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Agricultural Resources and Environmental Indicators, 2006 Edition

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Abstract

Agricultural Resources and Environmental Indicators, 2006 describes trends in resources used in and affected by agricultural production (including natural, produced, and management resources), as well as the economic conditions and policies that influence agricultural resource use and its environmental impacts. Each chapter provides a concise overview of a specific topic with links to sources of additional information.

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Summary

What Is the Issue?

Agricultural production both depends on and influences a wide range of natural and other resources. These include land, water and genetic material as well as knowledge, production technologies and management skills.

Concise and accurate information on these resources can help public and private decisionmakers better understand the complex interactions between public policies, economic conditions, farming practices, conservation and the environment.

What Did We do?

Agricultural Resources and Environmental Indicators, 2005 describes patterns and trends in land, water, biological resources, management skills and commercial input use; reports on the condition of natural and other resources used in the agricultural sector; and describes public policies and programs as well as economic factors that affect resource use, conservation and environmental quality in agriculture. Each chapter synthesizes, updates, and provides links to more detailed information available in ERS reports, data products and briefing rooms on the ERS website. Three previous editions of *AREI* (1994, 1997 and 2003) are also available on the ERS website.

What Did We Find?

Agricultural resource use depends on the decisions made by the operators of the nation's 2.1 million farms, which are shaped in turn by market conditions, public policies, and the specific characteristics of individual farms and households. When making these decisions, farm operators have clear incentives to consider the impacts on their own well-being and that of their households, but weaker incentives to consider impacts that occur farther away. This raises ongoing challenges in managing the nation's agricultural resources and motivates ongoing efforts to balance public and private goals. Among our findings:

- Land continues to shift between agriculture and other uses. Cropland has declined but losses do not threaten the nation's capacity to produce food and fiber.
- Competition for water is increasing, but potential remains to increase agricultural water conservation through improved irrigation technology and management.
- Increasing concentration in animal production can have adverse impacts on air and water quality. A variety of voluntary and regulatory measures have been introduced at Federal, State and local levels to mitigate these impacts.
- Public and private agricultural research and development (including advances in biotechnology) have helped drive rapid growth in agricultural productivity, but public R&D investment and productivity growth have slowed in recent years.

- Most farms are operated by a single operator or an operator and spouse, but most production comes from farms with larger and more complex management teams. Full-time operators of larger and more complex enterprises are more likely than other operators to adopt recommended conservation practices.
- Soil erosion declined by more than a billion tons per year between 1982 and 1997, a quarter of which can be attributed to conservation compliance requirements.
- Use of commercial fertilizers and pesticides has been steady or declining in recent years, due to improvements in technology and other factors.
- Certified organic farmland more than doubled between 1992 and 2003, and USDA national standards for organic production and processing came into effect in 2002.
- The Farm Security and Rural Investment Act of 2002 sharply increased funding for conservation programs. Land retirement remains a key strategy, but much of the increase focused on programs for working cropland and grazing land.
- Improved information on natural, produced, and management resources used in agriculture can help public and private decisionmakers better understand the complex interactions between public policies, economic conditions, farming practices, conservation and the environment.