



United States General Accounting Office
Washington, DC 20548

Resources, Community, and
Economic Development Division

B-284559

February 15, 2000

The Honorable John R. Kasich
Chairman, Committee on the Budget
House of Representatives

Subject: Agricultural Research: USDA's Response to Recommendations to
Strengthen the Agricultural Research Service's Programs and Facilities

Dear Mr. Chairman:

The U.S. Department of Agriculture's Agricultural Research Service (ARS) has historically been a major catalyst in creating a vigorous agricultural economy and a plentiful supply of low-cost food and fiber. The agency conducts most federal in-house agricultural research; in fiscal year 2000, it had an estimated budget of over \$880 million. Currently, ARS reports that it has 244 laboratories at 103 locations and 41 work sites¹ in the United States, the Commonwealth of Puerto Rico, and in a few foreign countries. These laboratories include over 3,000 buildings, nearly 70 percent of which are over 30 years old. Over the next 10 years, ARS estimates, it will require about \$830 million to maintain and repair these facilities—many of which do not meet modern building codes.

As we reported in 1996 and 1997, while ARS' research has served the nation well in the past, the agency has fewer research dollars than it had 10 years ago.² As a result, its ability to move into new research areas that require different equipment and scientific expertise is constrained. To help address this issue, as reported in 1997, ARS could make its research program more efficient and effective by, among other things, closing and consolidating some federal laboratories. However, we also reported that congressional and commodity group pressures hindered ARS' ability to take such actions.

¹ ARS defines a worksite as a site with four or fewer scientists with research leadership and budget allocation at another location.

² *Agricultural Research: More Efficient and Accountable System Could Better Respond to New Challenges* (Mar. 13, 1997, GAO/T-RCED-97-101); and *Agricultural Research: Information on Research System and USDA's Priority Setting* (Mar. 28, 1996, GAO/RCED-96-92). According to USDA's Economic Research Service, the cost of conducting research and development between 1986 and 1996 increased by more than the general rate of inflation during that period; thus, when an adjustment is made on the basis of trends in research and development spending, ARS funding decreased.

The Federal Agriculture Improvement and Reform Act of 1996³ required (1) the U.S. Department of Agriculture (USDA) to establish a task force to review current and planned federally supported agricultural research facilities to ensure that a comprehensive research capacity is maintained and (2) the task force to develop a 10-year strategic plan to develop, modernize, construct, consolidate, and close federal agricultural research facilities. The task force was comprised of 15 members. These members were chosen from among those recommended by a research advisory board⁴ and selected by the Secretary of Agriculture. Members included officials and former officials of the National Research Council's Board on Agriculture, USDA, large food companies, major food and agricultural associations, and major universities. Among other things, the task force reviewed 48 ARS laboratories using one or more of the following methods: asking individual laboratories to complete a survey instrument, visiting a facility and completing a survey instrument, and/or discussing the facility with ARS officials. It completed its report to the Secretary of Agriculture and the Congress in June 1999.⁵

This letter summarizes information we provided to your office concerning (1) the actions ARS has taken to close and consolidate laboratories; (2) the task force report's major recommendations designed to, among other things, improve operational efficiencies; and (3) ARS' reaction to the task force report.

ARS Has Generally Been Unsuccessful in Closing or Consolidating Laboratory Locations

ARS officials agreed with our 1996 and 1997 findings that efficiencies could be gained by closing or consolidating some ARS laboratory locations. At that time, ARS indicated that the agency would await the completion of the task force report before undertaking major changes in its research program. Since then, these officials told us, USDA has tried through the budget process to close or consolidate laboratories but has been unsuccessful because of pressure from the Congress and other stakeholder groups. For fiscal year 1996, the Department proposed closing 12 laboratories; in fiscal years 1998 and 1999, it proposed closing 4 laboratories. However, the Congress directed that all of these laboratories remain open. In its fiscal year 2000 budget, ARS did not propose closing any laboratories; however, ARS is in the process of closing one laboratory whose program and staff will relocate to a newly constructed laboratory elsewhere.

³ P.L. 104-127, section 884, Apr. 4, 1996.

⁴ The National Agriculture Research, Extension, Education, and Economics Advisory Board was established in 1996 to provide advice on research, extension, education, and economic policies. It is composed of 30 members appointed by the Secretary and includes public and private sector members representing, for example, universities and national food and agricultural associations.

⁵ The 10-year plan is entitled *Report of the Strategic Planning Task Force on USDA Research Facilities*, June 1999.

Apart from the formal budget process, ARS closed two locations in fiscal year 1997 and consolidated these programs with other ARS programs in the same states. In addition, between fiscal years 1996 and 2000, ARS opened three new laboratory locations and six new worksites in response to congressional and stakeholder interests.

