

The World's Largest Open Access Agricultural & Applied Economics Digital Library

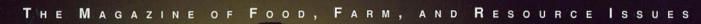
This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

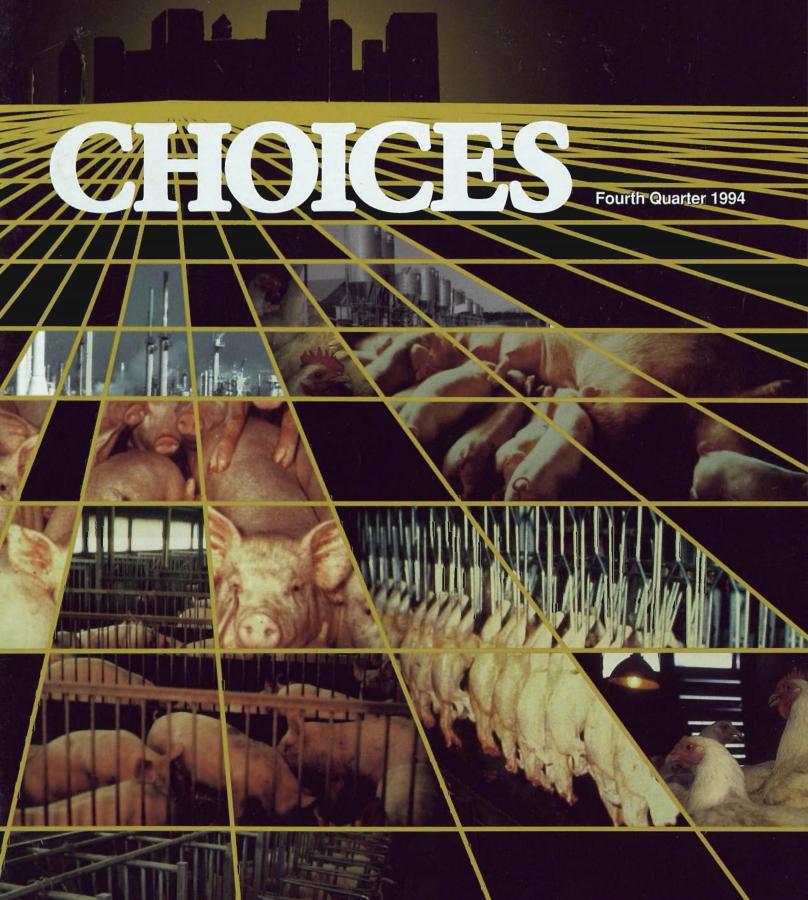
Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search http://ageconsearch.umn.edu aesearch@umn.edu

Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.





Industrialization picks up the pace Rural communities

4, 9 14, 19, 22

Findings

What agricultural and resource economists are finding about food, farm and resource issues.*

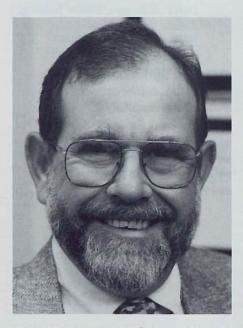
- Integrated pest management, or IPM, increased cotton yields without increasing varience in yields in California's San Joaquin Valley—says Hurd.
- Dynamic economic models offer producers more flexible thresholds, easier implementation, and higher profits than did previous fixed rules for pest management—say Harper and coauthors.
- In South Central Texas, a 25 percent tax on pesticides would cut the demand for some highly soluble and persistent pesticides by up to 50 percent—say Shumway and Chesser.
- Even though economic development eventually leads to reduced levels of air pollution, without concerted actions the world will not return to current emission levels until the end of the next century—say Selden and Song.
- Dairy price support programs elevated the price of milk above market clearing levels by 14 to 22 percent between 1980 and 1983, an outcome which draws into question the wisdom of such programs—say Helmberger and Chen.
- Mandatory cleaning of U.S. winter wheat exports to meet proposed standards increases the break-even price of wheat by 0.4 to 2 cents per bushel—say Adam, Kenkel and Anderson.
- Agricultural price interventions in eighteen less-developed countries taxed the agricultural sectors at rates of 30 to 50 percent, and wasted 7 to 16 percent of the agricultural resource base—say Fulginiti and Perrin.
- Nutrition information does affect dietary fat intake-say Gould and Lin.

*Findings are taken from recently or soon-to-be published research in the American Journal of Agricultural Economics, Journal of Agricultural and Resource Economics, Review of Agricultural Economics, Journal of Agricultural Economics, Journal of Agricultural and Applied Economics, Agricultural and Resource Economics Review, Land Economics, Journal of Environmental Economics and Management, Agribusiness–an International Journal, and other journals which publish the research findings of agricultural and resource economists. Abbreviated citations are found on page 43.

