

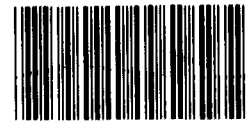
GAO

Briefing Report to the Chairman,
Committee on Agriculture, House of
Representatives

June 1992

PESTICIDES

USDA's Research to
Support Registration
of Pesticides for Minor
Crops



146900





United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-247809

June 22, 1992

The Honorable E (Kika) de la Garza
Chairman, Committee on Agriculture
House of Representatives

Dear Mr. Chairman:

In 1990, U.S. agricultural sales for food and feed crops were valued at about \$70 billion, of which about \$30 billion--or over 40 percent--came from sales of "minor crops," such as vegetables, fruits, nuts, and ornamentals. Given the economic and nutritional value of many of these crops, the agricultural industry has sought to protect them from various insects, weeds, and fungi, primarily through the use of pesticides. However, pesticides registered before November 1984 for use on agricultural crops must be reregistered with the Environmental Protection Agency (EPA) before 1997 to meet current human health and environmental risk standards, according to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended. Although chemical firms have generally furnished EPA with the data needed to reregister pesticides used extensively on major crops, such as corn and wheat, they have not, for economic reasons, provided such data to reregister many pesticides used on minor crops.

To ensure the availability of pesticides for the production of minor crops after 1997, the Congress, in the Food, Agriculture, Conservation, and Trade Act of 1990 (FACT), authorized the U.S. Department of Agriculture (USDA) to continue to support the registration and reregistration of pesticides for use on minor crops through the Interregional Research Project No. 4 (IR-4). IR-4, which is funded by USDA's Cooperative State Research Service (CSRS), uses data from industry, federal agencies, and state universities and colleges to support registrations at EPA for pesticides used on minor crops. (Sec. 1 provides more information on the laws regulating pesticide use.)

In your September 24, 1991, letter and in subsequent discussions with your office, you asked us to review (1) the status of the research that IR-4 coordinates to support the registration and reregistration of pesticides for use on

minor crops, (2) the uses that IR-4 makes of its resources, and (3) our observations on actions that USDA has taken to ensure the availability of pesticides for use on minor crops after 1997. In response to your request, we briefed your office and others on March 10, 1992. This briefing report outlines our findings and observations and documents the information presented at that briefing.

In summary, we found the following:

- The IR-4 research project will not complete the research and analysis necessary to support the registration and reregistration of high-priority pesticides for use on minor crops by the 1997 deadline. This situation has arisen primarily because of past and present funding limitations. Furthermore, since EPA and industry are also involved in the registration process, increasing IR-4 funding alone will not ensure that pesticides are available for all minor crops. The Administrator, CSRS, and some agricultural specialists believe that if some high-priority uses are not registered or reregistered, growers, consumers, and the environment could be adversely affected. Growers could lose income through reductions in crop volume and quality and consumers could see higher prices, lower quality, and less variety. (Sec. 2 discusses IR-4's plan to research "high-priority" pesticide uses for minor crops and the results that may occur if some of these uses are not registered.)
- IR-4 officials believe that they use their resources effectively, but limited funding by USDA's CSRS has restricted the number of research projects that IR-4 has been able to support. Project officials believe that they make effective use of project resources for at least three reasons: IR-4 uses the existing land grant university infrastructure, establishes its research agenda to include those pesticides most likely to be approved by EPA, and annually reviews its research priorities. (Sec. 3 discusses IR-4's uses of project resources.)
- Since FIFRA was amended in 1988, the agricultural community has been concerned about the availability of pesticides for use on minor crops after 1997; however, USDA has been slow to respond to this concern. Although IR-4 officials at the regional level developed a strategic plan in 1989 to support high-priority research projects, USDA did not request the funding required to implement the plan.

According to the Assistant Secretary for Science and Education, additional funds were not requested because the Department has many pesticide programs and requests for funding IR-4 must be balanced against requests for funding these other programs. For fiscal year 1993, CSRS, for the first time, asked for an increase in IR-4's research funds. As part of USDA's response to ensure the availability of pesticides for minor crops, the Department also established a spokesperson for pesticides and an informal working group on pesticides. However, the spokesperson and the working group, which the spokesperson chairs, do not have the management authority to change IR-4's efforts or USDA's pesticide policy. (Sec. 4 provides more detail on USDA's response to the need for pesticides for use on minor crops.)

