



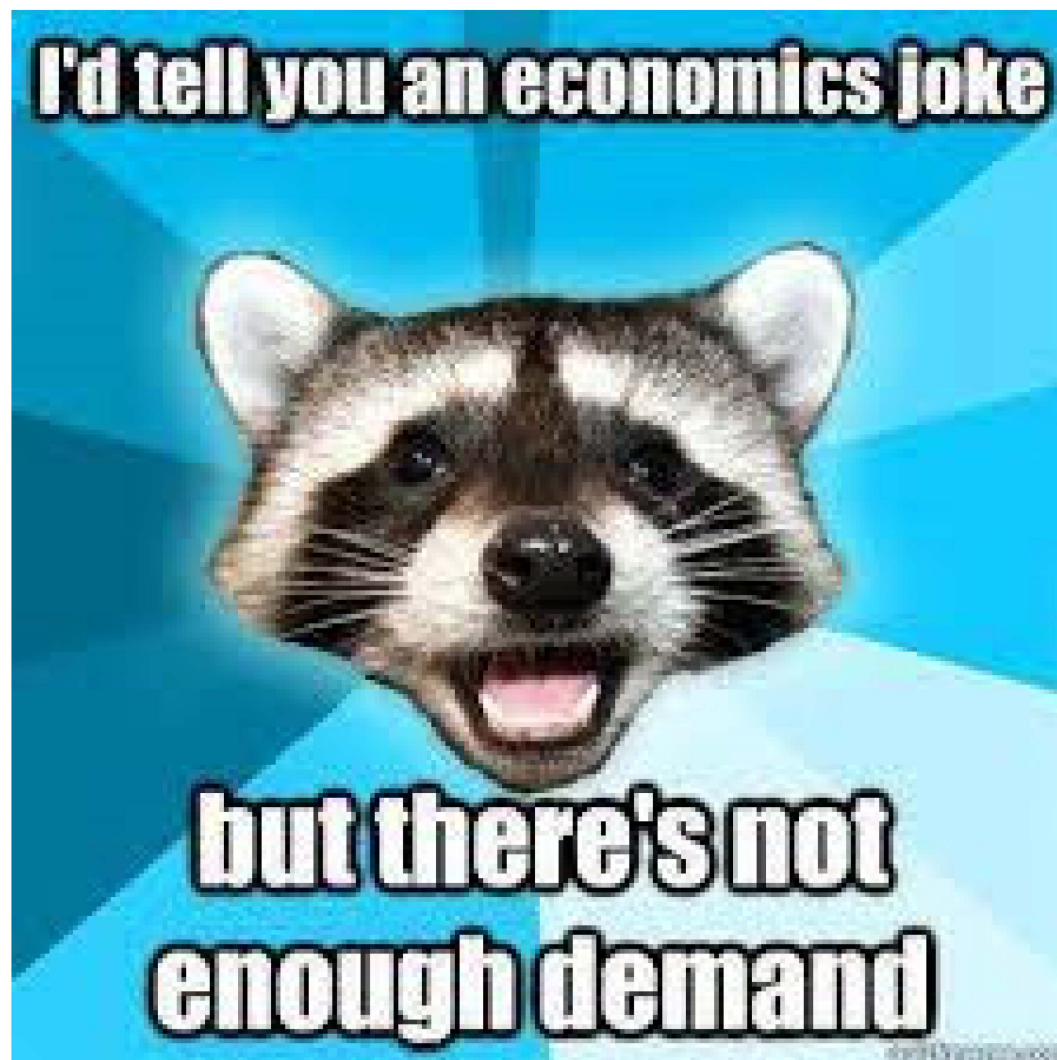
Boot Camp II
Economic Basics
April 11, 2023

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Objectives

- Learn economic concepts and their role in NRCS and conservation planning
- Identify how economic concepts can help us understand conservation impacts as costs and benefits
- Relay economic information to landowner/decision-



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What is economics?

- Optimally allocating scarce resources for competing use
 - Inputs
 - Labor
 - Time
 - Land
- Competing priorities
- Information



When do we use economics?

