ECONOMIC RESEARCH SERVICE

FY 1999 ANNUAL PROGRAM PERFORMANCE REPORT

The Economic Research Service was established in 1961 from components of the former Bureau of Agricultural Economics principally under the authority of the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627). ERS's portfolio was expanded to include international work with the addition of country specialists from the Office of Foreign Agricultural Relations. ERS performs work under one appropriation item--economic analysis and research.

The mission of the Economic Research Service is to provide economic analysis on efficiency, efficacy, and equity issues related to agriculture, food, natural resources, and rural development to improve public and private decision making.

More information on ERS's program is contained in the ERS Strategic plan and the ERS Annual Peformance Plans. Only Federal employees were involved in the preparation of this report.

The following table provides summary information on ERS's achievement of FY 1999 Performance Goals:

ERS PERFORMANCE SUMMARY			
Strategic Goal	**FY 1999 Performance Goals**	**Performance**	
		Target	**Actual**
Goal 1: The agricultural production system is highly competitive in the global economy.	Provide timely and high quality analyses of the economic issues affecting U.S. food and agriculture sector's competitiveness including factors related to performance, structure, risk and uncertainty, marketing, and market and non-market trade barriers. Published research meets peer review standards Requested analyses delivered by deadline	 100% 95%	 100% 82%
Goal 2: The food production system is safe and secure.	Provide timely and high quality analyses of economic issues affecting the safety of the U.S. food supply including the efficacy, efficiency, and equity of alternative policies and programs designed to protect consumers from unsafe food. Published research meets peer review standards Requested analyses delivered by deadline	 100% 95%	 100% 87%
Goal 3: The nation's population is healthy and well-nourished.	Provide timely and high quality analyses of economic issues affecting the nutrition and health of the U.S. population including factors related to food choices, consumption patterns at and away from home, food prices, food assistance programs, nutrition education, and food industry structure. Published research meets peer review standards Requested analyses delivered by deadline	 100% 95%	 100% 100%
Goal 4: Agriculture and the environment are in harmony.	Provide timely and high quality analyses of economic issues affecting agriculture's interface with the environment including those related to integrated pest management, sustainability, biodiversity, global change, and environmental accounting. Published research meets peer review standards Requested analyses delivered by deadline	 100% 95%	 100% 85%

ERS PERFORMANCE SUMMARY			
Strategic Goal	**FY 1999 Performance Goals**	**Performance**	
		Target	**Actual**
Goal 5: Enhanced economic opportunity and quality of life for rural Americans.	Provide timely and high quality economic analyses that identify (1) how investments in rural people, businesses, and communities affect rural economies' capacity to survive and prosper in the global marketplace and (2) what policies and programs keep American farms of all sizes viable.		
	Published research meets peer review standards	100%	100%
	Requested analyses delivered by deadline	95%	88%

Goal 1: The agricultural production system is highly competitive in the global economy.

Objective 1.1: Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues involved in ensuring that the U.S. food and agriculture sector effectively adapts to changing market structure, domestic policy reforms, and post-GATT and post-NAFTA trade conditions.

Key Performance Goal

Provide timely and high quality analyses of the economic issues affecting U.S. food and agriculture sector's competitiveness including factors related to performance, structure, risk and uncertainty, marketing, and market and non-market trade barriers.

Percentage of published research that meets peer review standards
Target: 100
Actual: 100

Percentage of requested analyses delivered by deadline
Target: 95
Actual: 82

Year	Published Research Meets Peer Review Standards: Actual (Percentage)	Published Research Meets Peer Review Standards: Target (Percentage)	Requested Analyses Meet Deadline: Actual (Percentage)	Requested Analyses Meet Deadline: Target (Percentage)
1997	100%		83%	
1998	100%		87%	
1999	100%	100%	82%	95%
2000		100%		90%
2001		100%		90%

Analysis of Results: ERS met this performance goal. The Agency was successful in providing decision makers with timely and high quality analyses of economic issues related to agricultural competitiveness. The first indicator, aimed at assessing quality, shows that the agency met the standards of peer review for publications 100 percent of the time. The agency failed to meet the timeliness target in the second indicator for this and most of the other goals. However, the impact on customers and on overall success

in achieving this goal appears to have been minor, for two reasons: most of the deadlines were self imposed and items were, for the most part, delivered within 1 day of the deadline. These two indicators, while somewhat useful, do not adequately capture evidence of the agency's success in meeting its goals. As a result, ERS is assessing and expects to revise its means of measuring performance. At this point, the most accurate means of determining the agency's effectiveness at actually achieving the goal is to look at evidence of research and information produced and disseminated by ERS and its use by decision makers:

Factors Affecting Performance of Agricultural Commodity Markets. Price determination for U.S. agricultural commodities has been influenced over time by the changing structure of commodity markets and by the changing role of agricultural commodity policies, particularly Government price support and stockholding programs. ERS continued its research on the changing nature of price determination in agricultural commodity markets. New pricing models were developed to capture the effects of market supply and demand factors on price determination, as influenced by factors that represent policy changes, international market considerations, and cross commodity pricing effects. These new relationships provide an enhanced analytic base for the Department's short-term market analysis and long-term outlook projections activities. The pricing relationships have additionally been shared with the Congressional Budget Office staff and are being used in their baseline projection activities. Additionally in FY1999, ERS instituted a series of quarterly "Roundtable" discussions with representatives of key commodity and trade associations. The Roundtable meetings highlight various domestic and international issues that have implications for agricultural commodity markets. Issues such as biotechnology in agriculture, alternative futures for the U.S. agriculture sector, and implications of labeling for food and agriculture markets were highlighted in 1999. The Roundtable forum provides ERS with an opportunity for client feedback on specific topical issues and other aspects of the Agency's market analysis and outlook program.