- - - - -

To develop the information for this briefing report, we reviewed IR-4's historical activities, current operations, and future plans. We also examined IR-4's coordination with USDA, EPA, and industry. We interviewed officials and gathered data from relevant USDA agencies and spoke with representatives of other federal and state agencies and of industry, farmer, and environmental groups. (Sec. 1 also discusses our objectives, scope, and methodology.)

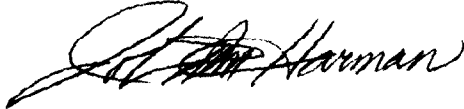
We discussed a draft of this briefing report with the Administrator and Deputy Administrator of CSRS, who agreed with the facts presented. Where appropriate, we have incorporated their comments. We conducted our review between April 1991 and January 1992 in accordance with generally accepted government auditing standards.

As arranged with your office, we will send copies of this briefing report to interested congressional committees and to the Secretary of Agriculture. We will make copies available to others upon request.

B-247809

Please contact me on (202) 275-5138 if you or your staff have any questions. Major contributors to this briefing report are listed in appendix III.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "John W. Harman".

John W. Harman
Director, Food and
Agriculture Issues

CONTENTS

		<u>Page</u>
LETTER		1
SECTION		
1	BACKGROUND	6
2	IR-4 WILL NOT COMPLETE RESEARCH FOR PESTICIDES USED ON MINOR CROPS BY 1997 AT CURRENT FUNDING LEVELS	8
3	IR-4 OFFICIALS BELIEVE THAT THEY USE PROJECT RESOURCES EFFECTIVELY	12
4	USDA HAS RESPONDED SLOWLY TO THE NEED FOR PESTICIDES FOR MINOR CROPS	14
APPENDIX		
I	SUMMARY OF IR-4 PROCEDURES FOR SELECTING PESTICIDE USES TO BE RESEARCHED	16
II	USDA'S PESTICIDE AND FIRFA-RELATED PROGRAMS	17
III	MAJOR CONTRIBUTORS TO THIS BRIEFING REPORT	19

ABBREVIATIONS

AMS	Agricultural Marketing Service
ARS	Agricultural Research Service
CSRS	Cooperative State Research Service
EPA	Environmental Protection Agency
ERS	Economic Research Service
FACT	Food, Agriculture, Conservation, and Trade Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GAO	U.S. General Accounting Office
IR-4	Interregional Research Project No. 4
OMB	Office of Management and Budget
USDA	U.S. Department of Agriculture

Section 1

BACKGROUND

- Interregional Research Project No. 4
 - Federal Insecticide, Fungicide, and Rodenticide Act
 - Food, Agriculture, Conservation, and Trade Act
 - Objectives, Scope, and Methodology
-

The use of pesticides is essential to the efficient production of high-quality food and feed crops. Without pesticides--including insecticides, fungicides, and herbicides--annual crop losses could be sizeable and food prices could increase. In 1990, sales for agricultural food and feed crops totaled about \$70 billion, of which about \$30 billion--or over 40 percent--came from sales of minor crops, such as vegetables, fruits, nuts, and ornamentals. In 1988, amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) required that all pesticide uses registered before 1984 be reregistered with EPA by 1997. The Interregional Research Project No. 4 (IR-4) provides pesticide residue data for registering pesticide uses that chemical firms have made an economic decision not to register.

INTERREGIONAL RESEARCH PROJECT NO. 4

The principal public effort supporting the registration of pesticides for minor crops is IR-4. Organized in 1963 by the directors of the State Agricultural Experiment Stations, IR-4 is a nationally coordinated research grant project funded primarily by the U.S. Department of Agriculture's (USDA) Cooperative State Research Service (CSRS). IR-4's main function is to develop residue data for pesticides used on minor crops. In 1982, IR-4's research mission was expanded to include the use of chemicals on animals and biological pest controls.

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT

In October 1988, the Congress amended FIFRA to require that pesticides registered before November 1984 be reregistered by 1997 in compliance with current health and environmental standards. This reregistration must be based on new research data and analysis to meet today's standards. FIFRA authorizes EPA to register pesticides for specific uses and to take regulatory actions such as

denying, canceling, or restricting a pesticide's use if a pesticide presents a health or environmental risk. The act, which went into effect on December 24, 1988, could greatly reduce the number of pesticides available for use on minor crops.

