

models to evaluate the effects of machinery replacement, risk aversion, a learning curve, and crop yield expectations on adoption strategies by representative profit-maximizing and risk-averse, expected utility-maximizing farmers in Michigan. Mean net revenues for the no-till technology are higher than net revenues for conventional tillage when mean crop yields are assumed to be equal for the two technologies. The estimated mean corn and soybean yields are higher for the no-till system than for conventional tillage, but the differences are not statistically significant. The representative risk-averse farmer waits until both the conventional planter and the current tractor have aged many years before adopting the no-till technology when equal mean yields and a learning curve are assumed. The representative profit-maximizing farmer replaces this machinery and adopts the no-till technology more quickly, especially when no learning curve is considered. Both representative farmers adopt the no-till technology much more quickly when the estimated mean crop yields are assumed than when equal mean crop yields are assumed. Crop price expectations also exert a large influence on the optimal adoption strategy for the risk-averse farmer. The results support efforts to promote no-till technology by demonstrating superior to yields and lowering learning costs. This citation is from AGRICOLA.

**277. Oregon's Conservation Reserve Enhancement Program: Likely Participation and Recommendations for Implementation.**

Kingsbury, L.  
Corvallis, OR: Oregon State University, 1999.  
*Notes:* M.S. Thesis  
*Descriptors:* State conservation programs/ Conservation Reserve Enhancement Program/ Oregon  
*Abstract:* Assessed the willingness of private riparian landowners to participate in Oregon's CREP under various contract provisions.

**278. Participatory assistance: An alternative to transfer of technology for promoting change on farms.**

Lanyon, L. E.  
*American Journal of Alternative Agriculture* 9 (3): 136-142. (1994)  
*NAL Call #:* S605.5.A43; *ISSN:* 0889-1893 [AJAAEZ]  
*Descriptors:* farming systems/ change/ farm management/ decision making/ innovation adoption/ farmers/ participation/ technology transfer/ comparisons  
*Abstract:* Participatory assistance (PA) is a proposed approach for promoting change that involves both the biophysical processes of farms and the management processes of farmers. It

integrates external expertise, inputs, and expectations with the unique character of a particular farming system. It focuses on improving the processes of the farm and farmer rather than on the traditional interests of "outsiders" such as disciplinary researchers, industry sales people, government regulators, consumers, or environmental interest groups. As an alternative to transfer of technology, it promotes learning both by the farmer and by specialists from academia, industry, government, and the public. Participatory assistance can promote innovations in the operation of farms, in the conduct of research and education, in the development of products and services, in the formulation of policy, and in the involvement of the public in agriculture. The outcome is not assumed to be the adoption of the "best" technology, but may be found in the emerging properties that result from innovations. Assessing the improvement that follows each innovation will require clear specification of the relevant performance criteria, provision of appropriate technical support, and reinforcement by the appropriate incentives. Reconciling today's farming with water quality protection illustrates the potential of the PA approach. This citation is from AGRICOLA.

**279. Participatory landscape ecology: A basis for acceptance and implementation.**

Luz, Frieder  
*Landscape and Urban Planning* 50 (1-3): 157-166. (2000)  
*NAL Call #:* QH75.A1L32; *ISSN:* 0169-2046  
*Descriptors:* participatory landscape ecology: acceptance, implementation  
*Abstract:* Until recently, participation by local actors (decision-makers, lobbyists, farmers or representatives of various interest groups) played little or no role in landscape ecology and planning in Germany. Research in southern Germany between 1990 and 1996 and other more recent studies demonstrate how a lack of communication between scientists, planners, administrators and local stakeholders hinder acceptance and implementation of landscape planning projects. As part of practically-oriented research project, measures to improve communication were applied in several communities and the effects measured over several years. Participatory and communicative methods such as round tables, workshops, marketing of regional products and information campaigns caused significant acceleration of the implementation, suggesting that landscape ecology can be holistic only if public awareness and participation play an equal role with the expert views of natural scientists and planners.  
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**280. Past investments in conservation research.**

Napier, T. L.

*Journal of Soil and Water Conservation* 52 (1): 32-33. (Jan. 1997-Feb. 1997)

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

[JSWCA3].

Notes: Commentary.

Descriptors: soil conservation/ water conservation/ programs/ farmers' attitudes/ participation/ resistance to change/ innovation adoption/ incentives/ disincentives/ decision making/ social sciences/ research

This citation is from AGRICOLA.

**281. Perceptions of risk associated with use of farm chemicals: Implications for conservation initiatives.**

Tucker, M. and Napier, T. L.

*Environmental Management* 22 (4): 575-587. (1998)

NAL Call #: HC79.E5E5; ISSN: 0364-152X

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

**282. Pesticide free production of field crops: Results of an on-farm pilot project.**

Nazarko, Orla M; Acker, Rene C van; Entz, Martin H; Schoofs, Allison; and Martens, Gary

*Agronomy Journal* 95 (5): 1262-1273. (2003)

NAL Call #: 4-AM34P; ISSN: 0002-1962

Descriptors: Avena sativa [oat] (Gramineae): grain crop/ Hordeum vulgare [barley] (Gramineae): grain crop/ Linum usitatissimum [flax] (Linaceae): fiber crop/ Triticum aestivum [wheat] (Gramineae): grain crop/ Angiosperms/ Dicots / Monocots/ Plants/ Spermatophytes/ Vascular Plants/ on farm pilot project/ pesticide free crop production: organic production transition, weeds, yield

Abstract: Existing strategies for pesticide use reduction in the northern Great Plains have suffered from limited adoption. A novel approach, Pesticide Free Production (PFP), was recently developed in Manitoba, Canada. A participatory, on-farm study was conducted to assess the potential of PFP to be implemented on typical farms and the level of success farmers experienced with PFP. Pesticide Free Production prohibits the use of in-crop pesticide and seed treatments during one crop year as well as prior use of residual pesticides. Synthetic fertilizer use is permitted, as are pre-emergent applications of nonresidual pesticides. A total of 71 farmers, representing 120 fields and 11 crops, participated in the study. Fields and farmers were grouped based on whether or not fields (i) achieved PFP certification and (ii) were in transition to organic production. Certification was achieved for 83% of the participating area. Spring cereals were the most likely crops to achieve PFP certification. Yields in all groups were slightly lower than conventional averages in Manitoba but were not significantly

different among groups. Weed densities were higher (P=0.065) in noncertifiable fields than in certifiable fields. Most farmers reported manageable weed densities in the year following PFP. Soil conservation practices were used on a high proportion of PFP fields. Management practices associated with PFP included the use of delayed seeding, forages in rotation, and increased seeding rates. Agronomic and demographic characteristics of participating fields and farmers were typical for Manitoba. Pesticide Free Production demonstrates considerable potential to be successfully adopted by mainstream farmers.

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**283. Policy prospects for brush control to increase off-site water yield.**

Thurrow, T. L.; Thurrow, A. P.; and Garriga, M. D.

*Journal of Range Management* 53 (1): 23-31.

(Jan. 2000)

NAL Call #: 60.18-J82; ISSN: 0022-409X

[JRMGAQ]

Descriptors: watershed management/ brush control/ water yield/ cost analysis/ ranching/ farm surveys/ wildlife management/ game animals/ decision making/ hunting/ leases/ farm income/ range management/ Texas

Abstract: Water yield from rangeland on the Edwards Plateau, Texas is significantly greater if a site is dominated by grass instead of brush. Brush control programs are being considered by policymakers as a way to relieve water shortages in the region. This research analyzed ranchers' willingness to participate in a publicly-funded brush control cost-sharing program that would be ranch-revenue neutral. A survey instrument was mailed to 226 ranchers, 119 were completed and returned (53%). The cost sharing program required that brush on enrolled land be cleared and maintained at 3% cover for a 10-year period. Respondents estimated that current brush cover on their land averaged 41%, which contrasted with their preference that brush cover average 27%. This expression of preferred brush cover was similar to an independent estimate by a panel of experts in the region which indicated ranch livestock and deer-hunting lease value would be maximized at 30% brush cover. These estimates indicate that a program designed to increase water yield by reducing brush cover to 3% would likely require a financial incentive to offset the cost of brush control that exceeded the preference of the owner. Sixty-six percent of respondents indicated a willingness to enroll some portion of their land in the cost-sharing program described in the survey instrument. Ranch size, the percentage of ranch income earned from deer-hunting leases and livestock, and whether or not ranchers indicated that expense limited past brush control efforts were the variables measured by the survey instrument which

best explained the probability of participation and the amount of land the owner was willing to enroll. This citation is from AGRICOLA.

**284. A policy simulation of the Wetlands Reserve Program.**

Parks, P. J. and Kramer, R. A.

*Journal of Environmental Economics and Management* 28 (2): 223-240. (1995);  
ISSN: 0095-0696

*Descriptors:* agricultural practices/ government policy/ wetlands/ environmental restoration/ costs/ models/ United States/ agriculture/ government policies/ economics/ ecosystem disturbance / land use/ environmental protection/ urbanization/ cost analysis/ land reclamation/ Modeling/ mathematics/ computer applications/ Reclamation/ Environmental action/ Protective measures and control/ Evaluation process/ Freshwater/ United States

*Abstract:* Farmer participation in wetlands restoration practices is explained using land benefits, land attributes, and owner attributes. The probability of participation is estimated using county-level data, and used to calculate the expected acreage restored. National restored wetlands reserves are simulated by sorting counties on government cost and enrolling acreage into the reserve until the acreage target is reached. Total government cost for a million-acre reserve ranges from \$1736 million to \$1869 million, depending on the administrative strategy used. Using estimated participation rates in place of hypothetical rates suggests that achieving acreage targets may be more expensive than previously thought.

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**285. The potential of the 1990 Farm Bill to conserve and restore wetlands in cornbelt watersheds.**

Lant CL; Kraft SE; and Campbell KL.

In: *Versatility of wetlands in the agricultural landscape*: Hyatt Regency, Tampa, Florida, USA, 17-20 September, 1995.; pp. 295-303; 1995.

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

**286. Practical considerations in assessing barriers to IPM adoption.**

Nowak, P.; Padgett, S.; and Hoban, T. J.

In: *Proceedings of the Third National IPM Symposium and Workshop: Broadening support for 21st century IPM*. (Held 27 Feb 1996-1 Mar 1996 at Washington, D.C.)

Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service; pp. 93-114; 1997.

*Notes:* Miscellaneous publication (United States. Dept. of Agriculture) no. 1542

*NAL Call #:* 1-Ag84M-no.1542

*Descriptors:* integrated pest management/ crop

management/ decision making/ innovation adoption/ resistance to change/ sociological analysis  
This citation is from AGRICOLA.

