

soil erosion dynamics: off farm impacts, on farm impacts/ Federal Agriculture Improvement and Reform Act of 1996 [FAIR of 1996]/ United States *Abstract*: Soil erosion has both on-farm and off-farm impacts. Reduction of soil depth can impair the land's productivity, and the transport of sediments can degrade streams, lakes, and estuaries. To address this problem, soil conservation policies have existed in the United States for over 60 years. Initially, these policies focused on the on-farm benefits of keeping soil on the land and increasing net farm income. Beginning in the 1980s, however, policy goals increasingly included reductions in off-site impacts of erosion. The Food Security Act of 1985 was the first major legislation explicitly to tie eligibility to receive agricultural program payments to conservation performance. The Federal Agriculture Improvement and Reform Act (FAIR) of 1996 modifies the conservation compliance provisions by providing farmers with greater flexibility in developing and implementing conservation plans. As a consequence of conservation efforts, total soil erosion between 1982 and 1997 was reduced by 42% and the erosion rate fell from 8.0 tons per acre in 1982 to 5.2 tons per acre in 1997. Still, soil erosion is imposing substantial social costs. In 1997 these costs are estimated to have been approx. \$29.7 billion. To further reduce soil erosion and thereby mitigate its social costs, there are a number of policy options available to induce farmers to adopt conservation practices including, education and technical assistance, financial assistance, research and development, land retirement, and regulation and taxes.
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93. An Economic Analysis of Riparian Landowners' Willingness to Participate in Oregon's Conservation Reserve Enhancement Program.

Kingsbury, L. and Boggess, W.
In: Annual Meeting of the American Agricultural Economics Association. (Held 8 Aug 1999-11 Aug 1999 at Nashville, Tennessee.)
Ames, IA: American Agricultural Economics Association; 1999.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=1312&ftype=.pdf
Descriptors: State conservation programs/ Conservation Reserve Enhancement Program/ Oregon
Abstract: A survey was used to model the probability of participation in Oregon's CREP as a function of the economic incentives and expectations, environmental regulation and preferences, personal characteristics; and prior knowledge about USDA programs.

94. Economic analysis of soil carbon in

afforestation and forest management decisions.

Sohngen, B.; Alig, R.; and Choi, S.
In: The potential of U.S. forest soils to sequester carbon and mitigate the greenhouse effect/
Kimble, J. M.
Boca Raton, Fla.: CRC Press, 2003; pp. 395-407.
Notes: ISBN: 1-56670-583-5
This citation is provided courtesy of CAB International/CABI Publishing.

95. An economic analysis of vegetative buffer strip implementation: Case study: Elkhorn Slough, Monterey Bay, California.

Rein, F. A.
Coastal Management 27 (4): 377-390. (1999);
ISSN: 0892-0753
Descriptors: Coastal zone management/ Water quality control/ Marine pollution/ Pollution control/ Erosion control/ Agricultural runoff/ Buffers/ Vegetation cover/ Cost analysis/ United States, California/ INE, USA, California, Elkhorn Slough/ Models/ Coastal zone management/ Prevention and control/ Pollution Control and Prevention
Abstract: Vegetative buffer strips (VBS) are being proposed as a tool to protect water quality from nonpoint pollution nationwide, yet no studies have investigated the economics of implementing VBS. This study evaluates environmental costs and benefits of implementing VBS, both to the grower and to society as a whole, as a means of capturing nonmarket ecosystem values and informing decision-making. Results indicate a net economic benefit to the grower for installing VBS within the first year, if the economic costs of erosion are considered. The installation of VBS also has extensive economic benefits to society, including in areas such as tourism, commercial fisheries, long-term road maintenance, and harbor protection. These results support installing VBS as a management strategy in an erosion-prone watershed to protect water quality and preserve soil fertility, as well as to protect economic interests. A number of policy tools to encourage VBS implementation are discussed, including tax incentives and legislative policies. Government intervention through incentive-based programs is advocated due to the clear economic and ecologic benefits to society.

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96. Economic and Conservation Tradeoffs of Regulatory vs. Incentive-Based Water Policy in the Pacific Northwest.

Schaible, G. D.
International Journal of Water Resources Development 16 (2): 221-238. (2000)
NAL Call #: TD201.I56; *ISSN*: 0790-0627.
Notes: Special issue: Water and agriculture in the American West; DOI: 10.1080/07900620050003134

Descriptors: United States, Pacific Northwest/ Economic Aspects / Water Rights/ Water Conservation/ Agriculture/ Irrigation Water/ Water Policy/ Treaties/ Economic analysis/ Water use/ Water quality/ Economics/ Rights/ United States, Pacific Northwest/ Pacific Northwest/ Evaluation process/ Applied economics/ Water Resources and Supplies

Abstract: In this paper, onfarm water conservation and agricultural economic tradeoffs between selected regulatory and conservation-incentive water-policy choices are evaluated for the Pacific Northwest. Five broad water-policy perspectives are analysed using a total of 37 alternative policy scenarios. Policy analyses use a primal/dual-based, multi-product, normalized restricted-equilibrium model of Pacific Northwest field-crop agriculture. Results demonstrate that conservation-incentive water policy, when integrated within balanced policy reform, can produce upwards of 1.7 million acre-feet of onfarm conserved water for the region, while also significantly increasing economic returns to farmers. Producer willingness to accept water-policy change is lowest for regulatory policy (US\$4-\$18 per acre-foot of conserved water), but highest for conservation-incentive policy that increases both irrigation efficiency and crop productivity (\$67-\$208 per acre-foot of conserved water). Conservation-incentive water policy also enhances decision-maker flexibility in meeting multiple regional policy goals (i.e. water for endangered aquatic species, water quality, Native American treaty obligations, and sustainable rural agricultural economies).
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97. Economic and environmental effects of nitrogen testing for fertilizer management.

Bosch, D. J.; Fuglie, K. O.; and Keim, R. W. Economic Research Service, United States Department of Agriculture; Staff Report - AGES No. 9413, 1994. iv, 37 pp.
This citation is provided courtesy of CAB International/CABI Publishing.

98. An economic approach to improving water management in waterlogged and saline areas.
Wichelns, D.

In: Challenges facing irrigation and drainage in the new millennium: Proceedings. (Held Jun 2000 at Fort Collins, Colorado: U.S. Committee on Irrigation and Drainage; pp. 503-522; 2000.
/ISBN: 1-887903-09-7
This citation is provided courtesy of CAB International/CABI Publishing.

99. Economic Benefits with Environmental

Protection: No-till and Conservation Buffers in the Midwest.

Conservation Technology Information Center. Conservation Technology Information Center, 2002 (application/pdf)
<http://www.ctic.purdue.edu/ctic/FINAL.pdf>

Abstract: This 32-page publication from the CTIC examines the adoption of no-till and conservation buffers in the Midwest. Farmers and the environment in the Great Lakes watershed and North Central region, which includes Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin, and the western portions of New York and Pennsylvania, stand to benefit from increases in no-till practices and conservation buffers. The region, although very productive, has millions of highly erodible acres. The document explores many of the challenges, opportunities, management strategies, and successful marketing efforts for promoting conservation here. Soil quality benefits derived from no-till practices are explained, along with techniques to overcome transitional challenges producers face when converting from conventional systems.

100. An economic evaluation of adoption of the conservation compliance program: A stochastic dominance approach.

Govindasamy, R. and Cochran, M. J. *Journal of Agribusiness* 15 (1): 121-133. (Spring 1997)

NAL Call #: HD1401.J68; ISSN: 0738-8950

Descriptors: erosion/ soil conservation/ innovation adoption/ rotation/ stochastic processes/ risk/ soil types/ farmers/ farmers' attitudes/ returns/ profits/ Iowa

This citation is from AGRICOLA.

101. Economic evaluation of on-farm conservation practices in the Great Lakes region of North America.

Stonehouse, D. P. *Environmetrics* 10 (4): 505-520. (1999); ISSN: 1180-4009.

Notes: Conference: Environmental Statistics: Proceedings of the Conference on Environmetrics, Innsbruck (Austria), 4-8 Aug 1997

Descriptors: North America, Great Lakes/ Soil Conservation/ Farms/ Cost benefit Analysis/ Benefits/ Economic Aspects/ Water Quality/ Agricultural Practices/ Degradation/ Wildlife Habitats/ Social Aspects/ Agriculture/ Nature conservation/ Economics/ Costs/ Riparian vegetation/ Pollution control/ Conservation/ Soil erosion/ Water quality control/ Environmental protection/ Socioeconomics/ North America, Great Lakes/ Conservation in agricultural use/ Law, policy, economics and social sciences/ Environmental action

Abstract: Agriculture has long been regarded as a major contributor to wildlife habitat despoliation, soil

degradation, and downstream watercourse pollution. It would be possible to largely eliminate natural resource degeneration through judicious application of on-farm conservation practices. Farmers have little economic incentive to conserve because, according to previous research, most conservation techniques have been demonstrated to be unprofitable. The empirical research into three alternative types of conservation practices for this study confirms that two (conservation crops and riparian buffer strips) provide for net costs to farmers, and that the third (conservation soil tillage) is not profitable under all circumstances. At the same time, the research shows that two out of the three sets of practices, namely riparian buffer strips and conservation tillage, can be economically beneficial to society as a whole. This raises the question of whether and to what extent society, as economic gainers, should offer compensation to farmers as economic losers. This study furthermore establishes that not all conservation practices that result in reduced soil erosion will lead to decreased sediment and phosphorus loadings into watercourses; that not all reduced sediment and phosphorus loadings lead to improved water quality; and that, even where an improvement to water quality in chemical, physical, biological and aesthetic terms can be obtained, the costs to society of achieving improvement may exceed the economic benefits. Such outcomes can readily promote disagreements between environmentalists and ecologists on the one hand and socio-economists on the other.

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102. Economic factors contributing to the adoption of reduced tillage technologies in central Saskatchewan.

Gray, R S; Taylor, J S; and Brown, W J
Canadian Journal of Plant Science 76 (4): 661-668. (1996)

NAL Call #: 450-C16; ISSN: 0008-4220

Descriptors: crop (Angiospermae)/ plant (Plantae Unspecified)/ weeds (Tracheophyta)/ Plantae (Plantae Unspecified)/ angiosperms/ plants/ spermatophytes/ vascular plants/ agriculture/ biobusiness/ crop yield/ economic factors/ herbicide/ pest/ pest management/ prices/ reduced tillage technology/ soil science

Abstract: The zero-tillage and minimum-tillage technologies, which are now being rapidly adopted in many areas of western Canada, have made a significant contribution to the sustainability of the soil resource. As a measure of economic viability of these practices this study uses the Top Management Model to simulate the 5-yr ending equity given stochastic prices and yields for a consensus farm in central Saskatchewan. Simulations are used to compare a minimum

disturbance, zero-tillage system to a more conventional direct-seeding system. At 1994 crop and input prices, and a 10% yield advantage, zero-tillage systems compared favourably with conventional direct-seeding system. The relative crop yield and glyphosate price are key determinants to the short-run profitability of adopting zero-tillage technologies with fuel price having a smaller influence. When the switch to zero tillage allows a net reduction in machinery stock, this simultaneously increases the profitability, and reduces the financial risk for the producer. We conclude that in areas of Saskatchewan where zero-tillage systems provide a yield advantage, producers will continue to adopt these systems as an economically viable means of sustaining their soil resource.

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103. Economic incentives for coordinated management of forest land: A case study of southern New England.

Klosowski, R.; Stevens, T.; Kittredge, D.; and Dennis, D.

Forest Policy and Economics 2 (1): 29-38. (2001)
NAL Call #: SD1 .F6747; ISSN: 1389-9341

This citation is provided courtesy of CAB International/CABI Publishing.

104. Economic incentives reduce irrigation deliveries and drain water volume.

Wichelns, D.; Houston, L.; and Cone, D.