Task Force Recommendations Are Aimed at Improving ARS' Research Program

The June 1999 task force report emphasized the need for ARS to increase its operational efficiencies by, among other things, setting priorities for its research activities and improving collaboration between its scientists and those in universities and the private sector. To this end, the report identifies recommendations to be implemented over the next 10 years. These recommendations fall into two categories. The first category includes 47 recommendations associated with 14 principles aimed at achieving broad program improvements. For example, the task force recommended that ARS develop priorities by categorizing each research activity as either a federal or nonfederal responsibility and target resources accordingly.⁶ Enclosure I lists the task force's programmatic recommendations.

The second category of recommendations was aimed primarily at consolidating and renovating specific laboratories. These recommendations were based on the premise that to be most effective, laboratories need to collaborate with other laboratories within and external to USDA's research system and to be collocated with colleges and universities, where practical. The task force reviewed 48 laboratories (including units and centers) and recommended that 2 be closed, 15 be consolidated, 10 be considered for consolidation, 8 be renovated, 3 continue research efforts, and 4 be studied further.⁷ The task force had no recommendations for 11 laboratories, primarily because ARS had recently taken actions—such as beginning modernization projects—at these locations. See enclosure II for a list of locations reviewed by the task force, its recommendations for each, ARS' ongoing and planned actions, and the differences in the views of the task force and ARS officials on the recommendations.

ARS Officials State that ARS Activities Adequately Address Recommendations; Task Force Disputes This View

ARS officials believe that they are adequately addressing the task force's recommendations through their past, ongoing, and planned efforts. In contrast, task force officials stated that various groups they met with—including commodity

⁶ The report recommends categorizing facilities in one of three ways: uniquely federal, appropriately federal, and not uniquely or appropriately federal. Uniquely federal facilities are those with responsibilities singularly proper for the federal government. Appropriately federal facilities are those with responsibilities suitable for the federal sector and also shared with other sectors (universities, other research organizations, and the private sector). In the last category are those facilities whose responsibilities do not fit in the federal sector.

⁷ Some laboratories that were recommended or considered for consolidation were also recommended for renovation or further study and included in those counts as well.

organizations, farm groups, environmentalists, and the for-profit sector—consistently told them the system is in need of repair and the ARS efforts under way fall short of achieving the vast changes required in the system. They cautioned, however, that the task force report should not be used as a justification for cutting the ARS budget because much excellent research is being conducted by individual ARS scientists. Rather, it should be used to redirect the process ARS uses to make facility and research decisions. Each task force recommendation and ARS' response is listed in enclosure I.

Despite ARS' belief that they are adequately addressing the task force recommendations, ARS officials have concerns about the report. The following summarizes ARS' concerns regarding the task force report and task force officials' comments on ARS' concerns:

- ARS officials stated they disagree with the underlying premise of the task force's report—that ARS is conducting research that is not appropriate for the federal government. According to task force officials, they continue to believe that a significant number of facility resources may be directed toward research that is not appropriately federal and that the Congress created the task force in part because of this concern.
- According to ARS officials, the task force report goes beyond its charge, attempting to redefine programmatic priorities, rather than focusing on facility issues. Task force officials indicated that facility issues cannot be addressed without first considering the broader programmatic issues.
- ARS officials said the report does not consider the legislative priorities and realities of the budget and appropriations process concerning which research and facilities are funded and which are not. Task force officials acknowledge that they did not consider the politics of the process because they believed that their charge was to study research capacity issues apart from political considerations.
- ARS officials said that the report does not provide any economic analyses for its specific recommendations on closing or consolidating laboratories. Task force officials agreed and told us that they requested funding to conduct these analyses; however, USDA did not provide the necessary resources. The officials added that the lack of such analyses does not negate the merits of their current recommendations.
- ARS officials stated that the report does not provide a comprehensive review of the facility capacity of the entire agricultural research community and thus the specific laboratory recommendations lack context. Task force officials stated that given their limited resources, work was focused on those areas where the majority of federal facility resources are applied.

With regard to the task force recommendations on specific facilities, ARS officials agreed with many of the task force recommendations, as shown in enclosure II. They

stated that they had initiated a number of these recommended plans or actions independently of the task force recommendations.

Agency Comments

GAO provided a draft of this report to USDA for its review and comment. In commenting on this report for USDA, the Associate Administrator, ARS, generally agreed with the facts presented in the report and noted that ARS has been implementing a number of the task force's recommendations. The Associate Administrator also provided technical comments, which we incorporated as appropriate. We also provided sections of the draft report to the task force chair and vice-chair, who generally agreed with the facts presented but disputed that ARS has implemented the task force's recommendations. They also provided technical comments, which we incorporated as appropriate.

Scope and Methodology

To accomplish our objectives, we reviewed applicable GAO reports and the task force report. We also met with agency officials, including the Under Secretary of Agriculture, Research, Education, and Economics, USDA; the Associate Administrator, ARS; and officials from USDA's task force. We provided the views of these officials but did not confirm the validity of their positions. We conducted our review in January 2000 in accordance with generally accepted government auditing standards.

As agreed with your staff, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will provide copies of this report to the Honorable Dan Glickman, Secretary of Agriculture, and to the Honorable Jacob J. Lew, Director, Office of Management and Budget. In addition, we will make copies available to others on request.

