Syllabus
Advanced Topics in Production (1/2 of AREC 705 course)

Instructor: Dana L. Hoag
Office Hours: By appointment
Meeting time: Tuesday and Thursday, 3:30-5:10
Location: 107 Forestry
Readings: Risk Analysis in Theory and Practice, by Jean-Paul Chavas. 2004
Applied Risk Management in Agriculture, by Dana Hoag, 2009 (optional)
Software: Simetar, student version ($25)
Grading: Risk Analysis Project = 100%. Due by April 25th
Presentation requirement being considered

Course Outline
1) Introduction to risk management (JPC- p. 5-11; Hoag- chp 2)
   a. What is risk and uncertainty
   b. Risk Payoff Matrix exercise
   c. Strategic Risk Management: Risk Navigator (Hoag-chp 4)
      i. Sources of risk (Hoag-chp 8)
      ii. Controls for risk (Hoag-chp 9)
      iii. Measuring risk (Hoag-chp 10)
      iv. Putting it together in a Payoff Matrix (Hoag-chp 11)
      v. Ranking
2) Expected Utility framework (JPC-chp 3)
   a. Maximizing expected value v.s. expected utility (JPC-chp 3)
   b. Graphical representation of utility combined with risk
   c. Taylor series expansion to show EU = f(π, σ)
3) Risk preferences (JPC-chp 4; Hoag –chp 6)
   i. Measures
   ii. Elicitation
4) Making choices when including risk preferences
5) Measuring risk (Hoag-chp 8)
6) Stochastic efficiency methods (when preferences are unknown) (JPC-chp 5)
   a. MV frontier and utility preference mapping (JPC-chp 6)
   b. Stochastic dominance
      i. First degree and second degree
ii. SD with respect to a function (SERF)
   c. MOTAD

7) Other models
   a. Safety first

8) Problem solving examples
   a. Production theory (JPC-chp 8) (raison example)
   b. Price stabilization (JPC-chp 13)

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