- Everywhere!
- Values in decision-making



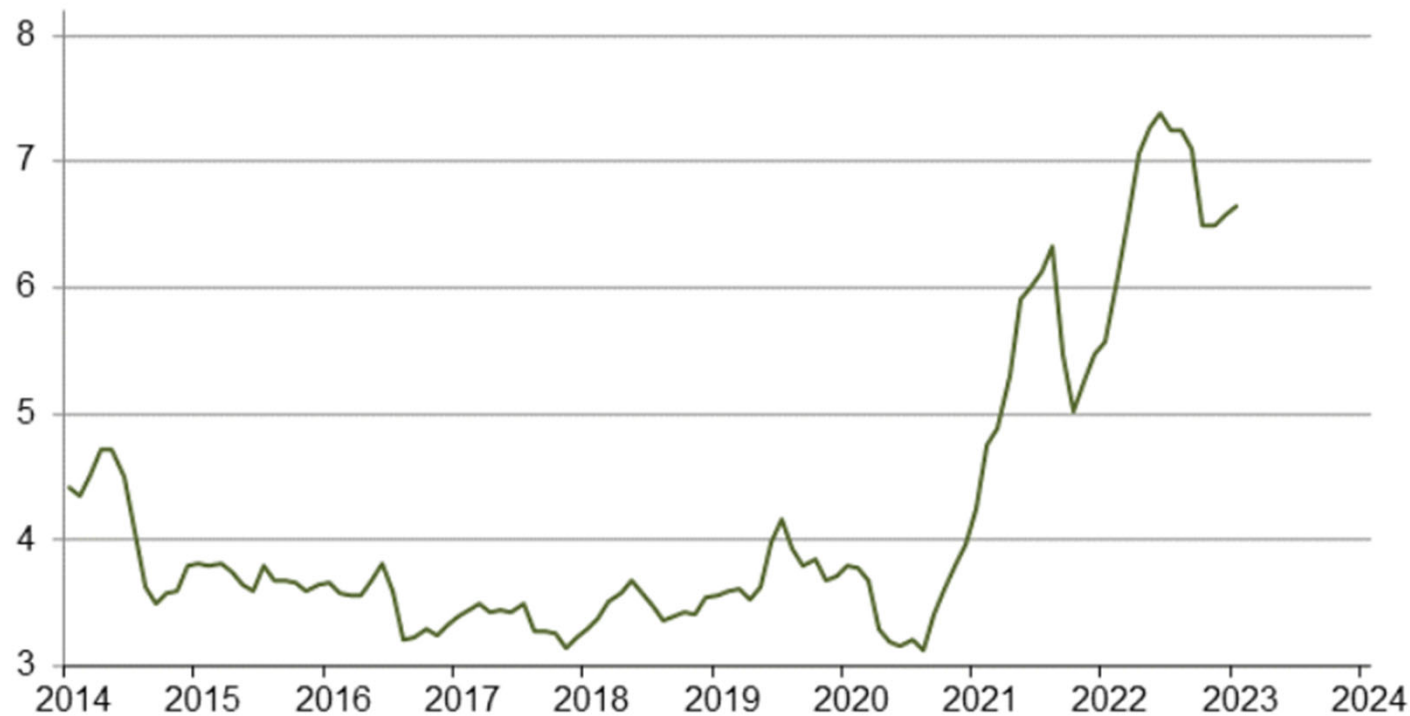
Economic Priorities in Agriculture

- Can I invest in a large initial cost for future benefits (e.g. new equipment?)
- What crop will bring the most return based on current and expected market trends, and also work the best for my land?
- Do I have the time and/or labor necessary for all operations?
- Do I need to prioritize some actions/resources over others?