Please contact me at (202) 512-5138 if you or your staff have any questions about this report. Major contributors to this report were Patricia Gleason, Kerry Hawranek, and Beverly Peterson.

Sincerely yours,



Robert E. Robertson
Associate Director, Food and
Agriculture Issues

Enclosures – 2

Task Force Principles With Associated Recommendations and ARS' Response to Each Recommendation

The Strategic Planning Task Force on the U.S. Department of Agriculture's (USDA) Research Facilities established 14 principles to be used to implement its 10-year strategic plan. Each principle is accompanied by one or more recommendations to activate the principle. Following each recommendation is ARS' response to that recommendation. The principles are organized into three groups: expectations of federal research facilities, management and operation of federal research facilities, and networking in federal research facilities.

Group 1. Expectations of Federal Research Facilities

1. Certain resource initiatives are the sole responsibility of the federal government (uniquely federal) and this concept should undergird all facilities decisions in the intramural research system.
 - The intramural research agencies should clearly identify their uniquely federal responsibilities and report to the Secretary of Agriculture and Congress on this task by July 2000.

ARS Response: Uniquely federal is not a meaningful or useful term/concept as defined by the task force. ARS does not accept the premise that the agency should conduct research on only those things that "are not in the purview of any other entity." ARS conducts research on those things that are supported by the administration and the Congress in response to priority stakeholder needs.
 - The intramural research agencies should begin a program of strengthening their uniquely federal research programs and facilities.

ARS Response: ARS has an ongoing program to strengthen its research programs and facilities.
2. The federal research system has a responsibility for clearly defined, focused missions that deliver important and needed outputs for the public good (appropriately federal).
 - The leadership of the Agricultural Research Service, Forest Service, and Cooperative State Research, Education and Extension Service (CSREES), with advisory committee participation, should review all research projects against seven criteria¹ in defining appropriately federal research.

¹ These seven criteria are (1) relate to issues of national security; (2) be at least regional (multistate) in scope; (3) relate to the support of policy decisions requiring research input; (4) be critical to management of federally owned resources and/or federal responsibilities, (5) require the inventory and dissemination of food, agriculture, and forestry-related data that are best collected by the public sector in the national interest; (6) focus on a particular community concern that is in the national interest to resolve; and (7) require large-scale, long-term resources, expertise, and management that are beyond the realistic scope

ARS Response: The seven criteria defined in principle 2 are inclusive of all ARS research activities. Two other relevant criteria for ARS are (1) research needed by USDA action and regulatory agencies to carry out their missions; and (2) research for which the Congress provides a specific appropriation and directive.

- Research projects not meeting these criteria should be discontinued as federal responsibilities and their associated resources (fiscal, human, and facilities) redirected to higher priority appropriately federal research efforts.

ARS Response: Research not meeting these criteria has already been discontinued through past budget activities and the implementation of ARS' strategic plans. Even among projects that meet the federal role criteria, ARS has a continuous and ongoing program to reallocate resources to higher-priority specific research objectives and more promising research approaches.

- The intramural research agencies,² in consultation with the land grant university system, should consider the development of centers of excellence across the country to address the critical issues incumbent in the missions identified as appropriately federal.

ARS Response: ARS partners with the land grant university system on priority research programs and will continue to develop centers of excellence as new needs and opportunities arise.

- The Secretary of Agriculture and the Congress should receive a report from the intramural agencies regarding appropriate redirection by July 1, 2000, and updates each year thereafter to 2010.

ARS Response: ARS annually submits to the Secretary its updated strategic plans and performance plans as part of the Government Performance and Results Act (GPRA) process. Annually, ARS submits to the Secretary its budget proposals which include both proposed new initiatives and reallocation proposals. The President's annual budget submission to the Congress includes budget proposals for ARS, including redirections of some project activities.

3. Federally supported and conducted research projects and facilities must reflect the needs of the broad public and not merely a narrow segment of individuals and groups.
 - The leadership of the federally supported and conducted research agencies should explore the option of organizing the research agenda around the concept of bioregions and ecoregions and consolidate laboratories that relate to the issues of those regions.

ARS Response: The site specificity of much ARS research is related to the natural resource and commodity production/processing regions of the United States. Much of the ARS human nutrition research is related to characteristics of the

and capacity of other federal agencies, universities, and the private-sector components of the research infrastructure to accomplish and manage.

² "Intramural research agencies" refers to the Agricultural Research Service and the Forest Service.

human population centers near the Research Centers. ARS continues to organize its research around regional or multistate issues and ensures that all components are coordinated into national programs.

- The Department of Agriculture research agencies should work with the university research system to transfer research resources (staff, fiscal resources, and, if appropriate, facilities) where producer-level, local-needs research is being conducted.

ARS Response: On a case-by-case basis such transfer of functions and physical resources to state or local entities have been done in the past and will continue to be done in the future as needs or opportunities arise with of course the concurrence of the Congress and the receptivity of the receiving entity. Examples: Brawley, California; Houma, Louisiana; Suffolk, Virginia.