**287. Precision farming adoption and use in Ohio: Case studies of six leading-edge adopters.**

Batte, M. T. and Arnholt, M. W.

*Computers and Electronics in Agriculture* 38 (2 ): 125-139. (Feb. 2003)

*NAL Call #:* S494.5.D3C652; ISSN: 0168-1699 [CEAGE6]

*Descriptors:* site specific crop management/ variable rate application/ data collection/ innovation adoption/ farmers' attitudes/ information technology/ case studies/ interviews/ farm management/ evaluation/ geographical information systems/ diffusion of information/ technology transfer/ Ohio

*Abstract:* Precision farming (PF) has the potential to help farmers improve input allocation decisions, thereby lowering production costs or increasing outputs, and, potentially, increasing profits.

However, little is known about how farmers use PF technologies to support managerial decision-making, or about the relative magnitude of benefits and costs of PF technologies on individual farms. An embedded, multiple-case study approach was used to collect information about PF from six farms. The objective was to collect information about adoption and use of PF from early adopters to glean information that would be useful to those considering adoption of this farming system. Results suggest that farmers credit benefits to PF for a wide variety of decision types. The case study farmers appear to derive more value from information gathering technologies (e.g. yield monitors and mapping) than from variable rate application technologies.

This citation is from AGRICOLA.

**288. Predicting Drip Irrigation Use and Adoption in a Desert Region.**

Skaggs, R. K.

*Agricultural Water Management* 51 (2): 125-142. (2001)

*NAL Call #:* S494.5.W3A3; ISSN: 0378-3774

*Descriptors:* United States, New Mexico/ Irrigation Practices/ Drip Irrigation/ Crop Production/ Farms/ Surveys/ Attitudes/ Regression Analysis/ Model Studies/ Conservation in agricultural use

*Abstract:* The possibility that drip irrigation technology could increase yields, reduce the incidence of crop diseases, and improve fruit quality has been identified as a critical research issue for the New Mexico chile pepper industry. Numerous hypotheses have been expressed regarding the low incidence of drip irrigation usage among New Mexico farmers. A survey of farmers was conducted in 1999 to assess commercial chile pepper producers' attitudes toward and knowledge of drip irrigation technology. The survey data were used in

logistic regression models that predict current high-tech irrigation system usage, drip irrigation usage, and plans for future drip irrigation adoption by chile pepper producers. The results of this research provide information useful to extension personnel, other researchers, and chile industry members. Results also raise questions about the impact of widespread drip irrigation adoption on multi-user irrigation systems, such as those found in New Mexico.

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**289. Preferred sources and channels of soil and water conservation information among farmers in three Midwestern US watersheds.**

Tucker, M. and Napier, T. L.

*Agriculture, Ecosystems and Environment* 92 (2/3): 297-313. (Nov. 2002)

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

[AEENDO]

*Descriptors:* farmers/ farmers' attitudes/ soil conservation/ water conservation/ information services/ information needs/ diffusion of information/ watersheds/ decision making/ prediction/ data analysis/ Iowa/ Ohio/ Minnesota

*Abstract:* This research examines farmers' use of various sources and channels of conservation information in three Midwestern US watersheds. A primary objective was to determine perceptual and farm structure factors influencing the use of particular information sources for farm-level decision-making. Data were collected from 1011 farm operators, the Maquoketa River watershed in east-central Iowa, the Lower Minnesota River watershed in southeast Minnesota, and the Darby Creek watershed in central Ohio. Respondents were asked to indicate frequency of use for 22 sources of conservation information identified from the literature and to rank the perceived importance of 11 of the most common communication channels for accessing agricultural information. Factor analysis was used to reduce the number of information sources to a smaller set of variables that explained much of the variance of the original data set. Selected elements of diffusion, risk communication, and farm structure theories were used to interpret the factor loadings and to identify predictors of information use. Regression analysis was used to test the communication source models developed for the overall data set and for each state. Descriptive findings revealed that farmers use multiple sources and channels when accessing soil and water conservation information. Substantial differences in information-use patterns were noted among the study watersheds. The results of the factor analysis showed that the 22 information sources could be categorized into six overarching groups based on their intercorrelation. The regression models were shown to vary widely in their

predictive capacity, explaining from 1 to 29% of the total variance in source use. The variability noted among farmers' information-use patterns and perceptions across the three study areas casts doubt on the value of broad-based or "shotgun" approaches for delivering agricultural information. The use of factor analysis has promise in future studies as a valuable tool for developing empirical measures of information use and improving measurement of key theoretical constructs in agricultural communication.

This citation is from AGRICOLA.

**290. A Preliminary Analysis of Texas Ranchers' Willingness to Participate in a Brush Control Cost-Sharing Program to Improve Off-Site Water Yields.**

Thurrow, A. P.; Conner, J. R.; Thurrow, T. L.; and Garriga, M. D.

*Ecological Economics* 37 (1): 139-152. (2001)

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

*Descriptors:* Environmental economics/ Public concern/ Cost benefit analysis/ Agriculture/ Perception/ Regional planning/ Water resources/ Ecology/ United States, Texas/ Water Yield/ Water Supply/ Farming/ Economic Aspects/ Water Management/ Arid environments/ Environment management/ Socioeconomic aspects/ United States, Texas, Edwards Plateau/ brush control/ Environmental action/ Water yield improvement/ General Environmental Engineering/ Freshwater

*Abstract:* Brush cover of 30% is estimated to be economically optimal for ranches on the Edwards Plateau, Texas. This contrasts with a regional objective to increase off-site water yield, which is maximized if brush cover is removed. Survey research was conducted to assess ranchers' willingness to enter a 10-year easement contract to clear brush to 3%, for a fixed cost-share payment to offset their opportunity costs of participation. Sixty-six percent of the 119 ranchers surveyed were willing to enroll. Ranch size, income from livestock and deer-hunting enterprises, and perceptions about brush control costs were important explanatory variables in statistical analysis using probit and Cragg models.

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**291. Private farmer's attitudes to land, work and landscape: Interpretation of a case study in landscape ecological framework.**

Lapka, Miloslav and Cudlinova, Eva

*Ekologia Bratislava* 18 (4): 401-412. (1999);

ISSN: 1335-342X

*Descriptors:* human (Hominidae): farmer/ Animals/ Chordates/ Humans/ Mammals/ Primates/ Vertebrates/ rural landscapes: ecological framework

*Abstract:* This paper looks at the private farmer's attitudes to their land, their own work and

surrounding landscape. We employed a data coming from the socio-ecological research of family farmers in the South Bohemian landscape of the Czech Republic. Using farmer's attitudes to land, work and to landscape, the paper charts the ecological consequences of our cases in context with sustainable agriculture as so as in more theoretical context of landscape ecology. Farmer's attitudes mentioned above contains the potential to be a positive (from an ecological point of view) driving force for landscape preservation and land use. However, the application of these ecological positive attitudes is not a task only the farmer's internal factors. There are playing also great role external factors like agriculture policy, subsidies and last, but not least understanding of co-existence of natural and social patterns in rural landscape.  
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**292. Program participation behavior of non-industrial forest landowners: A probit analysis.**  
Nagubadi, V.; McNamara, K. T.; Hoover, W. L.; and Mills, W. L. Jr.  
*Journal of Agricultural and Applied Economics* 28 (2): 323-336. (1996); ISSN: 0081-3052  
This citation is provided courtesy of CAB International/CABI Publishing.

**293. Property tax distortions and participation in federal easement programs: An exploratory analysis of the Wetlands Reserve Program.**  
Poe, G. L.  
*Agricultural and Resource Economics Review* 27 (1): 117-124; 40 ref. (1998)  
NAL Call #: HD1773.A2N6  
This citation is provided courtesy of CAB International/CABI Publishing.

**294. Property taxation and participation in Federal easement programs: Evidence from the 1992 Pilot Wetlands Reserve Program.**  
Poe, Gregory L. and New York State College of Agriculture and Life Sciences. Dept. of Agricultural, Resource and Managerial Economics. Ithaca, N.Y.: Dept. of Agricultural, Resource, and Managerial Economics, Cornell University; 15 p.; Series: Working paper (New York State College of Agriculture and Life Sciences. Dept. of Agricultural, Resource, and Managerial Economics) WP 96-06. (1996)  
Notes: "May 1996"--Cover. Includes bibliographical references (p. 15).  
NAL Call #: HD1751.W67--no.96-06  
Descriptors: Conservation easements---United States/ Real property and taxation---United States/ Wetland conservation---Economic aspects---United States  
This citation is from AGRICOLA.

**295. Public marginal willingness to trade off among water quality programs: Estimates of statewide and watershed-specific budget values.**  
Blomquist GC; Newsome MA; and Stone DB  
*Water Resources Research* 36 (5): 1301-1313; 12 ref. (2000)  
NAL Call #: 292.8 W295  
This citation is provided courtesy of CAB International/CABI Publishing.

**296. Public policies and private decisions: Their impacts on Lake Erie water quality and farm economy.**  
Forster, D. L.  
*Journal of Soil and Water Conservation* 55 (3): 309-322. (2000)  
NAL Call #: 56.8 J822; ISSN: 0022-4561  
This citation is provided courtesy of CAB International/CABI Publishing.

**297. Publicly-provided information in environmental management: Incorporating groundwater quality goals into herbicide treatment recommendations.**  
Liu, W; Moffitt, L J; Lee, L K; and Bhowmik, P C  
*Journal of environmental management* 55 (4): 239-248. (1999)  
NAL Call #: HC75.E5J6; ISSN: 0301-4797  
Descriptors: herbicide: treatment recommendations/ environmental management/ groundwater quality goals / publicly provided information  
Abstract: Use of publicly-provided information to promote environmental quality has received somewhat less attention in the environmental management literature than use of other environmental policy tools based on economic incentives such as emissions taxes, subsidies and marketable permits. Yet publicly-provided information may have potential as an environmental policy tool, especially in managing problems of agricultural pollution, due in large part to the existing capability of public information agencies associated with the agricultural research community. Information provided by these agencies is known to be an important factor in decision making in agriculture and may have potential for influencing decisions that relate directly to preserving the integrity of environmental resources. Moreover, this potential may have particular relevance for protecting groundwater quality from agricultural production since the results of contamination are often at least partially internal to the farm decision maker. This paper develops an empirical model to formulate publicly-provided herbicide treatment recommendations designed to protect both the quality of groundwater and the income of farmers. An economic and statistical model of a crop-pest system is used in conjunction with a groundwater loading model to derive the trade-off relationship

between producer income and movement of herbicide material through the root zone. The trade-off relationship can provide the basis for formulating herbicide treatment recommendations and can also shed light on appropriate groundwater quality goals.  
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**298. The pursuit of efficiency and its unintended consequences: Contract withdrawals in the environmental quality incentives program.**

Cattaneo, A.