ON OUR COVER—The industrialization of agriculture affects the way farmers farm and the way agribusiness serves agriculture. Feature articles discuss the pace and shape of these changes.

by Peter Kuch Guest Editorial

The Environment and Farm Legislation



Peter Kuch is chief of the Agricultural Policy Branch of the Environmental Protection Agency's Office of Policy Analysis. He is a veteran of the 1990 Farm Bill reauthorization process, and has been dealing with agro-environmental policy issues since 1980.

E ven after various attempts to cor-rect the problems, serious environmental deterioration and health concerns related to agriculture continue. Agricultural sediments and nutrients are leading causes of stream, lake, and estuary impairments. Nitrate is the second most frequent contaminant found in drinking-well water after pathogens; both often have agricultural origins. Drainage of wetlands and sodbusting have, over the decades, destroyed an enormous amount of wildlife habitat, which together with irrigation water diversions have brought many wildlife species to the verge of extinction. Wind erosion is a major contributor to the airborne particulate matter that is small enough to cause respiratory ailments. Rightly or wrongly, the public exhibits paranoia about pesticide residues in food.

Although future reauthorizations of FIFRA, the Clean Water Act, the Safe

Drinking Water Act, and a growing body of state environmental legislation will increasingly impact agricultural production, the 1995 Farm Bill has the potential to have a much greater affect on how farmers manage the nearly one billion acres under their control.

Farm programs attempt to support farm income by subsidizing certain sorts of agricultural activities. The commodity programs encourage the production of crops that are often more erosive, and often require more irrigation water, pesticides, and nutrients than alternative nonprogram crops. The need to maintain base acreage discourages conserving rotations. The federal government makes sure that credit is readily available for production inputs, but not for on-farm environmental capital. Quotas for Class I milk, and the price differential that increases with the distance from Eu Claire, Wisconsin, are added incentives for large daity operations where there is inadequate pasture and cropland to recycle manure.

Tighter future federal budgets are not likely to support both farmers' income through the current types of commodity programs and programs to offset all of their perverse environmental effects.

Farmers have a wide range of land use choices. They can manage the land to boost crop acreage and yields, frequently with accompanying environmental problems. Or, they can manage the land to maximize the production of environmental services. Or they can shoot for some combination of the two. Market returns reenforced by farm program incentives encourage the first mix of activities. With the exception of the Conservation and Wetland Reserve Programs, few economic incentives are provided to farmers to produce environmental services.

In the next farm bill we should let the public signal its demand for crops and livestock through the commodiry markets, and let the government signal

the public's demand for farm-produced environmental goods and services through "stewardship" payments. These payments could be an annual fee, paid by the government to farmers for the production of environmental benefits not reflected in market prices, or the payments could be for multiyear contracts that retire cropland. We should leave it to the profit-maximizing farmers to supply what the public demands, rather than attempt to regulate how they farm. Agriculture, because of its widespread control over vast acreage, has a comparative advantage over other sectors in producing environmental services. I should think we could get a lot of farm-produced environmental benefits for the \$12 billion dollars projected to go into commodity programs.

In the legislative process, rather than worrying about how much acreage should be in short-term versus longterm reserve programs and how much ought to be devoted to what purpose, let us turn the problem over to a government portfolio manager charged with maximizing the total output of environmental services from a given budget. The manager should be given guidance on desired outputs (water quality, soil conservation, particular wildlife habitat, etc.), but these and the availability of funds could change over time. The portfolio manager should be given complete flexibility to leverage public funds with money from nonprofits, renegotiate existing contracts and sign new ones to take advantage of new opportunities and changing public priorities.

Reorienting the basis upon which we supplement farm income to a system of payments for environmental services is likely to expand the political support for farm programs and enable them to grow in the future. \triangle

Etifleun

Table of Contents





Features

- ▲ Industrialization: steady current or tidal wave? Mark Drabenstott
- Industrialization in the pork industry Chris Hurt
- 14 Metropolitan growth Boone or bane to nearby rural areas? David L. Barkley, Mark S. Henry, and Shuming Bao
- 19 Managing municipal solid waste in rural communities Regional landfills offer cost savings Frank J. Dooley, Dean A. Bangsund, and F. Larry Leistritz

25 Water for California agriculture

Lessons from the drought and new water market reform David Zilberman, David Sunding, Richard Howitt, Ariel Dinar, and Neal MacDougall

29 Can agriculture prosper without increased social capital?

> Lindon J. Robison and A. Allan Schmid

32 An interview with Lee Hamilton David Freshwater

Gallery





Bao Leistritz Dooley Bangsund



Zilberman Sunding Howitt Dinar



McDougall Robison Schmid

Mark Drabenstott is vice president and economist with the Federal Reserve Bank of Kansas City. At the bank and as chairman of the National Planning Association's Food and Agriculture Committee, he has studied the broadscale changes occurring in agricultural markets and the implications they hold for public policy.

Chris Hurt is a professor and extension economist at Purdue University. During his 1993 sabbatical at North Carolina State University he studied the industrialized pork sector in that state. He currently directs his efforts toward revitalizing the pork industry in the Midwest.