Changing Markets

Prices Received for Corn by Month – United States

Dollars per bushel

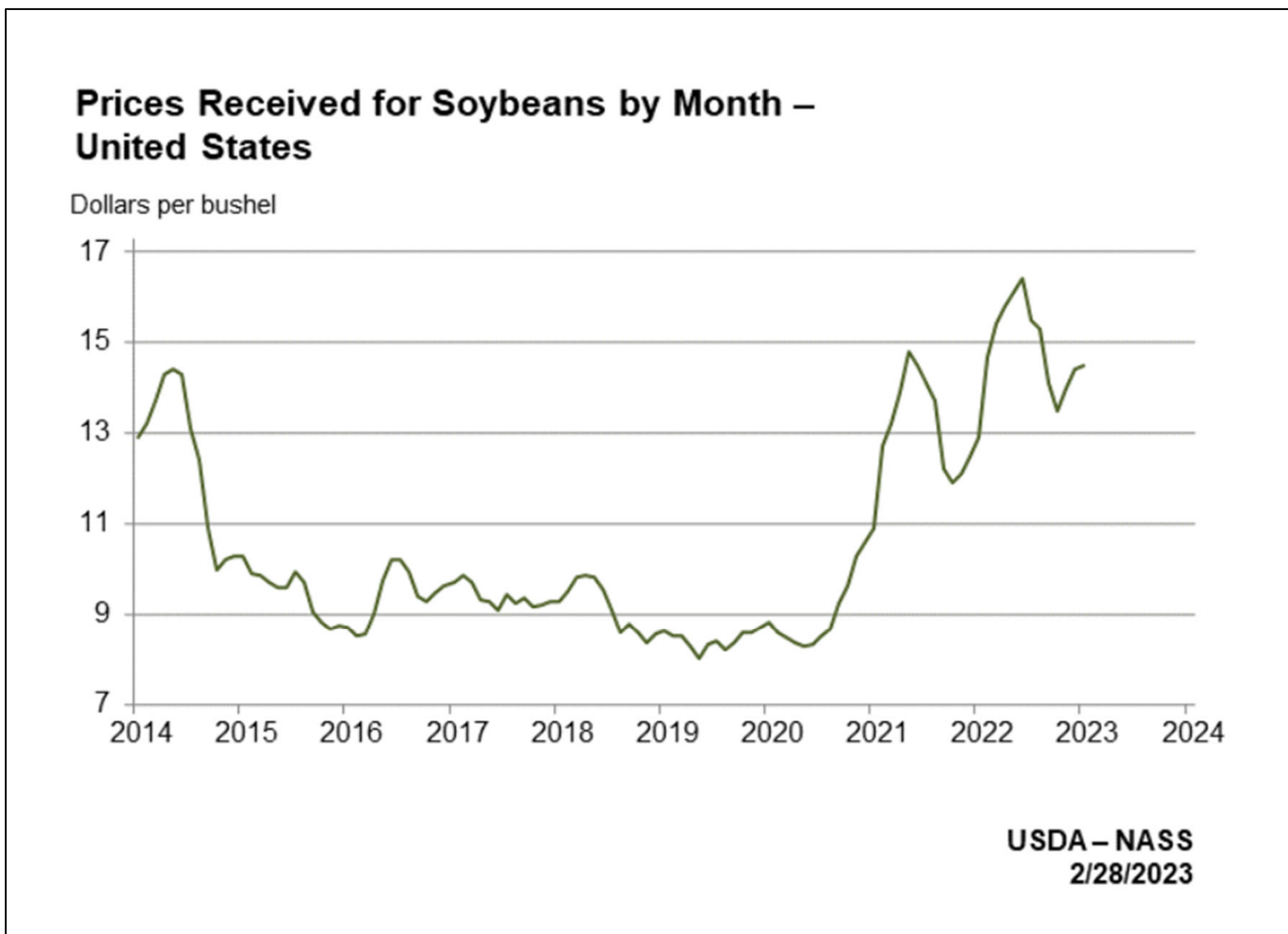


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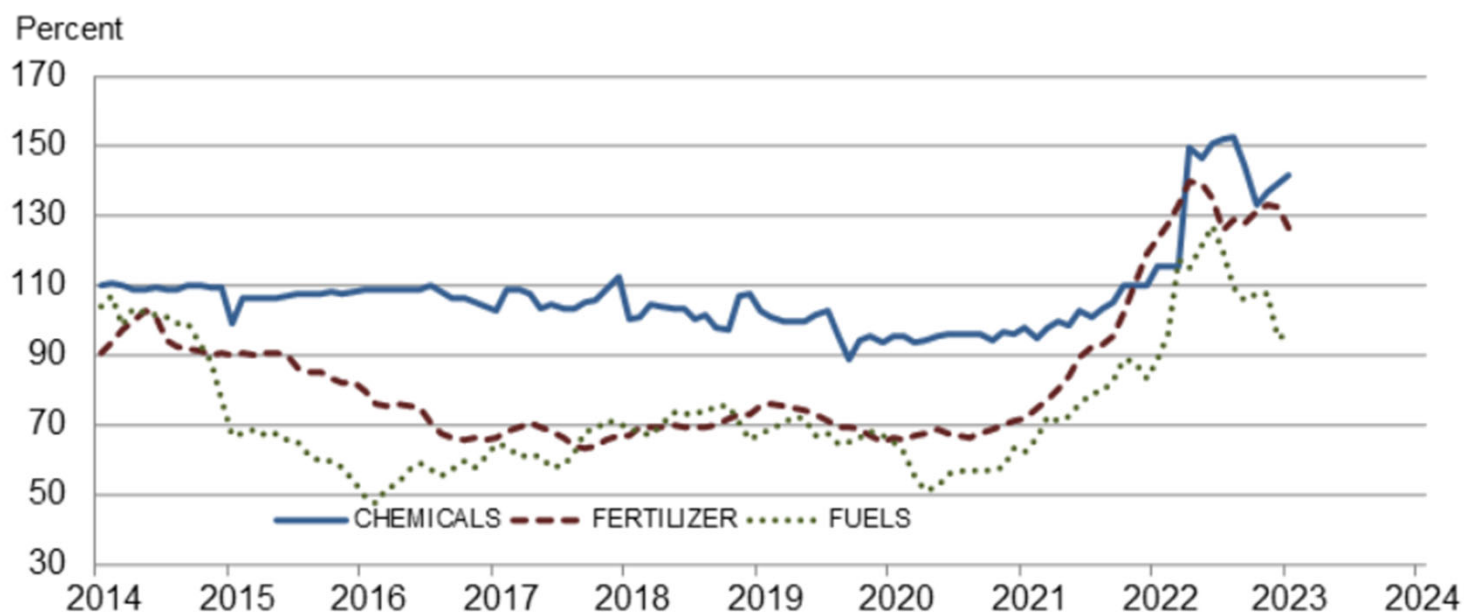
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Changing Markets



Input Prices

Chemicals, Fertilizer, and Fuels – United States: 2011=100



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Conservation Supply and Demand

- Price must be low enough for consumers to want to buy, high for producers to want to produce
 - Where it meets = equilibrium
 - Priorities!
- What does this mean for conservation?
 - While not traditional economics, still applies
 - Producers must feel conservation (good) will be worth doing (demand)
 - We want to create that demand!
 - Add value