Managing Market and Environmental Risk in Agriculture**.** Since the 1996 Farm Act, risk management has assumed a more central and important role in farm well being. ERS published *Managing Risk in Farming: Concepts, Research, and Analysis*, a comprehensive treatment of risk and risk management tools and strategies at the farm level. It also provides never-before-published data on farmers' assessments of the risks they face and their use of alternative risk management strategies. Complementing this report, a series of articles in *Agricultural Outlook* examines various risk-related topics, including a discussion of the impacts of subsidized insurance on land use, and the effectiveness of risk management savings accounts. ERS provided extremely timely Internet-based reporting of the impacts of this year's drought on farm income and financial conditions. The drought analysis also is captured in a published report, *An Economic Assessment of the 1999 Drought*.

Global Food Security. As a follow-up to commitments made at the World Food Conference in 1996, ERS conducted research on the nature and scope of global food insecurity. A report, *Food Security Assessment: Why Countries are at Risk,* evaluated the availability and distribution of food, projected long-term trends through the next decade and examined the feasibility of achieving food security by measuring growth prospects of principal factors affecting food security. The 1999 report concluded that food insecurity in many low-income, developing countries will intensify unless steps are taken to reverse the performance trends of key contributing factors: agricultural productivity, foreign exchange earnings, and population growth. The research results, disseminated through publications and briefings for senior policy makers, were considered by the Inter-Departmental Group on Food Security in its response to the World Food Conference goals, and provided a global context for the development of a strategic research agenda for the Research, Education and Economics (REE) Mission Area of USDA.

Enhanced Understanding of Agricultural Structure. On an ongoing basis, ERS tracks and explains the structural changes being experienced in the U.S. agricultural and food system, which is particularly important in understanding the heterogeneity of agribusinesses across the nation, and the implications of these differences for policy design. In 1999, ERS analyzed specific structural changes in components of the agricultural sector, exemplified by release of the report *Broiler Farms' Organization, Management, and Performance*. Reducing transaction costs and managing risk are important motives for contracting and

vertical integration in the broiler industry, which can result in larger quantities of more uniform and higher quality products for consumers. Another major source of structural change is the growing demand for quality-differentiated products, such as high lysine corn or non-GMO soybeans. The advent of biotechnology makes the prospects for product differentiation almost limitless. ERS is consequently turning its attention to the implications of commodity differentiation for market structure, market information needs, and Government programs.

World Trade Organization Negotiations. *Agriculture in the WTO* analyzed how Uruguay Round commitments were implemented and therefore helped identify priorities for the Seattle Round of WTO negotiations in late 1999. The report was featured in a U.S. press packet distributed at Seattle, and was requested by the House Agriculture Committee to prepare its members for the Seattle Ministerial. *An Introduction to State Trading in Agriculture* provides a qualitative index of the potential for a state trading organization to restrict trade, a potentially important WTO issue. *A Framework for Analyzing Technical Trade Barriers in Agricultural Markets* offered a classification scheme for assessing the economic impacts of technical trade barriers, such as sanitary and phytosanitary measures. ERS provided leadership for an international research effort to develop a trade policy database that will provide valuable data for negotiators and trade analysts. During 1999, results from ERS's WTO Issues research program were used by the Congress, the United States Trade Representative (USTR), and senior trade policy staff at USDA in support of the U.S. negotiating position.

The Economic Impacts of NAFTA**.** ERS completed a report on the effects of the North American Free Trade Agreement (NAFTA) on U.S. agriculture and the rural economy for submission to the United States Congress in accordance with the NAFTA Implementation Act. The report indicates that, as NAFTA begins its sixth year, the agreement is having an important impact on the three partner countries. These effects are most apparent in increased agricultural trade volumes and expanded investment flow in production and food processing within North America. NAFTA-induced structural changes take time to work through the economy, so the complete effects of NAFTA will not be felt until the agreement is fully implemented and markets have adjusted to the new trade environment.

One performance indicator for this goal was discontinued as noted in **Appendix A**.

Current Fiscal Year Performance: ERS expects continued success on this goal in FY 2000. The agency is building on its FY 1999 base of activities in the competitiveness area with ongoing analysis of the outcome of the Seattle World Trade Organization negotiations, the impacts of 1999 farm legislation, and global food security issues. The focus on concentration and structural change in agriculture continues. Increasingly, understanding the implications of biotechnology for marketing, trade, and policy is critical for policy makers; work in this area increased in FY 1999, and substantive outputs will be completed in FY 2000.

Goal 2: The food production system is safe and secure.

Objective 2.1: Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues involved in improving the efficiency, efficacy, and equity of public policies and programs designed to protect consumers from unsafe food.