David L. Barkley is a professor and economic development specialist in the Department of Agricultural and Applied Economics at Clemson University. His research emphasizes industrial development in rural areas.

Mark S. Henry is a professor in the Department of Agricultural and Applied Economics at Clemson University. His research and teaching activities focus on impact analysis in rural areas.

Shuming Bao is a PhD candidate and research assistant in the Department of Agricultural and Applied Economics at Clemson University. He is a former faculty member of the Shanghai University of Finance and Economics.

F. Larry Leistritz is a professor of agricultural economics at North Dakota State University. He has written extensively in economic and fiscal impact assessment and natural resource economics. He serves as president of the International Association for Impact Assessment.

Frank Dooley is an assistant professor in the Department of Agricultural Economics at North Dakota State University. His diverse agribusiness research interests include transportation and logistics, labor relations, and strategic management. He recently worked for the National Academy of Sciences Transportation Research Board to evaluate workers' compensation in the railroad industry.

Dean A. Bangsund is a research associate in the Department of Agricultural Economics at North Dakota State

In Short

- **35** U.S. farm and food policy Evolution of a new covenant *Carl Zulauf*
- **37** Troubled fur trade and implications for wildlife damage management *Mahadev G. Bhat*

Departments

- **1** Guest editorial Peter Kuch
- 2 Gallery About the authors

22 Graphically Speaking

University. He studies natural resource issues and economic development.

David Zilberman is a professor of agricultural and resource economics at the University of California, Berkeley. He has studied the economics of technological change and environmental and resource policies. His most recent work evaluates alternative pesticides and water policies in California.

David Sunding is a visiting assistant professor at the University of California, Berkeley. He specializes in law and economics, public finance, and environmental and resource policy. His current studies assess pest control policies in California and water conservation incentives in the West.

Richard Howitt is a professor of agricultural resource economics at the University of California, Davis. His most recent work concerns the application of market structure in the reallocation of natural resources.

Ariel Dinar is a water resource economist in the Agriculture and Natural Resources Department, Agricultural Nonmetropolitan population change in the 1990s *Kenneth M. Johnson and Calvin L. Beale*

39 In review Paul W. Barkley reviews PrairyErth: (a deep map) by William Least Heat-Moon

40 Letters

Policies Division, the World Bank. He has worked and published on a wide range of water quantity/quality problems in Israel, California, and developing countries.

Neal MacDougall is a PhD student in the Department of Agricultural and Resource Economics at the University of California, Berkeley, and is currently working on environmental issues regarding shrimp aquaculture development and mangrove deforestation in Ecuador.

Lindon J. Robison is professor of agricultural economics at Michigan State University. He has written extensively about risk and the competitive firm and more recently about the applications of present value models. His recent research has emphasized the role of relationships in determining economic outcomes.

A. Allan Schmid is professor of agricultural economics at Michigan State University, specializing in institutional and behavioral economics. He is the author of *Property, Power, and Public Choice* and *Benefit-Cost Analysis: A Political Economy Approach.*

Publisher

The American Agricultural Economics Association 1110 Buckeye Avenue Ames, IA 50010-8063

Editor

Harry Ayer, PhD Department of Agricultural and Resource Economics University of Arizona Tucson, AZ 85721

Managing editor

Sandra Clarke 1110 Buckeye Avenue Ames, IA 50010-8063

Art director

Valerie Dittmer King King Graphics Grand Junction, Iowa

Printer

Garner Printing, Des Moines, IA

Cover and center spread design

Ken Patton Fine Print Ames, Iowa

Advisory board

Kristen Allen Richa Paul W. Barkley B. De Sandra Batie Georg Adell Brown, Jr. Willis Harold Carter Bob J Neilson Conklin Jerry William Dobson Gene Robert Emerson Lauria Dave Freshwater Jeffrey

Richard Gady B. Delworth Gardner George McDowell Willis Peterson Bob Robinson Jerry Sharples Gene Swackhamer Laurian Unnevehr Jeffrey Zinn

CHOICES (ISSN 0886-5558) is published quarterly by the American Agricultural Economics Association for people who want to be informed about food, farm, and resource issues-and the policies that affect them. Views expressed herein are those of the authors, and not necessarily those of CHOICES or its publisher. Postage paid at Ames, IA, and additional mailing offices. All rights reserved. Quotation with credit is permitted. © 1994 Vol. 9, No. 4, American Agricultural Economics Association. Subscription rates for U.S.: individuals-\$20.00 per year, libraries-\$32.50 per year (four editions). In Canada add \$10 per year. Outside U.S. and Canada add \$20. Send subscription correspondence to CHOICES, AAEA Business Office, 1110 Buckeye Avenue, Ames, IA 50010-8063. Telephone (515)233-3234, FAX (515)233-3101. Send four copies of each manuscript to the editor, Harry W. Ayer, Department of Agricultural and Resource Economics, University of Arizona, Tucson, AZ 85721, telephone (602)621-6257 and FAX (602)621-6250.