

Advanced Crop Production PLNT 7660
Crop Production Resilience: Capturing Opportunities
Coordinating Instructor: Dr. Martin Entz



Course content

The advanced crop production course (PLNT 7660) will be offered in the fall of 2014, and the theme for this year is “Crop production resilience: Capturing Opportunities”. This reading/discussion course will focus on strategies to increase crop productivity and resilience in the face of global challenges such as resource constraints, inequality, rapid climate change, and biodiversity loss. A science-based analysis of conventional and alternative strategies will be discussed and appropriate readings will be assigned. Highlights of the main topics are:

1. Food security primer <http://www.cbc.ca/ideas/episodes/2012/01/11/feeding-ten-billion/>
2. The Conservation Agriculture revolution: Case studies from Canada, Brazil, Africa, and Asia (see <http://www.fao.org/ag/ca/>) (<http://www.mandakzerotill.org/Publications/Beyond%20the%20Beginning.pdf>).
3. Biological conservation through use; stepping beyond the *National Park* paradigm (<http://www.open.edu/openlearn/whats-on/ou-on-the-bbc-hope-changing-climate>)
4. Crop-livestock integration – moving up the trophic chain <http://www.fao.org/agriculture/crops/core-themes/theme/spi/scpi-home/managing-ecosystems/integrated-crop-livestock-systems/en/>
5. Diverse approaches for crop genetic improvement <http://usc-canada.org/what-we-do/sos/>
6. Selected reading in *International Assessment of Agricultural Knowledge, Science and Technology for Development*: Energy, women in agriculture and biotechnology themes. [http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Synthesis%20Report%20\(English\).pdf](http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Synthesis%20Report%20(English).pdf)
7. Others

Recommended summer activities

In past years, the course has involved *official* summer modules. This year’s course will not officially begin until September (Tuesday, Thursdays 10 to 11:15 AM). However, you may benefit from exposure to different field activities taking place in 2014. Here is a list of some that you may want to attend in preparation for the course.

1. World Congress on Conservation Agriculture, Winnipeg – one day field tour June 26 <http://www.ctic.org/WCCA> (the whole conference is very expensive, but the one day tour is \$55)
2. Advanced Organic Crop Diagnostic School. July 18, 2014, Carman, MB (\$35)

3. Ecological farming twilight tour. Carman, 6 to 8 PM, July 22. (free)
<http://www.umanitoba.ca/outreach/naturalagriculture/>
4. Various organization have annual field days (check their websites):
 - a. Forage seed <http://forageseed.net/>
 - b. Pulse growers <http://www.manitobapulse.ca/>
 - c. Beef producers <http://www.mbbeef.ca/>
 - d. Manitoba Soil Science tour <http://www.manitoba-soils.ca/>
 - e. Manitoba Organic alliance <http://www.manitobaorganicalliance.com/>

Who should take the course

This course will benefit any graduate students interested in sustainability issues in agriculture. All Ag Science students have the background to handle the course material. Students from other faculties or disciplines may also consider this course. Please contact Martin Entz m_entz@umanitoba.ca if you have questions.