Economic Focus

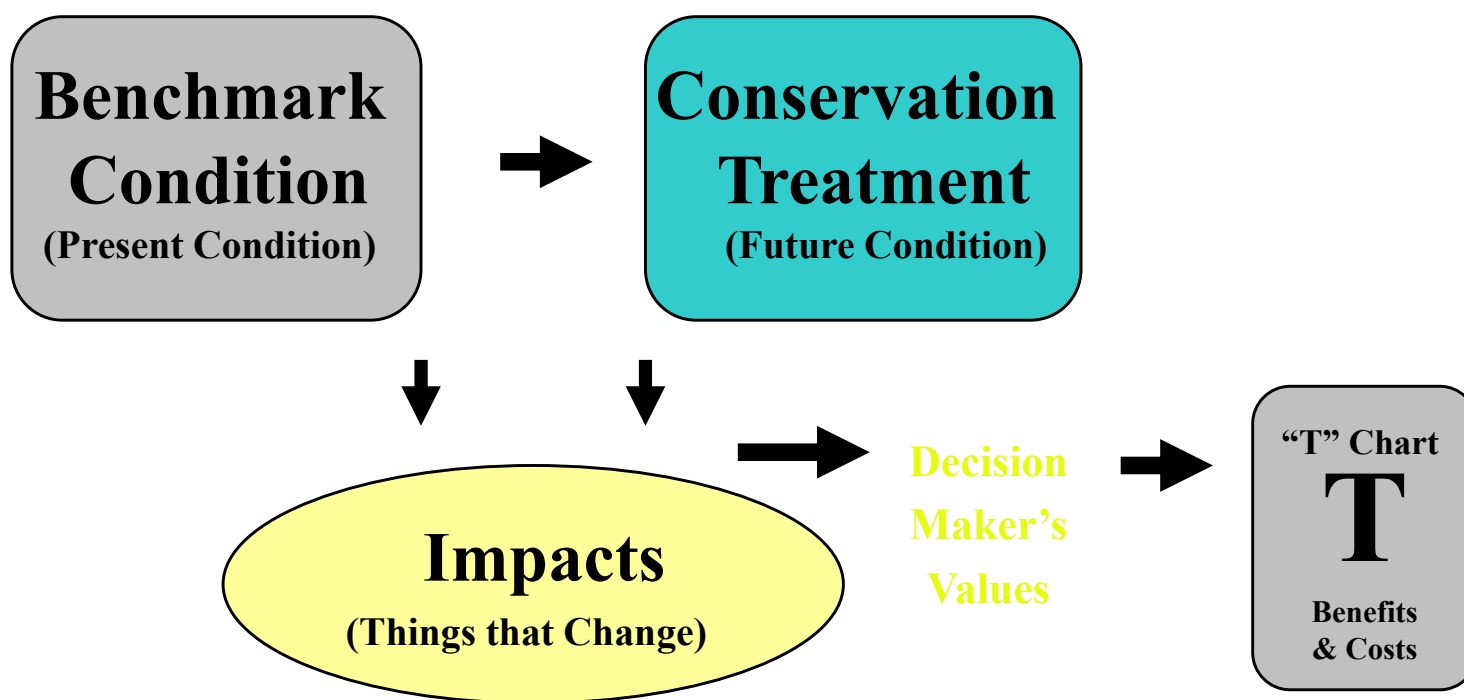
- “All models are wrong, but some are useful”
- Ceterus Paribus
 - “With all else the same”
- Focuses on the change!
- Conservation as an *investment*

ESTIMATES

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Conservation Effects for Decision Making



Alternative Effect Categories

Social



Economic



Environmental



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Assessing Conservation Impacts

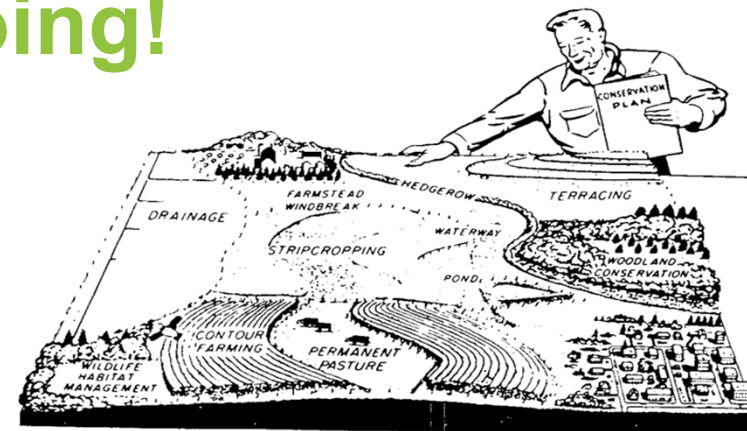
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Benefit-Cost Analysis

- Estimate benefits and costs, convert to like terms, compare
- Organize and compare impacts across alternatives equally and effectively
- Easily analyze, communicate alternative effects to producer for decision-making purposes