- Intramural research efforts and facilities should address issues of major national public concern using a model that is flexible enough to devote large levels of resources to finding the solutions in a short time (Manhattan Project model).

ARS Response: This model is applicable to some but not all ARS research. Ongoing successful examples are areawide integrated pest management research and technology programs, such as the codling moth control program in the Pacific Northwest and corn root worm control program in the upper Midwest. Plans are currently being formulated for a fruitfly eradication/management program in the Hawaiian Islands, which has important national and international ramifications for fruit exports and avoidance of invasive species being introduced into importing states or countries.

- The Department of Agriculture's research agencies should report progress regarding this transition to the Secretary of Agriculture every year beginning July 1, 2000, and continuing beyond 2010.

ARS Response: ARS reports research progress annually in a systematic manner to the Secretary through the vehicles of GPRA performance plan accomplishments and budget submissions. Special research breakthroughs are reported on a case-by-case basis. These activities are ongoing and will continue.

4. Federally funded research must focus on outcomes, outputs, and other forms of measurable results that benefit the public.

- A system of identifying desired outcomes and time lines for results should be established, with the involvement of stakeholders, and accountability assigned.

ARS Response: This process is well under way and is continuing as part of the GPRA strategic planning and reporting process.

- The Task Force agrees with the findings of the National Academy of Sciences and encourages the Department of Agriculture research agencies to adopt the methodology proposed for the evaluation of the intramural research program and submit periodic updates, as appropriate, to the Secretary of Agriculture and Congress.

ARS Response: ARS agrees with the referenced report, already uses the proposed methodology, and will continue to do so. ARS was one of the principal leaders and originators of the referenced methodology and had input to the formulation of the report. All this has evolved through the implementation of the GPRA process since 1993. Also, in 1999, ARS established an Office of Scientific Review to manage a new peer review process for internal research projects. This review process was required by title I of the Agricultural Research, Extension, and Education Reform Act of 1998.

5. Results of federally supported and conducted research should be available to the public through a planned program of technology transfer, through the Cooperative Extension Service, or through innovative outreach programs.
 - The Department of Agriculture research agencies should develop a stronger relationship with the Cooperative Extension System in addressing the issue of transfer and adoption of research results.

ARS Response: ARS has ongoing initiatives and activities that link with technology transfer responsibilities of the Extension Service. This linkage occurs at multiple levels including national, regional, and state. Most ARS research locations are co-located with land grant universities or their field stations where ARS researchers, university researchers and extension personnel work and consult together. In addition to the Extension Service, there are many other technology transfer entities and mechanisms with which ARS works.

- The Department of Agriculture research agencies should develop a policy related to release of research results that addresses the concept that all results must be publicly released to all interested parties at the same time.

ARS Response: Such a policy already exists and is embedded in the culture of ARS. This is standard operating procedure. Exceptions to this policy are authorized by law with respect to Cooperative Research and Development Agreements (CRADAs), which allow a private sector partner with ARS to have the right to exclusively license the use of a technology derived from jointly conducted research.

- Research agencies should develop this policy, publish it for public comment, and implement the policy in all laboratories by July 1, 2001, to be revised as needed beyond 2010.

ARS Response: Such a policy already exists.

Group 2. Management and Operation of Federal Research Facilities

6. Funding for critical projects must take priority over funding of facilities; quality of intramural and university research facilities must be made a priority; and funding for facility repair and modernization should be separated from research program funds.
 - Congress should fund research facilities conducting appropriately federal research programs only after clearly articulated plans for staff, operating funds, and equipment needs are approved.

ARS Response: This is a recommendation to the Congress.

- Once principles 1 and 2 have been implemented, Congress should immediately appropriate a major allocation of resources to remove the accumulated deferred maintenance at intramural facilities and renovate high-priority research facilities. These funds should be over and above the normal allowances for maintenance of facilities and equipment.

ARS Response: This is a recommendation to the Congress.

- Intramural research agencies should be allowed to accumulate one-twentieth (5 percent annually) of the value of a facility and the associated equipment in a property maintenance account to cover needed high-cost improvements without having to seek congressional approval.

ARS Response: This is a recommendation to the Congress. This authority would have to come from new legislation.

7. Interaction among disciplines and placement of laboratories to promote effective collaboration are critically important to the creation of improved science.

- Co-location of federally supported and conducted research laboratories with colleges and universities should be a goal of the intramural research system.

ARS Response: Co-location is the rule rather than the exception with respect to ARS facilities. This will continue to be a goal when appropriate to the research program requirements. Recent and ongoing examples of new or proposed collocated ARS labs and research programs are at Fort Pierce, Florida; Maricopa, Arizona; Davis, California; Parlier, California; Tallahassee, Florida (Florida A&M University).

- The Department of Agriculture research agencies should publish a request for proposals to the university system, states, and private sector when a new laboratory is being proposed or an existing laboratory moved. The request for proposals should include a list of specific requirements for a laboratory such as space, equipment, land resources, etc. The request for proposals' responses could reflect use of an existing underutilized building, new construction, or a combination.