FOOD, AGRICULTURE, CONSERVATION,
AND TRADE ACT

The Food, Agriculture, Conservation, and Trade Act of 1990 (FACT) authorized USDA to use IR-4 for ensuring the availability of pesticides for minor crops. IR-4 gathers and procures research data from industry, federal agencies, and state universities and colleges to support the registration of pesticides at the Environmental Protection Agency (EPA) for use on minor crops that chemical firms find uneconomical to register.

OBJECTIVES, SCOPE, AND METHODOLOGY

In response to a request from the Chairman, House Committee on Agriculture, and subsequent discussions with his office, we reviewed

- the status of IR-4's research to support the registration of pesticides for minor crops,
- the uses that IR-4 makes of its resources, and
- our observations on USDA's efforts to make pesticides available for use on minor crops.

To accomplish these objectives, we looked at USDA's historical activities, recent activities, and future plans for the IR-4 research grant project. We gathered information on IR-4's staffing and budgets and discussed the project's management and coordination with Department officials. We also examined the mission of USDA's ad hoc working group on pesticides and reviewed USDA's and IR-4's coordination of pesticide research efforts with EPA and industry.

We interviewed officials and gathered documentary information from a number of the USDA agencies with pesticide responsibilities: the IR-4 research project, National Agricultural Pesticide Impact Assessment Program, Economic Research Service (ERS), Cooperative State Research Service (CSRS), Agricultural Research Service (ARS), and Agricultural Marketing Service (AMS). In addition, we spoke with the National Farmers Union, American Farmland Trust, American Farm Bureau Federation, National Audubon Society, United Fresh Fruit and Vegetable Association, and National Agricultural Chemicals Association. We also interviewed officials and collected data from EPA and the Office of Management Budget (OMB).

Section 2

IR-4 WILL NOT COMPLETE RESEARCH FOR PESTICIDES USED ON MINOR CROPS BY 1997 AT CURRENT FUNDING LEVELS

- IR-4 Has Developed a Strategic Plan
- Funding for IR-4 Is Limited
- Others Are Involved in Pesticide Registration
- Loss of Pesticides for Use on Minor Crops Could Have Wide-Ranging Impacts

IR-4 will not complete the research for high-priority projects by FIFRA's 1997 deadline because the backlog of projects needing registration and reregistration is large and funding is limited. Although increased funding would enable IR-4 to support research for more projects, it would not, in itself, necessarily accomplish the registration or reregistration of all the high-priority pesticide uses. Some agricultural specialists believe that if high-priority pesticides for use on minor crops are not registered or reregistered by 1997, farmers, consumers, and the environment could be adversely affected.

IR-4 HAS DEVELOPED A STRATEGIC PLAN

In 1989, in response to the FIFRA amendments and the growing reregistration backlog, IR-4 officials developed a strategic funding and management plan. According to this plan, about \$12 million was needed annually to complete the reregistration of the 1,000 high-priority pesticide uses for minor crops by the 1997 FIFRA deadline. The plan also projected that 300 new high-priority projects would be added each year to the existing list of 1,000 high-priority projects. Furthermore, the plan estimated that the IR-4 project could complete about 400 research projects per year without increasing the cost per project.

Although CSRS asked for about \$11 million for IR-4 for fiscal years 1990 through 1992, the Congress provided about \$14 million for this period. This funding still fell about \$22 million short of the amount proposed in the 1989 strategic plan and resulted in the completion of fewer pesticide registrations and reregistrations than projected. Consequently, IR-4 officials revised the strategic plan in 1992, increasing the required annual funding level and the required number of projects that needed to be completed each year to meet FIFRA's 1997 deadline. With only 6 years remaining until the 1997 deadline, IR-4 would now have to complete about 560 projects per year at a funding level of \$14 million per year to meet the deadline.

FUNDING FOR IR-4 IS LIMITED

For fiscal year 1993, CSRS requested that IR-4's budget be increased to \$9.6 million--\$4.4 million less than the \$14 million required in the revised strategic plan. This is CSRS's first request for increased funding since 1988.

IR-4 projected that the \$9.6 million requested for fiscal year 1993 would enable it to complete about 300 research projects annually. If funding remains at \$9.6 million annually, IR-4 officials estimate that about 1,000 high-priority projects would still remain to be researched in 1997.