Key Performance Goal

Provide timely and high quality analyses of economic issues affecting the safety of the U.S. food supply including the efficacy, efficiency, and equity of alternative policies and programs designed to protect consumers from unsafe food.

Percentage of published research that meets peer review standards

Target: 100

Actual: 100

Percentage of requested analyses delivered by deadline

Target: 95

Actual: 87

Year	Published Research Meets Peer Review Standards: Actual (Percentage)	Published Research Meets Peer Review Standards: Target (Percentage)	Requested Analyses Meet Deadline: Actual (Percentage)	Requested Analyses Meet Deadline: Target (Percentage)
1997	100%		86%	
1998	100%		93%	
1999	100%	100%	87%	95%
2000		100%		90%
2001		100%		90%

Analysis of Results: ERS met this performance goal. The Agency was successful in providing decision makers with timely and high quality analyses of economic issues affecting the safety of the U.S. food supply.The first indicator, aimed at assessing quality, shows that the agency met the standards of peer review for publications 100 percent of the time. The agency failed to meet the timeliness target in the second indicator for this and most of the other goals. However, the impact on customers and on overall success in achieving this goal appears to have been minor, for two reasons: most of the deadlines were self imposed and items were, for the most part, delivered within 1 day of the deadline. These two indicators, while somewhat useful, do not adequately capture evidence of the agency's success in meeting its goals. As a result, ERS is assessing and expects to revise its means of measuring performance. At this point, the most accurate means of determining the agency's effectiveness at actually achieving the goal is to look at evidence of research and information produced and disseminated by ERS and its use by decision makers:

User Fees to Finance Meat Inspection. USDA's Food Safety and Inspection Service finances about 13.5 percent of its budget outlays through user fees for overtime and unscheduled meat and poultry inspections. In *User-Fee Financing of USDA's Meat and Poultry Inspection*, ERS surveyed the application of user fees for financing meat and poultry inspection programs in other countries; reviewed user-fee systems in other Federal agencies, particularly those with food and agricultural missions or regulatory responsibilities; and discussed the relevant economics literature on the use and design of user fees. ERS suggested several elements that should underlie the structure of user fees for meat and poultry inspection, should such a program be introduced. The study suggests that agencies can better balance revenues and expenses through time if fees are based on costs. Cost-based fees promote more efficient use of agency resources and may limit political gaming by regulated firms. Agencies need to design ways to adjust fee schedules to account for inflation, productivity growth and changing workloads and must allow for reserve funds because revenues may not match expenditures throughout the year.

Costs of Foodborne Disease Updated. ERS used data provided by the Centers for Disease Control (CDC) from the "FoodNet" active surveillance system to update estimates of the costs of foodborne disease caused by four major microbial pathogens (estimated at $9.2 to $10.2 billion annually), and collaborated with CDC staff to refine and update the methodology for measuring the cost of foodborne disease. ERS published the new estimates of the costs associated with *Salmonella*-related illnesses in the May-August 1999 issue of *FoodReview* magazine. That issue, devoted to food safety, also contained articles discussing new food safety policies, the costs and benefits of pathogen reduction, new technologies to improve food safety, and food irradiation.

Competitive Agreements Program for Food Safety Research. The FY 1999 USDA Appropriations Act provided ERS with $453,000 to establish a competitive agreements program for food safety research. ERS announced the program nationwide soliciting proposals for annual funding levels between $100,000 and $200,000 for 3 years, with the overall duration not to exceed 5 years. The program was open to a wide range of organizations and to individuals. Two grants were awarded, to Harvard University and the University of Wyoming, to begin a multi-year effort to apply state-of-the-art economic analysis to develop national estimates of the benefits of improving the safety of the Nation's food supply.

One performance indicator for this goal was discontinued as noted in **Appendix A**.

Current Fiscal Year Performance: ERS expects to meet this goal again in FY 2000. The agency continues to study the costs of foodborne illnesses and the benefits of improving food safety. ERS staff in FY 2000 are conducting research on measuring food safety benefits, alternative approaches to placing value on premature deaths from foodborne disease in cost/benefit analyses, the costs of food safety regulations to food processors, and consumer attitudes and preferences towards food safety and safe food preparation practices. ERS is assisting the Risk Assessment Consortium in its efforts to prioritize food safety risks. The agency is also participating in the Antimicrobial Resistance Working Group, the Interagency Working Group on Food Safety Research, the Animal Production Food Safety Committee, the Risk Assessment Consortium Policy Committee, and the Interagency Working Group on Produce Food Safety Issues. With an additional appropriation of $453,000 for food safety work, there will be a second year's competitive grant program, building on the experience of the first. The effect of increased funding in this area in FY 1999 and 2000 will occur primarily in succeeding years, since research is not an instantaneous process.

Goal 3: The nation's population is healthy and well-nourished.

Objective 3.1: Enhanced understanding by policy makers, regulators, program managers, and organizations shaping public debate of the factors affecting food prices and of the efficiency and effectiveness of alternative public policies and programs aimed at ensuring consumers equitable access to wide varieties of high quality food at affordable prices.