*Review of Agricultural Economics* 25 (2): 449-469. (2003)

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

Notes: Number of References: 11; Publisher:

Amer Agricultural Economics Assoc

*Descriptors:* Agriculture/ Agronomy/ Economics/ water quality/ moral hazard

*Abstract:* This article analyzes why the USDA's Environmental Quality Incentives Program (EQIP) experiences contract withdrawals. Among approved contracts, 17% withdrew one or more conservation practices. After presenting a model of producers' behavior, a logit model is used to examine the withdrawal phenomenon. Withdrawals are linked to producers having an incentive to include low cost-share payments and practices in the conservation plan that increase the probability of approval, but may not be profitable. These results are discussed in light of the changes to EQIP that have been introduced by the 2002 Farm Act.

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**299. Qualitative Evaluation of the Continuous Sign-Up Program: Results of Five Focus Groups.**

Applied Research Systems Natural Resource Conservation Service, 1996.

Notes: Prepared for Natural Resource Conservation Service.

*Descriptors:* Conservation Reserve Program/ United States/ Continuous CRP

*Abstract:* Presented the results of five focus groups comprised of farmers to a promotional campaign for buffer strips and continuous CRP.

**300. Reallocating water from agriculture to the environment under a voluntary purchase program.**

Isé, S. and Sunding, D. L.

*Review of Agricultural Economics* 20 (1): 214-226. (1998)

NAL Call #: HD1773.A3N6; ISSN: 0191-9016

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

**301. Recruiting the new conservationists: Farmers' adoption of agri-environmental schemes in the United Kingdom.**

Morris, C. and Potter, C.

*Journal of Rural Studies* 11 (1): 51-63. (Jan. 1995)  
NAL Call #: HT401.J68; ISSN: 0743-0167

*Descriptors:* conservation/ land diversion/ land management/ farmers' attitudes/ innovation adoption/ environmental policy/ contracts/ program participants/ incentives/ farm surveys/ south east England/ environmentally sensitive areas program/ agri environmental policy

*Abstract:* Financial incentives available to farmers under the Government's relaunched agri-environmental policy (AEP) promise to recruit more farmers into conservation schemes than ever before. The success of these voluntary schemes, which offer payments in return for farmers agreeing to desist from certain damaging operations or carry out environmentally sensitive ones, is widely proclaimed, chiefly with reference to the promising levels of enrolment that have already been achieved under the Environmentally Sensitive Areas (ESA) programme. Increasingly, however, attention is focusing on the environmental benefits that are being achieved on the ground and their longer-term durability. This paper reports on a survey of 101 farmers in South East England conducted with a view to investigating the level of engagement of those currently enrolled in such schemes. Focusing on the motivational aspects, it points to wide variations in the level of commitment and sympathy with the wider objectives of AEP schemes and places farmers on a participation spectrum ranging from the most resistant nonadopters at one end to the most active adopters at the other. The policy implications of this categorisation are explored and recommendations made for pushing more farmers towards the active end of the spectrum.  
This citation is from AGRICOLA.

**302. Relationships among farm operators' water quality opinions, fertilization practices, and cropland potential to pollute in two regions of Virginia.**

Pease, J. and Bosch, D.

*Journal of Soil and Water Conservation* 49 (5): 477-483. (1994)

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

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

**303. Relevance of scale dependent approaches for integrating biophysical and socio-economic information and development of agroecological indicators.**

Dumanski, J.; Pettapiece, W. W.; and McGregor, R. J.

*Nutrient Cycling in Agroecosystems* 50 (1/3): 13-22. (Mar. 1998)

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

Notes: In the special issue: Soil and water quality at different scales / edited by P.A. Finke, J. Bouma and M.R. Hoosbeek. Proceedings of a workshop held August 7-9, 1996, Wageningen, The Netherlands. Includes references.

Descriptors: sustainability/ growth/ technology transfer/ innovation adoption/ indicators/ ecology/ agriculture/ ecosystems/ costs/ natural resources/ environmental degradation/ socioeconomics/ soil chemistry/ soil physical properties/ soil fertility/ water quality/ literature reviews

This citation is from AGRICOLA.

**304. Research experience with tools to involve farmers and local institutions in developing more environmentally friendly practices.**

Noe, E. and Halberg, N.

In: Environmental co-operation and institutional change: Theories and policies for European agriculture/ Hagedorn, K.

Cheltenham, UK: Edw. Elgar Publ., 2002; pp. 143-161.

Notes: ISBN: 1-84064-841-4

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

**305. Results of irrigation management transfer in the Columbia Basin Project, USA.**

Svendsen, M. and Vermillion, D. L.

Colombo, Sri Lanka: International Irrigation Management Institute; Short Report Series on Locally Managed Irrigation No. 15, 1996. v, 16 p.

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

**306. A review and evaluation of agroecosystem health analysis: The role of economics.**

Yiridoe, E. K. and Weersink, A.

*Agricultural Systems* 55 (4): 601-626. (Dec. 1997)

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

Descriptors: ecosystems/ resource utilization/ sustainability/ economic evaluation/ opportunity costs/ systems approach

Abstract: A conceptual framework for evaluating sustainable agroecosystems based on economic theory is presented. Agroecosystem sustainability embraces human socioeconomic and bioecological aspects. There are tradeoffs, complementarities, and interrelationships among alternative choices that

have to be made in a world of resource scarcity in order to achieve a sustainable agroecosystem. Analyzing these choices in an integrated framework is a central component of modern economic analysis.

This citation is from AGRICOLA.

**307. A review of the socio-economic analysis of soil degradation problems for developed and developing countries.**

Thampapillai, D. J. and Anderson, J. R.

*Review of Marketing and Agricultural Economics* 62 (3): 291-315. (Dec. 1994)

NAL Call #: 286.8-N47M; ISSN: 0034-6616

Descriptors: soil degradation/ soil conservation/ topsoil/ farm inputs/ agricultural production/ renewable resources/ non renewable resources/ resource utilization/ costs/ economic impact/ income/ innovation adoption/ optimization methods/ developing countries/ common property resources/ user costs

This citation is from AGRICOLA.

**308. Risk of public disclosure in environmental farm plan programs: Characteristics and mitigating legal and policy strategies.**

Yiridoe, E. K.

*Journal of Agricultural and Environmental Ethics* 13 (1/2): 101-120. (2000)

NAL Call #: BJ52.5 .J68; ISSN: 0893-4282

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

**309. Role of farmers' attitudes in adoption of irrigation in Saskatchewan.**

Kulshreshtha, S. N. and Brown, W. J.

*Irrigation and Drainage Systems* 7 (2): 85-98. (1993)

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

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

**310. The role of integrating concepts in watershed rehabilitation.**

Hilden, M.

*Ecosystem Health* 6 (1): 39-50; 48 ref. (2000)

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

**311. The role of on-farm demonstrations in addressing constraints to the adoption of remedial practices.**

Nowak, P. and Hakanson, K.

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. 344-346; 1993.



NAL Call #: TD427.A35A49-1993

*Descriptors:* demonstration farms/ adoption/ assessment/ farmers

This citation is from AGRICOLA.

**312. The role of planting flexibility and the acreage reduction program in encouraging sustainable agriculture practices.**

Huang, W. Y. and Daberkow, S. G.

*Journal of Sustainable Agriculture* 7 (1):

63-79. (1995)

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

[JSAGEB]

*Descriptors:* farm management/ decision making/ agricultural policy/ federal programs/ land diversion / participation/ deficiency payments/ crop mixtures/ diversification/ mathematical models/ sustainability/ farming systems/ case studies/ Corn Belt States of USA/ normal flex acres/ commodity programs

This citation is from AGRICOLA.

**313. Selection and sustainability of land and water resource management systems.**

Prato, T. and Hajkowicz, S.

*Journal of the American Water Resources*

*Association* 35 (4): 739-752. (1999)

NAL Call #: GB651.W315

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

**314. Sequential adoption of site-specific technologies and its implications for nitrogen productivity: A double selectivity model.**

Khanna, M.

*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:* site specific crop management/ nitrogen fertilizers/ soil testing/ variable rate application/ farm management/ decision making/ innovation adoption/ soil fertility/ probit analysis/ Illinois/ Iowa/ Indiana/ Wisconsin

This citation is from AGRICOLA.

**315. Simulation of a Group Incentive Program for Farmer Adoption of Best Management Practices.**

Ipe, V. C.; Devuyt, E. A.; Braden, J. B.; and White, D. C.

*Agricultural and Resource Economics Review* 30 (2): 139-150. (2001)

NAL Call #: HD1773.A2N6; ISSN: 1068-2805

*Descriptors:* United States, Illinois/ Watershed Management/ Agricultural Watersheds/ Best Management Practices/ Farms/ Environmental Policy/ Economic Aspects/ Watershed protection

*Abstract:* A group incentive program to encourage farmer adoption of best management practices is simulated for a typical watershed in central Illinois. The incentive payments, program costs and environmental impacts of the program are simulated. The results show that the best management practices may not actually reduce farm profits but may increase farm profits and reduce environmental pollution. The sponsor in most cases may not have to pay anything under the incentive contract. This may bring about a win-win situation for the sponsor, the farmer participating in the program, and society as a whole. The program could be implemented as an educational effort to demonstrate the benefits of sound management practices.

© Cambridge Scientific Abstracts (CSA)

**316. Site-specific management: The application of information technology to crop production.**

Plant, R. E.

*Computers and Electronics in Agriculture* 30 (1/3): 9-29. (Feb. 2001)

NAL Call #: S494.5.D3C652; ISSN: 0168-1699 [CEAGE6].

*Notes:* In the millennium special issue: Past Developments and Future Directions. Part I. Precision Agriculture and Information Technology / edited by D.L. Schmoldt. Includes references.

*Descriptors:* site specific crop management/ crop production/ crop yield/ spatial variation/ measurement/ data analysis/ information technology/ technology transfer/ innovation adoption/ economic evaluation/ reviews

*Abstract:* Site-specific management (SSM; also called, precision agriculture) is the management of agricultural crops at a spatial scale smaller than that of the whole field. Widespread farmer adoption of SSM practices is contingent on its economic advantage. Three criteria that must be satisfied in order for SSM to be justified are, (1) that significant within-field spatial variability exists in factors that influence crop yield, (2) that, causes of this variability can be identified and measured, and (3) that, the information from these measurements can be used to modify crop management practices to increase profit or decrease environmental impact. The objective of this paper is to review the state of SSM at the turn of the millennium and to offer some speculation as to its future course. The review is organized around the essential components of SSM listed above, i.e. measuring spatial variability, analyzing the data obtained from these measurements, using information gained from this analysis to effect changes in management practices, and determining whether the resulting benefits are worth the costs. The discussion section considers some potential effects of large-scale adoption of SSM, should this adoption occur. This citation is from AGRICOLA.



