Regenerative Agriculture Seminar, Fall 2015
PLS198/PLS 290
Syllabus

Instructor Amélie Gaudin (agaudin@ucdavis.edu, 530-752-1212, Office 2136 PES, by appointment)
Facilitator Jorge Antonio Espinosa (jaefot@hotmail.com)
Discussions: Tuesday 5-6pm Bowley 105 (Student Farm)

Seminar Overview: Regenerating land, water and communities

Greater regeneration of natural resources essential to agricultural production is critical to maintain food production, and a healthy environment and society in a changing climate. Regenerative agriculture (RA) refers to farming that enables the restorative capacity of the earth, builds soils and restores ecosystem functions over time. This seminar will introduce RA core concepts and practices and explore how regenerative management practices fit into natural cycles and the process of ecological succession. We will start off by framing the discussion in the current context of agriculture and its impact on the drivers of climate change and environmental degradation. Despite a high public profile, RA has remained relatively isolated from scientific research. We will delve, with the help of experts, into the scientific literature available on practices inherent to the regenerative philosophy and dissect, through a scientific lens, their impact on ecosystem services and resilience. We will examine various production systems and explore how regenerative potential differ with climate and ecozones. Thinking in terms of RA also reminds us of the true importance of farmers and healthy agroecosystems in our society and we will discuss the ties between RA, the local food movement and the people it nourishes.

Objectives

- Understand the concept of regenerative agriculture, opportunities and constrains in different ecozones and its integration with natural cycle across scales.
- Discuss and critically appraise patterns involved in regenerative agriculture and the underlying regenerative ecological mechanisms.
- Examine scientific evidence, identify knowledge gaps and collectively propose a research agenda to foster adoption of regenerative practices and shift in paradigm.
- Develop your communication skills by adopting a range of roles in discussion, identifying and reporting the main points emerging from discussion and participating in publishing process.

Format and output

This seminar will consist of weekly discussion of a topic in RA. On our first meeting, we will collectively review the session proposed and consider new topics according to student interest. Then, teams of 2 will choose a session to lead with the help of the instructor and facilitator. To fuel the discussion, short complementary readings/videos will be posted one week prior to the meeting on Smartsite.

The two students will co-author a 1 to 2- page (500 to 1000 words) review of the literature and critical point discussed during their session. Contributions from each session will be compiled by the

instructor/facilitator in a review paper to be published in a peer-reviewed and open access journal. Introduction and conclusions will be discussed in class and all students who participated will have authorship. Students will be invited to proofread the manuscript and provide input after the end of the quarter.

Expectations

Grades are pass/fail. To pass, you are expected to 1) attend to and actively participate in a minimum of 8 sessions during the quarter and send an email to the instructor/facilitator when you cannot attend, 2) co-lead one session and co-author its summary.

Discussion schedule

Date	Topic	Contributor	
Part 1- Carbon Farming and Paradigm shift			
Week 1 - 09/29	Spectrum of sustainability and shift to RA Discussion of topics and paper outline	J.Espinosa/A.Gaudin	
Week 2 -10/06	Ecological intensification	J.Espinosa/A.Gaudin	
Part 2- Patterns in Regenerative Agriculture			
Week 3 -10/13	Urban Ag		
Week 4 -10/20	Soil Food Web and Resource Cycling	K.Scow, UCD	
Week 5 -10/27	Holistic Management/Keyline	O.Cortner	
Week 6 -11/03	Perennial Grains		
Week 7 -11/10	Fire Mimicry and Biochar		
Week 8 -11/17	Forest Gardens/Agroforestry	S.Brodt, SAREP	
Week 9 -11/24	Carbon farming and climate change solutions	Erin Axerod, LIFT economy	
Week 10-12/01	Food Sheds, RA and food systems	T.Tomish, ASI	
Week 11-12/08	Keynote - Last day to turn in discussion summary	M. Altieri (TBC)	