Key Performance Goal

Provide timely and high quality analyses of economic issues affecting the nutrition and health of the U.S. population including factors related to food choices, consumption patterns at and away from home, food prices, food assistance programs, nutrition education, and food industry structure.

Percentage of published research that meets peer review standards

Target:	100
Actual:	100

Requested analyses delivered by deadline

Target:	95
Actual:	100

Year	Published Research Meets Peer Review Standards: Actual (Percentage)	Published Research Meets Peer Review Standards: Target (Percentage)	Requested Analyses Meet Deadline: Actual (Percentage)	Requested Analyses Meet Deadline: Target (Percentage)
1997	100%		87%	
1998	100%		69%	
1999	100%	100%	100%	95%
2000		100%		90%
2001		100%		90%

Analysis of Results: ERS met this performance goal. The agency was successful in providing decision makers with timely and high quality analyses of economic issues affecting the nutrition and health of the U.S. population. The first indicator, aimed at assessing quality, shows that the agency met the standards of peer review for publications 100 percent of the time. On the second indicator, which measured timeliness, the agency met and exceeded the target. These two indicators, while somewhat useful, do not adequately capture evidence of the agency's success in meeting its goals. As a result, ERS is assessing and expects to revise its means of measuring performance. At this point, the most accurate means of determining the agency's effectiveness at actually achieving the goal is to look at evidence of research and information produced and disseminated by ERS and its use by decision makers:

Food Assistance and Nutrition Research Program. In FY 1999, Congress provided $10.195 million to ERS for conducting studies and evaluations of the Nation's domestic food and nutrition assistance programs. FANRP adopted Food Stamp caseload decline as one of its highest research priorities, responding to the interest that policymakers expressed about the recent unexpectedly large drop in food stamp participation. Another major new topic was better serving the working poor, recognizing that with an increasing policy emphasis on work and personal responsibility, assistance programs of all types are evolving to provide improved support for the working poor. A nutritional and health outcomes and dietary behavior theme was also added to reflect the emerging concern about the role of behavioral influences on nutrition and health. Ongoing ERS work includes new projects on food security at the individual and community level. Program integrity and effectiveness and enhanced food assistance research data continue as major themes for the program. ERS continued its small grants program at the Southern Rural Development Center, Mississippi and Alcorn State Universities; the American Indian Studies Program, University of Arizona; Institute for Research on Poverty, University of Wisconsin; Joint Center for Poverty Research, University of Chicago and Northwestern University; and Department of Nutrition, University of California at Davis. In FY 1999, 47 percent of the funds were awarded as contracts, 14 percent as grants, 14 percent as cooperative agreements, 8 percent as small grants, and 17 percent as interagency agreements. The FY 1999 program is discussed in more detail in *Food Assistance and Nutrition Research Program: Final Report of Fiscal 1999 Activities*.

Since research is not an instantaneous process, the outputs and impacts of the Food Assistance and Nutrition Research Program will occur primarily in years after the funds have been awarded.

Food Security in U.S. Households. ERS helped develop a Federal food security measure and now conducts an annual survey specifically designed to measure the prevalence of household food insecurity and hunger in the United States. In 1999 ERS released two studies examining household food security, both of which examined whether households always have access to enough food to meet basic needs. *Household Food Insecurity in the United States: 1995-1998* provides evidence that most households in the U.S. are food secure, but, during the period 1996-98, some 10 million U.S. households (9.7 percent of total) were food insecure. *Prevalence of Food Insecurity and Hunger, by State, 1996-98*, indicated the

prevalence of food insecurity and hunger varied considerably among the States. Eleven States, located in an arc along the western and southern borders of the country, and the District of Columbia, had rates of food insecurity significantly above the national average. The report was widely cited by policy makers and the media.

Diet and Nutrition. Two ERS studies released in 1999 examine the implications of America's changing diet on health and farmers. *America's Eating Habits: Changes and Consequences* provides different perspectives on nutrition in the U.S. Questions posed and answered include: what are the economic costs associated with unhealthy eating; how much do people know about nutrition; how do national income and prices and demographic trends affect nutrient intake; and how do Government programs and regulations influence food expenditures and consumption. *Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture* documents the implications for farmers if consumers followed eating recommendations provided by the USDA's Food Guide Pyramid. Specifically, the study examines what would happen to farm production, trade, and prices if consumers reduced their consumption of caloric sweeteners, fats and oil and increased consumption of dark-green leafy and deep-yellow vegetables, and dry beans, peas, and lentils.

Family Child Care Homes. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 established a two-tier structure for meal reimbursement rates for family child care homes participating in the USDA's Child and Adult Care Food Program (CACFP). The act also mandated a study of the effects of that change on program participation and state licensing of child care homes. ERS released the first report from this study, *Family Child Care Homes and the CACFP: Participation After Reimbursement*, prepared by Abt Associates. The report finds that participation in CACFP by child care homes dropped 6 percent and the number of sponsoring organizations that administer the participating child care homes dropped 2 percent between 1997 and 1998. In contrast, the number of licensed child care homes increased by 3 percent during the period. The strong economy, increased Federal child care funding, and new state pre-school programs, among other shifts in the child care market, made this a dynamic period of change in employment and child care options. Final results of the study will be available in early 2001.