**317. Social and economic challenges in the development of complex farming systems.**

Pannell, D. J.

*Agroforestry Systems* 45 (1/3): 393-409. (1999)  
 NAL Call #: SD387.M8A3; ISSN: 0167-4366  
 [AGSYE6].

*Notes:* In the special issue: Agriculture as a mimic of natural ecosystems / edited by E.C. Lefroy, R.J. Hobbs, M.H. O'Connor and J.S. Pate. Paper presented at a workshop held September 2-6, 1997, Williams, Western Australia, Australia.

Includes references.

*Descriptors:* farming systems/ agroforestry/ agroforestry systems/ social values/ economic analysis/ technology transfer/ sustainability/ farmers/ ecosystems/ profitability/ farmers' attitudes/ literature reviews

This citation is from AGRICOLA.

**318. A social exchange explanation of participation in the U.S. Farm Program.**

Thomas, J. K. and Thigpen, J.

*Southern Rural Sociology* 12 (1): 1-23. (1996)  
 NAL Call #: HT401.S68; ISSN: 0885-3436

*Descriptors:* farmers' attitudes/ agricultural policy/ federal programs/ program participants/ farm income/ environmental protection/ environmental policy/ conservation/ farm management/ Texas  
*Abstract:* Passage of the 1990 Food, Agriculture, Conservation, and Trade Act resulted from the political influence of many environmental interest groups and, consequently, included many conservation provisions. As agricultural policy has increasingly reflected the environmental concerns of the public, farmers who participate in the Farm Program have adjusted their production practices to conserve land and water resources, minimize use of agrichemicals, and control animal wastes. Social exchange theory was used to examine personal and farm characteristics that could affect agroenvironmental attitudes, Farm Program participation, and conservation practices of Texas farmers (n = 1,063 farmers) in 1991. One in four farmers did not participate in a federal commodity/conservation program. Less than 8 percent of the variation in regulatory and environmental attitudes was explained by personal and farm characteristics, compared to 30 percent of the variation in Farm Program participation and 14 percent in use of conservation practices.

Agroenvironmental attitudes and most background characteristics were poor predictors of farm-related behaviors. Level of gross farm income was the best predictor of farmers' attitudes and behaviors. Implications of these findings are discussed.

This citation is from AGRICOLA.

**319. Social issues related to soil specific crop management.**

Nowak PJ.

In: Proceedings of soil specific crop management: A workshop on research and development issues, April 14-16, 1992, Minneapolis, MN. (Held 14 Apr 1992-16 Apr 1992 at Minneapolis, MN.) Robert PC; Rust RH; and Larson WE (eds.); pp. 269-285; 1993. This citation is provided courtesy of CAB International/CABI Publishing.

**320. Socio-economic methods in natural resources research.**

Farrington, J.

London, UK: Overseas Development Institute; ODI Natural Resource Perspectives No. 9, 1996. 4 p. This citation is provided courtesy of CAB International/CABI Publishing.

**321. Socioeconomic and institutional constraints on the adoption of soil conservation practices in the USA: Implications for sustainable agriculture.**

Napier TL; Krecek J; Rajwar GS; and Haigh MJ

In: Hydrological problems and environmental management in highlands and headwaters, 1996; pp. 185-196

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

**322. Socioeconomic pressure, demographic pressure, environmental loading and technological changes in agriculture.**

Giampietro, M.

*Agriculture, Ecosystems and Environment* 65 (3): 201-229. (Nov. 1997)

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

*Descriptors:* farming/ farming systems/ sustainability/ agricultural production/ technology/ technical progress/ innovation adoption/ decision making/ socioeconomics/ population pressure/ land productivity/ environmental factors/ ecological balance/ farmers' attitudes/ opinions

This citation is from AGRICOLA.

**323. Socioeconomic profiles of early adopters of precision agriculture technologies.**

Daberkow, S. G. and McBride, W. D.

*Journal of Agribusiness* 16 (2): 151-168. (Fall 1998)  
 NAL Call #: HD1401.J68; ISSN: 0738-8950

*Descriptors:* maize/ crop enterprises/ farming systems/ innovation adoption/ technology/ decision making/ socioeconomic status/ farm size/ farm income/ crop yield/ probability

This citation is from AGRICOLA.

**324. The socioeconomics of groundwater protection in the Scioto River watershed of Ohio.**

Napier, T. L.

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. 242-243; 1993.

NAL Call #: TD427.A35A49-1993

Descriptors: watershed management/ groundwater pollution/ farming systems/ profitability/ Ohio

This citation is from AGRICOLA.

**325. Soil and water conservation behaviors within the upper Mississippi River Basin.**

Napier, T. L.

*Journal of Soil and Water Conservation* 56 (4): 279-285. (2001)

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

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

**326. Soil and water conservation policies and programs: Successes and failures.**

Napier, T. L.; Napier, S. M.; and Tvrdon, J. Boca Raton, FL: CRC Press; 640 p. (2000)

Notes: Proceedings of an international conference convened at the Czech Agriculture University in Prague, Czech Republic in September of 1996.

NAL Call #: S622.2-.S63-2000; ISBN: 0849300053 (alk. paper)

Descriptors: Soil conservation---Government policy--Congresses/ Water conservation---Government policy---Congresses

This citation is from AGRICOLA.

**327. Soil and water conservation projects and rural livelihoods: Options for design and research to enhance adoption and adaptation.**

McDonald, M and Brown, K

*Land Degradation and Development* 11 (4): 343-361. (2000)

NAL Call #: S622.L26 S622.L26; ISSN: 1085-3278

Descriptors: farming/ hillside regions/ land husbandry/ natural capital/ project evaluation/ rural livelihoods/ social capital/ soil conservation/ water conservation

Abstract: This paper synthesizes the findings of a workshop which sought to consider the issues of poor uptake, adoption and adaptation of soil and water conservation techniques by farmers post-project by examining the experiences of projects which had research and extension elements. Critical factors contributing to the adoption and adaptation of soil and water conservation techniques by farmers are identified as 1) a more flexible approach and which enables learning within projects; 2) a process rather than output driven approach to soil and water conservation; 3) demonstration of immediate and

tangible benefits of soil and water conservation to farmers (production, income, risk-minimization); and 4) avoiding a narrow focus on soil and water conservation-alternatives are 'better land husbandry' or 'sustainable rural livelihoods' approaches. A number of areas are identified as priorities for further research which would aid the successful adoption of sustainable agricultural techniques and which should guide future research, development and extension, bringing more sustained benefits to farmers, particularly in humid and subhumid hillside regions. © Thomson

**328. 'Stinking, disease-spreading brutes' or 'four-legged landscape managers'? Livestock, pastoralism and society in Germany and the USA.**

Bieling, Claudia and Plieninger, Tobias *Outlook on Agriculture* 32 (1): 7-12. (2003)

NAL Call #: 10 Ou8; ISSN: 0030-7270

Descriptors: human (Hominidae): farmer/ livestock (Mammalia)/ Animals/ Chordates/ Humans/ Mammals/ Nonhuman Mammals/ Nonhuman Vertebrates/ Primates/ Vertebrates/ cultural contexts/ political contexts/ rangeland pastoralism: ecological aspects, economical aspects/ societal contexts/ society pastoralist interactions: historical course/ sustainable farming practices

Abstract: Comparisons between the Black Forest region of Germany and the Sierra Nevada foothills in the USA show considerable parallels in the relationship between livestock raisers and society. This becomes evident by sketching the historic course of interactions between society and pastoralism as well as the present situation. The authors emphasize that purely economic or ecological studies of pastoralism are not sufficient to explain the characteristic features of livestock farmers. In both countries a specific livestock farming culture can be characterized by team spirit, a desire for independence from the outside world, ranch fundamentalism, and a special relationship with nature. This set of values and attitudes should be considered whenever dealing with pastoralism, whether in a scientific, political or everyday context. © Thomson

**329. Stochastic technology, risk preferences, and adoption of site-specific technologies.**

Isik, M. and Khanna, M.

*American Journal of Agricultural Economics* 85 (2): 305-317. (2003)

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

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

**330. Strategies for encouraging the use of organic wastes in agriculture.**

Oshins, C.

In: Agricultural utilization of urban and industrial by-products: Proceedings of a symposium. (Held 7 Nov 1993-12 Nov 1993 at Cincinnati, Ohio.)

Madison, Wis.: American Society of Agronomy/ Crop Science Society of America/ Soil Science Society of America; pp. 73-86; 1995.

*Notes:* Sponsors: Divisions S-6 and S-7 of the Soil Science Society of America and A-5 of the American Society of Agronomy

*NAL Call #:* 64.9-Am3-no.58; *ISBN:* 0891181237

*Descriptors:* waste utilization/ organic wastes/ municipal refuse disposal/ refuse/ agricultural wastes/ composting/ sustainability/ farmers' attitudes/ innovation adoption/ refuse compost/ social barriers/ regulations

This citation is from AGRICOLA.

**331. Strategies to overcome impediments to adoption of conservation tillage.**

Carter, Martin R.

In: Conservation tillage in temperate agroecosystems/ Carter, M. R.

Boca Raton, Florida: CRC Press, 1994; pp. 3-19.

*Notes:* ISBN: 0873715713

*Descriptors:* Angiospermae (Angiospermae)/ angiosperms/ plants/ spermatophytes/ vascular plants/ crop rotation/ minimum tillage/ rotational tillage/ sustainable agriculture/ tillage timing/ zone tillage/ Agronomy (Agriculture)/ Conservation/ Soil Science

© Thomson

**332. A study of farmer attitudes towards riparian management practices.**

Parminter, T. G.; Tarbotton, I. S.; and Kokich, C.

*Proceedings of the New Zealand Grassland Association* 60: 255-258. (1998); *ISSN:* 0369-3902

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

**333. Suggestions to States Interested in Developing Conservation Reserve Enhancement Programs.**

Environmental Defense Fund, 1998

<http://web.archive.org/web/20030609041025/http://www.fb-net.org/CREP-EDF.htm>

*Descriptors:* State conservation programs/ Conservation Reserve Enhancement Program

*Abstract:* Offered past state's suggestions on the issues an applying state would want to address, if they chose to pursue a CREP program of their own.

**334. A Summary of the SWCS Wetlands Reserve Program Survey.**

Despain, W.

