Environmental Sustainability of Australian Agriculture: Peter Cornish – Professor of Agriculture, University of Western Sydney, Australia

- Traditionally Australian agronomy has focused on erosion. Reductionist science has ignored important watershed non-point source issues:
  - How does agriculture function within wider water use landscape?
  - How can we pay farmers to preserve landscape?
- Australia has experienced massive environmental damage in a short time period
- 1788 Europeans colonize Australia – no regard for fauna and flora caused highest rate of extinction in world; largest algal bloom.
- European construct of productive landscape: introduce Bos Taurus, sheep. At peak of sheep production had 150 million sheep. Within 100 years Southern Australia is cleared. Landscape is generally dry but can be variable. Soils are fragile and infertile. Winters are mild, summers hot. Europeans replaced warm season winter growing grasses with cool season grasses; replace perennial pasture with annual crops.
- Murray-Darling River Basin has 1,000 km bloom in 1991-92. Darling River is an ephemeral river that has been made perennial using dams and levies. When river slows down, massive algae blooms. Results in “blame-game”: urban vs. ag vs. logging industry to blame?
- Environmental assessment of Australian Ag:
  - low input system producing “clean” food.
  - natural advantages lead to low chemical use.
  - high environmental standards.
  - technology available to test compliance
  - clean but not always “green”
    - loss of biodiversity
    - declining soil fertility
    - hydrologic imbalance
      - rising ground water
      - dry land salinity
      - soil erosion
      - soil acidification
      - ground and surface water pollution
- Need ag systems designed to reduce climate risk and enhance production in rainfall limited environment. Landscape issues require cooperation. Understanding of producer motivation, thinking necessary to change inefficient water use management. Peter and Erik researching
extent of the problem and farmer awareness. Currently no science based nutrient recommendations for vegetables.

- Monitoring site downstream of 1000 dairy cows on 200 ha. Regulations don’t focus on pasture.

**Next Meeting:**

**September 12**, 12-1:30 Agenda to be determined. Meeting in **300 Rice Hall**.