Impact of Minimum Wage on Food Prices. ERS used an input-output model to analyze the full-cost pass-through effects of a minimum wage increase on prices of the food and kindred products and food-service industries. These sectors employ a disproportionate share of minimum wage workers. In *The Impact of Minimum Wage Increases on Food and Kindred Product Prices: An Analysis of Price Pass-Through*, ERS analysis suggests that a $0.50 increase in the present minimum wage would increase food prices less than 1 percent for most of the 12 food and kindred products industries and 1 percent at eating and drinking places.

Impact of Away-From-Home Foods on Diet Quality. Americans are dining out more often than ever, boosting the amount spent at eating places from 26 percent of food expenditures in 1970 to 39 percent in 1996. In *Away-From-Home Foods Increasingly Important to Quality of American Diet*, ERS research showed that during the 1970-95 period, home foods significantly improved their nutritional quality, more so than away-from-home foods. Away-from-home foods typically contained more of the nutrients over consumed (fat and saturated fat) and less of the nutrients under consumed (calcium, fiber, and iron) by Americans. Since the trend of eating out frequently is expected to continue, strategies to improve the American diet must address consumers' food choices when eating out.

One performance indicator for this goal was discontinued as noted in **Appendix A**.

Current Fiscal Year Performance: ERS expects successful performance on this goal in FY 2000. The Food Assistance and Nutrition Research Program continues to be a major part of the ERS program. For FY 2000, Congress provided $11.195 million to ERS for conducting studies and evaluations of the Nation's domestic food and nutrition assistance programs. Intramural research at ERS also contributes to FANRP. ERS is in the process of establishing its food and nutrition research program for FY 2000. This process is launched with a National priority setting conference where Federal policy officials both within

and outside USDA, Congressional staff, public and private sector researchers, and representatives from public interest groups identify research priorities. In 1999, discussions were organized around four themes: food program access and the working poor, food program dynamics and client well-being, improving outcomes of nutrition programs, and child nutrition research needs. Research priorities will be finalized and announcements of competitive contracts, grants, and research agreements will be made in the spring of 2000.

Goal 4: Agriculture and the environment are in harmony.

Objective 4.1: Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of the economic issues involved in balancing long term sustainability goals with improved agricultural competitiveness and economic growth and of the effects of Federal farm, natural resource, and rural policies and programs on that balance.

Key Performance Goal

Provide analyses of economic issues affecting agriculture's interface with the environment including those related to integrated pest management, sustainability, biodiversity, global change, and environmental accounting.

Percentage of published research that meets peer review standards

Target: 100

Actual: 100

Percentage of requested analyses delivered by deadline

Target: 95

Actual: 85

Year	Published Research Meets Peer Review Standards: Actual (Percentage)	Published Research Meets Peer Review Standards: Target (Percentage)	Requested Analyses Meet Deadline: Actual (Percentage)	Requested Analyses Meet Deadline: Target (Percentage)
1997	100%		80%	
1998	100%		88%	
1999	100%	100%	85%	95%
2000		100%		90%
2001		100%		90%

Analysis of Results: ERS met this performance goal. The agency was successful in providing decision makers with timely and high quality analyses of economic issues affecting the agriculture's interface with the environment. The first indicator, aimed at assessing quality, shows that the agency met the standards of peer review for publications 100 percent of the time. The agency failed to meet the timeliness target in the second indicator for this and most of the other goals. However, the impact on customers and on overall success in achieving this goal appears to have been minor, for two reasons: most of the deadlines were self imposed and items were, for the most part, delivered within 1 day of the deadline. These two indicators, while somewhat useful, do not adequately capture evidence of the agency's success in meeting its goals. As a result, ERS is assessing and expects to revise its means of measuring performance. At this point, the most accurate means of determining the agency's effectiveness at actually achieving the goal is to look at evidence of research and information produced and disseminated by ERS and its use by decision makers:

Adopting Genetically Engineered Crops. Jointly with the National Agricultural Statistics Service (NASS), ERS is responsible for the Agricultural Resource Management Study (ARMS, which) is USDA's primary vehicle for collection of information on a broad range of issues about agricultural resource use and costs, and farm sector financial conditions, including adoption of new technologies like genetically engineered seed. ERS was the first USDA agency to provide Government survey data on the extent of adoption of genetically engineered soybeans, cotton, and corn crops. Timely release of these data on the ERS website provided key information on adoption and interpretation of impacts on pesticide use, crop yields, and net returns to counter largely anecdotal assertions from both sides that dominated the media on this issue. ERS followed up on these information releases with more complete published reports, such as *Pest Management in U.S. Agriculture,* which provides information on both chemical and biological pest management practices.

Natural Resource Conservation Policies. ERS published three major reports in 1999 that analyzed aspects of USDA and other policies affecting agricultural resource conservation. These analyses summarize changes in implementing earlier legislation, and will contribute to debate of conservation and environmental policies in future legislation. *Wetlands and Agriculture: Private Interests and Public Benefits* comprehensively reviewed Federal and State policies affecting agricultural use of wetlands in the context of the Nation's "no net loss" goal. *Economic Valuation of Environmental Benefits and the Targeting of Conservation Programs: The Case of the CRP* examined changes in procedures for accepting land into the Conservation Reserve Program and estimated economic benefits from the improved targeting. *Green Technologies for a More Sustainable Agriculture* summarized the case for improving agricultural sustainability and examined the potential and limitations of "green" technologies in meeting that goal. An array of popular articles, briefings, releases on the ERS website, and presentations both substantiated the findings in these reports and disseminated them to a broader public policy audience.