ARS Response: Such a request for proposal process for relocating laboratories is not consistent with site or regional program specificity requirements or with the budget development and approval process required of ARS by the Department and the Congress.

- The intramural research system should conduct a systematic review of laboratories regarding the critical mass of scientists located in laboratories and the reasons for isolation, if isolation exists.

ARS Response: Critical mass is a concept not well defined by the task force. Nevertheless, ARS recognizes that relative size is one factor among others that enters into program decisionmaking. During the period 1979 to 1995, ARS closed 40 locations, mostly those with small staffs. There are few small locations left in ARS that do not have a strong program or legislative reason for being maintained.

Through the ongoing annual budget process, ARS continually evaluates the need to make program changes or consolidations.

- The Department of Agriculture should request funds to facilitate the consolidation of laboratories, to the extent possible and practical, so that a broad spectrum of scientists representing multiple disciplines is present in any research laboratory.

ARS Response: The annual budget submission for ARS includes proposals to strengthen priority programs and facilities. Multidisciplinary science is the goal of all such activities and national programs.

- The Department of Agriculture's research agencies should explore the potential of contracting with privately owned facilities to conduct government supported research by Department scientists.

ARS Response: Many ARS laboratories and programs are housed in cooperator or leased facilities. GSA is the federal agency that locates leased facilities from private sources. ARS uses this mechanism and will continue to do so as the needs require on a case-by-case basis.

- The Department of Agriculture research agencies should report progress regarding this transition by July 1, 2000, and every 2 years thereafter until 2010.

ARS Response: The Department and the Congress are kept abreast of all program and facility changes on a real time and case-by-case basis. In most cases, advance approval and concurrence is required to consolidate and relocate programs and facilities.

8. To ensure a comprehensive research capacity, the intramural research system and its facilities should be involved in the development of future scientists by initiating new ties and strengthening existing ties to institutions of higher education.

- The Department of Agriculture research agencies should develop strategies and report to the Secretary of Agriculture by July 1, 2000, on progress to continue expansion of opportunities for students (graduate and undergraduate) to work in federal laboratories and interact with intramural scientists. Updates should be delivered every 2 years thereafter until 2010.

ARS Response: Student employment in ARS laboratories at the high school, undergraduate, and graduate level is a routine occurrence and at a high level. Additionally, ARS employs several hundred postdoctoral scientists every year on temporary appointments. Many of these student and postdoctoral programs have a minority outreach dimension and such student employment data are annually reported to the Department.

9. A comprehensive research capacity must include stakeholder participation and input.

- The Department of Agriculture research agencies should keep abreast of the private-sector research agenda on a regular basis, adjust the federally supported and conducted programs as appropriate, and identify opportunities for collaboration in nonfederal facilities.

ARS Response: This is accomplished regularly through national program planning activities, which include private sector research performers and stakeholders to identify priorities for ARS research. Other mechanisms are scientific conferences, symposia, and the literature. CRADAs and other research partnerships with the private sector are also regularly employed by ARS to keep abreast of private sector programs, capabilities, and needs. Visits to private sector offices and laboratories are yet another mechanism. Information on activities under way and research needs factor into ARS strategic planning and program implementation on an ongoing basis.

- Private-sector representation, including diverse public interest nonprofit organizations concerned with agriculture and forestry research and education, should be involved in making decisions related to the intramural and extramural agenda.

ARS Response: ARS involves stakeholders of all types in program planning and technology transfer. This is routine business. It is ongoing and will be continued, and further enhanced at every opportunity.

- The Department of Agriculture research agencies should annually report progress regarding stakeholder involvement to the Secretary of Agriculture beginning July 1, 2000, and continuing beyond 2010.

ARS Response: This is periodically done in several ways, including annual GPRA reports to the Department and communications to the National Agricultural Research, Extension, Education, and Economics Advisory Board.

10. Some level of research replication is important to confirm results. Multiple research efforts using different approaches to explore the same research topic should not be interpreted as duplication. However, duplication beyond these boundaries is mostly wasteful and should be eliminated.

- The Department of Agriculture research agencies should cooperate with CSREES to review all Current Research Information System projects for evidence of unnecessary duplication with the broader research community (universities, private sector, etc.).

ARS Response: Both ARS and CSREES are developing new project peer review systems in response to title 1 of the Agricultural Research, Extension, and Education Reform Act of 1998. The review process will be trackable and visible and involve peers within and outside the agencies, including private sector scientists.

- The Department of Agriculture research agencies should develop a systematic integration of research priorities with well-defined leadership responsibilities.

ARS Response: Integration of research priorities takes place at the Research, Education and Economics mission area level and in numerous joint planning activities among agencies for specific programs.

- The National Agricultural Research, Extension, Education, and Economics Advisory Board, in cooperation with the Research, Education and Economics Mission Area of the Department of Agriculture, should convene a research agenda conference every 2 years at which intramural, extramural, international laboratories, and the private sector explore research needs, voids, and priorities and mutually decide who will provide leadership of major priorities.