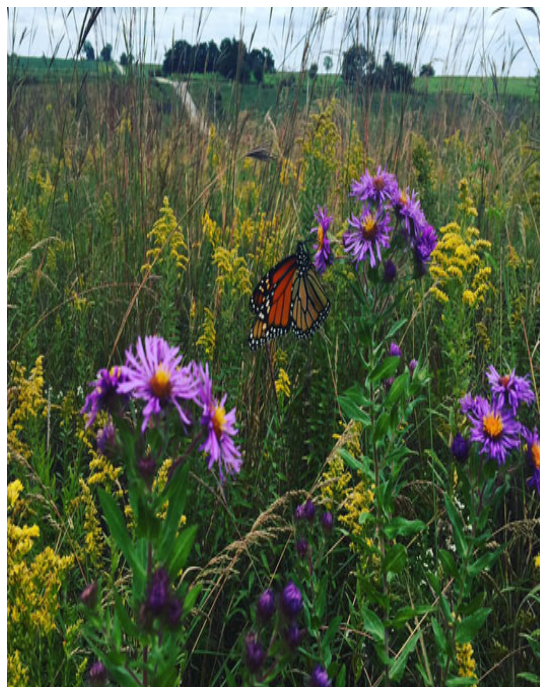
$B > C = \text{Worth Doing!}$



Non-Monetary and Monetary Impacts



Non-Monetary:
Reduced Soil Erosion
Pollinator Habitat



Monetary:
Increased Profits

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Examples of Benefits

Increase in Income

- Increased crop yield
- Land brought into production
- Wildlife fees
- Recreation sales

Decrease in Costs

- Reduced passes over field
- Reduced machinery costs
- Reduced fuel use
- Reduced labor
- Reduced fertilizer
- Reduced agriculture chemicals
- Reduced irrigation costs

Examples of Costs

Increased Costs

- Practice installation cost
- Practice O&M costs
- Increased production costs
- Increased management
- Increased labor
- Risk to crop production
- Land use permits
- Public health & safety costs

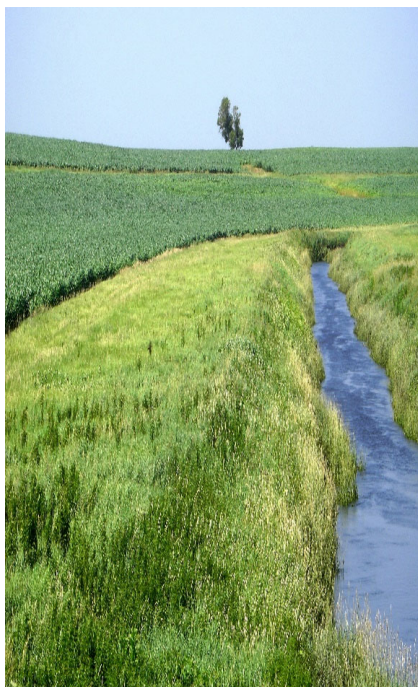
Decreased Income

- Land taken out of production
- Change in land use
- Reduced crop harvest
- Shortened growing season
- Forgone income

Conservation Costs



Installation Cost



Foregone Income



Seed, Fertilizer,
Materials



Operation &
Maintenance

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Opportunity Costs

- Every resource used is a resource we can't use elsewhere
 - Alternatives
- Crop in a field
- Money in a input
- Hours in a day
- Realize the costs of action as well as the cost of inaction

Least Cost Analysis

- Not all conservation impacts easily quantitative, monetary
- Identify the most cost effective alternative to address the resource concern
- Most expensive does not always mean most effective!

Which is the least cost method?

Installing 1,000 feet terrace

Tillage Equipment	\$3.00/ft
Dozer	\$2.50/ft
Road Grader	\$2.00/ft

Correct Answer: Road Grader

Economic Awareness

- Fully explaining project responsibilities
 - Installation
 - Required management, actions, inputs, etc.
 - Maintenance
- Risk
 - Low – general uncertainty
 - Medium – may affect farm operations, cash flow
 - High – significant loss of income, injury, damage to resources

Economic Awareness

- Situationally dependent
- Conservation practice results multiplied with systems approach
- Short Term vs. Long Term Benefits



Economic vs Financial Viability

- Just because practice is economically profitable, not necessarily financially feasible
 - Profitability vs. Affordability
- Producer may not be able to afford practices' expenses during loan period regardless of economic outcome
 - Be cautious when communicating here
- Communicate with producer about whether practice is economically AND financially viable

Payment Schedule

- Released annually
- Developed at the regional and state level
- Supplemental, partial assistance
- NOT cost estimates!
 - Don't lead with them

Key Points

- Identify costs and analysis as ESTIMATES – benefits not guaranteed
- Consider potential conservation alternatives equally, effectively
- Deliver conservation as an investment!
- Communicate economic and affordability realities
- Ensure sustainable, lasting conservation

Thank You!

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