Implementing USDA Conservation Programs. In FY99, ERS served as a member of an inter-agency USDA working group responsible for assessing producer offers to bid land into the Conservation Reserve Program (CRP). ERS analyses helped USDA improve the environmental performance of the CRP and related programs, while lowering their cost to U.S. taxpayers. ERS researchers participated in the interagency Conservation Reserve Enhancement Program (CREP) Team, which was awarded the "Hammer" Award of the National Partnership for Reinventing Government.

Water Quality and Manure Management Issues. In FY99, ERS increased understanding of agricultural waste management and water quality issues through interactions with other Government agencies, scientists and stakeholders. In June, ERS organized a workshop, *Agriculture and Coastal Resources: Issues in Measuring the Economic Dimensions of Problems and Policies*, in cooperation with the Farm Foundation. Resource economists, marine scientists, and stakeholders from the agricultural, fishing, and recreational communities discussed issues associated with widespread water quality problems in estuarine environments.

U.S. Trade and Environment Initiatives. ERS participated in meetings supporting the USTR preparations for WTO ministerial meetings in Geneva and Seattle. ERS presented analyses of potential environmental indicators on soil quality and biodiversity at meetings of the OECD Joint Working Party in York, UK, and Paris, and presented an analysis of trade impacts from U.S. soil conservation policies. ERS organized a workshop with university and governmental economists in October 1998 to discuss collaborative research on land degradation, its effects on agricultural productivity, the ways in which productivity estimates might be incorporated in analyses of global food production and food security, and possible impacts on other global resource and environmental issues.

Analysis of Inputs for Crop Production . In support of USDA and EPA implementation of the Montreal Protocol and the U.S. Clean Air Act, ERS coordinated analyses of the economic impacts from using alternatives to methyl bromide as use of that pesticide is phased out. ERS published a synthesis of the economic studies as a feature article in *Agricultural Outlook*. In addition, ERS published a report on *Pest*

Management in U.S. Agriculture. ERS coordinated studies of pesticide price differentials between the U.S. and Canada under cooperative agreements developed with North Carolina State University and Ridgetown College, University of Guelph. The final report, *Pesticide Price Differentials Between Canada and the U.S*., was presented in simultaneous U.S. and Canadian conferences for Congressional staffs, Northern tier Governors' staffs, and other Federal agencies including EPA, USTR, and GAO.

One performance indicator for this goal was discontinued as noted in **Appendix A**.

Current Fiscal Year Performance: ERS expects continued success in achieving this goal during the current fiscal year. ERS is involved in ongoing analysis of economic and environmental issues associated with emerging biotechnology adoption, global climate change and agriculture, agricultural water quality and waste management, conservation and environmental programs, integrated pest management (IPM) and management of other crop inputs, and interactions between trade and the environment. ERS continues to collect, analyze, and report on trends in resource conditions and use, technology adoption, and productivity. ERS contributes to the understanding of economic issues and options by policy makers and program managers through its participation in and support for organizations like the U.S.\EC Task Force on Biotechnology Research and the USDA Global Change Office, and its participation in implementation of USDA conservation and environmental programs.

Goal 5: Enhanced economic opportunity and quality of life for rural Americans.

Objective 5.1: Enhanced understanding by policy makers, regulators, program managers, and organizations shaping public debate of economic issues affecting rural development and performance of all sizes of American farms.

Key Performance Goal

Provide timely and high quality economic analyses that identify (1) how investments in rural people, businesses, and communities affect rural economies' capacity to survive and prosper in the global marketplace and (2) what policies and programs keep American farms of all sizes viable.

Percentage of published research that meets peer review standards
Target: 100
Actual: 100
Percentage of requested analyses delivered by deadline
Target: 95
Actual: 88

Year	Published Research Meets Peer Review Standards: Actual (Percentage)	Published Research Meets Peer Review Standards: Target (Percentage)	Requested Analyses Meet Deadline: Actual (Percentage)	Requested Analyses Meet Deadline: Target (Percentage)
1997	100%		85%	
1998	100%		81%	
1999	100%	100%	88%	95%
2000		100%		90%
2001		100%		90%

Analysis of Results: ERS met this performance goal. The Agency was successful in providing decision makers with timely and high quality economic analyses of economic issues related to rural development and farm structure and viability. The first indicator, aimed at assessing quality, shows that the agency met the standards of peer review for publications 100 percent of the time. The agency failed to meet the timeliness target in the second indicator for this and most of the other goals. However, the impact on customers and on overall success in achieving this goal appears to have been minor, for two reasons: most of the deadlines were self imposed and items were, for the most part, delivered within 1 day of the deadline. These two indicators, while somewhat useful, do not adequately capture evidence of the agency's success in meeting its goals. As a result, ERS is assessing and expects to revise its means of measuring performance. At this point, the most accurate means of determining the agency's effectiveness at actually achieving the goal is to look at evidence of research and information produced and disseminated by ERS and its use by decision makers:

Rural Development. ERS's program in rural development reinforces the Department's interests in promoting economic opportunity and well being in rural communities. ERS published a series of studies, including: *Will Increased Highway Funding Help Rural Areas?, The Impact of Minimum Wage Increases on Food and Kindred Products Prices, Rural Competitiveness: Results of the 1996 Manufacturing Survey,* and *How Would Fundamental Tax Reform Affect Farmers?* Each study addresses the considerable challenges faced by rural communities related to profitable businesses, skilled workers, and infrastructure to support economic activity.