ARS Response: This is a recommendation to the National Agricultural Research, Extension, Education, and Economics Advisory Board.

- The Department of Agriculture research agencies should report progress in achieving this principle to the Secretary of Agriculture every 2 years beginning July 1, 2000, and continuing beyond 2010.

ARS Response: The Department and the Congress are kept informed of complementary research efforts by agencies.

11. When a research agency anticipates a major renovation of a current facility, Congress should require that agency to examine the potential sale of the land base and to build a new state-of-the-art facility in a less costly location or combine the current laboratory with another facility.

- Current congressional report language restricts the ability of some federal research to move resources between locations. This restriction should be eliminated.

ARS Response: This is a recommendation to the Congress

- Congress should enact legislation allowing fiscal resources from the sale of disposable property to be returned to the agency of record in the sale for reinvestment in improved replacement facilities of program enhancement.

ARS Response: This is a recommendation to the Congress

- The Department of Agriculture research agencies should review all current laboratory locations, where facilities update is necessary, for possible sale of the land base and relocation of the laboratories assuming the current policy is changed.

ARS Response: In past ARS facility closure or consolidation proposals, the sale of land has not been a factor and thus has not served either as an incentive or disincentive. Consolidations, when appropriate, are driven by program and facility use efficiency. Of the federal land available to ARS, 63 percent is designated “public lands,” which precludes its sale without congressional approval. The remaining 37 percent is subject to current law that requires proceeds from the sale of federal land to go to the U.S. Treasury.

- The Agricultural Research Service leadership should begin the review of research programs currently conducted in Beltsville and develop a plan for these

laboratories in light of land value, urban encroachment, and environmental impact.

ARS Response: The Secretary and ARS have no plans to consider this recommendation. Existing federal and state legislation restricts the Beltsville land use to agricultural purposes.

12. Bio-containment facilities for conducting research with high-risk, exotic (foreign), and invasive animal and plant pathogens and pests are imperative to the safety of workers and for protecting the environment and productivity of domestic populations.

- The Agricultural Research Service, in cooperation with the Animal and Plant Health Inspection Service, must immediately develop and implement plans for state-of-the-art animal health research veterinary services and bio-containment facilities. The plans should be reviewed with cooperators and stakeholders to reflect their interest and input.

ARS Response: This has been done. A joint master plan for the modernization, consolidation, and some demolition of current animal health facilities at Ames, Iowa has been developed as a consequence of a 3-year planning activity. The fiscal year budget proposal for ARS includes an initial increment of funding for this project. The master plan has been shared with Department officials, animal health/industry stakeholders, and members and staff of Congress.

- The Agricultural Research Service must consider upgrading current Level 2 and Level 3 bio-containment units for animals and constructing a Level 4 unit.

ARS Response: Actions to address this recommendation are under way.

- The Agricultural Research Service should quickly resolve the need for maintaining its primary foreign animal health research unit on an island off the mainland and, if needed, utilize it more fully with other high-security research and development programs.

ARS Response: ARS is required by law to conduct foot-and-mouth disease research at an offshore location. The law would have to be changed by the Congress to move this research from an offshore location to the mainland.

- Federal animal bio-containment facilities, to the extent possible, should be consolidated into one or two sites.

ARS Response: Resources and legislative authorities permitting, ARS is receptive to some consolidation. ARS does not support the one-site concept, but two or three sites are programmatically feasible for bio-containment level 3 facilities.

- The Task Force strongly recommends that the Agricultural Research Service maintain and/or construct state-of-the-art bio-containment facilities for research on plant pathogens.

ARS Response: This research is currently done at the ARS laboratory located with Fort Detrick in Frederick, Maryland. The facilities in cooperation with the U.S. Army are being upgraded to meet state-of-the-art safety and program requirements

- The Department of Agriculture research agencies will present annual reports to the Secretary of Agriculture and Congress regarding this principle beginning July 1, 2000, and continuing beyond 2010.

ARS Response: The Department and the Congress are routinely kept informed of ARS plans and proposals for animal and plant health research facilities.

Group 3. Networking in Federal Research Facilities

13. State-of-the-art communications and information technology allow the creation of virtual facilities for the research system.

- The Department of Agriculture's research agencies should consider the creation of additional virtual linkages dedicated to addressing critical issues.

ARS Response: ARS supports and subscribes to the concept of virtual programs linked together by telecommunications and other coordination/communication mechanisms. These linkages already exist and are continuously enhanced as opportunities and new technologies permit. Much of this is achieved by individual scientists' initiatives. ARS National Programs implement the virtual concept on a national geographic basis for given program areas.

- Research agencies should establish a plan to address this principle by July 1, 2000, and review it every 2 years thereafter.

ARS Response: Implementation of virtual programs and linkages is under way.

14. The abundance of world-class international research and development laboratories requires that federal research scientists collaborate with laboratories and scientists from other countries regarding major issues of common interest and that research results be translated at federal facilities, such as the National Agriculture Library, for adaptation in the United States.