Irrigation and Drainage Systems 10 (2): 131-141. (May 1996)

NAL Call #: TC801.I66; ISSN: 0168-6291 [IRDSEG]

Descriptors: irrigated farming/ irrigation scheduling/ irrigation requirements/ water costs/ incentives/ drainage water/ volume/ water quality/ water allocation/ irrigation equipment/ prices/ price policy/ loans/ field crops/ vegetables/ California/ low interest loans/ irrigation depth/ tiered water pricing

This citation is from AGRICOLA.

105. Economic indicators to assess the sustainability of conservation farming projects: An evaluation.

Tisdell, Clem

Agriculture Ecosystems and Environment 57 (2-3): 117-131. (1996)

NAL Call #: S601 .A34; ISSN: 0167-8809

Descriptors: plant (Plantae Unspecified)/ Plantae (Plantae Unspecified)/ plants/ agriculture/ framework for the evaluation of sustainable land management/ international board for soil research and management/ natural resources/ Philippines

Abstract: Multiple criteria for sustainability, such as the five pillars in the FAO/IBSRAM (International Board for Soil Research and Management) Framework for the Evaluation of Sustainable Land

Management (FESLM), raise difficult assessment and evaluation problems. Economic viability is included as one of the pillars in this FESLM and is essential for the sustained adoption of conservation farming projects. However, even specifying economic viability and obtaining operational and predictive indicators for it is difficult because, for one thing, the economic viability of a farming system depends upon a variety of attributes. These include the level of economic returns, the instability and uncertainty of returns, and in monetary economies, the associated financial requirements for the farming system, the availability of finance and its implications for the financial liquidity of the farm. In all economies, the amount of investment required to adopt a sustainable conservation farming project will be a major consideration. As a rule, economic viability is also related to the sustainability of the natural productivity of soils and other natural resources on which economic production partially depends, so economic indicators depend in part on noneconomic factors, and a holistic approach is needed. Taking such factors into account, as well as the difficulty of predicting the future economic sustainability of conservation projects, this paper critically reviews suggestions made in the literature for developing appropriate indicators of sustainability, such as those of Lynam and Herdt (1989), as well as break-even analyses and the scope for applying various forms of cost-benefit analysis. Illustrations are drawn from the IBSRAM/ACIAR project investigating land management on vertisols and on sloping lands, e.g. in Australia and The Philippines.

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106. Economic methods for comparing alternative crop production systems: A review of the literature.

Roberts, W. S. and Swinton, S. M.
American Journal of Alternative Agriculture 11 (1): 10-17. (1996)
 NAL Call #: S605.5.A43; ISSN: 0889-1893 [AJAAEZ]
Descriptors: alternative farming/ cropping systems/ comparisons/ evaluation/ economic analysis/ environmental impact/ stability/ profitability/ risk/ sustainability/ North America/ alternative versus conventional cropping systems
Abstract: New crop production technologies developed in response to growing concern over environmental contamination from agriculture may be neither more profitable nor higher yielding than the systems they replace, but they often reduce environmental contamination or improve soil and water quality. Systems designed with environmental objectives cannot be evaluated fairly just by productivity, which is what often is done in economic studies of alternative systems. We review 58 recent

studies comparing alternative crop production systems to identify the key criteria for system comparisons, the system characteristics important in designing the analysis, and the methods most suited for comparing alternative systems. The four key criteria we looked for in system comparisons are expected profit, stability of profits, expected environmental impacts, and stability of environmental impacts. Most economic studies of crop production focus exclusively on profitability, and incorporate neither environmental criteria nor the dynamic characteristics inherent in alternative systems. We identify promising new approaches that take account of specific environmental characteristics and attempt to balance the objectives of profitability and environmental risk management. Balanced environmental-economic analysis is most likely to be achieved by integrating biophysical simulation models with economic optimization methods to model the trade-offs among profitability, environmental impact, and system stability (both financial and environmental).
 This citation is from AGRICOLA.

107. Economic risk and water quality protection in agriculture.

Bosch, D. J. and Pease, J. W.
Review of Agricultural Economics 22 (2): 438-463. (2000)
 NAL Call #: HD1773.A3N6; ISSN: 1058-7195
 This citation is provided courtesy of CAB International/CABI Publishing.

108. Economic risk, returns and input use under ridge and conventional tillage in the northern Corn Belt, USA.

Archer, David W; Pikul, Joseph L Jr; and Riedell, Walter E
Soil and Tillage Research 67 (1): 1-8. (2002)
 NAL Call #: S590.S48; ISSN: 0167-1987
Descriptors: Glycine max [soybean] (Leguminosae): oil crop/ Zea mays [corn] (Gramineae): grain crop/ Angiosperms/ Dicots/ Monocots/ Plants/ Spermatophytes/ Vascular Plants
Abstract: Ridge tillage (RT) has been proposed as an economically viable conservation tillage alternative for row crop production; however the long-term economic viability of RT in the northern Corn Belt of the USA is largely unknown. Economic returns, risk and input use were compared for RT and conventional tillage (CT) in a corn (*Zea mays* L.) and soybean (*Glycine max* (L.) Merr.) rotation with high, medium and low nitrogen treatments. The analysis was based on 10 years of experimental data from Brookings, SD on a Barnes clay loam (US soil taxonomy: fine-loamy, mixed, superactive, frigid Calcic Hapludoll; FAO classification: Chernozem). Economic returns were significantly higher at the highest nitrogen treatment levels. Highest average

net returns to land and management were \$78 per hectare for RT at the high nitrogen treatment level (RT-H) followed by \$59 per hectare for CT at the high nitrogen treatment level (CT-H). Risk, measured as the standard deviation of net returns, was the lowest for CT at the medium nitrogen treatment level (CT-M) followed by RT-H and CT-H. However, net returns were substantially lower under CT-M at \$32 per hectare. Average yields and average operating costs were not significantly different for RT-H and CT-H. Reduced equipment operating costs for CT-H were offset by increased herbicide costs for RT-H. Equipment ownership costs were significantly lower for RT-H than CT-H. There were no significant differences in fertilizer use for RT and CT. Pesticide use was significantly higher for RT-H than CT-H. Fuel use was 18-22% lower and labor use was 24-27% lower for RT-H than CT-H. Despite continued low adoption rates for RT in the northern Corn Belt, our analysis shows that RT is an economically viable alternative to CT.

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109. Economically efficient watershed management with environmental impact and income distribution goals.

Oenal, H.; Algozin, K. A.; Iik, M.; and Hornbaker, R. H.

Journal of environmental management 53 (3): 241-253. (1998)

NAL Call #: HC75.E5J6; ISSN: 0301-4797

Descriptors: Watersheds/ Catchment area/ Water management/ Environmental impact/ Economic analysis/ Pollution control/ Agricultural pollution/ Erosion control/ Costs/ Environment management/ Agriculture/ United States, Illinois/ Watershed Management/ Environmental Effects/ Soil Erosion/ Agricultural Watersheds/ Farms/ Economic Aspects/ United States, Illinois/ Prevention and control/ Watershed protection

Abstract: This paper presents a methodology for incorporating environmental impacts and income distribution goals in economic analysis of watershed management policies. Empirical results on a small Illinois, USA, watershed indicate that farm costs are increased notably by restricting agricultural pollution and soil erosion. The income distribution constraint also reduces economic efficiency, but the efficiency loss due to implementing this constraint is less than 10% of the costs resulting from environmental regulations. An ex post comparison of these results with the actual payments offered to farmers under the incentive program currently in place in the watershed reveals that these payments are approximately equal to the losses estimated by the analysis when the burden of environmental control is shared equally among the farmers.

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110. Economics of conservation tillage in the semiarid prairie.

Zentner, R P; McConkey, B G; Campbell, C A; Dyck, F B; and Selles, F

Canadian Journal of Plant Science 76 (4): 697-705. (1996)

NAL Call #: 450-C16; ISSN: 0008-4220

Descriptors: crop (Angiospermae)/ durum wheat (Gramineae)/ plant (Plantae Unspecified)/ wheat (Gramineae)/ Plantae (Plantae Unspecified)/ Triticum aestivum (Gramineae)/ Triticum turgidum (Gramineae)/ angiosperms/ monocots/ plants/ spermatophytes/ vascular plants/ agronomy/ biobusiness/ conservation tillage/ economics/ hard red spring/ production costs/ semiarid prairie/ soil science/ soil texture/ yield

Abstract: Concerns about environmental sustainability and economic survival have changed tillage practices significantly in western Canada. This study examined the effects of conventional (CT), minimum (MT), and no-tillage (NT) management on the economic performance of hard red spring wheat (*Triticum aestivum* L.) or durum wheat (*Triticum turgidum* L.) production when grown in fallow-wheat (F-W) and continuous wheat (Cont W) rotations, over a period of up to 12 yr (1982-1993) on three soil textures in southwestern Saskatchewan. Our results show little short-term economic incentive for producers to adopt NT management practices. Production costs were similar on the three soil textures, averaging 141 ha⁻¹ for F-W and 224 ha⁻¹ for Cont W. Total costs for Cont W systems averaged 10 to 13% higher for NT compared to CT. For F-W systems, total costs for NT averaged 29% higher than for CT on the silt loam, and 14% higher on the heavy clay. Also for F-W systems, costs for NT averaged 23, 12, and 17% higher than for MT on silt loam, sandy loam, and heavy clay soils, respectively. Although conservation tillage (MT and NT) provided savings in labor, fuel and oil, machine repair, and machine overhead (compared to CT), these savings were more than offset by greater expenditures for herbicides. On the silt loam, net returns were highest for Cont W (CT) and lowest for F-W (NT) at wheat prices greater than 147 t⁻¹; at lower wheat prices, F-W (CT) and Cont W (CT) provided the highest and about equal net returns. On the sandy loam, F-W (MT) consistently earned the highest net return; F-W (NT) ranked second highest, while Cont W systems ranked lowest. On the heavy clay, F-W (MT) and Cont W (CT) provided the highest net return at wheat prices greater than 147 t⁻¹, while at lower wheat prices F-W (MT) ranked highest. In our study, the relatively poor economic performance of conservation tillage, particularly NT, for monoculture wheat production

was due to a combination of higher input costs and the lack of significant yield advantages with MT and NT management.

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111. Economics of residue management in agricultural tillage systems.

Harman, W. L.

In: *Managing agricultural residues/ Unger, P. W.* Boca Raton, Fla.: Lewis Publishers, 1994; pp. 377-423.

Notes: ISBN: 0-87371-730-9

This citation is provided courtesy of CAB International/CABI Publishing.

112. The economics of risk, uncertainty and learning in the adoption of new agricultural technologies: Where are we on the learning curve?

Marra, M.; Pannell, D. J.; and Ghadim, A. A. *Agricultural Systems* 75 (2/3): 215-234. (2003)

NAL Call #: HD1.A3; ISSN: 0308-521X

This citation is provided courtesy of CAB International/CABI Publishing.

113. Economics of water quality protection from nonpoint sources: Theory and practice.

Ribaudo, Marc.; Horan, Richard D.; Smith, Mark Eugene; and United States. Dept. of Agriculture. Economic Research Service.

Washington, DC: U.S. Dept. of Agriculture, Economic Research Service; iii, 106 p.: ill., col. maps. (1999)

Notes: Cover title. "November 1999"--P. [i]. Includes bibliographical references (p. 96-106).

SUDOCS: A 1.107:782.

NAL Call #: A281.9-Ag8A-no.-782

<http://www.ers.usda.gov/publications/aer782/>

Descriptors: Water quality---United States/ Nonpoint source pollution---United States/ Agricultural pollution---United States/ Water Pollution---Economic aspects---United States

This citation is from AGRICOLA.

