



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*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](mailto: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.*



# Reports of Interest

ERS-NASS  
(800) 999-6779

**T**he Economic Research Service has issued the following reports of interest. To order copies, call the toll-free number above (weekdays, 8:30-5:00 ET). Customers outside the United States or Canada, please dial (703) 834-0125.

Charge your purchase to VISA or MasterCard. Or, order by mail from ERS-NASS, 341 Victory Drive, Herndon, VA 22070.

## Chemical Use

### Agricultural Pesticide Use Trends and Policy Issues

Discusses pesticide use trends and factors affecting those trends.

—By *Craig D. Osteen & Philip I. Szmedra*, 87 pp.

Stock #AER-622..... \$8

### Agricultural Resources: Inputs Situation and Outlook Report

Fertilizer use in 1992/93 is expected to drop from a year earlier, partly because area planted to corn—the major fertilizer using crop—will probably decline with the increase in the corn ARP requirement to 10 percent. Pesticide use is also projected down. In contrast, combined seed use for eight major crops is expected to rise, led by increases in wheat, barley, and oats.

Special articles include: Economic and Environmental Impacts of Alternative Cropping Sequence in Michigan... Pesticide Productivity in Pacific Northwest Potato Pro-

duction... The Relationship Between Cropping Patterns and Pesticide Use in Cotton Production.

—*Subscription brings you four issues each year.*

Stock #AR-29.....\$20

### Conservation and Environmental Issues in Agriculture: An Economic Evaluation of Policy Options

Focuses on reducing potentially adverse effects of agricultural chemicals on ground-water quality, restoring agricultural wetlands, and extending environmental benefits on selected Conservation Reserve Program lands.

—By *David Ervon & others*, 62 pp.

Stock #AGES9134.....\$11

## Free for the Asking...

The Agricultural Statistics Board estimates production, stocks, inventories, disposition, utilization, and prices of agricultural commodities and inputs, and such other items as labor and farm numbers.

Call toll-free 1-800-999-6779 to get your copy of the board's newly released 1993 catalog, listing all the reports and the dates they are available.

### Chemigation: A Technology for the Future?

Defines and describes chemigation—the use of an irrigation system to apply chemicals to soils and plants. Also discusses benefits as well as management and resource considerations.

—By *Noel Gollehon*, 16 pp.

Stock #AIB-608.....\$4

### Fertilizer Trade Statistics, 1970-91

Covers U.S. imports and exports of nitrogen, phosphate, and potash, and U.S. import origins and export destinations for selected fertilizer materials. The United States is the world's largest phosphate exporter and the largest potash importer.

—By *Harry Vroomen & Harold Taylor*, 44 pp.

Stock #SB-851.....\$9

### Fertilizer Use and Price Statistics, 1960-91

Includes quarterly or semiannual time series for retail fertilizer prices, annual retail and wholesale fertilizer price indexes, fertilizer consumption by plant nutrient, and major selected products, consumption of mixed fertilizers and secondary nutrients, as well as statistics on fertilizer use per acre by nutrient in the major producing States for corn, cotton, soybeans, and wheat.

—By *Harry Vroomen & Harold Taylor*, 68 pp.

Stock #SB-842.....\$11



## Food Safety

### Economic Analysis of Electron Accelerators and Cobalt-60 for Irradiating Food

Average costs per pound of irradiating food are similar for the electron accelerator and cobalt-60 irradiators, but initial investment costs can vary by \$1 million.

—By *Rosanna M. Morrison*, 38 pp.

Stock #TB-1762..... \$5.50

### The Economics of Safeguarding the U.S. Food Supply

A look at the economic issues involved in detecting and eliminating contaminants in the food supply and the challenges of incorporating new technology into workable food safety policies.

—By *Tanya Roberts & Eileen van Ravenswaay*, 8 pp.

Stock #AIB-566.....\$3

### Effects of a Free Trade Agreement on U.S. and Mexican Sanitary and Phytosanitary Regulations

Sanitary and phytosanitary regulations protect the United States and Mexico from foodborne diseases and other contamination in border-crossing food and agricultural products. Cooperative efforts to prevent and control infestation and infection will likely continue regardless of the reduction or removal of trade-restricting measures.

—By *Ken Forsythe & Lori Lynch*, 13 pp.

Stock #AIB-649.....\$5

### Integrated Pest Management (IPM) in the Vegetable Industry During the 1980's

Examines the funding and adoption of IPM programs for vegetable crops, using statistics based on annual State-level Extension Service reports.

—By *Catherine R. Greene & Gerrit W. Cuperus*, 19 pp.

Stock #AGES9107.....\$8

### Pesticide Residues and Food Safety: Aspects of a Changing Structure

Explores the Delaney Clause paradox and the Environmental Protection Agency's rationale for altering the method by which pesticides are evaluated.