- The Department of Agriculture research agencies should budget significant resources to allow intramural scientists to conduct information exchanges, cooperative research projects, and visits to international research laboratories.

ARS Response: ARS supports these types of international activities on a regular basis.

- Intramural and extramural research and education programs must continually review international research results and implement technology transfer efforts in a timely manner.

ARS Response: Through its many cooperative research activities with scientists in foreign countries and international research institutions, ARS maintains a broad awareness of research results and technology transfer opportunities of mutual interest to the United States and partner countries.

- The Department of Agriculture research agencies should report progress regarding this principle by July 1, 2000, and every 2 years thereafter until 2010.

ARS Response: The Department and the Congress will be kept informed on the progress of the international cooperative research efforts.

Task Force’s Laboratory-Specific Recommendations and the Agriculture Research Service’s Comments

The tables in this enclosure provide the task force recommendations for specific ARS laboratories and ARS’ response to those recommendations provided in interviews and documents. Tables II.1 and II.2 provide information on locations reviewed because of their scores from (1) a self-assessment survey completed at each ARS laboratory and (2) an administrative review by ARS headquarters staff. Scores relate to, among other things, appropriateness of mission, productivity, and the effectiveness of collaboration efforts. Facilities in table II.1 were visited by task force members or a USDA review team. Facilities in table II.2 did not have an on-site review because of the task force’s limited resources. Facilities in table II.3 were reviewed at the request of the Office of the Secretary. Task force officials told us that no recommendations were made for some laboratories because efforts were already under way to renovate, relocate, or consolidate facilities.

Table II.1: Locations With Low Administrative Review Scores Visited by the Task Force and/or an On-site Review Team

	Task force recommendations							ARS’ comments
	Close	Consolidate	Consider consolidation	Renovate/upgrade	Further review	Continue research efforts	No recommendation	
Phoenix, AZ—Western Cotton Research Unit							X	ARS is developing plans for a new facility in Maricopa, AZ; Congress has authorized the planning and design of a new facility but has not appropriated construction funds.
San Francisco, CA—Western Human Nutrition Research Center							X	Leased facility in San Francisco is being torn down. Congress has appropriated funds to construct a new facility. The research center will be collocated with the University of California at Davis.
Miami, FL—Subtropical Horticulture Research Unit							X	ARS tried to close this facility 5 or 6 years ago; community groups lobbied to keep it open. It is now scheduled for renovation. Funds allocated for hurricane repairs will be used to upgrade these facilities.
Ames, IA—National Animal Disease Laboratory				X*				ARS and the Animal and Plant Health Inspection Service have made joint renovation plans and requested funding in the 2001 budget.

* The task force encourages ARS and the Animal and Plant Health Inspection Service to continue collaborative planning for renovation or construction of integrated facilities in Ames, IA.

	Task force recommendations							ARS' comments
	Close	Consolidate	Consider consolidation	Renovate/ upgrade	Further review	Continue research efforts	No recommendation	
Beltsville, MD—Biosystematics and Natural Parasite Collection				X				Task force recommendations for specific units within Beltsville were not useful because reorganizing these labs would require a program review, not a facilities review. A comprehensive facilities modernization program is under way.
Beltsville, MD—Immunology and Disease Resistance Lab				X				
Beltsville, MD—Growth Biology Lab							X	
Beltsville, MD—Parasite Biology and Epidemiology Lab			X					
Beltsville, MD—Nutrient Conservation and Metabolism Lab			X					
Beltsville, MD—Climate Stress Lab							X	
Beltsville, MD Complex ^b					X			Beltsville is ARS' flagship research facility. There are legislative limitations on the land use at Beltsville and the agency has no plans to consider this recommendation.
East Lansing, MI—Avian Disease and Oncology Research Lab		X						This facility needs renovation, and ARS is considering the task force recommendation that it should be relocated or consolidated with another animal health facility
Mississippi State, MS—Biological Control and Mass Rearing Research Unit							X	Because this is a leased facility, ARS cannot renovate it. ARS is planning to consolidate it with other laboratories in Stoneville, MS. Congress has appropriated resources to design a new facility and construction funding was pending at time of the task force report.
Mississippi State, MS—Poultry Research				X				This work could also be consolidated with another animal health facility, but the laboratory needs renovation if it remains at Mississippi State.
Las Cruces, NM—Range Management Lab						X		Laboratory is in temporary buildings at New Mexico State University; Congress has appropriated funds to build new facilities there.
College Station, TX—Cotton Pathology Research Lab						X		ARS agrees with the task force recommendation.

^b This did not receive a low administrative score but was included with the task force's broader programmatic recommendations. The task force recommended that ARS leadership begin the review of research programs currently conducted in Beltsville, MD, and develop a plan for these laboratories in light of land value, urban encroachment, and environmental impact.