Impact of Natural Amenities in Rural Areas. Population change in rural counties over the last 25 years has been strongly related to their attractiveness as places to live. In *Natural Amenities Drive Population Change*, ERS presented a new natural amenities index which captures the attractiveness of mild climate, varied topography, and proximity to surface water. High-scoring counties tended to double their population, while the average gain for low-scoring counties was only one percent, and over half lost population. Employment change in rural counties has also been highly related to natural amenities. The rural West has led the amenity-based rebound in population growth. In the April 1999 issue of *Rural Development Perspectives*, demographers pointed out that the rural West added over 1 million people during 1990-97, a 15 percent gain, compared with just over 5 percent for other rural areas. Given the rapid growth of western cities, the coming retirement of so many Baby Boomers, and the region's own youthful population, rapid growth in the rural West is likely to continue. Yet, this is an environmentally sensitive region and some resources, such as water, are limited. Newcomers compete with traditional users for access to these resources. Environmental concerns heighten the demand for cooperative public and private initiatives as small communities across the region struggle to maintain a high quality of life in the face of rapid demographic change.

In addition, in cooperation with the Farm Foundation, ERS organized a workshop entitled *Rural Land Use: Public Preferences for Open Space and Implications for Policy Design,* on the visual, aesthetic, recreational and environmental amenities provided by agricultural land in common with production of agricultural commodities. The workshop led to successful collaboration with university researchers for National Research Initiative funding to identify and value amenities and draw out implications for policy design. Working with FAS, ERS developed a white paper on multifunctionality in agriculture to inform U.S. WTO negotiators and representatives to OECD committees.

Farm Structure and Small Farms. ERS developed and widely disseminated a new farm typology linking sales, occupation and lifestyle characteristics, and a new geographic characterization for agriculture that undergird analyses of small or disadvantaged farms, minority farmers, and the impacts of market and natural events. ERS published the *20th Annual Family Farm Report to Congress* and highlighted the work of the Secretary's National Commission on Small Farms in a major ERS-organized conference on "What Makes a Small Farm Successful."

Socioeconomic Status of Rural Minorities. As the decade of the 1990's closes, nearly all of the main economic indicators used to examine differences in socioeconomic status and well-being continue to show wide gaps in the levels of poverty, unemployment, earnings, and income sources between rural

minorities and whites. In the February 1999 issue of *Rural Conditions and Trends*, ERS identified 333 rural counties where minorities constitute at least one-third of the population. While these counties contain only 12 percent of the total nonmetro population, they account for 45 percent of rural minorities. As part of the overall rural rebound during the 1990's, minority counties shared in higher rates of population growth and net inmigration. However all groups of nonmetro minority counties exhibited a disproportional degree of economic disadvantage. Economic disadvantage tends to be more pronounced in counties where the minority group constitutes a majority of the population. And their economic future is uncertain. For example, predominantly Black counties in which manufacturing has been an important source of jobs are now finding it difficult to compete in the face of new technology and the demand for more highly skilled workers.

Survey of Participants in the USDA Housing Program. ERS conducted the first nationally representative sample survey of participants in USDA's Section 502 housing program. The survey found that, compared to other groups of low-income rural borrowers, those served by Section 502 include larger than proportionate shares of young borrowers under the age of 40, single-parent households, and young married couples with children. It also found that disproportionate shares of Hispanics and Blacks participate in the program. Responses also indicated that, without the Section 502 program, 90 percent of borrowers thought it would have taken longer than 2 years for them to be able to buy a comparable home, if they ever could have done so.

One performance indicator for this goal was discontinued as noted in **Appendix A.**

Current Fiscal Year Performance: ERS expects to continue to meet this goal in FY 2000. The agency is monitoring changing economic and demographic trends in rural America, with particular attention to the implications of these changes for the employment, education, income, and housing patterns of low-income rural populations. Agency researchers are also analyzing the role that technology adoption and innovation plays in the demand for skilled workers and training programs. A special series of articles is focusing on critical research and policy issues in the rural South, including those related to labor force supply and demand, human capital needs, health care, transportation, and housing. ERS is organizing a research seminar on the rural implications of poverty, welfare reform, and food assistance programs to provide the basis for more informed policy judgments about the effects of changing Federal assistance programs on rural people and places.

On farm structure and viability issues, ERS research is identifying, measuring, and analyzing forces contributing to current farm structure and farm structural change, investigating the role and future of small farms, examining efficiency/size relationships in major U.S. farming subsectors, measuring farm enterprise cost structure, level and distribution, quantifying farm diversification, and developing new analytical tools for conducting farm structure and performance research and analysis.