OTHERS ARE INVOLVED IN PESTICIDE REGISTRATION

Although increased funding would enable IR-4 to support research for more projects, it would not necessarily resolve all problems associated with the reregistration of pesticides for minor crops. This is because EPA and the agricultural industry are also involved in the registration of pesticides for use on minor crops. Therefore, industry must still provide various health and environmental effects data and EPA must analyze and approve these data.

- EPA regulates pesticides and their uses as authorized under FIFRA and the Federal Food, Drug and Cosmetic Act. Before registering pesticides, EPA is also required to establish maximum allowable levels of pesticide residue (tolerances) in or on food and feed crops. EPA officials told us that if IR-4 receives additional funds for research, then EPA will need to obtain additional resources to process the increased number of applications for registration.
- Chemical firms voluntarily permit IR-4 to use core data (chemical, toxicological, and environmental), which are required for registering a pesticide for a particular minor crop. Chemical firms also report pesticide uses to EPA that they no longer plan to make available to farmers for use on minor crops.

LOSS OF PESTICIDES FOR USE ON MINOR CROPS COULD HAVE WIDE-RANGING IMPACTS

Impacts on producers, consumers, and the environment could be significant if some pesticides for minor crops were no longer available, according to some USDA officials, grower groups, and academicians. However, the data needed to determine the economic impacts of lost production are either not readily available or do not exist for many agricultural products. Thus, there is

considerable uncertainty as to the ultimate impact of no longer having some pesticides available.

The Chief of USDA's Economic Research Service, Agricultural Inputs and Production Systems Branch, said that data on the economic significance of minor crops have not been collected because USDA's resources were being used to collect data for major crops. He told us that grower groups could provide estimates of the economic importance of pesticides for use on minor crops.

Two grower groups that IR-4 contacted provided the following estimates of the economic importance of pesticides for minor crops:

- The Hawaii Papaya Industry stated that the loss of one particular fungicide would result in a postharvest loss of papayas. The industry estimated that this loss would be equal to \$9 million per year and could reach \$27 million per year as lower prices were paid for lower quality papayas.
- The Cranberry Institute said that the loss of one herbicide could result in an estimated cranberry crop loss worth \$91 million over a 5-year period.

If the availability of pesticides for minor crops were substantially curtailed, according to agricultural specialists, economic impacts could extend from farmers to consumers. Consumers could see higher produce prices together with lower quality and less variety in fruits and vegetables. IR-4 officials advised us that affected minor crops could include apples, apricots, asparagus, blueberries, boysenberries, cassava, cherries, coffee, collards, currants, gooseberries, hops, kiwi fruit, mushrooms, okra, onions, parsley, passion fruit, peaches, peppers, raspberries, rutabagas, safflower, spinach, strawberries, sunflower, sweet potatoes, tomatoes, and a variety of herbs and spices.

If certain pesticides for use on minor crops are unavailable, other agricultural activities in USDA, such as the Sustainable Agriculture Research and Education Program and the Integrated Pest Management Program, could be adversely affected. Agricultural technologies like USDA's sustainable agriculture and integrated pest management depend on a mix of pesticides--including those for use on minor crops--and alternative pest management techniques. Thus, without certain pesticides for use on minor crops, opportunities to develop agricultural technologies that are both more environmentally sound and effective in maintaining high production may be delayed.

Furthermore, EPA's Office of Pesticide Programs has developed a strategy to increase the use of safer pesticide control techniques. Implementation of this strategy, which depends, in part, on the development of more environmentally sound agricultural

technologies, may also be delayed if access is limited to certain pesticides for minor crops.

In several reports,¹ we have called for improved risk-benefit assessments and additional economic data to guide USDA and EPA in setting their priorities for researching and registering pesticides for use on food and feed crops.

¹Pesticides: Economic Research Service's Analyses of Proposed EPA Actions (GAO/RCED-89-75BR, Mar. 14, 1989; Pesticides: EPA's Use of Benefit Assessments in Regulating Pesticides (GAO/RCED-91-52, Mar. 7, 1991); Pesticides: Better Data Can Improve the Usefulness of EPA's Benefit Assessments (GAO/RCED-92-32, Dec. 31, 1991).

Section 3

IR-4 OFFICIALS BELIEVE THAT
THEY USE PROJECT RESOURCES
EFFECTIVELY

- IR-4 Uses Existing Infrastructure
 - IR-4 Coordinates Its Research Agenda
 - IR-4 Develops Annual Plans
-

IR-4 officials believe that they use their resources effectively to conduct the research needed to support pesticide registrations at EPA. This is because IR-4 uses the existing land grant university infrastructure, coordinates its research agenda with EPA and others, and annually reviews its research priorities.