*Journal of Soil and Water Conservation* 50 (6): 632-633. (1995)

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

*Descriptors:* USA/ wetlands/ conservation/ surveys/ public participation/ water policy/ public opinion/ farming/ Wetlands Reserve Program/ Conservation in agricultural use

*Abstract:* The Wetlands Reserve Program (WRP) is a relatively new conservation program offered by the federal government. In 1992, farmers in nine states were given the opportunity to offer tracts of land for enrollment in the pilot program which would later be expanded to all 50 states. As a new program, the WRP involved several new elements and untested procedures. The Soil and Water Conservation Society, in a project directed by Max Schnepf, SWCW' director of public affairs, tried to find out farmers' reaction to the new program, and define ways that it could be improved. Farmers in seven of the nine pilot states were brought together in focus groups to discuss their experience with the WRP and gather suggestions. The results of these focus groups were brought together in the book, available from the SWCS, "Farmer Perspectives on the Wetlands Reserve Program: A series of Focus Groups." Three focus groups were organized, in each of seven pilot states-California, Iowa, Louisiana, Minnesota, Mississippi, New York, and North Carolina. A total of 120 farmers were involved overall. Each focus group meeting was tape recorded, and extensive notes were taken on the proceedings. Participants in each meeting were asked the same series of questions, to determine their feelings about wetlands and wetland issues. Then they were asked a series of specialized questions to find out their feelings about their experience with the WRP.

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**335. A survey of water management practices of California rice growers.**

Hill, J E; Brouder, S M; Roberts, S R; Williams, J F; Scardaci, S C; and Wick, C M

*Journal of Natural Resources and Life Sciences Education* 23 (2): 119-124. (1994)

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

*Descriptors:* Hominidae (Hominidae)/ Oryza sativa (Gramineae)/ angiosperms/ animals/ chordates/ humans/ mammals/ monocots/ plants/ primates/ spermatophytes/ vascular plants/ vertebrates/ extension education

*Abstract:* Conventional, continuous flood management for rice (*Oryza sativa* L.) irrigation in California has resulted in off-site movement of rice herbicides and other pesticides. In 1991, the University of California Cooperative Extension and

the Soil Conservation Service surveyed rice growers in conjunction with the initiation of a 5-yr project designed to demonstrate and evaluate several feasible, alternative water management systems (alternative WMS). The objective of the survey was to collect baseline information on current water management practices and to identify grower-perceived problems and concerns that may pose barriers to adoption of alternative WMS. Grower respondents accounted for 35% of total California rice hectareage in production in 1991. Fifty-six percent of growers reported exclusive use of conventional WMS, while 23% have tried alternative WMS on a portion of their hectareage. Twenty-one percent of respondents have converted their entire rice production hectareage to alternative WMS. Only 43% of conventional WMS growers described themselves as being highly satisfied with their current practice; the same percentage reported that stricter future water quality regulations will force them to change to an alternative WMS. Growers already fully converted to alternative WMS expressed the highest degree of satisfaction, and 60% classified themselves as being well satisfied with their current system. The primary concern of growers anticipating change to an alternative WMS was the cost of constructing and operating the improved system. Secondary concerns were water availability and the future cost of water. The survey results demonstrate that there is a large audience for extension education efforts focused on cost-effective, alternative WMS that improve water conservation and quality of drainage water.

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**336. A survey on the planning and adoption of zero runoff subirrigation systems in greenhouse operations.**

Uva, W. F. L.; Weiler, T. C.; and Milligan, R. A. *HortScience* 33 (2): 193-196. (Apr. 1998)  
 NAL Call #: SB1.H6; ISSN: 0018-5345 [HJHSAR]  
 Descriptors: crop production/ greenhouse culture/ subsurface irrigation/ runoff/ runoff water/ surveys/ environmental management/ decision making/ innovation adoption/ cost benefit analysis/ businesses/ size/ United States/ ebb and flow systems/ flood benches/ flood floor systems/ trough/ bench systems

This citation is from AGRICOLA.

**337. Sustainability of Pacific Northwest horticultural producers.**

Cordray, Sheila M; Lev, Larry S; Dick, Richard P; and Murray, Helene  
*Journal of Production Agriculture* 6 (1): 121-125. (1993)  
 NAL Call #: S539.5.J68; ISSN: 0890-8524  
 Descriptors: plant (Plantae Unspecified)/ Angiospermae (Angiospermae)/ angiosperms/

plants/ spermatophytes/ vascular plants/ agrichemical use/ conservation/ economics/ low input production

*Abstract:* The sustainability of agriculture is of great concern and controversy, but there is little information on operational measurements and definitions of sustainability. This article examines the implications of defining and measuring agricultural sustainability. Two sets of variables were used to indicate sustainability: (i) changes in agricultural chemical use, and (ii) use of alternative production practices. Factor analysis revealed that it would be inappropriate to construct a single sustainability scale that included both sets of variables. Two separate scales were constructed. The types of producers viewed as 'sustainable' on each scale had very different characteristics. On the scale that examined changes in agricultural chemical use, producers in the sample reporting zero or declining use tended to have smaller farms, lower investments in machinery, and lower gross and net incomes than producers at the other end of this scale. The use of alternative practices, reflected in the second scale, showed that producers using a greater number of alternative management practices had larger farms, more investment in machinery, and larger gross and net incomes than producers at the other end of this scale. Producers classified as sustainable on either of the two scales differed little from other producers with regard to economic impacts on the community, organizational involvement, or attitudes about farming. In general, more useful comparisons were made among producers classified by structural variables such as farm size and principal occupation of operator. These findings suggest that policies should take into account the structural factors that influence the adoption of sustainable practices.

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**338. Sustainable agricultural practices for weed management: Implications to agricultural extension education.**

Kotile, D. G. and Martin, R. A.  
*Journal of Sustainable Agriculture* 16 (2): 31-51. (2000)  
 NAL Call #: S494.5.S86S8; ISSN: 1044-0046  
 This citation is provided courtesy of CAB International/CABI Publishing.

**339. Sustainable agriculture in the Corn Belt: Production-side progress and demand-side constraints.**

Lighthall, D. R.  
*American Journal of Alternative Agriculture* 11 (4): 168-174. (1996)  
 NAL Call #: S605.5.A43; ISSN: 0889-1893 [AJAAEZ]  
 Descriptors: low input agriculture/ ridging/ pesticides/ United States/ no-tillage/ alternative

farming/ farming/ sustainability/ farm structure/ farm size/ marketing/ innovation adoption/ resistance to change/ structural change/ farmers' attitudes/ Corn Belt States of USA/ conventional farming

**Abstract:** This paper explores the constraints to sustainable agriculture in the Corn Belt stemming from the trend toward increased farm size and the continued dependence of the region on undifferentiated farm commodities produced for regional, national, and international markets. It is based on a three-county comparison of 14 full-time farmers who have embraced sustainable principles and practices, and a randomly sampled group of 25 farmers. An encouraging finding was the substantial progress made towards lower-input production of corn and soybeans by the nine farmers who had adopted the ridge tillage system, which uses elevated seedbeds, banded herbicides, and post-plant nitrogen application to reduce both sod erosion and synthetic chemical inputs while maintaining yields. However, operators of large farms that depend on hired labor and highly dispersed field sites regarded these practices as too risky at their scale of production despite their short-term economic and long-term environmental benefits. The region's commercial farmers appear split between family farmers who wish to avoid the headaches of scale expansion and hired labor, and therefore, embrace more efficient low-input systems such as ridge tillage versus those who reject the increased management intensity and risks of lower-input systems in favor of scale expansion via more chemical-intensive no-till systems. Although ridge tillage represents movement toward low-input cash grain production, low-input production systems alone are not sufficient to improve the underlying social welfare of rural areas. Arresting the trend towards fewer and larger farms will also require development of more specialized or more localized markets for sustainably produced commodities.

This citation is from AGRICOLA.

#### 340. Taking stock of agroforestry adoption studies.

Pattanayak, Subhrendu K; Mercer, D Evan; Sills, Erin; and Yang, Jui Chen

*Agroforestry Systems* 57 (3): 173-186. (2003)

NAL Call #: SD387.M8A3; ISSN: 0167-4366

**Descriptors:** tree (Spermatophyta)/ Plants/ Spermatophytes/ Vascular Plants/ agricultural technology: small holder adoption/ agroforestry adoption determinants/ agroforestry adoption studies/ contour hedgerows/ economic framework/ forestry technology: small holder adoption/ resource endowments/ soil conservation/ technology adoption factor categories: biophysical factors, market incentives, preferences, resource endowments, risk and uncertainty/ tropical areas/ water conservation/ Meta analysis

**Abstract:** In light of the large number of empirical studies of agroforestry adoption published during the last decade, we believe it is time to take stock and identify general determinants of agroforestry adoption. In reviewing 120 articles on adoption of agricultural and forestry technology by small holders, we find five categories of factors that explain technology adoption within an economic framework: preferences, resource endowments, market incentives, biophysical factors, and risk and uncertainty. By selecting only empirical analyses that focus on agroforestry and related investments, we narrow our list down to 32 studies primarily from tropical areas. We apply vote-counting based meta-analysis to these studies and evaluate the inclusion and significance of the five adoption factors. Our analysis shows that preferences and resource endowments are the factors most often included in studies. However, adoption behavior is most likely to be significantly influenced by risk, biophysical, and resource factors. In our conclusion, we discuss specific recommendations for the next generation of adoption studies and meta-analyses that include considering a fuller menu of variables, reporting key statistics and marginal probabilities, and conducting weighted meta-regressions.

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#### 341. A targeted policy approach to inducing improved rates of conservation compliance in agriculture.

Stonehouse, D. P.

*Canadian Journal of Agricultural Economics / Revue Canadienne d'Economie Rurale* 44 (2): 105-119.

(July 1996)

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

**Descriptors:** soil conservation/ soil degradation/ farm management/ decision making/ resource utilization/ innovation adoption/ factor analysis/ renewable resources/ Canada/ United States/ cultural factors/ technical factors

This citation is from AGRICOLA.

#### 342. Technical efficiency and farmers' attitudes toward technological innovation: The case of the potato farmers in Quebec.

Amara, N.; Traore, N.; Landry, R.; and Romain, R.

*Canadian Journal of Agricultural Economics / Revue Canadienne d'Economie Rurale* 47 (1): 31-43.

(Mar. 1999)

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

**Descriptors:** potatoes/ farmers' attitudes/ technical progress/ innovation adoption/ efficiency/ conservation/ technology/ farm comparisons/ farm surveys/ production functions/ mathematical models/ Quebec

This citation is from AGRICOLA.