114. The effect of farming practices on reducing excess nitrogen fertilizer use.

Huang, Wen Yuan and Uri, Noel D

Environment International 19 (2): 179-191. (1993)

NAL Call #: TD169.E54; ISSN: 0160-4120

Descriptors: nitrogen/ corn (Gramineae)/ soybean (Leguminosae)/ angiosperms/ dicots/ monocots/ plants/ spermatophytes/ vascular plants/ cropland/ ground water leaching

Abstract: This paper studies the effects of crop rotation and a limitation on the application of nitrogen fertilizer on the reduction of excess nitrogen available for potential leaching into the ground water. For a farmer initially planting corn continuously, the adoption of a soybean-corn

rotation will have a smaller compliance cost, but it will not eliminate the excess application of nitrogen fertilizer under a relatively low nitrogen fertilizer to corn price ratio. An explicit limitation on nitrogen fertilizer use would be needed to achieve this objective. Limiting nitrogen fertilizer use on cropland susceptible to a high potential for leaching will have a smaller compliance cost than on cropland with a moderate potential for leaching.

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115. Effect of risk perspective on fertilizer choice by sharecroppers.

Paudel, K. P.; Lohr, L.; and Martin, N. R.

Agricultural Systems 66 (2): 115-128. (2000)

This citation is provided courtesy of CAB International/CABI Publishing.

116. Efficacy of standards vs. incentives for managing the environmental impacts of agriculture.

Weaver, R. D.; Harper, J. K.; and Gillmeister, W. J. *Journal of Environmental Management* 46 (2):

173-188. (Feb. 1996)

NAL Call #: HC75.E5J6; ISSN: 0301-4797

[JEVMAW]

Descriptors: water quality/ field crops/ farming systems/ agricultural production/ environmental impact/ taxes/ regulations/ farm management/ incentives/ standards/ simulation models/ Pennsylvania/ biophysical models/ economic incentives

This citation is from AGRICOLA.

117. An efficiency approach to managing Mississippi's marginal land based on the Conservation Reserve Program (CRP).

Hamdar, B.

Resources, Conservation and Recycling 26 (1): 15-24. (1999)

NAL Call #: TP156.R38R47; ISSN: 0921-3449

This citation is provided courtesy of CAB International/CABI Publishing.

118. Emerging agricultural water conservation price incentives.

Michelsen, A. M.; Taylor, R. G.; Huffaker, R. G.; and McGuckin, J. T.

Journal of Agricultural and Resource Economics 24 (1): 222-238. (July 1999)

NAL Call #: HD1750.W4; ISSN: 1068-5502

Descriptors: irrigation/ water costs/ water policy/ water conservation/ prices/ incentives/ water use/ federal government/ government organizations/ water allocation/ United States/ U.S. Bureau of Reclamation

This citation is from AGRICOLA.

119. An empirical analysis of Louisiana small farmers' involvement in the Conservation Reserve Program.

McLean Meyinsse, P. E.

Journal of Agricultural and Applied Economics 26 (2): 379-385. (Dec. 1994)

NAL Call #: HD101.S6; ISSN: 1074-0708

Descriptors: land diversion/ federal programs/ program participants/ small farms/ farm income/ returns/ tenants/ probabilistic models/ willingness to participate/ Franklin Parish, Louisiana/ Richland Parish, Louisiana/ West Carroll, Louisiana

Abstract: The study examines Louisiana small farmers' reasons for not participating in the Conservation Reserve Program (CRP), their awareness of the program, and their willingness to participate in the program. The results suggest that: farmers do not participate in the CRP if revenues from cropland are an important source of income, or if they are tenants; awareness is significantly related to education, income, race, and average return per acre; willingness is positively influenced by payment per acre, age, and farm status. Participation depends on whether payments per acre are comparable to the opportunity costs of removing cropland from production.

This citation is from AGRICOLA.

120. An empirical analysis of the relative efficiency of policy instruments to reduce nitrate water pollution in the U.S. Southern High Plains.

Wu, J.; Teague, M. L.; Mapp, H. P.; and Bernardo, D. J.

Canadian Journal of Agricultural Economics / Revue Canadienne d'Economie Rurale 43 (6): 403-420.

(Nov. 1995)

NAL Call #: 281.8-C16; ISSN: 0008-3976

Descriptors: nitrate/ water pollution/ water quality/ water policy/ environmental protection/ nitrogen fertilizers/ application rates/ regulations/ taxes/ water use/ irrigation water/ incentives/ irrigation systems/ mathematical models/ simulation/ southern plains states of USA/ epic pst crop growth/ chemical transport model/ mathematical programming model

This citation is from AGRICOLA.

121. Encouraging farmers to produce environmental benefits from agriculture.

Westra, J.; Zimmerman, J.; and Vondracek, B.

Selected papers from the annual meeting of the American Agricultural Economics Association (May 2002)

NAL Call #: HD1405 .A44.

Notes: Supplemental online access through <http://agecon.lib.umn.edu>.

Descriptors: farm management/ environmental protection/ social benefits/ externalities/ water quality/ fisheries/ farm income/ streams/ watersheds/ simulation models/ computer simulation/ land use/

land diversion/ Minnesota/ agricultural drainage and pesticide transport model/ coolwater stream/ warmwater stream/ Wells Creek Watershed/ Chippewa River Watershed/ Minnesota
This citation is from AGRICOLA.

122. Enrolling conservation buffers in the CRP.

Loftus TT and Kraft SE

Land Use Policy 20 (1): 73-84; many ref. (2003)

NAL Call #: HD101.L35

This citation is provided courtesy of CAB International/CABI Publishing.

123. Enrollment of filter strips and recharge areas in the CRP and USDA easement programs.

Lant, C. L.; Kraft, S. E.; and Gillman, K.

Journal of Soil and Water Conservation 50 (2):

193-200. (1995)

NAL Call #: 56.8 J822; ISSN: 0022-4561

Descriptors: United States, Midwest/ easements/ groundwater recharge/ soil conservation/ economic aspects/ farms/ cropland/ wetlands/ governmental interrelations/ conservation/ property rights/ Conservation Reserve Program/ Wetland Reserve Program/ Watershed protection

Abstract: Two related contingent valuation surveys were conducted in ten Cornbelt counties to estimate the potential enrollment in the Conservation Reserve Program (CRP) and a 30-year easement program of filter strips and cropland in areas vulnerable to groundwater contamination. It was found that potential CRP enrollment climbs dramatically in the range \$90-140/acre/year. Filter strip enrollments are greater than recharge area enrollments at any given rental rate. Thirty-year easements receive substantially less enrollment than CRP when a lump sum of 10 times the CRP rate is offered. Tree planting is a low percentage of CRP enrollments, but is a higher percentage of 30-year easement enrollments. Allowing enrollments to be used for set-aside requirements improves enrollments in the CRP by 32% for filter strips and by 6% for recharge areas; these differences are most marked at lower annual rental rates. Farmland owners who indicated they would not enroll gave primarily financial reasons for making that decision, further indicating that enrollment is very responsive to rental rates for the CRP and lump sums for easements. However, allowing variable time periods for contracts, adjusting rental rates for inflation or local cropland rental rates, publicizing maximum annual rental rates (MARRs), and simplifying the enrollment process could increase enrollments.

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124. Environmental and economic tradeoffs of alternative cropping systems.

Koo SeungMo; Williams, J. R.; Schurle, B. W.; and Langemeier, M. R.

Journal of Sustainable Agriculture 15 (4): 35-58. (2000)

NAL Call #: S494.5.S86S8; ISSN: 1044-0046

This citation is provided courtesy of CAB International/CABI Publishing.

125. The environmental consequences of the conservation tillage adoption decision in agriculture in the United States.

Uri, Noel D

Water, Air and Soil Pollution 103 (1-4): 9-33. (1998)

NAL Call #: TD172.W36; ISSN: 0049-6979

Descriptors: agricultural production/ conservation tillage/ corn production/ environmental impact/ fertilization/ pesticide applications/ soil erosion/ water runoff

Abstract: The environmental consequences of conservation tillage practices are an important issue concerning the impact of agricultural production on the environment. While it is generally recognized that water runoff and soil erosion will decline as no tillage and mulch tillage systems are used more extensively on cropland, what will happen to pesticide and fertilizer use remains uncertain. To gain some insight into this, the conservation tillage adoption decision is modelled. Starting with the assumption that this decision is a two step procedure - the first is the decision whether or not adopt a conservation tillage production system and the second is the decision on the extent to which conservation tillage should be used - appropriate models of the Cragg and Heckman (dominance) type are estimated. Based on farm-level data on corn production in the United States for 1987, the profile of a farm on which conservation tillage was adopted is that cropland had above average slope and experienced above average rainfall, the farm was a cash grain enterprise, and it had an above average expenditure on pesticides and a below average expenditure on fuel and a below average expenditure on custom pesticide applications. Additionally, for a farm adopting a no tillage production practice, an above average expenditure was made on fertilizer.

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126. Environmental dilemmas: Ethics and decisions.

Berry, R. J.

London; New York: Chapman & Hall; xxii, 271 p.: ill., maps. (1993)

Notes: 1st ed.; Includes bibliographical references and index.

NAL Call #: GF80.E58-1983; ISBN: 0412398001

Descriptors: Human ecology---Moral and ethical

aspects/ Environmental engineering/ Decision making---Environmental aspects/ Decision making---Ethics
This citation is from AGRICOLA.

127. Environmental Education and Outreach: Experiences of a Federal Agency.

Newton, B. J.

Bioscience 51 (4): 297-299. (2001)

NAL Call #: 500 Am322A; ISSN: 0006-3568

Descriptors: Government policy/ Education/ United States/ Aquatic environment/ Governments/ Policies/ Resource management/ Natural resources/ United States/ aquatic ecosystems/ Education/ Environmental Advocacy, Education and Awareness/ Protective measures and control/ General Environmental Engineering

Abstract: Conservation of natural resources is inextricably bound to public attitudes and opinions. Other articles in this issue of BioScience argue for greater involvement by the scientific community in public education and outreach. This one addresses the effectiveness of various outreach and education techniques, based on the experiences of the Natural Resources Conservation Service (NRCS), a US Department of Agriculture nonregulatory agency that is responsible for helping farmers, ranchers, and landowners conserve natural resources on private lands.

© Cambridge Scientific Abstracts (CSA)

128. Environmental farm planning in Ontario: Exploring participation and the endurance of change.

Smithers, J. and Furman, M.

Land Use Policy 20 (4): 343-356. (2003)

NAL Call #: HD101.L35; ISSN: 0264-8377

This citation is provided courtesy of CAB International/CABI Publishing.

129. The environmental implications of soil erosion in the United States.

Uri, Noel D

Environmental Monitoring and Assessment 66 (3): 293-312. (2001)

NAL Call #: TD194.E5; ISSN: 0167-6369

Descriptors: agriculture/ conservation policies/ conservation tillage/ economic losses/ ecotoxicology/ education/ environmental degradation/ environmental implications/ environmental legislation/ financial assistance/ land productivity/ land retirement/ research and development/ sediment transport/ social costs/ soil depth: reduction/ soil erosion/ taxes/ technical assistance

Abstract: Soil erosion has both on-farm and off-farm impacts. Reduction of soil depth can impair the land's productivity, and the transport of sediments can degrade streams, lakes, and estuaries. Since

1933, soil conservation policies have existed in the United States. Originally they focused on the on-farm benefits of keeping soil on the land and increasing net farm income. Beginning in the 1980s, however, policy goals increasingly included reductions in off-site impacts of erosion. As a consequence of conservation efforts associated with explicit U.S. government policies, total soil erosion between 1982 and 1992 was reduced by 32% and the sheet and rill erosion rate fell from an average of 4.1 tons per acre per year in 1982 to 3.1 tons per acre in 1992 while the wind erosion rate fell from an average of 3.3 tons per acre per year to 2.4 tons per acre per year over the same period. Still, soil erosion is imposing substantial social costs. These costs are estimated to be about \$37.6 billion annually. To further reduce soil erosion and thereby mitigate its social costs, there are a number of policy options available to induce farmers to adopt conservation practices including education and technical assistance, financial assistance, research and development, land retirement, and regulation and taxes.