IR-4 USES EXISTING INFRASTRUCTURE

IR-4 leverages its resources by using the existing state university and college agricultural research infrastructure--i.e., the personnel, buildings, equipment, and land--to test pesticides on crops and analyze data. As a result,

- IR-4 produces residue data at considerably less expense than industry, spending about \$20,000 for a single pesticide use on a minor crop, as compared with industry's spending \$100,000 to \$150,000.
- IR-4 funds provided to state universities and colleges may be applied only to the direct costs incurred for IR-4 project research. Indirect costs may not be included in project costs.

IR-4 COORDINATES ITS RESEARCH AGENDA

At the project level, IR-4 researchers coordinate their efforts with those of EPA, extension personnel, agricultural scientists, and private industry to ensure that all clearance needs are met and equal consideration is given to all segments of agriculture that produce minor crops. Specifically,

- As part of this process, IR-4 coordinates its research with EPA both before undertaking and after completing projects to ensure that only those pesticide uses that are likely to be registered at EPA are researched.
- IR-4 develops protocols for each research project consistent with EPA's standards for research and monitors the projects to ensure compliance with the standards.

- IR-4 ranks pesticides for research through a detailed process designed to ensure the selection of pesticides for minor crops that are deemed most critical to the agricultural industry. (See app. I for an explanation of the IR-4 process.)

IR-4 DEVELOPS ANNUAL PLANS

According to IR-4 officials, agricultural specialists annually review and set priorities for researching the pesticide uses that remain to be reregistered and the new uses for which registrations have been requested.

Section 4

USDA HAS RESPONDED SLOWLY TO THE NEED FOR PESTICIDES FOR MINOR CROPS

- USDA Has Not Sought Funds to Complete High-Priority Research
- USDA Has Appointed a Spokesperson for Pesticides

Although the agricultural community has been concerned about the availability of pesticides for use on minor crops since the passage of the FIFRA amendments in 1988, USDA has only recently begun to address this concern.

USDA HAS NOT SOUGHT FUNDS TO COMPLETE HIGH-PRIORITY RESEARCH

In 1989, IR-4 officials at the regional level developed a strategic plan for registering high-priority pesticides used on minor crops by 1997. However, USDA did not use this plan to ask for funding to complete the research for the 1,000 high-priority pesticide uses for minor crops. For fiscal year 1993, CSRS has requested increased funding for IR-4.

According to USDA's Assistant Secretary for Science and Education, the Department has many pesticide programs and must balance requests for IR-4 funding against requests for funding other pesticide efforts. (See app. II for a listing of other pesticide efforts.) Hence, USDA continued to operate the IR-4 research project as it had for many years.

USDA HAS APPOINTED A SPOKESPERSON FOR PESTICIDES

As a part of USDA's response to concerns about the availability of pesticides for minor crops as well as to concerns about broader pesticide issues, the Secretary of Agriculture designated the Administrator of the Agricultural Marketing Service (AMS) as the Department's spokesperson for pesticides. The spokesperson chairs an informal working group on pesticides that

- includes representatives of various USDA agencies--such as AMS, ARS, CSRS, and IR-4--of EPA, and of industry groups,
- among other things, provides early warning to farmers of a chemical firm's decision not to reregister a pesticide for a particular use on a minor crop.

While this coordination represents a step toward resolving concerns about the availability of pesticides for minor crops and other pesticide problems, neither the spokesperson nor the ad hoc working group on pesticides has the management authority to change IR-4 efforts or pesticide policy.

