

Agricultural and Environmental Policies

Economics of Production, Technology, Risk
Agriculture and the Environment

by: **David Zilberman**

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Lecture 1

Introduction

This set of notes will cover major bodies of literature in agricultural resource economics pertaining to **production, risk, agricultural inputs** –water and pesticides–, **technology adoption**, and **agricultural and resource policy**. Many of the topics are pertinent for resource and development economics, and much of the presentations will rely on work that was done in the Department of Agricultural and Resource Economics of the University of California at Berkeley, addressing California agricultural and resource problems.

Some of the lectures will be quite technical and present widely used models in detail. Other lectures will be more general and overview several important bodies of literature and their relation to policy and historical development.

1.1 Outline

1. Overview
 - (a) Overview of U. S. Agricultural and Resource Policy (2 lectures)
 - (b) Industrialization of Agriculture and Its Implication
 - (c) Productivity of Agricultural Research and the Land - Grant System
2. Economics of Production
 - (a) Alternative Approach to Analyzing Production and Productivity
 - (b) Putty-Clay Models
 - (c) Aggregation from Micro to Macro
 - (d) Family Production Function

3. Economics of Decision Making Under Uncertainty
 - (a) Economic Modeling of Behavior under Risk
 - (b) Measures of Risk Aversion and Their Interpretation
 - (c) Measuring Risk: Mean-preserving Spread and Stochastic Dominance
 - (d) Safety rules
 - (e) Uncertainty in Production
 - (f) Mean Variance Models
 - (g) Estimation of the Risk Aversion Coefficient
 - (h) Validity of the EU Model
4. Economics of Technological Change
 - (a) Induced innovation
 - (b) Technology Adoption
 - (c) Diffusion
5. Practical Policy Analysis
6. Student Presentations
7. Economics of Agricultural Resources
 - (a) Pesticides
 - (b) Water
 - (c) Endangered species
 - (d) Purchasing funds
8. Sustainable Development

1.2 Reading List

1. Overview of U. S. Agricultural and Resource Policy
Gardner (1992)
Carlson and Zilberman (1993)

2. Economics of Production
 - Just, Zilberman, Hochman, and Bar-Shira (1990)
 - Just, Zilberman, and Hochman (1983)
 - Lancaster (1966)
 - Michael and Becker (1973)
 - Rosen (1974)
 - Salter (1960)
 - Zilberman (1989)

3. Economics of Decision Making Under Uncertainty
 - Arrow (1971)
 - Buschena and Zilberman (1994)
 - Roumasset, Boussard, and Singh (1973)
 - Saha (1993)
 - Sandmo (1971)

4. Economics of Technological Change
 - Binswanger (1974)
 - Carlson, Zilberman, and Miranowsky (1993)
 - Feder, Just, and Zilberman (1985)
 - Griliches (1958)
 - Just and Zilberman (1983)
 - Mansfield (1961)

5. Policy Analysis
 - Rausser (1982)
 - Rausser (1992)
 - Rausser (1994)
 - Rausser and de Gorter (1991)
 - Taylor and Howitt (1993)

6. Economics of Agricultural Resources
 - (a) Pesticides
 - Carlson and Wetzstein (1993)
 - Cropper (1992)
 - Feder and Regev (1975)

Hueth and Regev (1974)

Zilberman, Schmitz, Casterline, Lichtenberg, and Siebert (1991)

(b) Water

Boggess, Lacewell, and Zilberman (1993)

Burness and Quirk (1979)

Chakravorty, Hochman, and Zilberman (1991)

Gisser (1983)

Gisser and Sanchez (1980)

Shah and Zilberman ()

Sunding, Zilberman, Howitt, Dinar, and MacDougall (1994)

Tsur (1991)

7. Sustainable Development

Carlson and Zilberman (1993)

Chavas (1993)

Howarth and Norgaard (1990)

Ruttan (1991)

Solow (1992)