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130. Environmental payments to farmers: Issues of program design.

Claassen, R. and Horan, R. D.
Agricultural Outlook (AO) (No. 272): 15-18. (2000)
NAL Call #: aHD1751.A422
This citation is provided courtesy of CAB International/CABI Publishing.

131. Environmental policy and swine manure management: Waste not or want not?

Hoag, D. L. and Roka, F. M.
American Journal of Alternative Agriculture 10 (4): 163-166. (1995)
NAL Call #: S605.5.A43; ISSN: 0889-1893
This citation is provided courtesy of CAB International/CABI Publishing.

132. Environmental protection: Federal incentives could help promote land use that protects air and water quality.

United States. General Accounting Office.
Washington, D.C.: GAO. (2001)
Notes: Report to Congressional Requesters; Title from web page. "October 2001." "GAO-02-12."
Description based on content viewed April 14, 2003.
Includes bibliographical references.
NAL Call #: TD171-.E68-2001
<http://www.gao.gov/new.items/d0212.pdf>
Descriptors: Environmental protection---United States/ Environmental protection---United States---Management/ Land use---Planning---Environmental

aspects---United States/ Water quality management--United States/ Urban runoff---United States/ Urban runoff---United States---Management/ Automobiles--Motors---Exhaust gas---Environmental aspects---United States

This citation is from AGRICOLA.

133. Equilibrium effects of agricultural technology adoption: The case of induced output price changes.

Caswell, Margaret F.; Shoemaker, Robbin; and United States. Dept. of Agriculture.
Economic Research Service.
Washington, DC: U.S. Dept. of Agriculture, Economic Research Service; viii, 15 p.: ill.; Series: Technical bulletin (United States. Dept. of Agriculture) no. 1823. (1993)
Notes: Cover title. "September 1993"--P. [iii].
Includes bibliographical references (p. 13).
NAL Call #: 1-Ag84Te-no.1823
Descriptors: Agricultural innovations---Economic aspects---United States/ Agricultural innovations---Government policy---United States/ Agricultural pollution---Economic aspects---United States/ Agricultural pollution---Government policy---United States/ Equilibrium---Economics
This citation is from AGRICOLA.

134. Estimating transaction costs of alternative policies to reduce phosphorus pollution in the Minnesota River.

McCann, L. and Easter, K. W.
Staff Paper - Department of Applied Economics, University of Minnesota (No. P98-7): 30 pp. (1998)
This citation is provided courtesy of CAB International/CABI Publishing.

135. Ethnic diversity and the patterned adoption of soil conservation in the strawberry hills of Monterey, California.

Mountjoy, D. C.
Society and Natural Resources 9 (4): 339-357. (July 1996-Aug. 1996)
NAL Call #: HC10.S63; ISSN: 0894-1920 [SNREEI].
Notes: Special Section: Cultural Diversity in Natural Resource Use. Includes references.
Descriptors: farmers/ ethnic groups/ soil conservation/ erosion control/ innovation adoption/ land management/ ethnicity/ farmers' attitudes/ California
This citation is from AGRICOLA.

136. Evaluating barriers to participation by fertilizer and agricultural chemical dealers in a federal water quality project.

Lanyon, L. E.; Kiernan, N. E.; and Stoltzfus, J. H. *Journal of Natural Resources and Life Sciences Education* 25 (2): 160-165. (1996)

NAL Call #: S530 .J6; ISSN: 1059-9053

This citation is provided courtesy of CAB International/CABI Publishing.

137. Evaluation of a stream-bank fencing program in Pennsylvania.

Hafner, Christine L and Brittingham, Margaret C *Wildlife Society Bulletin* 21 (3): 307-315. (1993)

NAL Call #: SK357.A1W5; ISSN: 0091-7648

Descriptors: Aves (Aves Unspecified)/ Hominidae (Hominidae)/ Plantae (Plantae Unspecified)/ animals/ birds/ chordates/ humans/ mammals/ nonhuman vertebrates/ plants/ primates/ vertebrates/ farmers attitudes/ summer resident birds/ vegetation

Abstract: Sixty summer resident bird species were recorded on 3 fenced and 3 unfenced riparian areas located in grazed pastures in Lancaster County, Pennsylvania. The greatest impact of fencing was on nest density and nest success. Nest density was higher on fenced than control sites, but nest success was lower on fenced compared to control sites. Although nest success was lower, overall productivity (no. of successful nests/ha) did not differ between fenced and control sites. Reducing stream-bank erosion, improving water quality, and the belief that fencing would become mandatory in the future were the primary reasons landowners gave for participating in the fencing program. After joining the program, the major concerns or complaints landowners had about fencing involved weeds, fence maintenance, and loss of pasture. These issues will need to be addressed to maintain high levels of voluntary participation in fencing programs. © Thomson

138. Evaluation of farmers' perceptions of soil quality indicators.

Liebig, M. A. and Doran, J. W.

American Journal of Alternative Agriculture 14 (1): 11-21. (1999)

NAL Call #: S605.5.A43; ISSN: 0889-1893

[AJAAEZ]

Descriptors: farmers/ soil fertility/ soil texture/ knowledge/ technology transfer/ monitoring/ evaluation/ techniques/ organic farming/ questionnaires/ nitrogen/ phosphorus/ nutrient availability/ soil color/ soil compaction/ infiltration/ farmers' attitudes/ Nebraska

Abstract: Understanding farmers' knowledge of soil quality and health is essential to ensure transfer of appropriate technology for on-farm assessments. The objective of this study was to evaluate farmers'

knowledge of soil quality by comparing their perceptions of soil conditions for "good" and "problem" soils on their farms with values of soil quality indicators as determined by established assessment protocol. Twenty-four conventional and organic farmers throughout eastern Nebraska were paired within regions of similar climate, topography, and soil type and their perceptions of soil quality indicators were queried using a written questionnaire. Questionnaire data were compared directly to values of soil quality indicators and perception accuracy indices were calculated. Overall, perception accuracy of soil quality indicators did not differ between conventional and organic farmers. Farmers' perceptions of soil quality indicators tended to be more accurate for "good" soils as compared to "problem" soils. Indicators that were incorrectly estimated at a frequency greater than 33% included available nitrogen and phosphorus, soil color, degree of compaction, and infiltration rate. Despite this, farmers' perceptions were correct or nearly-correct over 75% of the time for the majority of indicators evaluated in the study. Evaluation of social and managerial factors indicated that perception accuracy of soil quality indicators declined as the time of on-farm tenure increased. Results from this study indicate that agriculturists should seek out farmers' knowledge of soil characteristics as a first iteration to point-scale evaluation of soil quality.

This citation is from AGRICOLA.

139. Evaluation of policy tools to establish forests and protect water quality in cornbelt watersheds.

Lant, C. and Kraft, S. E.

Urbana, Ill.: Water Resources Center, University of Illinois at Urbana-Champaign; Rept No:

UILUWRC93217, USGSG201706, 1993. 27 p.

Notes: "Research report."; "May 1993." "...

supported in part by funds provided by the United States Department of the Interior as authorized under the Water Resources Act of 1984." "Project no. G-2017-06." "UILU-WRC-93-217."--Cover. Includes bibliographical references (p. 19-20).

NAL Call #: TC424.I3I4--no.217

Descriptors: Soil conservation projects---Illinois---Central Region/ Water resources development---Illinois---Central Region/ Watershed management---Illinois---Central Region/ Water quality management---Illinois---Central Region/ Groundwater---Illinois---Central Region---Quality

Abstract: The 1990 Farm Bill provides a number of incentives to farmers and farmland owners to improve water quality by retiring critical croplands through the Conservation Reserve Program (CRP) and the Agricultural Wetland Reserve Program (AWR), and by controlling chemical use through the Water Quality Incentives Program (WQIP). The

study utilizes two contingent valuation methodologies on 770 mail surveys and 157 personal interviews in 10 cornbelt counties to estimate potential participation in these programs as a function of financial incentives offered. It also identifies possible barriers to increased enrollment and presents farmers' attitudes toward these programs as well as toward Swampbuster. The results show that potential enrollments in the WQIP are low; only 17.5 percent of respondents indicated an interest in participating. In contrast, potential enrollments of filter strips, recharge areas, and farmed wetlands in the CRP respond strongly to annual rental rates, particularly in the range \$90 -140/acre.

This citation is from AGRICOLA.

140. Evaluation of the experimental Rural Clean Water Program: Barriers and Incentives.

Gale, Judith A. and United States. Environmental Protection Agency. Office of Wetlands, Oceans and Watersheds
Washington, D.C.: United States Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds, Nonpoint Source Control Branch, 1993. 559 p.

Notes: "May 1993." "National Water Quality Evaluation Project." "EPA-841-R-93-005"--Cover. Includes bibliographical references. Sponsor: Rural Nonpoint Source Control Water Quality Evaluation and Technical Assistance (Project).

NAL Call #: TD370.E92--1993

<http://h2osparc.wg.ncsu.edu/info/rcwp/index.html>

Descriptors: Rural Nonpoint Source Control Water Quality Evaluation and Technical Assistance Project/ Water quality---United States/ Water quality management---United States

This citation is from AGRICOLA.

141. Explaining farmers' conservation behaviour: Why do farmers behave the way they do?

Beedell, J D C and Rehman, T

Journal of environmental management 57 (3): 165-176. (1999)

NAL Call #: HC75.E5J6; ISSN: 0301-4797

Descriptors: human (Hominidae): farmer/ Animals/ Chordates/ Humans/ Mammals/ Primates/ Vertebrates/ Theory of Planned Behavior/ attitudes/ conservation behavior/ decision making processes / hedges/ landscape management/ social pressure/ social psychology/ wildlife management

Abstract: This paper attempts to illustrate the use of a structured social psychology methodology, the Theory of Planned Behaviour, in explaining how and more crucially why farmers manage the existing wildlife and landscape features on their holdings. The hedge management behaviour of Bedfordshire farmers is studied to illustrate the theory and it was found that the more 'conservation minded' ones

regarded the conservation benefits of hedge management more likely to be true and value them more highly than other farmers do. Such farmers also felt under greater social pressure to manage their hedges. This use of the Theory of Planned Behaviour suggests that it can provide a useful insight into farmers' decision-making processes and their conservation behaviour.

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142. Explaining irrigation technology choices: A microparameter approach.

Green, G.; Sunding, D.; Zilberman, D.; and Parker, D.

American Journal of Agricultural Economics 78 (4): 1064-1072. (Nov. 1996)

NAL Call #: 280.8-J822; ISSN: 0002-9092

[AJAEBA]

Descriptors: irrigation water/ water costs/ technology/ soil properties/ innovation adoption/ irrigation systems/ decision making/ probability/ probabilistic models/ multivariate analysis/ California/ San Joaquin Valley/ California

Abstract: Water price reforms are increasingly being used to encourage improvements in irrigation efficiency through technology adoption. A microparameter approach based on field-level data is used to assess the effect of economic variables, environmental characteristics, end institutional variables on irrigation technology choices. The results show that water price is not the most important factor governing irrigation technology adoption; physical and agronomic characteristics appear to matter more. The results demonstrate the importance of using micro-level data to determine the effects of asset heterogeneity and crop type on technology adoption.

This citation is from AGRICOLA.

143. Facilitating User Participation in Irrigation Management.

Kolavalli, S. and Brewer, J. D.

Irrigation and Drainage Systems 3: 249-273. (1999)

NAL Call #: TC801 .I66; ISSN: 0168-6291.