SUMMARY OF IR-4 PROCEDURES FOR SELECTING PESTICIDEUSES TO BE RESEARCHEDStep

1. Farmers, extension personnel, and others seeking approval to use a pesticide on a minor crop submit pesticide clearance request forms to IR-4.
2. IR-4 sends a letter to the chemical firm to obtain its support and outlines how the pesticide in question will be used so that research protocols can be established.
3. IR-4 submits a list of researchable projects to EPA for review to determine whether more data are needed.
4. IR-4 prepares and sends a list of candidate research projects to each state and federal IR-4 liaison representative for review and prioritization.
5. After regional meetings have been held to set research project priorities, IR-4 and EPA annually sponsor a national workshop to identify "high-priority" research projects.
6. IR-4 develops a tentative research program for the upcoming year, giving first consideration to completing ongoing projects.
7. IR-4 sets up research projects with IR-4 cooperative researchers, notifies the chemical firm of test locations, and provides EPA with a listing of current research projects.
8. IR-4 researchers and laboratory analysts develop residue data for each pesticide and send these data to IR-4 headquarters for further review. After IR-4 coordinators and an EPA liaison have reviewed the data, IR-4 prepares a draft petition to request a registration.
9. IR-4 forwards the draft petition first to the chemical firm for review and concurrence and then to EPA for establishment of the tolerance required to register the approved use.
10. The chemical firm labels the pesticide, providing the user with instructions for applying the product legally on the minor crop.

USDA'S PESTICIDE AND FIFRA-RELATED PROGRAMS

Dollars in millions

<u>Program name</u>	<u>Purpose of program</u>	<u>Agencies involved^a</u>	<u>Funding for FY 1992</u>
Pesticide Data Program	Collect and analyze pesticide usage and pesticide residue data for domestically produced fresh fruits and vegetables.	AMS, EPA, ERS, FDA, HNIS, NASS	\$16.5
IR-4 Pesticide Residue Research Project	Conduct research to determine residue levels from using various pesticides on minor crops and the effects of biological pest controls. Results support pesticide registrations at EPA.	ARS, CSRS, EPA, FDA	6.0
National Agricultural Pesticide Impact Assessment	Develop biological and economic analyses of the impacts of chemical pesticides and other pest control alternatives used in agriculture.	ARS, CSRS, ES, ERS, FS	8.7
Pesticide Applicator Training	Provide educational materials to, and training programs for, restricted-use pesticide applicators.	EPA, ES	1.7
Integrated Pest Management - Research and Education	Develop systems of pest control that can replace sole reliance on scheduled chemical pesticide treatments.	ARS, CSRS, EPA, ES, FS	48.7
Pesticide Recordkeeping	Require private applicators to maintain pesticide application records and develop data collection surveys and reports on pesticide use.	AMS, ES, NASS	2.5
Laboratory Accreditation	Ensure that private laboratory information reported to the public concerning pesticides meets minimum standards for quality and reliability.	AMS	1.4
Pesticide Residue Monitoring and Regulation	Ensure that meat, poultry, processed egg products, and imported tobacco do not contain unlawful levels of pesticide residue.	AMS, FSIS	3.4

(cont.)

APPENDIX II

APPENDIX II

<u>Program name</u>	<u>Purpose of program</u>	<u>Agencies involved^a</u>	<u>Funding for FY 1992</u>
Pest Suppression and Wildlife Control	Control and eradicate infestations that threaten agricultural production and wildlife.	APHIS, FS	82.6
Agricultural Protection and Quarantine	Act as the nation's major defense in preventing agricultural pests from entering the United States.	APHIS	123.6
Water Quality Initiative	Provide agricultural producers with information necessary to voluntarily adopt environmentally sound management practices that, among other things, do not sacrifice profitability.	APHIS, ARS, ASCS, CSRS, ERS, ES, FmHA, FS, NAL, NASS, SCS	208.1
Sustainable Agriculture Research and Education	Provide support for agricultural research and education projects with emphasis on environmental quality and resource conservation	ARS, APHIS, ASCS, CSRS, ERS, ES, NAL, SCS	6.7

^aAgency names are abbreviated as follows:

AMS	Agricultural Marketing Service
APHIS	Animal and Plant Health Inspection Service
ARS	Agricultural Research Service
ASCS	Agricultural Stabilization and Conservation Service
CSRS	Cooperative State Research Service
EPA	Environmental Protection Agency
ERS	Economic Research Service
ES	Extension Service
FDA	Food and Drug Administration
FmHA	Farmers Home Administration
FS	Forest Service
FSIS	Food Safety and Inspection Service
HNIS	Human Nutrition Information Service
NAL	National Agricultural Library
NASS	National Agricultural Statistics Service
SCS	Soil Conservation Service