—Edited by *Walter L. Ferguson & Philip I. Szmedra*, 43 pp.

Stock #AGES9110.....\$8

## Food Assistance

### U.S. Domestic Food Assistance Program: Lessons From the Past

Describes current domestic food assistance programs, their relationships to each other, effects on food production and marketing sectors, and costs.

—By *J. William Levedahl & Masao Matsumoto*, 16 pp.

Stock #AIB-570.....\$4

## Food and Nutrition Legislation

### Agricultural-Food Policy Review: U.S. Agricultural Policies in a Changing World

Brings together background information for assessing today's agricultural sector and programs for the Food Security Act of 1985, and for looking at new agricultural, en-

vironmental, and rural development strategies.

Stock #AER-620..... \$12

### A Glossary of Food and Agricultural Policy Terms, 1989

A guide to many terms associated with food and agricultural policies and programs.

—By *Kathryn L. Lipton & Susan L. Pollack*, 46 pp.

Stock #AIB-573..... \$5.50

### Provisions of the Food, Agriculture, Conservation, and Trade Act of 1990

Summarizes major provisions of the Food, Agriculture, Conservation, and Trade Act of 1990, the framework for administering agricultural and food programs during 1991-95. Includes all major commodity programs, such as income and price support, food stamps, crop insurance, and disaster assistance, among others.

—Edited by *Susan L. Pollack & Lori Lynch*, 168 pp.

Stock #AIB-624..... \$14

## Data Products

### Agricultural Chemical Usage, 1992 Field Crops Summary

State and U.S. fertilizer and pesticide use data for corn, cotton, rice, soybeans, wheat, and fall potatoes. Includes data on pesticide use by active ingredient, application rates, and acreage treated.

—*Van Johnson*, NASS, 202-720-7492 [ASCII files, one 3.5" disk], (3/93)

Stock #93171..... \$25





**SUMMARY OF REPORT**

# Production Costs for Ethanol to Drop as New Technology Comes On-Line

Number 7, February 1993

Contact: Neil Hohmann (202) 219-0428

**T**he fuel ethanol industry is poised to adopt a wide range of technologies that would reduce costs at every stage of the production process. Adoption of improved enzymes, fermenter designs, membrane filtration, and other innovations in the next 5 years is expected in new ethanol plants constructed to meet new demand resulting from Clean Air Act stipulations for cleaner burning fuel. A new report, *Emerging Technologies in Ethanol Production*, examines the likelihood of near- and long-term cost reductions in producing ethanol, as well as the potential of biomass (agricultural residues, municipal and yard waste, energy crops like switchgrass) to supplement corn as an ethanol feedstock.

## Ethanol Industry Expands, Reducing Costs

The use of ethanol as a fuel for vehicles in the United States grew from insignificance in 1977 to nearly 900 million gallons in 1991. The ethanol industry emerged through a combination of government incentives and new technologies, which enabled large-scale production of ethanol from domestic resources, particularly corn. Growing consumer acceptance of ethanol-blended fuels, incentives to gasoline blenders, and falling costs of production (from \$1.35-\$1.45 per gallon in 1980 to less than \$1.25 per gallon in 1992) were responsible for the jump in ethanol production.

The construction of new ethanol production plants and the adoption of new technologies at existing plants is likely to lead to further cost reductions (5-7 cents per gallon over the next 5 years). Improved yeasts, which tolerate high concentrations of ethanol, can lower energy costs. A system of membranes can recycle enzymes and capture high-value coproducts at many steps in the production process.

Longer term technologies would save approximately 9-15 cents per gallon over present costs. Energy and feedstock savings will result from technology that can convert some of the nonstarch portions of corn to etha-

nol. Development of microorganisms that speed the process will contribute to long-term savings. Development of markets for coproducts of ethanol production will create additional savings. Cost savings may be less for smaller plants that serve niche markets, or in older plants that must replace inefficient equipment.

## Ethanol From Biomass Reduces Costs and Environmental Waste

Biomass can also be converted to ethanol, although commercial-scale ventures are limited by current technology. While biomass requires more handling and sorting before conversion, those costs may be offset by the abundance of biomass relative to corn. Although the production of ethanol from biomass is presently constrained by technological difficulties, new developments in this decade may allow ethanol to be produced from biomass at or below the cost of corn-derived ethanol.

### To Order This Report...

The information presented here is excerpted from *Emerging Technologies in Ethanol Production*, AIB-663, by Neil Hohmann and C. Matthew Rendleman. The cost is \$9.00.

To order, dial **1-800-999-6779** (toll free in the United States and Canada) and ask for the report by title.

Please add 25 percent to foreign addresses (including Canada). Charge to VISA or MasterCard. Or send a check (made payable to ERS-NASS) to:

ERS-NASS  
341 Victory Drive  
Herndon, VA 22070.