Notes: DOI: 10.1023/A:1006211725291

Descriptors: Water Users/ Cost benefit Analysis/ Irrigation Systems/ Organizations/ Cost effectiveness / Irrigation water/ Cost allocation, cost sharing, pricing/ Underground Services and Water Use

Abstract: This paper examines various factors which contribute to performance of water user associations. The capability of collective organizations such as WUAs to develop appropriate rules and to enforce them while keeping the level of conflict low is considered to be the core of organizational performance. We focus on the processes in collective organizations with greater

attention to costs of working together. Four factors representing benefits and costs, the rights held by the WUAs, magnitude of expected benefits, external assistance received and leadership explain most of the differences in performance. The prospect of benefits is a necessary condition for individuals to act collectively. But it is not sufficient. Expected organizational costs need to be low. The prospect of costs being low or being absorbed by one or more individuals - either external agents or internal leaders - provides an encouraging environment. Effective internal leadership appears to be essential as it can lead to greater congruence in interests and greater possibility of mutual assurances which are critical for collective action.

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144. Factor-input demand subject to economic and environmental risk: Nitrogen fertilizer in Kansas dryland corn production.

Carriker, G. L.

Review of Agricultural Economics 17 (1): 77-89. (Jan. 1995)

NAL Call #: HD1773.A3N6; ISSN: 1058-7195

Descriptors: zea mays/ nitrogen fertilizers/ crop production/ dry farming/ cost analysis/ farm inputs/ risk/ environmental impact/ farm management/ decision making/ demand/ returns/ equations/ Kansas/ external costs

Abstract: Factor-input demand should be affected when a producer considers environmental risks in the decision-making process; this is a straight forward application of the LeChatelier Principle. The two-fold purpose of this study is to develop a model to estimate environmental costs arising from excess factor inputs and to examine how firm-level factor-input demand is affected by economic and environmental risk. Nitrogen fertilizer use in northeast Kansas dryland corn production is used as an example. Weather and corn growth simulation models were used to generate 50-year distributions of dryland corn yields and potential environmental damage (surplus nitrogen). A model for approximating external environmental costs of surplus factor inputs was developed. Private (environmental costs not included) and social (environmental costs included) net returns distributions were generated for 1991 Farm Bill program participation and non-participation. Stochastic dominance analysis with respect to a function was used to identify the risk-efficient fertilizer strategies from among the 24 private and 24 social net returns distributions. Constrained (private) and unconstrained (social) nitrogen fertilizer demand schedules were then approximated on a per-pound of fertilizer basis as measures of the incremental value of nitrogen fertilizer. As expected, the results suggest that: (1) in the absence of environmental risk, nitrogen demand is more elastic

as a producer becomes more risk averse; and (2) when environmental risk is introduced into the decision-making process, nitrogen demand is more elastic than when environmental risk is excluded. The findings support the hypothesis that producers when provided with information regarding the potential environmental effects of production strategies, may choose those that are more environmentally benign. This citation is from AGRICOLA.

145. Factors affecting attitudes toward groundwater pollution among Ohio farmers.

Napier, T. L. and Brown, D. E.

Journal of Soil and Water Conservation 48 (5): 432-438. (1993)

NAL Call #: 56.8 J822; ISSN: 0022-4561

This citation is provided courtesy of CAB International/CABI Publishing.

146. Factors affecting conservation practice behavior of CRP participants in Alabama.

Onianwa, O.; Wheelock, G.; and Hendrix, S.

Journal of Agribusiness 17 (2): 149-160. (1999); ISSN: 0738-8950

This citation is provided courtesy of CAB International/CABI Publishing.

147. Factors affecting environmental impacts: The effect of technology on long-term trends in cropland, air pollution and water-related diseases.

Goklany, Indur M

Ambio 25 (8): 497-503. (1996)

NAL Call #: QH540.A52; ISSN: 0044-7447

Descriptors: agriculture/ conservation/ environmental impact assessment/ global food demand/ pollution/ water related diseases

Abstract: Long-term trends for cropland harvested, air emissions and deaths due to water-related diseases (selected as indicators of land, air and water pollution, respectively) are analyzed primarily for the US from the early 1900s onward. Due to technological change, the increases in these indicators are generally less than those for population (P), affluence (A) or their product (PA) - sometimes by an order of magnitude. Technological change resulted from secular improvements in technologies which were adopted voluntarily - owing to greater affluence and other economic factors - or because of national environmental laws. While environmental impacts had diminished substantially even before their enactment, these laws, whose very stringency may depend on affluence, consolidated and extended those gains. The analysis suggests that fostering economic growth and technological

change will help reduce adverse environmental impacts, including further losses of habitat and biodiversity, as new cropland is created to meet future global food demand.

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148. Factors affecting farmers' use and rejection of banded pesticide applications.

Rikoon, J. S.; Constance, D. H.; and Geletta, S.
Journal of Soil and Water Conservation 51 (4): 322-329. (July 1996-Aug. 1996)
NAL Call #: 56.8-J822; ISSN: 0022-4561 [JSWCA3]
Descriptors: water quality/ water resources/ environmental protection/ farm management/ herbicides/ band placement/ innovation adoption/ decision making/ change/ farmers' attitudes/ constraints/ assessment/ surveys/ methodology/ best management practices
This citation is from AGRICOLA.

149. Factors affecting initial use and decision to abandon banded pesticide applications.

Rikoon, J. S.; Vickers, R.; and Constance, D.
In: Agricultural research to protect water quality: Proceedings of the conference. (Held 21 Feb 1993-24 Feb 1993 at Minneapolis, Minnesota.)
Ankeny, IA: Soil and Water Conservation Society; pp. 335-337; 1993.
NAL Call #: TD427.A35A49-1993
Descriptors: pesticides/ band placement/ farmers/ United States/ innovation adoption/ decision making/ regional surveys/ water pollution/ water quality/ low input agriculture
This citation is from AGRICOLA.

150. Factors affecting NIPF landowner participation in management programs: A Massachusetts case study.

Stevens, T. H.; White, S.; Kittredge, D. B.; and Dennis, D.
Journal of Forest Economics 8 (3): 169-184. (2002);
ISSN: 1104-6899
This citation is provided courtesy of CAB International/CABI Publishing.

151. Factors affecting nutrient application rates within three Midwestern watersheds.

Napier, T. L. and Tucker, M.
Journal of Soil and Water Conservation 56 (3): 220-228. (2001)
NAL Call #: 56.8 J822; ISSN: 0022-4561
This citation is provided courtesy of CAB International/CABI Publishing.

152. Factors affecting the adoption of conservation tillage on clay soils in southwestern Ontario, Canada.

Wandel, J. and Smithers, J.
American Journal of Alternative Agriculture 15 (4): 181-188. (2000)
NAL Call #: S605.5.A43; ISSN: 0889-1893
This citation is provided courtesy of CAB International/CABI Publishing.

153. Factors affecting the adoption of productive pastures by participants in a paired-paddock extension program.

Trompf, J. P.; Sale, P. W. G.; and Graetz, B.
Australian Journal of Experimental Agriculture 40 (8): 1089-1099. (2000)
NAL Call #: 23-Au792; ISSN: 0816-1089
Descriptors: pastures / extension/ innovation adoption/ grasslands/ surveys/ farmers' attitudes/ stocking rate/ phosphorus fertilizers/ application rates/ farm management/ rain/ South Australia/ New South Wales/ Victoria/ Tasmania
This citation is from AGRICOLA.

154. Factors affecting use of conservation farming practices in east central Ohio.

Camboni SM and Napier TL
Agriculture, Ecosystems and Environment 45 (1-2): 79-94; 26 ref. (1993)
NAL Call #: S601 .A34
This citation is provided courtesy of CAB International/CABI Publishing.

155. Factors influencing best management practice implementation in Virginia's Chesapeake Bay drainage basin.

Lowery, James B.
Blacksburg, Va.: Virginia Polytechnic Institute and State University, 1996.
Notes: Report (M.S.); Bibliography: leaves 207-208.
NAL Call #: ViBibV LD5655.V851-1996.L694
Descriptors: agriculture/ best management practices/ cost share/ nonpoint source pollution/ survey
This citation is from AGRICOLA.

156. Factors influencing farmer participation in the environmentally sensitive areas scheme.

Wilson, Geoff A
Journal of Environmental Management 50 (1): 67-93. (1997)
NAL Call #: HC75.E5J6; ISSN: 0301-4797
Descriptors: agri-environmental schemes/ conservation/ decision making behavior/ environmentally sensitive areas scheme/ ESA scheme/ farmer participation/ remnant wildlife habitat
Abstract: This study investigates factors influencing farmers' motivations for participation in the Cambrian Mountains ESA scheme (Wales, U.K.). Emphasis is

placed on analysing whether significant correlations exist between ESA participation and specific factors. A behavioural approach is used for analysis, largely based on Brotherton's classification into 'scheme factors' (e.g. payments) and 'farmer factors' (e.g. age of farmer), but which expands this classification by including the 'information environment' of a farmer and 'dynamics within the farm district' - variables which this study shares with some actor-network approaches. While size and existence of remnant wildlife habitats were strongly correlated with overall participation, payments offered by the scheme, information provided by ADAS, scheme flexibility, the 'successors factor' and dynamics within the district were of particular importance for participation on farms of marginal ESA eligibility (i.e. small farms lacking substantial semi-natural habitats). Age, education and length of residency were important for explaining differential entering of specific habitats (especially broadleaved woodlands) into the ESA scheme, while scheme duration, dependence on the farm for income, tenure and the general information environment of the farmer did not influence overall participation. The paper concludes by arguing that a behavioural approach offers a valuable insight into farmers' decision-making behaviour with regard to participation in agri-environmental schemes, and that this study may be seen as a starting point that could be expanded through the use of related methodologies.

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157. Factors influencing farmer's participation in agri-environmental measures: A Belgian case study.

Vanslebrouck, Isabel; Van Huylenbroeck, Guido; and Verbeke, Wim

Mededelingen Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen Universiteit Gent 65 (4): 99-104. (2000)

Descriptors: Belgian agri environmental management/ agricultural policy/ environmental quality/ farmer participation/ farmer's participation associated influences/ non market service reward development/ resource management

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158. Factors to Consider when Bringing Conservation Reserve Program (CRP) Land or Idle Land Back into Production.

Murdock, L.; Herbek, J.; Townsend, L.; Hershman, D.; Martin, J.; Rasnake, M.; Hill, D. B.; Clark, B.; and Trimble, R. L. University of Kentucky, College of Agriculture, Cooperative Extension Service; ID-124, 1997.

<http://www.ca.uky.edu/agc/pubs/id/id124/id124.htm>

Descriptors: Conservation Reserve Program/ United States

Abstract: Looked at factors to consider, such as

which cropping system to use, pests that will be encountered, fertility status of the field, other nontraditional options, and the economics of bringing land back into production after CRP contract expiration.

159. Family Factors Affecting Adoption of Sustainable Farming Systems.

Salamon, S.; Farnsworth, R. L.; Bullock, D. G.; and Yusuf, R.

Journal of Soil and Water Conservation 52 (4): 265-271. (Aug. 1997)

NAL Call #: 56.8 J822; *ISSN:* 0022-4561

Descriptors: United States, Illinois/ comparison studies/ farming/ attitudes/ decision making/ social aspects/ education/ agricultural practices/ family factors/ Evaluation process

Abstract: A paired comparison of 60 Illinois farm families was employed, 30 using sustainable systems and 30 using conventional systems, to determine factors affecting adoption of sustainable farming systems. The groups do not diverge significantly along dimensions typically accounting for farming contrasts, but are distinctive socially. Families using sustainable systems have traditions of environmentalism, systematically do on-farm experimentation, and are prudent about resources. Rather than making a paradigm shift to environmentally sensitive farming, families who adopt have a predisposition toward sustainable practices in all aspects of their lives. Adoption of sustainable systems is therefore as much for efficiency or financial motives as it is for environmental reasons. Families farming conventionally but sharing many characteristics identified with sustainable families, potentially are those best targeted for educational programs.