1999 Data: The FY 1999 data are final for all the indicators under each goal. Some difficulties were encountered in achieving consistency on what was to be included under which goal. However, the overall numbers are correct, and the issues about whether an item should be counted under one goal or another have been minimized. Since the quality goal was achieved for all the goals, this is not an issue for that indicator.

ERS uses peer review as an indicator because the review of experts is a well-accepted means of assessing the quality of research. All ERS research and analysis, whether it is published in USDA monographs or situation and outlook reports, or professional journals published elsewhere must meet the standards of expert peer reviewers. Monographs require review by both internal and external subject matter experts. Situation and outlook periodicals are scrutinized by the Department's interagency review process. Journal articles are first reviewed by ERS experts and then subjected to the in-depth external reviews required by professional publications. ERS staff are required to give careful consideration to the comments of the reviewers in revising their work; in rare cases of extremely negative peer reviews, publication can be delayed or canceled. The peer review process is managed, monitored, and tracked by

Product Coordinators in each of ERS's three program divisions. As a result, the data on quality, as measured by peer review, are sound and dependable.

The timeliness data are also dependable. The ERS Staff Analysis Coordinator maintains records of all external requests for ERS analysis, including information on the date requested, the deadline established, and the date completed. Questions about the timeliness indicator do not arise because of concerns about its accuracy. The issue, as noted under each of the goals, is that lack of complaints from customers indicates that ERS is providing the analysis when it is needed. Missing the self-imposed deadlines by one day does not seem to be a problem. The agency is assessing more accurate means of determining customer needs and ERS success at achieving them.

Analysis of Results by Indicator: The FY 1999 annual performance plan included an additional measure: the number of major reports, articles, papers, and briefings produced. ERS modestly exceeded its cumulative target in FY 1999, producing 451 reports as compared to a target of 445. However, the usefulness of counting outputs in measuring the effectiveness of the agency's program is questionable. It has been discontinued in the 2000-2001 plan, as discussed in **Appendix A**.

Description of Actions and Schedules: Based on the issues raised by this report, ERS is planning to switch its performance plan and report to an alternative format during FY 2000. The alternative format should more effectively lend itself to reporting on the effectiveness of a research program in achieving its program and strategic goals.

Program Evaluations:

National Research Council Study: A major 2-year review of the ERS program by the National Academy of Sciences National Research Council was completed in FY 1999. ERS had requested the study, recognizing that changes in the food and agriculture system and in USDA's responsibilities, coupled with budget constraints, posed significant challenges in carrying out its mission. The report addressed key aspects of ERS operations, including the need for the agency to systematically evaluate its services and the need for peer evaluation of individual scientists. The report also provided recommendations on means of assessing the balance between intramural and extramural research, particularly focusing on ways to expand the extramural program. The study is available from the National Academy of Sciences, National Academy Press and can be ordered on the web at: http://www.nap.edu/catalog/6320.html/.

In response, ERS has vested responsibility for developing improved approaches to evaluation in the position of the Assistant Administrator. New initiatives to improve the agency's capacity to evaluate its programs, to be detailed in the next few paragraphs, have begun. When the report was released, ERS already had implemented a new peer evaluation system for its social scientists. By the spring of 2000, the agency will have completed its second year of this system, and all researchers will have received their first review. The reviews include information collected from both internal and external users of the individual's work. On the matter of balance between intramural and extramural research, the agency recognized the need to acquire research from a range of sources, including its traditional partners in the land grant university system. In addition, ERS has expanded its extramural program significantly, particularly through the Food and Nutrition Research Program and the competitive grants program for work on food safety. Under a cooperative research agreement with Virginia Tech in FY 1999 and 2000, ERS has as a visiting professor a well-known expert on valuing the economic benefits of research. He is working with agency staff and the Assistant Administrator, focusing on the benefits of social science research and developing case studies drawn from the ERS program.

Appendix A

Economic Research Service

Discontinued Performance Measures

Goals: 1-5

Objectives: 1.1, 2.1, 3.1, 4.1, 5.1

Discontinued Performance Measures

All Five Performance Goals:
Number of major reports, articles, papers, and briefings produced

Explanation: More is not necessarily better when assessing the success of a research agency on an annual basis. What is more important are other factors: the quality of the outputs, whether they address the right questions, whether they are presented and disseminated effectively, whether customers and stakeholders find them useful. Counting products does not contribute significantly, as the agency attempts to assess its effectiveness in creating the "enhanced understanding..." outlined under each goal.

There are also practical issues about counting outputs, as noted in the report. Outputs can and often do serve purposes under multiple goals, so the counting process can be artificial and deceptive. As ERS moves to more effectively serve its customers, it is in the process of diversifying the kinds of outputs it produces. Staff are encouraged to disseminate their research in a variety of ways: journal articles, more popular articles, web page briefing rooms, posters, briefings for policy officials. This diversity, which contributes significantly to effectiveness and efficiency, makes the counting process more difficult and less informative. Through the evaluation efforts outlined above, ERS is seeking means to better assess its effectiveness in meeting its goals.

ERS is planning to adopt an alternative format for the performance plan and report during FY 2000. This is expected to provide more meaningful measures than any of the current numerical indicators, although accurate and useful reporting on research outcomes remains an elusive task.