**343. Technology adoption in agriculture: Implications for ground water conservation in the Texas high plains.**

Arabiyat, Talah S; Segarra, Eduardo; and Johnson, Jason L

*Resources, Conservation and Recycling* 32 (2): 147-156. (2001)

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

*Descriptors:* advanced irrigation technologies/ agriculture: technology adoption/ biotechnological advances/ ground water conservation

*Abstract:* The impact of technology adoption (advanced irrigation technologies and anticipated biotechnological advances) on the sustainability of agricultural activities in the Texas High Plains of the US is evaluated in this study. Specifically, a county-wide dynamic optimization model is used to (a) determine optimal ground water use levels and cropping patterns, and (b) evaluate the impacts of irrigation technology and biotechnology adoption on ground water use. The results indicate that current cropland allocation and levels of advanced irrigation technology adoption are not close to optimal. Approaching the issue of sustainability, the results show that the net present value of returns trade-off to achieve ground water conservation, in terms of what producers would have to give up to achieve ground water supply stability, would be relatively small.

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**344. Technology adoption in the presence of an exhaustible resource: The case of groundwater extraction.**

Shah, F. A.; Zilberman, D.; and Chakravorty, U.

*American Journal of Agricultural Economics* 77 (2): 291-299. (May 1995)

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

[AJAEB]

*Descriptors:* groundwater/ resource utilization/ water conservation/ technology/ mathematical models/ water costs/ irrigation/ land/ innovation adoption/ land quality

*Abstract:* In this paper we integrate technology diffusion within Hotelling's exhaustible resource model. The modern technology is a conservation technology such as drip irrigation used with groundwater. Resource quality heterogeneity and rising water prices are responsible for the gradual adoption of the modern technology, and under reasonable conditions the diffusion curve is an S-shaped function of time. Without intervention, the diffusion process will be slower than is socially optimal, and optimal resource use tax will accelerate the diffusion of the conservation technology and slow down excessive resource depletion caused by market failure due to open access conditions.

This citation is from AGRICOLA.

**345. Testing producer perceptions of jointly beneficial best management practices for improved water quality.**

Amacher, G. S. and Feather, P. M.

*Applied Economics* 29 (2): 153-159. (1997); ISSN: 0003-6846

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

**346. A Theoretical Analysis of Economic Incentive Policies Encouraging Agricultural Water Conservation.**

Huffaker, R. and Whittlesey, N.

*International Journal of Water Resources Development* 19 (1): 37-53. (2003)

NAL Call #: TD201.156; ISSN: 0790-0627.

*Notes:* Special Issue: Water Management and Irrigated Agriculture in the Western U.S.; DOI: 10.1080/0790062032000040764

*Descriptors:* Water Management/ Water Conservation/ Irrigation Efficiency/ Economic Aspects/ Water Costs/ Subsidies/ Comparison Studies/ Theoretical Analysis/ Model Studies/ Irrigation/ Economics/ Charges/ Finance/ Comparative studies/ Conservation in agricultural use/ Underground Services and Water Use/ Water & Wastewater Treatment/ Cost allocation, cost sharing, pricing

*Abstract:* A conceptual model of a representative irrigated farm is formulated to study farm responses to two economic policies commonly suggested to encourage agricultural water conservation, and to characterize the hydrological and economic circumstances in which these responses provide the desired conservation. The economic policies studied are to increase the irrigator's cost of applied water and to subsidize the irrigator's cost of investing in improved on-farm irrigation efficiency. Comparative statics results demonstrate that increasing the cost of applied water may be a more effectual water conservation policy than subsidizing the cost of improved on-farm irrigation efficiency.

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**347. Tillage method and crop diversification: Effect on economic returns and riskiness of cropping systems in a Thin Black Chernozem of the Canadian Prairies.**

Zentner, R P; Lafond, G P; Derksen, D A; and Campbell, C A

*Soil and Tillage Research* 67 (1): 9-21. (2002)

NAL Call #: S590.S48; ISSN: 0167-1987

*Descriptors:* Linum usitatissimum [flax] (Linaceae): oil crop/ Pisum sativum [field pea] (Leguminosae): vegetable crop/ Triticum aestivum [winter wheat] (Gramineae): grain crop/ Angiosperms/ Dicots/ Monocots/ Plants/ Spermatophytes/ Vascular Plants/ Thin Black Chernozem: prairie soil/ cropping system risk

**Abstract:** Producers throughout the Canadian Prairies have begun to extend (reducing summerfallow frequency) and diversify their traditional cereal-based rotations by devoting more areas to oilseeds and pulses, and by managing these newer cropping systems with conservation tillage practices. This study examined the economic performance and relative riskiness of monoculture cereal, cereal-oilseed, and cereal-oilseed-pulse rotations, each managed under conventional-, minimum-, and zero-tillage practices over a 12-year period (1987-1998) in the sub-humid Black soil zone of Saskatchewan. These crop rotations included: spring wheat (*Triticum aestivum* L.)-spring wheat-winter wheat (*T. aestivum* L.)-fallow (Ws-Ws-Ww-F), spring wheat-spring wheat-flax (*Linum usitatissimum* L.)-winter wheat (Ws-Ws-Fx-Ww), and spring wheat-flax-winter wheat-field pea (*Pisum sativum* L.) (Ws-Fx-Ww-P). Annual production costs for the complete rotation systems increased with cropping intensity and cropping diversity (monoculture cereal (\$249 ha<sup>-1</sup>)<cereal-oilseed (\$304 ha<sup>-1</sup>)<cereal-oilseed-pulse (\$310 ha<sup>-1</sup>)); however, costs were not affected by tillage method. The savings in labor, fuel, repair and machinery overhead with minimum- and zero-tillage practices (compared with conventional-tillage) were generally offset by increased expenditures for herbicides. For most grain price scenarios examined, gross returns and net returns were generally highest for Ws-Fx-Ww-P, intermediate for Ws-Ws-Fx-Ww (\$7-33 ha<sup>-1</sup> lower), and lowest for Ws-Ws-Ww-F (\$35-70 ha<sup>-1</sup> lower). Within the mixed rotations, economic returns tended to be higher when managed using minimum- and zero-tillage practices (compared to conventional-tillage), reflecting the higher grain yields they produced. Income variability, or degree of riskiness, was lowest for conservation tillage and the mixed cropping systems. Our findings explain the recent changes in land use practices that have been adopted by most producers in this region.

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**348. Tillage systems and profitability: An economic analysis of the Iowa MAX Program.**

Liu, Shiping and Duffy, Michael D

*Journal of Production Agriculture* 9 (4): 522-527. (1996)

NAL Call #: S539.5.J68; ISSN: 0890-8524

**Descriptors:** agronomy/ biobusiness/ conservation tillage system/ conventional tillage system/ economics/ Iowa MAX Program/ mulch till system/ no till system/ plowing/ profitability/ reduced till system/ ridge till system/ tillage systems

**Abstract:** Using the Iowa MAX program participant's survey data set, this study found that conventional tillage (plowing, PL) resulted in lower profits per acre than most conservation tillage systems (no-till (NT), reduced-till (RE), ridge-till (RT), and mulch-till (MT)).

The primary reason for higher profits with conservation tillage systems is the difference in operating costs. This study also found that it is not always true that conservation tillage uses more chemicals than PL. Ridge-till is very attractive in terms of profit and the expenditures on chemicals per acre. This indicates that, other than conservation compliance, economic benefits may be another major reason that farmers are adopting conservation tillage systems.

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**349. Timing nitrogen fertilizer application to reduce nitrogen losses to the environment.**

Huang, W. Y.; Heifner, R. G.; Taylor, H.; and Uri, N. D.

*Water Resources Management* 14 (1): 35-58.

(Feb. 2000)

NAL Call #: TC401.W27; ISSN: 0920-4741

[WRMAEJ]

**Descriptors:** nitrogen fertilizers/ application date/ preplanting treatment/ seasons/ low input agriculture/ economic analysis/ returns/ farm results/ innovation adoption/ agricultural policy/ mathematics/ equations/ decision analysis/ decision making/ insurance premiums/ pollution control/ losses from soil/ nitrogen/ Iowa/ growing season/ best nitrogen management plan/ expected value variance analysis/ adoption insurance program

**Abstract:** Abstract: The advantages of using insurance to help a farmer adopt a best nitrogen management plan (BNMP) that reduces the impact of agricultural production on the environment is analytically and empirically demonstrated. Using an expected value analysis, it is shown that an insurance program can be structured so as to reduce a farmer's cost of bearing the adoption risk associated with changing production practices and, thus, to improve the farmer's certainty equivalent net return thereby promoting the adoption of a BNMP. Using the adoption of growing-season only N fertilizer application in Iowa as a case study, it is illustrated how insurance may be used to promote the adoption of this practice to reduce N fertilizer use. It is shown that it is possible for a farmer and an insurance company both to have an incentive to develop an insurance adoption program that will benefit both the farmer and the insurance company, increasing net social welfare and improving environmental quality in Iowa.

This citation is from AGRICOLA.

**350. Understanding landholder management of river frontages: The Goulburn Broken.**

Curtis, Allan and Robertson, Alistar

*Ecological Management and Restoration* 4 (1):

45-54. (2003); ISSN: 1442-7001

**Descriptors:** catchment management/ community



education/ current recommended practices/  
landholder management

*Abstract:* In this paper we discuss the findings of research exploring landholder adoption of practices expected to improve the management of river frontages. This research was part of a larger project undertaken by the Goulburn Broken Catchment Management Authority (GBCMA) to assess the impacts of grazing on the condition of riparian zones in the GBCMA region. Our research employed a postal survey to a random selection of all river frontage owners in the GBCMA. Research findings highlighted the limited adoption of most current recommended practices (CRP) such as watering stock off-stream and fencing to manage stock access to river frontages. Higher adoption of CRP (in particular fencing) was correlated with greater knowledge of river frontage function and factors affecting river frontage condition; higher importance attached to the environmental, social and economic values of frontages; non-farming occupations; and higher confidence in the efficacy of CRP. These findings have important implications for managers and scientists. There has been a large investment in community education in the GBCMA and survey findings suggest this has been an effective strategy. At the same time, there should be changes in the approach to community education. It seems there is much to be done to improve the acceptability of fencing frontages along large rivers. Appeals to adopt CRP also need to move beyond a narrow focus on farmers and the benefits of increased agricultural production and embrace the range of landholders and the different values they attach to their frontages. Most respondents had no on-property profit and survey data indicated that financial constraints were an important factor limiting the adoption of CRP, particularly among farmers. There was considerable interest in taking up a grant scheme that would provide a higher level of support than is usually offered by government. These findings highlight the important role of economic incentives in assisting private landholders undertake conservation work along river frontages.