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160. Farm*A*Syst/Home*A*Syst: A Framework for Voluntary Action That Is Both Effective and Replicable.

Castelnuovo, R.

Water Science and Technology 39 (12): 315-322. (1999)

NAL Call #: TD420.A1P7; *ISSN:* 0273-1223.

Notes: Conference: IAWQ 3, International Conference on Diffuse Pollution, Edinburgh (UK), 21 Aug-4 Sep 1998

Descriptors: Canada/ Australia/ United States/ North America/ Education/ Risk/ Behavior/ Interagency Cooperation/ Evolution/ Water Pollution Prevention/ Water Pollution Control/ Public Participation/ Nonpoint pollution/ Pollution prevention/ Agriculture/ Environment management/ Farm*A*Syst/ Home*A*Syst/ Water quality control/ Environmental action

Abstract: Farm*A*Syst/Home*A*Syst has developed an applied approach to education that results in

voluntary actions effective in preventing pollution. Easy-to-use assessment worksheets are a key innovation that enable landowners to identify pollution risks on their property and develop plans to correct problems. This active learning process produces high levels of awareness that translate into changes in behavior. Farm*A*Syst/Home*A*Syst supports voluntary action by landowners with a unique structure that emphasizes interagency cooperation and local program delivery. The program's capacity for replication is demonstrated by its evolution in the United States as well as its adoption in North America and beyond. Examples of international use include the Environmental Farm Plan developed in Canada and a cotton-specific adaptation in Australia. As a result of the ongoing expansion of this common sense approach to pollution prevention, Farm*A*Syst/Home*A*Syst offers many options to involve and motivate farmers and other non-industrial audiences whose voluntary participation is needed to reduce diffuse pollution. © Cambridge Scientific Abstracts (CSA)

161. Farm Economics to Support the Design of Cost-Effective Best Management Practice (BMP) Programs to Improve Water Quality: Nitrogen Control in the Neuse River Basin, North Carolina.

Wossink, G. A. A. and Osmond, D. L.
Journal of Soil and Water Conservation 57 (4): 213-220. (2002)
 NAL Call #: 56.8 J822; ISSN: 0022-4561
Descriptors: United States, North Carolina, Neuse River/ Watershed Management/ Nonpoint Pollution Sources/ Water Pollution Control/ Nitrogen/ Best Management Practices/ Public Participation/ Economic Aspects/ Cost Analysis/ Cost Sharing/ Water quality control/ Water Pollution: Monitoring, Control & Remediation
Abstract: This paper shows how farm economics information that is widely available can be used to help guide local resource managers and watershed groups in their efforts to design cost-effective programs to improve water quality. The focus is on the economic elements driving farmer and landowner decisions and how those compare with incentive payments to alter these decisions. The approach is illustrated for the case of Best Management Practices (BMPs) mandated for nitrogen control in the Neuse River Basin in North Carolina. The empirical research shows that the economics of the BMPs are very different for the three regions in the basin as distinguished by physiographic conditions. Economic differences in implementing BMPs should be taken into account by state and federal authorities when they are determining cost-share programs. The research also

shows that the cost-share payments offered for grass buffers might not be in line with the relative reduction in nitrogen emission offered by this BMP. © Cambridge Scientific Abstracts (CSA)

162. Farm management and protection of natural resources: Analysis of adaptation process and dependence relationships.

Gafsi, M. and Brossier, J.
Agricultural Systems 55 (1): 71-97. (Sept. 1997)
 NAL Call #: HD1.A3; ISSN: 0308-521X [AGSYDS]
Descriptors: mineral waters/ farm management/ natural resources/ environmental protection/ adaptation/ contracts/ farming systems/ innovation adoption/ resource management/ case studies
Abstract: In the new farming context, farms are under considerable pressure from their socio-economic and administrative environment to adhere to service or management contracts, which create new constraints regarding production systems, leading farmers to modify their farming practices with a highly limiting effect on their manoeuvring power. Using the example of protection of a mineral water perimeter, we analyse in this paper: (i) the techno-economic results of the adaptation process on the farms; and (ii) the question of dependence of farms with regard to the other party involved in the contract. The methodological approach used is crucial to the reliability of this analysis. We have used the physical and monetary flow method to carry out detailed studies of the farms based on the case-study method. Results after the changes show a trend to specialise and extensify production systems, and also positive economic results with a new source of farm revenue (bonuses). The analysis shows that pressure to change leads to several types of external control on farms, and also that farmers are able to react in a number of ways. The success of such programmes can be put down to a certain number of factors which are examined here. This citation is from AGRICOLA.

163. Farm Operators' Preferences for Soil Conservation Service Information: Results From Three Tennessee Watersheds.

Pompelli, G.; Morfaw, C.; English, B. C.; Bowling, R. G.; Bullen, G. S.; and Tegegne, F.
Journal of Production Agriculture 10 (3): 472-476. (1997)
 NAL Call #: S539.5.J68; ISSN: 0890-8524
Descriptors: United States, Tennessee/ Soil Conservation/ Watersheds/ Attitudes/ Farms/ Regional Analysis/ Information Systems/ Prediction/ Legislation/ Water quality/ Agriculture/ Environmental information/ Human factors/ Information exchange/ Watershed protection/ Environmental action/ Conservation in agricultural use
Abstract: Recent water quality legislation requires

that the Soil Conservation Service (SCS) reach a more diverse range of farm operators, especially small farm operators. With few, if any, additional resources, the effectiveness of the SCS's efforts to communicate soil conservation information to new audiences is critical. Thus, a better understanding about farm operators' predispositions toward SCS information may help SCS personnel reach these new audiences more efficiently. This study examines the extent to which farm and farm operator characteristics can be used to predict farm operators' attitudes about the usefulness of soil conservation information supplied by the SCS. The results of this study indicate that farm operators contacted by SCS and extension personnel, who also participate in government commodity programs have an increased likelihood of considering SCS information useful. Although regional influences negatively affect the likelihood that farm operators will consider the SCS soil conservation information useful, farm size, gross sales, years of education, and other farm and farm operator characteristics were not found to be significant factors.
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164. Farm organization and resource use.

Campbell, M. B. and Dinar, A.
Agribusiness 9 (5): 465-480. (Sept. 1993)
NAL Call #: HD1401.A56; ISSN: 0742-4477
Descriptors: farm management/ decision making/ resource utilization/ farm inputs/ labor/ irrigated farming/ drainage/ innovation adoption/ classification/ organization of work/ farm comparisons/ California/ San Joaquin Valley, California
This citation is from AGRICOLA.

165. Farm production systems of Mennonite and non-Mennonite land owner-operators in Ohio.

Napier, T. L. and Sommers, D. G.
Journal of Soil and Water Conservation 51 (1): 71-76. (Jan. 1996-Feb. 1996)
NAL Call #: 56.8-J822; ISSN: 0022-4561 [JSWCA3]
Descriptors: farming systems/ farm structure/ comparisons/ social differentiation/ religion/ ethnicity/ farmers/ cultural behavior/ farmers' attitudes/ innovation adoption/ technical progress/ environmental protection/ resource conservation/ educational programs/ technology transfer/ diffusion of information/ rural sociology/ Ohio
This citation is from AGRICOLA.

166. Farmer adoption of improved nitrogen management technologies in rice farming: Technical constraints and opportunities for improvement.

Balasubramanian, V.
Nutrient Cycling in Agroecosystems 53 (1): 93-101. (Jan. 1999)

NAL Call #: S631.F422; ISSN: 1385-1314 [NCAGFC].

Notes: In the special issue: Resource management in rice systems: nutrients / edited by V. Balasubramanian, J.K. Ladha, and G.L. Denning. Includes references.

Descriptors: oryza sativa/ crop management/ farmers' attitudes/ innovation adoption/ soil management/ climatic factors/ nitrogen/ use efficiency/ irrigation/ weeds/ agricultural research/ spatial variation/ temporal variation/ soil fertility/ nutrient balance/ drainage/ soil degradation/ soil compaction/ flooding/ rain/ drought/ solar radiation/ stress/ tolerance/ farming systems/ technology transfer/ literature reviews

This citation is from AGRICOLA.

167. Farmer evaluation of precision farming technologies.

Batte, M. T. and Arnholt, M. W.
Journal of the American Society of Farm Managers and Rural Appraisers: 78-89. (2002)
NAL Call #: 281.8-Am32; ISSN: 0003-116X
Descriptors: site specific crop management/ farmers' attitudes/ perception/ innovation adoption/ probit analysis/ farm surveys/ cost benefit analysis/ Ohio
This citation is from AGRICOLA.

168. Farmer irrigation scheduling: A case study in Arizona.

Lamacq, S.; Gal, P. Y. le; Bautista, E.; and Clemmens, A. J.
In: *Evapotranspiration and irrigation scheduling: Proceedings of the International Conference.* (Held 3 Nov 1996-6 Nov 1996 at San Antonio, Texas.)
Camp, C. R.; Sadler, E. J.; and Yoder, R. E. (eds.); pp. 97-102; 1996. ISBN: 0-929355-82-2
This citation is provided courtesy of CAB International/CABI Publishing.

169. Farmer participation in irrigation: 20 years of experience and lessons for the future.

Meinzen Dick, R.
Irrigation and Drainage Systems 11 (2): 103-118. (May 1997)
NAL Call #: TC801.I66; ISSN: 0168-6291 [IRDSEG]
Descriptors: irrigated farming/ irrigation/ farmers/ organizations/ farmers' associations/ irrigation water/ irrigation scheduling/ farmers' attitudes/ participation/ water policy/ water allocation/ Philippines/ Sri Lanka/ Pakistan/ Senegal/ Mexico/ western states of USA/ water users' associations/ Columbia Basin area of USA
This citation is from AGRICOLA.

170. Farmer perspectives on the Wetlands Reserve Program: A series of focus groups conducted by the Soil and Water Conservation Society, October 1993-February 1994.

Soil and Water Conservation Society (U.S.).
Ankeny, Iowa: Soil and Water Conservation Society. (1994)

Descriptors: Wetlands Reserve Program U.S./ Wetlands---Law and legislation---United States/ Wetland conservation---Law and legislation---United States

This citation is from AGRICOLA.

171. Farmer rationality and the adoption of environmentally sound practices; a critique of the assumptions of traditional agricultural extension.

Vanclay, F. and Lawrence, G.

European Journal of Agricultural Education and Extension 1 (1): 59-90. (Apr. 1994)

NAL Call #: S530.E97; *ISSN:* 1381-2335

Descriptors: extension/ sustainability/ low input agriculture/ farmers' attitudes/ innovation adoption/ environmental protection/ social benefits/ economic impact/ Australia/ United States/ Europe/ barriers to innovation adoption

This citation is from AGRICOLA.

172. Farmer's willingness to pay for groundwater protection.

Lichtenberg, E. and Zimmerman, R.

Water Resources Research 35 (3): 833-841. (1999)

NAL Call #: 292.8 W295; *ISSN:* 0043-1397

This citation is provided courtesy of CAB International/CABI Publishing.

173. Farmers' and experts' opinion on no-tillage in Western Europe and Nebraska (USA).

Tebrügge, F. and Böhrnsen, A.

In: Conservation agriculture: Environment, farmers experiences, innovations, socio-economy, policy/ García-Torres, L.; Benites, J.; Martínez-Vilela, A.; and Holgado-Cabrera, A.

Dordrecht, The Netherlands: Kluwer Academic, 2003; pp. 69-78.

Notes: ISBN: 1-4020-1106-7

NAL Call #: S604.5 .C64 2003

This citation is provided courtesy of CAB International/CABI Publishing.

