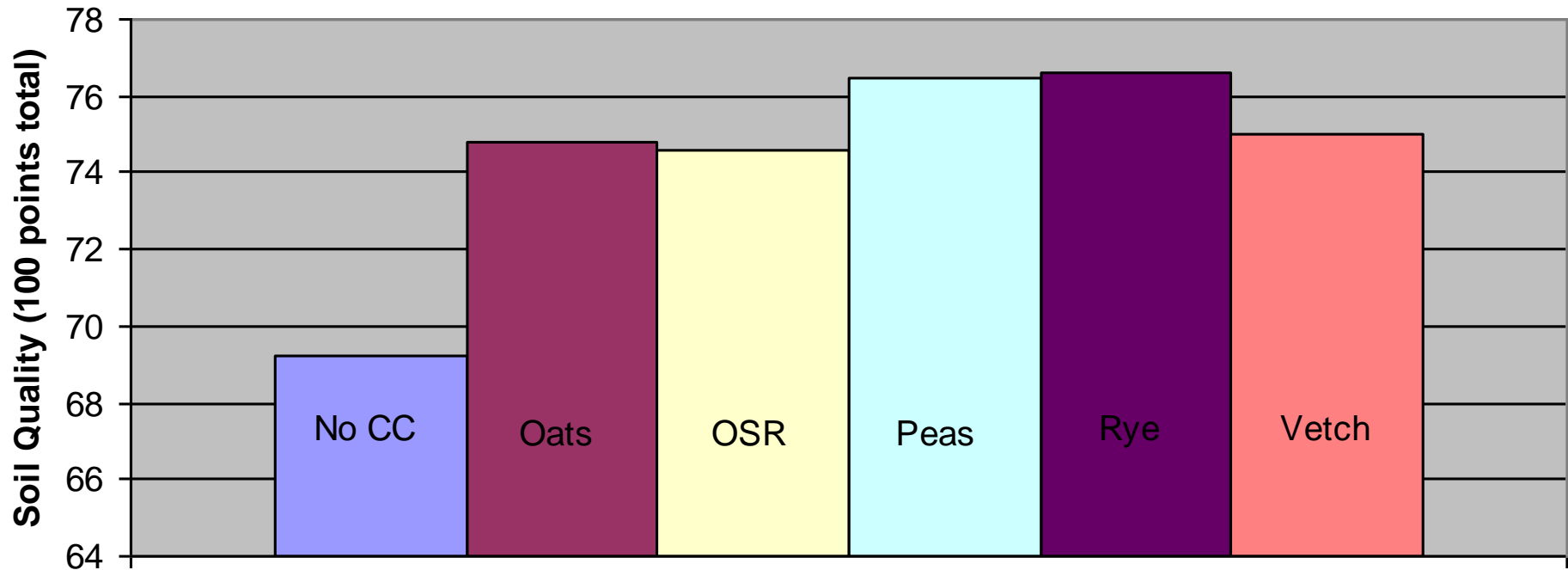
Midwest Cover
Crops Council on
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Soil Health

No-cover lower than with cover crops

Soil Quality Scoring (Ontario Soil Health Project - Cornell Test)



Soil Health



Cornell University
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Online resource:



Project Leaders:

Bianca
Moebius-Clune
Project Coordinator
Crop and Soil
Sciences (Ithaca)
soilhealth@cornell.edu

Cornell Soil Health Testing for 2012

- Read more about our [soil health testing services for 2012](#), and [how to prepare and ship samples](#).
- View the [Cornell Soil Health Assessment Training Manual](#).