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**351. Use of conventional and conservation practices among farmers in the Scioto River Basin in Ohio.**

Napier, T. L. and Camboni, S. M.

*Journal of Soil and Water Conservation* 48 (3): 231-237. (May 1993-June 1993)

NAL Call #: 56.8-J822; ISSN: 0022-4561 [JSWCA3]

*Descriptors:* soil conservation/ water conservation/ practice/ innovation adoption/ farming systems/ decision making/ prediction/ Ohio/ conservation practices

This citation is from AGRICOLA.

**352. The use of forestry incentives by nonindustrial forest landowner groups: Is it time for a reassessment of where we spend our tax dollars?**

Kluender, R A and Walkingstick, T L

*Natural Resources Journal* 39 (4): 799-818. (Fall 1999)

NAL Call #: HC79.E5N3; ISSN: 0028-0739

*Descriptors:* Arkansas---Environmental policy/ Land utilization---Tax aspects/ Forest conservation---United States---Arkansas/ Tax expenditures---United States---Arkansas/ United States---Tax policy/ Lumber industry---Environmental aspects

*Abstract:* Discusses incentive programs focusing on cost-share programs: Forest Incentives Program (FIP), Stewardship Incentives Program (SIP), and Conservation Reserve Program (CRS); based on a survey and subsequent analysis of 2,400 nonindustrial private forest (NIPF) landowners; Arkansas.

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**353. The use of no till farming in U.S. agriculture: Farmers' perceptions versus reality.**

Uri, N. D.

*Journal of Sustainable Agriculture* 15 (2/3): 5-17. (1999)

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

*Descriptors:* agriculture/ no-tillage/ farmers' attitudes/ costs/ labor costs/ tillage/ erosion/ runoff/ water quality/ glycine max/ triticum aestivum/ triticum durum/ surveys/ zea mays/ literature reviews/ United States

*Abstract:* A number of economic and environmental benefits are associated with the use of no till in production agriculture in the United States. There are lower labor, energy, and machinery costs associated with no till farming relative to conventional tillage systems and other types of conservation tillage. The reduced erosion and runoff associated with no till also lead to a number of environmental benefits including a reduction in water quality impairment. In order to properly associate the benefits of no till with its use, it is important that farmers' perception of what constitutes no till and the actual use of no till be consistent. An analysis of the Agricultural Resource Management Study survey data for 1996 shows that for soybeans, winter wheat, spring wheat, and durum wheat, farmers' perceptions are consistent with reality. In the case of corn, however, nearly 18 percent of corn farmers believe they are using no till while in actuality, only slightly more than 12 percent are using this tillage system.

This citation is from AGRICOLA.

**354. Use of soil and water protection practices among farmers in the North Central Region of the United States.**

Napier, T. L.

*Journal of the American Water Resources*

*Association* 36 (4): 723-735. (Aug. 2000)

NAL Call #: GB651.W315; ISSN: 1093-474X

[JWRAF5]

**Abstract:** Data were collected in the fall of 1998 and the winter of 1999 from 1,011 land owner-operators within three watersheds in the North Central Region of the United States to assess adoption of soil and water protection practices. Farm owner-operators were asked to indicate how frequently they used 18 different agricultural production practices. Many farmers within the three watersheds had adopted conservation protection practices. However, they also employed production practices that could negate many of the environmental benefits associated with conservation practices in use. Comparison of adoption behaviors used in the three watersheds revealed significant differences among the study groups. Respondents in the Iowa and Ohio watersheds reported greater use of conservation production systems than did farmers in Minnesota. However, there were no significant differences between Ohio and Iowa farmers in terms of use of conservation production practices. This was surprising, since farmers in the Ohio watershed had received massive amounts of public and private investments to motivate them to adopt and to continue using conservation production systems. These findings bring into serious question the use of traditional voluntary conservation programs such as those employed in the Ohio watershed. Study findings suggest that new policy approaches should be considered. It is argued that "whole farm planning" should be a significant component of new agricultural conservation policy. This citation is from AGRICOLA.

**355. Use of soil and water protection practices among farmers in three Midwest watersheds.**

Napier, Ted L and Tucker, Mark

*Environmental Management* 27 (2): 269-279. (2001)

NAL Call #: HC79.E5E5; ISSN: 0364-152X

**Descriptors:** human (Hominidae): farmers/ Animals/ Chordates/ Humans/ Mammals/ Primates/ Vertebrates/ agricultural production practices/ nonpoint source pollution/ social learning/ soil protection/ water protection/ watersheds

**Abstract:** Data were collected from 1011 farmers in three Midwestern watersheds (Ohio, Iowa, and Minnesota) to assess factors that influence the use of conservation production systems at the farm level. The "vested interests" perspective used to guide the investigation was derived from elements of social learning and social exchange theories. Respondents

were asked to indicate their frequency of use for 18 agricultural production practices that could be adopted on Midwestern farms at the time of the study. Responses to the 18 items were summed to form a composite variable, termed "conservation production index," for use as the dependent variable in multivariate analysis. Eleven independent variables were identified from the theory as likely predictors of conservation adoption, including respondents' perceptions about production costs, output and risks, and perceived importance of access to subsidies, technical assistance, and informational/educational programs. Regression analysis was used to assess the performance of the independent variables in explaining variance in the conservation production index. Explained variance in the three regression models ranged from 2% in the Minnesota watershed to 19% in the Ohio watershed. The researchers concluded that the model had limited utility in predicting adoption of conservation production systems within the three study watersheds. Findings are discussed in the context of conservation programs within the three areas. © Thomson

**356. Using case-based reasoning methodology to maximise the use of knowledge to solve specific rangeland problems.**

Bosch, O J H; Gibson, R S; Kellner, K; and Allen, W J

*Journal of Arid Environments* 35 (3):

549-557. (1997)

NAL Call #: QH541.5.D4J6; ISSN: 0140-1963

**Descriptors:** case based reasoning methods/ rangeland management/ terrestrial ecology

**Abstract:** This paper describes a participatory research process designed to gather and structure community knowledge (local and scientific) into a single accessible decision support system, based on case-based reasoning methodologies. Special reference is made to the continuous enhancement of the knowledge base through research (by scientists), and implementation and monitoring of management action outcomes (by land managers). © Thomson

**357. Using Insurance to Enhance Nitrogen Fertilizer Application to Reduce Nitrogen Losses to the Environment.**

Huang, Wen-Yuan; Heifner, R. G.; Taylor, H.; and Uri, N. D.

*Environmental Monitoring and Assessment* 68 (3): 209-233. (2001)

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

**Descriptors:** Agriculture/ Nitrogen/ Fertilizers/ Insurance/ Environment management/ Water Pollution Control/ Agricultural Practices/ Best Management Practices/ Social Participation/ Economic Aspects/ Iowa/ Environmental action/

Water quality control/ United States

*Abstract:* The advantage of using insurance to help a farmer adopt a best nitrogen management plan (BNMP) that reduces the impact of agricultural production on the environment is analytically and empirically demonstrated. Using an expected value analysis, it is shown that an insurance program can be structured so as to reduce a farmer's cost of bearing the adoption risk associated with changing production practices and, thus, to improve the farmer's certainty equivalent net return thereby promoting the adoption of a BNMP. Using the adoption of growing-season only N fertilizer application in Iowa as a case study, it is illustrated how insurance may be used to promote the adoption of this practice to reduce N fertilizer use. It is shown that it is possible for a farmer and an insurance company both to have an incentive to develop an insurance adoption program that will benefit both the farmer and the insurance company, increasing net social welfare and improving environmental quality in Iowa.

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**358. Using social-psychology models to understand farmers' conservation behaviour.**

Beedell, J. and Tahir Rehman  
*Journal of Rural Studies* 16 (1): 117-127. (2000)  
NAL Call #: HT401.J68; ISSN: 0743-0167  
This citation is provided courtesy of CAB International/CABI Publishing.

**359. Using voluntary approaches to reduce environmental damages: Evidence from a survey of New York dairy farms.**

Bills, N. L.; Poe, G. L.; and Wright, P.  
*Japanese Journal of Rural Economics*  
5: 35-50. (2003)  
This citation is provided courtesy of CAB International/CABI Publishing.

**360. Utah's vegetable growers: Assessing sustainable agriculture.**

Drost, D.; Long, G.; and Hales, K.  
*HortTechnology* 7 (4): 445-450.  
(Oct. 1997-Dec. 1997)  
NAL Call #: SB317.5.H68; ISSN: 1063-0198  
*Descriptors:* vegetables/ crop production/ growers/ sustainability/ surveys/ cultural methods/ farmers' attitudes/ integrated pest management/ plant nutrition/ site preparation/ planting/ harvesting/ rotations/ fertilizers/ tillage/ farm inputs/ irrigation/ technology transfer/ Utah/ nutrient management/ field operations  
This citation is from AGRICOLA.

**361. Utility-consistent discrete-continuous choices in soil conservation.**

Lohr, L. and Park, T. A.  
*Land Economics* 71 (4): 474-490. (Nov. 1995)  
NAL Call #: 282.8-J82; ISSN: 0023-7639 [LAECAD]  
*Descriptors:* soil conservation/ program participants/ federal programs/ decision making/ econometric models/ acreage/ opportunity costs/ farm surveys/ utility functions/ Michigan/ Illinois/ Conservation Reserve Program/ filter strip program/ discrete continuous choice model/ acreage enrollment  
This citation is from AGRICOLA.

**362. Voluntary Incentives for Reducing Agricultural Nonpoint Source Water Pollution.**

Feather, P. M. and Cooper, J.  
U. S. Department of Agriculture [Also available as: Agriculture Information Bulletin No. 716 (AIB-716)], 1995 (text/html)  
NAL Call #: 1 Ag84Ab no.716  
<http://www.ers.usda.gov/publications/aib716/AIB716.pdf>

*Descriptors:* best management practices/ nonpoint source pollution/ economic analysis/ agricultural policy/ motivation/ social benefit/ agricultural education/ environmental education/ United States/ incentives/ Water Quality Demonstration Project Areas/ BMPs  
*Abstract:* Agricultural chemicals and sediment from cropland may reduce the quality of America's surface and ground water resources. The Clean Water Act stipulates that individual States are responsible for controlling agricultural nonpoint source pollution. Most State plans rely chiefly on education and technical assistance to promote the adoption of less polluting practices. Because profitability drives production decisions, these programs tend to be most successful when they promote inexpensive changes in existing practices. This report presents research findings on the success of incentive programs to control agricultural nonpoint source pollution.  
This citation is from AGRICOLA.