174. Farmers and the custody of the countryside: Trends in loss and conservation of non-productive habitats 1981-1998.

Macdonald, D W and Johnson, P J

Biological Conservation 94 (2): 221-234. (2000)

NAL Call #: S900.B5; *ISSN:* 0006-3207

Descriptors: human (Hominidae): farmers/ Animals/ Chordates/ Humans/ Mammals/ Primates/ Vertebrates/ conservation policy/ cultivation type/

farmland management/ habitat destruction/ habitat restoration/ hedgerow/ non productive habitats
Abstract: Using questionnaires circulated in 1981 and 1998, we assess the extent to which wildlife habitats were lost from English farms during the 1970s and 1990s, and attempt to identify the forces which motivated farmers to act as they did. We investigate how farmers' professed interest in wildlife and involvement with different leisure activities, particularly field sports, was related to their actions, and how these patterns had changed between the two surveys. These patterns are of some interest in assessing how the availability of subsidies, and changes in the legal framework surrounding farmland management, may effect the behaviour of farmers. There were large regional differences between farmers in their reported strategies with respect to unproductive land in both surveys, which could be at least partially related to regional variation in cultivation types. While economic reasons were predominant in motivating farmers to remove hedgerows and other habitats in the 1970s, a large proportion of farmers then also professed positive attitudes to wildlife and stated that they would be willing to co-operate with schemes for habitat restoration if subsidies were available. In the 1990s subsidies have become available, and many of the 1990s respondents had made use of the various schemes recently in place to encourage habitat restoration and preservation. There was some evidence that fieldsport involvement was influential; hunting farmers reported least hedgerow destruction in both decades and shooting farmers reported creating more new woodland in the 1990s than did other farmers.

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175. Farmers' attitudes about farming and the environment: A survey of conventional and organic farmers.

Sullivan, Shannon; McCann, Elizabeth; De Young, Raymond; and Erickson, Donna

Journal of Agricultural and Environmental Ethics 9 (2): 123-143. (1996)

NAL Call #: BJ52.5 .J68; *ISSN:* 1187-7863

Descriptors: human (Hominidae)/ animals/ chordates/ humans/ mammals/ primates/ vertebrates/ agriculture/ conservation/ conventional farming/ environmental attitudes/ farmer/ farming attitudes/ human ecology/ organic farming

Abstract: Farmers have been characterized as people whose ties to the land have given them a deep awareness of natural cycles, appreciation for natural beauty and sense of responsibility as stewards. At the same time, their relationship to the land has been characterized as more utilitarian than that of others who are less directly dependent on its bounty. This paper explores this tension by comparing the attitudes and beliefs of a group of

conventional farmers to those of a group of organic farmers. It was found that while both groups reject the idea that a farmer's role is to conquer nature, organic farmers were significantly more supportive of the notion that humans should live in harmony with nature. Organic farmers also reported a greater awareness of and appreciation for nature in their relationship with the land. Both groups view independence as a main benefit of farming and a lack of financial reward as its main drawback. Overall, conventional farmers report more stress in their lives although they also view themselves in a caretaker role for the land more than do the organic farmers. In contrast, organic farmers report more satisfaction with their lives, a greater concern for living ethically, and a stronger perception of community. Finally, both groups are willing to have their rights limited (organic farmers somewhat more so) but they do not trust the government to do so.
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176. Farmers' attitudes to the benefits and barriers of adopting automation for surface irrigation on dairy farms in Australia.

Maskey, R.; Roberts, G.; and Graetz, B.
Irrigation and Drainage Systems 15 (1): 39-51. (2001)

NAL Call #: TC801.166; ISSN: 0168-6291 [IRDSEG]
Descriptors: dairy farms/ farmers' attitudes/ surface irrigation/ automation/ automatic irrigation systems/ factor analysis/ irrigated pastures/ innovation adoption/ Victoria

Abstract: The study reports farmers' attitudes and perceptions towards the "barriers" and "benefits" of automatic irrigation systems. Factor analysis was used to identify perceived "barriers" and "benefits" and the impact of these on farmers' priority to adopt automation was examined. Results suggest that farmers' attitudes, particularly with respect to "cost" and "lifestyle" influenced the priority given to adopting automatic irrigation systems. The area under pasture cultivation was also an important determinant in the farmers' priority for adopting automatic irrigation systems.

This citation is from AGRICOLA.

177. Farmers' attitudes toward the carrying out of wildlife habitat improvement actions (WHIA) in intensive agricultural areas of Northern Italy.

Genghini, M; Spalatro, Fiorenza; and Gellini, S
Zeitschrift fuer Jagdwissenschaft 48 ([supplement]): 309-319. (2002); ISSN: 0044-2887

Descriptors: human (Hominidae): farmer, hunter, manager, public functionary/ livestock (Mammalia): commercial species/ plant (Plantae): fruit crop, game crop/ wildlife (Animalia)/ Animals/ Chordates/ Humans/ Mammals/ Nonhuman Mammals/ Nonhuman Vertebrates/ Plants/ Primates/ Vertebrates/ abandoned fields: reclamation / age

effects/ agri environmental management/ attitudes/ community participation/ crop residues maintenance/ economic compensation/ farm structures/ financial subsidies/ hunting permits/ intensive agricultural areas/ livestock breeding/ outsourcing/ payment levels/ set aside lands/ socio economics/ wildlife damage/ wildlife habitat improvement actions [WHIAs]

Abstract: The research aims at estimating farmers' willingness to carry out selected measures for creating or improving wildlife habitat on their farms. We have surveyed almost all farmers of one agricultural province (Ravenna) in Northern Italy, by sending 9,500 questionnaires enclosed in three major farm publications. The questionnaire was elaborated on the basis of the results of previous interviews with several farmers, hunters, public functionaries and managers of agri-environmental and wildlife sectors. The questionnaire was organised by dividing it into two main sections: the first covers socio-economic information about farmers and farm structures, while the second asks respondents about their willingness to carry out some selected wildlife habitat improvement actions (WHIA). Four main measures were proposed, involving: game crops, crops residues maintenance, management of set-aside land for wildlife and management and reclamation of abandoned fields. Different payment levels were proposed for each measure. A telephone survey of 100 farmers revealed that only 10% of them were aware of the questionnaires. We collected a total of 303 valid questionnaires (3.2% of the total, and 31.9% of the examined questionnaires); they arrived partly by mail and partly through agricultural extension agents. 128 of such farmers (42%) expressed a general willingness to carry out actions in favour of wildlife in the case of economic compensation; only 36 (12%) were willing to carry out the proposed intervention if a low level of subsidy were involved (the level actually proposed in agri-environmental and/or wildlife habitat measures in the Ravenna province). Variables correlating positively with participation in the WHIA program are: farm size, certain types of farm (mixed, with prevalence of arable crops, and with pasture, woodland and set-aside fields), previous participation in agri-environmental programmes, presence of hunting permits in the family, absence of wildlife damage experience, farmers' age (in upland areas), etc. Variables correlating negatively with participation in the WHIA program are: fruit crops, livestock breeding, absence of outsourcing, farmers' age (on the plain), etc.
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178. Farmers' Choices: Management Practices to Reduce Nutrient Leakage Within a Swedish Catchment.

Bratt, A.

Journal of Environmental Planning and Management 45 (5): 673-689. (2002); ISSN: 0964-0568.

Notes: DOI: 10.1080/0964056022000013066

Descriptors: decision making/ Agriculture/ Catchments/ Water quality control/ Eutrophication/ Nutrients/ Sweden/ Water Quality Management/ Nonpoint Pollution Sources/ Catchment Areas/ Agricultural Practices/ Best Management Practices/ Public Participation/ Attitudes/ Pollution (Nonpoint sources)/ Decision theory/ Sweden/ Freshwater pollution/ Water Pollution: Monitoring, Control & Remediation/ Water quality control/ Water Quality

Abstract: This paper analyses farmers' strategies on management practices for the reduction of nutrient releases, within a Swedish catchment. The main objective of the European Union water framework directive is to obtain good ecological water quality, and the approach is specifically stipulated to be catchment-based. Eutrophication is generally stated as the main environmental problem in water management and agricultural production is the major cause of nutrient leakage. The analysis concentrates on current agricultural management practices to reduce nutrient leakage. Farmers are beginning to experience a new awareness about nutrient use and see manure as a resource instead of a waste product. Further, those factors that are decisive for decision making are investigated, including information sources. The farm economy, the level of ecological knowledge and regulations illustrate the main obstacles linked to decision making. Professional magazines and informal discussions are considered the most esteemed information sources. Farmers' disposition to change, and co-operation, are also discussed, both of which are of vital importance for the development of new official administrative procedures.

© Cambridge Scientific Abstracts (CSA)

179. Farmers' commitment to continued use of the late spring soil nitrogen test.

Contant, C. K. and Korsching, P. F.

American Journal of Alternative Agriculture 12 (1): 20-27. (1997)

NAL Call #: S605.5.A43; ISSN: 0889-1893 [AJAAEZ]

Descriptors: soil testing/ nitrogen/ nutrient availability/ determination/ spring/ tests/ technical progress/ new products/ utilization/ farmers' attitudes/ opinions/ innovation adoption/ decision making/ crop management/ nutrient management

Abstract: Within the past decade, low cost and convenient soil tests have been developed and marketed to permit better matching of soil nitrogen levels with crop needs. We explore the factors

related to farmers' initial adoption and their commitment to continued use of one such kit, marketed in Iowa as N-Trak. Early adopters of the N-Trak had many of the same personal and farm operation characteristics as farmers who have been early adopters of other farming innovations. Further, the principal factors in differentiating between various levels of commitment to continued use of the kit were perceptions of technological attributes of the kit and, to a much lesser extent, farmer attitudinal factors and personal characteristics. These results suggest that perceived attributes of the technology, especially its returns to time, effort, and financial investment, were critical in the decision to adopt and continue to use the N-Trak kit. Early adopters' decisions to continue using it focused primarily on cost, profitability, and technological issues, to the exclusion of water quality concerns measured by attitudinal items. These findings suggest that providing information that shows the kit's ease, compatibility, and advantages, would be more persuasive than marketing it as a tool to enhance water quality.

This citation is from AGRICOLA.

180. Farmers' decision processes and adoption of conservation tillage.

Westra, John.; Olson, Kent D.; and University of Minnesota. Dept. of Applied Economics. St. Paul, MN: Dept. of Applied Economics, University of Minnesota; 35 p.; Series: Staff paper (University of Minnesota. Dept. of Applied Economics) P97-9. (1997)

Notes: "June 1997." "Research sponsored by the Twin Cities Water Quality Initiative of the Metropolitan Council." Includes bibliographical references (p. 23).

NAL Call #: HD1761.A1M5-no.97-9

<http://agecon.lib.umn.edu/mn/p97-09.pdf>

This citation is from AGRICOLA.

181. Farmers' incentives to conserve soil resources: A dynamic model applied to the North-Central United States.

Hopkins, J. W.; Schnitkey, G. D.; Miranda, M. J.; Sohngen, B. G.; and Tweeten, L. G.

In: Land quality, agricultural productivity, and food security: Biophysical processes and economic choices at local, regional, and global levels/ Wiebe, K., 2003; pp. 305-318.

Notes: ISBN: 1-84064-752-3

This citation is provided courtesy of CAB International/CABI Publishing.

182. Farmers' information sources, problem recognition and the adoption of water quality-related management practices.

O'Keefe, G.; Rursch, J.; Anderson, S.; and Nowak, P.
 In: Agricultural research to protect water quality: Proceedings of the conference. (Held 21 Feb 1993-24 Feb 1993 at Minneapolis, Minnesota.) Ankeny, IA: Soil and Water Conservation Society; pp. 252-253; 1993.
 NAL Call #: TD427.A35A49-1993
 Descriptors: farmers/ decision making/ farm management/ water quality/ diffusion of information
 This citation is from AGRICOLA.