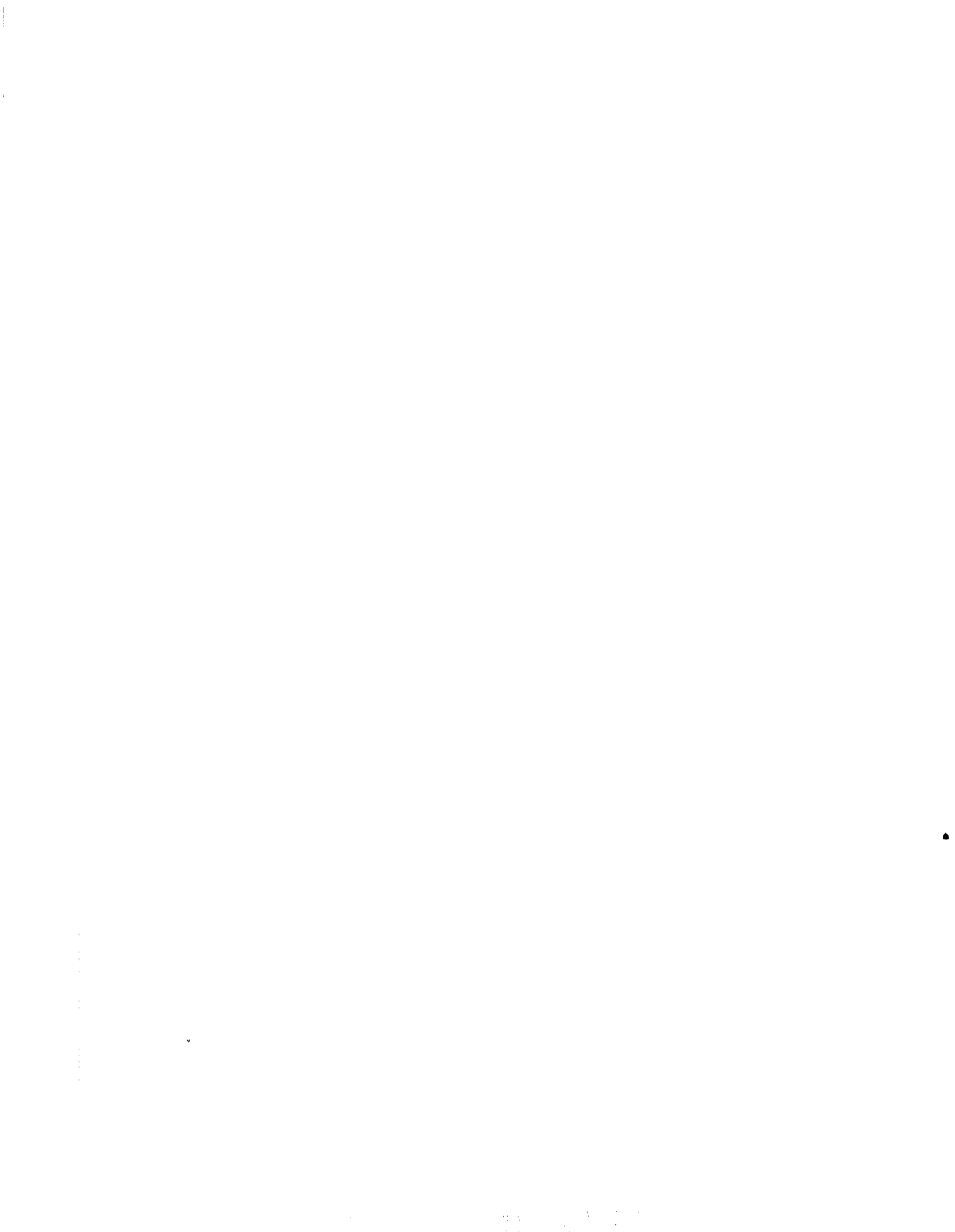
Source: Table compiled from USDA data.

MAJOR CONTRIBUTORS TO THIS BRIEFING REPORT

RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION,
WASHINGTON, D.C.

Flora H. Milans, Associate Director
Luther L. Atkins, Jr., Assistant Director
Daniel M. Haas, Assignment Manager
John M. Nicholson, Jr., Evaluator-in-Charge
Jack Maes, Staff Evaluator
Monica L. Nickens, Information Processing Assistant

(150518).



Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

**U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20877**

Orders may also be placed by calling (202) 275-6241.

**United States
General Accounting Office
Washington D.C. 20548**

**Official Business
Penalty for Private Use \$300**

**First Class Mail
Postage & Fees Paid
GAO
Permit No. G100**