**363. Voluntary versus mandatory agricultural policies to protect water quality: Adoption of nitrogen testing in Nebraska.**

Bosch, D. J.; Cook, Z. L.; and Fuglie, K. O.  
*Review of Agricultural Economics* 17 (1): 13-24.  
(Jan. 1995)  
NAL Call #: HD1773.A3N6; ISSN: 1058-7195  
*Descriptors:* groundwater/ water quality/ irrigation water/ nitrogen/ soil testing/ innovation adoption/ agricultural policy/ environmental protection/ farm management/ Nebraska  
*Abstract:* Agriculture is an important source of nonpoint source pollution and potential damage to water quality. Voluntary incentives and regulatory policies are followed by both the states and the

federal government to reduce water quality damage from agricultural practices. Policy makers are concerned about the relative effectiveness of each approach for protecting water quality. The effectiveness of regulation versus a combination of voluntary incentive approaches are evaluated for an area in central Nebraska. Policy effectiveness is measured in two parts: (1) whether farmers receiving incentives are more likely to conduct soil or tissue nitrogen (N) tests; and (2) whether farmers use the test results as the most important factor in N management decisions. Personal interview surveys of Nebraska farmers were analyzed to determine farmers' use of soil and/or tissue testing to help make N fertilizer decisions on fields planted to corn. The effects of regulation and voluntary programs on the use of N testing were evaluated. The effects on adoption of farmers' education and experience; type, size, and tenure status of the farm; irrigation; and soil characteristics of the sample field were also considered. The results show that while regulation leads to higher levels of N test adoption, it does not have an "educational" effect on adopters. Voluntary incentive policies appear to be more effective in encouraging farmers to use information from N tests. Regulation to enforce adoption of practices to protect water quality may not induce the desired behavioral changes. Educational programs may be needed to complement regulations to insure that farmers change their behavior to achieve the goals of water quality protection programs. This citation is from AGRICOLA.

**364. Watershed Success Stories: Applying the Principles and Spirit of the Clean Water Action Plan.**

U. S. Department of Agriculture and  
 U. S. Environmental Protection Agency.  
 U. S. Department of Agriculture; U. S. Environmental  
 Protection Agency, 2000 (application/pdf)  
<http://www.cleanwater.gov/success/watershed.pdf>  
*Descriptors:* case studies/ watershed management/  
 water quality/ governmental programs and projects/  
 Clean Water Act/ water pollution/ pollution control/  
 environmental protection/ citizen participation/  
 ecological restoration/ estuaries/ urban  
 development/ nonpoint source pollution/ wildlife  
 habitats/ best management practices/ biodiversity/  
 acid mine drainage/ riparian buffers/ erosion control/  
 mining/ agricultural land/ aquatic habitat/ floodplain  
 management/ issues and policy/  
 United States/ BMPs  
*Abstract:* Presents 30 success stories in watershed  
 restoration.

**365. What does objectivity mean for analysis, valuation and implementation in agricultural landscape planning? A practical and epistemological approach to the search for sustainability in 'agri-culture'.**

Bosshard, Andreas  
*Agriculture Ecosystems and Environment* 63 (2-3):  
 133-143. (1997); ISSN: 0167-8809  
 NAL Call #: S601 .A34  
*Descriptors:* agricultural landscape planning/  
 agriculture/ biobusiness/ conservation/ epistemology  
 of validation process/ guiding model/ leitbild/  
 objectivity/ principle of subsidiary regulations/  
 regionally adapted solutions/ sustainability  
*Abstract:* On the basis of summarized experiences  
 in agricultural landscape planning of the few last  
 years in Switzerland the landscape evaluation and  
 the implementation process are analysed; the  
 principles of a 'holistic' approach are outlined. It is  
 shown that, epistemologically, objectivity in valuation  
 and priority-setting emerges out of a dialectic  
 cognition process between different poles  
 (complementary aspects of different landscape  
 scales, different viewpoints on respective interests,  
 different hierarchy levels in project organization  
 structure). Each sphere of complementarity needs its  
 adapted methods and approaches, which are  
 presented and discussed on referring to participative  
 planning project examples. The results of such  
 projects so far, compared with conventional  
 approaches, have turned out encouragingly-both  
 from the point of view of local people and of  
 planners/governmental authorities. Nevertheless,  
 several crucial conditions, challenges and obstacles  
 have to be taken into account.  
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**366. When stakeholders choose: Process, knowledge, and motivation in water quality decisions.**

Burroughs, R.  
*Society and Natural Resources* 12 (8): 797-809.  
 (Dec. 1999)  
 NAL Call #: HC10.S63; ISSN: 0894-1920 [SNREEI]  
*Descriptors:* water quality/ planning/ social  
 participation/ community involvement/ decision  
 making/ estuaries/ Rhode Island/  
 Narragansett Bay, Rhode Island  
 This citation is from AGRICOLA.

**367. Who should manage the High Plains aquifer? The irrigators' perspective.**

White, S. E. and Kromm, D. E.  
*Water Resources Bulletin* 31 (4): 715-727.  
 (Aug. 1995)  
 NAL Call #: 292.9-Am34;  
 ISSN: 0043-1370 [WARBAQ]

*Descriptors:* irrigation/ aquifers/ groundwater/ water management/ attitudes/ surveys/ Colorado/ Kansas/ groundwater management/ locus of control

*Abstract:* A state-local partnership exists in Colorado and Kansas with respect to management of the High Plains aquifer. This paper examines 330 irrigators' attitudes about the locus-of-control for different management activities in the High Plains-Ogallala region. Local control was preferred by most irrigators. The local district was most supported for 19 active management activities, whereas the state was favored for eight specific activities, primarily research efforts and water rights administration. Eight activities that had the potential for restricting water use were rejected in that irrigators indicated that no agency should be involved. Kansas and Colorado exhibited statistically significant preference differences for only five management options. A significantly higher percentage of those irrigators who preferred local control believed in sustainable management of the aquifer and aggressive groundwater management, and that their district served their interests.

This citation is from AGRICOLA.

**368. A whole-farm economic analysis of no-tillage and tilled cropping systems.**

Triplett, GB; Robinson, JRC; Dabney, SM; and Santen, E van.

In: Making conservation tillage conventional: Building a future on 25 years of research -- Proceedings of 25th Annual Southern Conservation Tillage Conference for Sustainable Agriculture. (Held 24 Jun 2002-26 Jun 2002 at Auburn, AL.); pp. 48-52; 2002.

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

**369. Whose watershed is this? A decision case study of agricultural drainage in the Midwestern USA.**

Dovciak, A. L. and Perry, J. A.

*Journal of Natural Resources and Life Sciences Education* 29: 95-101. (2000)

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

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

**370. Why it pays to make conservation part of the farm enterprise.**

Curry, N.

*Journal of the Royal Agricultural Society of England* 158: 144-152. (1997)

NAL Call #: 10 R81; ISSN: 0080-4134

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

**371. Why Targets of Regulations Do Not Comply: The Case of Conservation Compliance in the Corn Belt.**

Esseks, J. D.; Kraft, S. E.; and Furlong, E. J. *Journal of Soil and Water Conservation* 52 (4): 259-264. (Aug. 1997)

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

*Descriptors:* USA/ Corn Belt/ compliance/ regulations/ surveys/ regression analysis/ soil conservation/ cropland/ attitudes/ agricultural practices/ enforcement/ Watershed protection

*Abstract:* This article employs survey data to test hypotheses about Corn Belt farmers' intentions to apply conservation compliance plans. The data came from winter 1995 telephone interviews with a random sample of 839 farmers in that five-state region who had USDA-approved plans for their highly erodible cropland. For ethical and practical reasons noncompliance was measured indirectly - the respondents' estimates of the percentage of their peers in the county who would "not apply their plans to any meaningful extent in 1995." Regression analysis found that, as predicted by deterrence theory, farmers who believed in high probabilities of violations being detected or penalized were more likely to expect relatively low percentages of their peers out of compliance in the coming crop season. Other findings suggest that respondents were projecting their own farming situations onto their peers when making estimates of noncompliance. For example, relatively low estimates were more likely if the respondents had participated the previous year in either a federal commodity program or a federal crop insurance program. They tended to be lower also if the interviewees had either no till or contour farming practices in their plans.

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**372. Will voluntary and educational programs meet environmental objectives? Evidence from a survey of New York dairy farms.**

Poe, G. L.; Bills, N. L.; Bellows, B. C.; Crosscombe, P.; Koelsch, R. K.; Kreher, M. J.; and Wright, P.

*Review of Agricultural Economics* 23 (2): 473-491. (2001)

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

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

**373. Willingness of Ohio land owner-operators to participate in a wetlands trading system.**

Napier, T. L.; McCarter, S. E.; and McCarter, J. R.  
*Journal of Soil and Water Conservation* 50 (6):  
648-656. (Nov. 1995-Dec. 1995)

NAL Call #: 56.8-J822;

ISSN: 0022-4561 [JSWCA3].

Notes: Special issue on wetlands.

Includes references.

Descriptors: land use/ conversion/ wetlands/  
construction/ landowners/ attitudes/  
participation/ Ohio

This citation is from AGRICOLA.

**374. Woodlots in the rural landscape: Landowner motivations and management attitudes in a Michigan (USA) case study.**

Erickson, Donna L; Ryan, Robert L; and  
De Young, Raymond

*Landscape and Urban Planning* 58 (2-4):  
101-112. (2002)

NAL Call #: QH75.A1L32; ISSN: 0169-2046

Descriptors: aesthetic appreciation/ agricultural  
watershed: increasing forest cover/ economic  
motivations/ environment protection/ hands off  
management approach/ landowner motivations/  
management attitudes/ non industrial private forests/  
rural landscape/ woodlots: environmental benefits,  
farm population owners, non farm population owners

Abstract: Woodlots provide important environmental

benefits in the Midwestern (USA) landscape, where they are undergoing rapid change. An increasingly diverse farm and non-farm population owns these non-industrial private forests (NIPFs). It is essential to understand what motivates NIPF landowners to retain and manage their forests. We describe a study of NIPF owners in an agricultural watershed where forest cover is increasing. What motivations and management practices might be contributing to this increase? The results of a survey of 112 NIPF owners suggest that aesthetic appreciation is the strongest motivator for retaining woodlots, especially by non-farmers. Protecting the environment also seems to be important for both farmers and non-farmers, while economic motivations are significantly less important. Landowners indicated that they are primarily taking a "hands-off" approach to management. This study provides insights for those interested in understanding NIPF landowners' motivations and for developing effective programs.  
© Thomson

**375. WQIP: An assessment of its changes for acceptance by farmers.**

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

*Journal of Soil and Water Conservation* 51 (6):  
494-498. (1996)

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

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