183. Farmers' landscape decisions: Relationships between farmers' values and landscape practices.

Busck, A. G.
Sociologia Ruralis 42 (3): 233-249. (2002);
 ISSN: 0038-0199
 This citation is provided courtesy of CAB International/CABI Publishing.

184. Farmers' motivations for adopting conservation practices along riparian zones in a mid-western agricultural watershed.

Ryan, R. L.; Erickson, D. L.; and de Young, R.
Journal of Environmental Planning and Management 46 (1): 19-37. (2003); ISSN: 0964-0568
 This citation is provided courtesy of CAB International/CABI Publishing.

185. Farmers' needs for nature conservation education in Greece.

Pyrovetsi, M and Daoutopoulos, G
Journal of environmental management 56 (2): 147-157. (1999)
 NAL Call #: HC75.E5J6; ISSN: 0301-4797
 Descriptors: herbicides: herbicide/ pesticides: pesticide/ human (Hominidae): farmer/ Animals/ Chordates/ Humans/ Mammals/ Primates/ Vertebrates/ environmental awareness/ farming practices: environmental impact/ landscape/ nature conservation education/ soil/ sustainable agriculture/ water quality/ wetlands: conservation
 Abstract: Impact of farming practices on the environment and on wetlands is determined, to a great extent, by the level of farmers' environmental awareness. Effective conservation of wetlands cannot depend merely on prohibitions but instead it is necessary to investigate users' knowledge and attitudes towards these vulnerable resources and then inform and encourage sustainable use. In the present study we examine: (1) farmers' knowledge of the environmental impact of modern agriculture practised adjacent to two Ramsar wetlands, Lakes Kerkini and Prespa, and on the Plain of the Serres Basin, (2) absence of knowledge associated with

characteristics of farming operations and their managers; and (3) which groups are in greater need of environmental awareness and knowledge. Data analysis revealed that the majority of farmers ignored the environmental impact of modern agriculture. Wetland farmers were more ignorant and practised a more intensive form of agriculture than those on the Plain. Prespa farmers were the most intensive farmers and were also the most ignorant with regards to water quality, soil and landscape and the use of pesticides and herbicides. This is particularly important since Prespa is a National Park. Kerkini farmers showed less environmental awareness and farmed more intensively, compared to their adjacent counterparts on the Plain. Those more 'knowledgeable' concerning environmental impacts of high input agriculture are those younger crop farmers with higher formal education and training. The findings of the study call for immediate action to implement specifically designed training programmes for wetland farmers, primarily of Prespa, so that they become more environmentally aware and eventually change their behaviour in a pro-environmental direction. This study highlights the necessity to build a conservation consensus among farmers in environmentally sensitive areas by educating them to conserve natural resources, training them to practise sustainable agriculture and rewarding the most environmentally friendly agriculture.
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186. Farms adaptation to changes in flood risk: A management approach.

Pivot, J. M.; Josien, E.; and Martin, P.
Journal of Hydrology 267 (1/2): 12-25. (2002)
 NAL Call #: 292.8 J82; ISSN: 0022-1694
 This citation is provided courtesy of CAB International/CABI Publishing.

187. Flexible incentives and water quality control technologies for the Everglades Agricultural Area.

Lee, Donna J. and Milton, J. Walter.
 Gainesville: University of Florida, Institute of Food and Agricultural Sciences, Food and Resource Economics Dept.; 26 p.: ill.; Series: Staff paper (University of Florida. Food and Resource Economics Dept.) SP98-11. (1998)
 Notes: Includes bibliographical references (p. 25-26).
 NAL Call #: FU S49.S7-SP98-11;
 HD1751.A1S73-no.98-11
 Descriptors: Water quality---Florida---Everglades/ Agriculture---Florida---Everglades/ Water quality management---Florida---Everglades
 This citation is from AGRICOLA.

188. Forest owner incentives to protect riparian habitat.

Kline, J. D.; Alig, R. J.; and Johnson, R. L.
Ecological Economics (Amsterdam) 33 (1): 29-43. (2000)

NAL Call #: QH540.E26; ISSN: 0921-8009

This citation is provided courtesy of CAB International/CABI Publishing.

189. A framework for evaluating the economic benefits, costs, and trade-offs associated with riparian-area management practices and strategies.

Obermiller, F. W.

Natural Resources and Environmental Issues

1: 53-64. (1994); ISSN: 1069-5370

This citation is provided courtesy of CAB International/CABI Publishing.

190. From researcher to farmer: The use of extension programs to transfer biological control technology in developed countries.

Mahr, D L

Entomophaga 41 (3-4): 387-404. (1996)

NAL Call #: 421 EN835M; ISSN: 0013-8959

Descriptors: arthropod (Arthropoda Unspecified)/ insect (Insecta Unspecified)/ invertebrate (Invertebrata Unspecified)/ Arthropoda (Arthropoda Unspecified)/ Insecta (Insecta Unspecified) / animals/ arthropods/ insects/ invertebrates/ agribusiness/ biological control/ biological control agent/ education/ extension programs/ integrated pest management/ pest/ pest control method/ pest management/ technology transfer

Abstract: Effective use of biological control by the pest manager requires knowledge of the biologies of the pests and natural enemies, and their interactions with their environment and agronomic practices. Manufacturers provide information for products such as microbial pesticides and entomophagous arthropods used in augmentative biological control. However, information about process-oriented methods such as classical importation biological control and conservation of natural enemies is not often available to the farmer. Governmental extension programs are one method for providing practical biological control information, but availability in developed countries varies considerably. Examples of transfer of biological control information are provided for New Zealand, Canada, and Australia. In the United States, the Extension Service, a branch of the U.S. Department of Agriculture, provides partial funding and coordination for pest management educational programs conducted at the national, regional, state and local levels. In a twelve-state region of the North Central United States, university extension and research entomologists have developed a coordinated program to educate county extension

personnel, farmers, and private consultants about the use of biological controls in pest management. The details of this model program are discussed. The paper concludes with a discussion of the educational constraints that must be overcome to successfully increase the adoption of biological control.

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191. From science to technology adoption: The role of policy research in improving natural resource management.

Hazell, Peter and Wood, Stanley

Agriculture, Ecosystems and Environment 82 (1-3): 385-393. (2000)

NAL Call #: S601 .A34; ISSN: 0167-8809

Descriptors: food production/ global climate change/ natural resource management: policy research/ technology adoption

Abstract: GCTE3 science seeks to predict the effects of global change on agriculture, forestry and soils. Better understanding the response of these ecological systems, it is argued, will enable society to better ameliorate, adapt to, and even benefit from, the forces of global change. The argument presented in this paper, however, is that the response of managed ecosystems can only be understood by treating likely human response to global change as an integral part of the research agenda. Linking science and policy research matters because the adoption of technologies for improved natural resource management, or of other interventions that scientific research may help design, is conditioned by socio-economic factors that policy research is better equipped to articulate. The paper first discusses how natural resource management and technology adoption are influenced by policy factors. It then explores why science - including GCTE - research needs to be linked to policy research. The reasons include: (a) that understanding biophysical processes is necessary but insufficient to understanding the socio-economic consequences of global change; (b) that the design of interventions to ameliorate negative and foster positive change at a global scale depends on gauging the likely human behavioral responses to change; (c) that although global impacts arise from an accumulation of local changes, interventions are often best coordinated in an international forum where the interests of potential "winners" and "losers" can best be matched. Different (winner and loser) nations have different policy stances on the underlying promoters of change, e.g., population growth, carbon emissions, biodiversity loss, etc. Failure to understand the (often economic) incentives underlying the "business-as-usual" position of many countries can hamper progress, even if the scientific arguments are compelling. The paper also assesses

how best to link GCTE science research and policy research. Researchers need to be: (a) concerned at many scales, from local to global; (b) able to predict and allow for the influences of technical change; (c) able to model biophysical processes and behavioral norms and responses in an integrated way.

Interactive models in which biophysical processes impact on human behavioral response and vice versa are increasingly required. Even where land use and socio-economic models are not formally linked, significant gains may be made from multidisciplinary approaches and information exchange that develop common scenarios under which biophysical and economic analyses are made separately, but at least in complementary ways.

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192. Future land use decisions of North Dakota Conservation Reserve Program participants.

Gustafson, Cole. and Hill, Chester Lewis.
 Fargo, ND: Dept. of Agricultural Economics,
 Agricultural Experiment Station, North Dakota State
 University; v, 43 p.: map. (1993)

Notes: Cover title. "August 1993." Includes
 bibliographical references (p. 29-31).

NAL Call #: 281.9-N814A-no.302

Descriptors: Conservation Reserve Program---
 United States/ Agricultural Conservation Program---
 North Dakota/ Soil conservation projects---
 North Dakota

This citation is from AGRICOLA.

193. Goal-oriented agricultural water quality legislation.

Gannon, R. W.; Osmond, D. L.; Humenik, F. J.;
 Gale, J. A.; and Spooner, J.

Water Resources Bulletin 32 (3): 437-450.

(June 1996)

NAL Call #: 292.9-Am34; *ISSN:* 0043-1370

[WARBAQ]

Descriptors: agriculture/ water quality/ water
 pollution/ pollution control/ legislation/ nonpoint
 source pollution/ 1995 Farm Bill/ Clean Water Act/
 Coastal Zone Management Act

Abstract: While significant nonpoint source (NPS)
 pollution control progress has been made since
 passage of Section 319 in the 1987 Water Quality
 Act, existing federal legislation does not provide for
 the most timely and cost-effective NPS pollution
 reduction. In this paper, we use findings from the
 Rural Clean Water Program and other nationwide
 agricultural NPS pollution control programs, building
 on legislative history, to recommend a coordinated
 and efficient direction for agricultural water quality
 legislation. A collaborative framework should be
 established to accomplish the goals of the Clean
 Water Act (CWA), Coastal Zone Management Act
 (CZMA), and the Conservation Title of the Farm Bill.
 Valuable elements of the 1990 CZMA amendments

that created a coastal NPS program should be
 subsumed into the CWA. The CWA should
 reemphasize use of receiving water quality criteria
 and standards and should allow states flexibility to
 tailor basin-scale NPS program implementation to
 local needs. Implementation should involve targeting
 of NPS pollution control efforts to critical land
 treatment areas and use of systems of best
 management practices to address these targeted
 water quality problems. The 1995 Farm Bill should
 reorient production incentives toward water quality to
 support the collaborative framework, implementing
 ecologically sound source reduction principles. The
 Farm Bill and the CWA should contain interrelated
 provisions for voluntary, incentive-assisted producer
 participation and fallback regulatory measures. Such
 coordinated national water quality and Farm Bill
 legislation that recognizes the need for flexibility in
 state implementation is supported as the most
 rational and cost-effective means of attaining water
 quality goals.

This citation is from AGRICOLA.

194. A group incentive program for farmer adoption of best management practices: An application to the nitrate pollution problem in central Illinois.

Ipe, V. C. and DeVuyst, E. A.

*Selected papers from the annual meeting of the
 American Agricultural Economics Association* (1999)

NAL Call #: HD1405-.A44.

Notes: Supplemental online access through
<http://agecon.lib.umn.edu>. Meeting held August 8-
 11, 1999 in Nashville, Tennessee.

Includes references.

Descriptors: farm management/ pollution control/
 nitrate/ farmers' attitudes/ innovation adoption/
 incentives/ program participants/ Illinois/ best
 management practices

This citation is from AGRICOLA.

195. Growers' perceptions and acceptance of soil quality indices.

Andrews, S. S.; Flora, C. B.; Mitchell, J. P.; and
 Karlen, D. L.

Geoderma 114 (3/4): 187-213. (2003)

NAL Call #: S590.G4; *ISSN:* 0016-7061

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