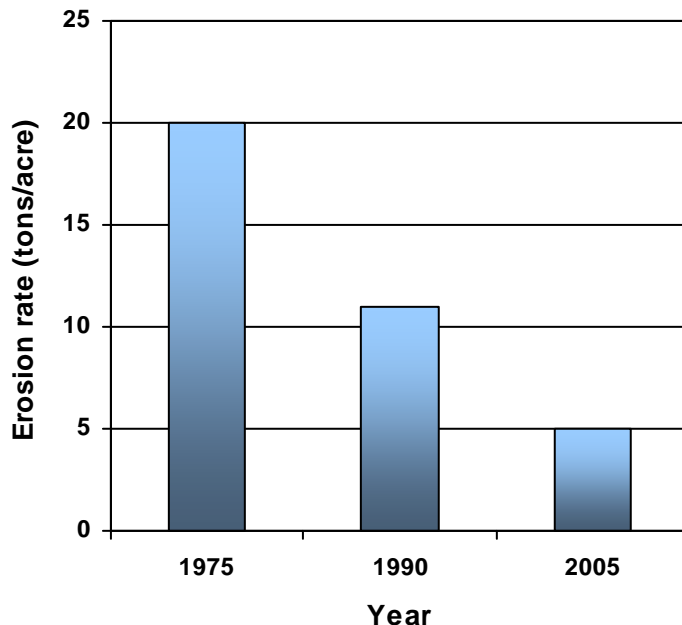


# IMPACT

**STEEP (Solutions to Environmental and Economic Problems), a USDA Special Research Grant, improves Pacific Northwest farming and the environment for less than 20¢ per acre per year<sup>1</sup>.**



## STEEP IMPACT

### A reduction in soil erosion.

This graph shows soil erosion rates from farmland in the Pacific Northwest prior to the STEEP program, and the drastic reduction in erosion as farmers adopted conservation tillage methods developed through STEEP research.



STEEP is a grower-oriented program. Grower involvement in all aspects is key in implementing new conservation technologies on farms for efficient and profitable crop production while protecting soil and water resources.

<sup>1</sup>Kok, Papendick and Saxton, 2007. STEEP 1975-2005 Impact Report, p16.

## **Examples of major STEEP accomplishments<sup>1</sup>**

- 1. Demonstrated the importance of subsurface banding fertilizer instead of broadcast application.**  
Impact: Less fertilizer used, together with better crop growth, results in environmental and economic benefits.
- 2. Development of the two-pass fertilizer and seed system.**  
Impact: Less tillage is required, leaving more crop residue on the soil surface, resulting in less erosion, less fuel consumption and lower labor requirements.
- 3. Improved weed control in conservation tillage systems.**  
Impact: Easier adoption of direct seed systems, improved economics, lower risk to farmers.
- 4. Identified the “green bridge” of weeds as a host to soil borne diseases.**  
Impact: Improved disease control, easier adoption of conservation tillage, healthier crops.
- 5. Developed wheat varieties with greater disease resistance.**  
Impact: Improved disease, facilitated adoption of early fall planting for erosion control.
- 6. Adaptation of the RUSLE2 erosion estimation computer model to the Pacific Northwest.**  
Impact: Guided NRCS farm bill implementation for the Pacific Northwest.
- 7. Identified absentee landlords as not a conservation tillage deterrent.**  
Impact: Broke social taboos associated with conservation tillage, resulted in increased conservation tillage adoption.
- 8. Education of conservation technology by expanded extension efforts.**  
Impact: Award winning technology transfer programs in the region brings research results directly to the farmers.
- 9. Development of a minimum tillage fallow system for low precipitation areas.**  
Impact: Accelerated conservation tillage adoption in the low rainfall area.
- 10. Formation of the non-profit, farmer driven Pacific Northwest Direct Seed Association (PNDSA).**  
Impact: Additional conservation tillage education and promotion by practicing farmers, on-farm demonstrations, field days and a policy voice for farmers.

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<sup>1</sup>Kok, Papendick and Saxton, 2007. STEEP 1975-2005 Impact Report, p16.



## Palouse Farming Systems—1970's

Severe soil erosion in the Palouse region prior to the STEEP program.



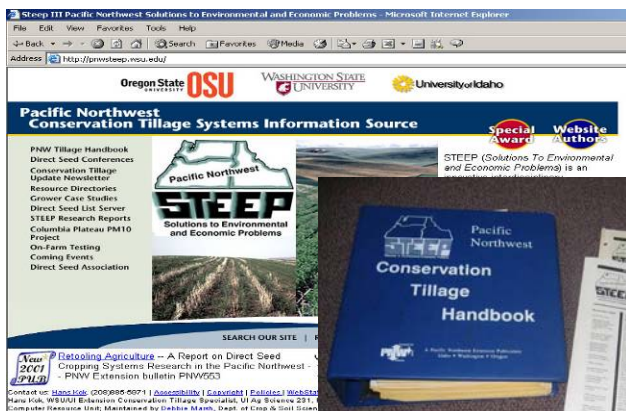
## Palouse Farming Systems—1980's

Drastic erosion reduction due to adoption of farming methods developed through STEEP research.



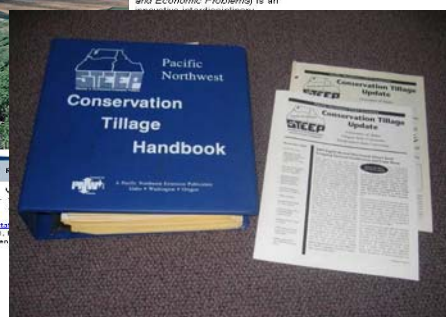
## Palouse Farming Systems—Now

Farmers are now using conservation practices developed through the STEEP program to control soil erosion and improving farm profitability.



Outreach programs, traditional and electronic, have been a critical component to the STEEP effort, resulting in rapid adoption of research results by farmers.

<http://pnwsteep.wsu.edu>



## Continued funding of STEEP is essential

- We are at a **critical juncture** in the adoption of conservation tillage practices in the Pacific Northwest. New farm bill programs such as Conservation Security are dramatically increasing the number of farmers adopting conservation tillage. STEEP continues to provide key knowledge to make this accelerated transition successful.
- **Emerging issues** related to pest management, soil quality, input efficiency and social and economic constraints threaten to slow the adoption of conservation tillage systems. STEEP provides solutions to these emerging problems through long term, integrated research and education efforts - the success hallmark of the program.
- Farmers are facing **new challenges** in terms of increasing costs of fuel and fertilizer. STEEP research continues to discover new ways to improve the efficiency of fuel and other farm inputs with conservation tillage.
- STEEP is poised to play an **expanded role** in facilitating the production of biofuels, sequestering carbon and reducing greenhouse gas emissions. Many of these areas are integral to successful conservation tillage adoption and are already in the realm of STEEP research.

## STEPP goals for the future

The short term goals of the STEEP program are to continue **to identify and remove barriers** to the adoption of conservation tillage practices in the Pacific Northwest.

The long term goals are **to increase no-tillage acreage** to 50% by the year 2025 and to **reduce sediment loading** into Pacific Northwest streams and rivers by 75% over 1990 levels.



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