Table II.2: Locations With Low Administrative Review Scores That Were Not Visited by the Task Force and/or an On-site Review Team

	Task force recommendations						ARS' comments
	Close	Consolidate	Consider consolidation	Renovate/upgrade	Further review	No recommendation	
Booneville, AR—Dale Bumpers Small Farms Research Center					X		ARS agrees with the need for further program review.
Tifton, GA—Forage and Turf Research Laboratory					X		ARS agrees with the need for an organizational, not facility, review.
Hilo, HI—Tropical Fruit, Vegetable and Ornamental Crop Research Unit						X	Congress has appropriated money to design a new research center, which will consolidate all of ARS' Hawaiian facilities.
Urbana, IL—Photosynthesis Research Unit					X		Congress has funded design work for a new greenhouse. This research involves fundamental science that is not required to be done at this site.
Weslaco, TX—Beneficial Insects Research Unit						X	Renovation needs are part of a master plan for this location to be completed in the next 5 years. \$10 million has been spent on renovation; \$14 million is needed to complete renovation.
Weslaco, TX—Integrated Farming and Natural Resources Research Unit						X	

Table II.3: Locations Reviewed at the Request of the Office of the Secretary of Agriculture

	Task force recommendations							ARS' comments
	Close	Consolidate	Consider consolidation	Renovate/ upgrade	Further review	Continue research efforts	No recommendation	
Brawley, CA (work site)	X							ARS agrees with the task force and would like to close this site. The deed for the facility has been transferred to the county. There are 5 ARS personnel here, none of whom are scientists.
Byron, GA—Fruit and Nut Research Lab		X						ARS agrees that facility is underused and other work should be consolidated here.
Orono, ME (work site)	X							This location had been recommended for closure by the agency in the past. Since then, the research at this site has been strengthened and deficiencies have been corrected.
Mandan, ND—Northern Great Plains Research Laboratory			X					This location had been recommended for closure by the agency in the past. Since then, the research at this site has been strengthened and deficiencies have been corrected.
El Reno, OK—Grazing Lands Research Laboratory						X		ARS agrees with the task force that this laboratory should remain here.
Prosser, WA—Irrigated Agriculture Research Laboratory							X	This location had been recommended for closure by the agency in the past. Since then, the research at this site has been strengthened and deficiencies have been corrected.

	Task force recommendations							ARS' comments
	Close	Consolidate	Consider consolidation	Renovate/upgrade	Further review	Continue research efforts	No recommendation	
Bio-containment Facilities:^a <ul style="list-style-type: none"> • National Animal Disease Lab, Ames, IA • Plum Island Animal Disease Center, Orient Point, NY • Southeast Poultry Research Lab, Athens, GA • Arthropod-Borne Animal Disease Research Lab, Laramie WY 		X		X				<p>By law, research on foot-and-mouth disease research can only be done at an offshore facility, such as Plum Island, Orient Point, NY.</p> <p>Economic analysis is needed before consolidating or moving the Laramie, WY laboratory, since the research done here is on insect-borne diseases and is incompatible with other animal health research facilities. It likely would be more cost-effective to keep the lab at this site.</p>
Regional Utilization Laboratories: <ul style="list-style-type: none"> • Western Regional Research Center, Albany, CA • National Center for Agriculture Utilization Research, Peoria, IL • Southern Regional Research Center, New Orleans, LA • Eastern Regional Research Center, Wyndmoor, PA 			X					<p>Consolidation would not be cost effective. Constructing a single facility would be expensive, and ARS has finished modernizing two-thirds of the existing facilities. Furthermore, the laboratories are programmatically unique, with different focuses and clients.</p>
Cotton Ginning Laboratories: <ul style="list-style-type: none"> • Stoneville, MS • Las Cruces, NM • Lubbock, TX 			X					<p>ARS is not considering consolidation for these labs. Each facility does research on the type of cotton grown in that region.</p>
Small Grain Quality Laboratories: <ul style="list-style-type: none"> • Wooster, OH • Manhattan, KS • Fargo, ND • Pullman, WA • Madison, WI 		X						<p>ARS thinks consolidation would be cost effective. However, industry pressures are a hindrance to consolidation.</p>

^a Recommendations were made for the bio-containment laboratories as a group. Specifically, the task force recommended that ARS (1) immediately develop plans for animal health research facilities and bio-containment facilities, in cooperation with USDA's Animal and Plant Health Service; (2) maintain and/or construct state-of-the art bio-containment facilities; (3) consider upgrading the current level of bio-containment; (4) consolidate bio-containment facilities at one or two sites; and (5) resolve the need to maintain facilities offshore.

	Task force recommendations							ARS' comments
	Close	Consolidate	Consider consolidation	Renovate/upgrade	Further review	Continue research efforts	No recommendation	
Apiary Research Laboratories: <ul style="list-style-type: none"> • Hayden Bee Research Center, Tucson, AZ • Honey Bee Breeding, Genetics, and Physiology Research, Baton Rouge, LA • Bee Research Lab, Beltsville, MD • Honey Bee Research Lab, Weslaco, TX • Pollinating Insect-Biology, Management, Systematics Research, Logan, UT 		X					X	ARS agrees that the first 4 labs on this list could be co-located at the Weslaco, TX lab.

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