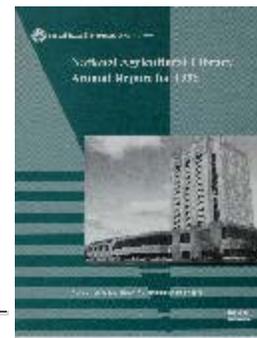


National Agricultural Library Annual Report for 1995

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National Agricultural Library
Beltsville, Maryland 1996



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Director's Message

This has been another stimulating and productive year for the National Agricultural Library. Our year was again full of accomplishments. Perhaps most important of these for me was a new management team I put in place. NAL now has a new deputy director and three new associate directors.

Keith Russell, formerly NAL's associate director for public services, became my deputy director, the first to fill this new NAL position. Keith continues his strong support for library programs in his new role.

Gary McCone, who provided excellent support when I was NAL's associate director for automation, moved up to fill that position. Maria Pisa is NAL's new associate director for public services, rising from her position as our associate director for policy and planning.

Finally, but by no means least, I was happy to welcome Sally Sinn as our new associate director for technical services. Sally joins us from our national library sibling, the National Library of Medicine.

With these four people, I have in place a highly skilled and dynamic team of proven professionals that is more than able to lead the energetic NAL staff into the future. With such leadership, I look forward to many accomplishments in the next few years.

I also want to take this opportunity to express my pride in the results of NAL customer surveys we conducted in 1995. The vast majority of our customers, as high as 93 percent, rated NAL favorably. This is a credit to the entire NAL staff. In fact, our customers were most impressed with the "knowledgeable staff," the "professionalism" and "courtesy" of the staff, and the "accuracy and quality of [NAL] materials."

We conducted the surveys to determine which areas of NAL operations our customers thought needed improving and to help us plan for the future. The survey results were a most pleasant surprise. We aren't perfect, however, and we are taking action to provide better service in the few areas our customers felt could be improved.

I am most pleased with the activities of NAL in 1995, and I look forward, with enthusiasm, to 1996 and beyond. I am confident that NAL and its capable staff can meet all of the challenges that will come our way and that we will continue to be a leader in providing top-quality information service to the agricultural communities of the United States and the world.

Pamela Q.J. André
Beltsville, Maryland

NAL Overview

The National Agricultural Library (NAL), one of four national libraries of the United States, is the largest agricultural library in the world. Established in 1862 under legislation signed by President Abraham Lincoln, today it is part of the Agricultural Research Service (ARS) of the U.S. Department of Agriculture (USDA).

Housing over 2.2 million volumes, the NAL collection includes books and journals, audiovisuals, reports, theses, software, and laser discs. The library also receives nearly 22,000 periodicals annually. In 1995, NAL had a budget of \$18,307,000.

The NAL director is supported by a deputy director and associate directors for automation, public services, and technical services. The staff numbers about 200 and includes librarians, computer specialists, administrators, information specialists, and clerical personnel. A number of volunteers, from college students to retirees, work on various programs at the library. NAL also has an active visiting scholar program, which allows scientists, researchers, professors, and students from universities worldwide to work full time at NAL on projects of mutual interest.

In addition to being a national library, NAL is the departmental library for USDA, serving thousands of USDA employees around the world. It is a keystone of USDA's scientific and research activities, providing current information to departmental scientists.

As the nation's primary resource and service for agricultural information, NAL's mission is to increase the availability of current and accurate agricultural information for researchers, educators, policy makers, farmers, consumers, and the public at large. NAL also serves a growing international clientele.

The library is the coordinator and primary resource for a nationwide network of state land-grant university libraries and USDA field libraries. NAL and these libraries provide a document delivery service for interlibrary loan of agricultural materials.

NAL and land-grant university libraries also work together to improve access to and maintenance of the nation's agricultural knowledge. This is being done more and more frequently through electronic technology--computers, CD-ROMs, electronic networks. NAL staff develop systems using much of this technology.

AGRICOLA (AGRICultural OnLine Access) is NAL's bibliographic database, which provides access to the NAL collection. AGRICOLA contains more than 3 million citations of agricultural literature and is commercially available on-line and on compact discs.

The library maintains specialized information centers in 10 areas of particular interest to the agricultural community. These centers provide a range of services, from responding to reference requests and producing reference publications to coordinating outreach activities and setting up dissemination networks. Subjects covered by the information centers are agricultural trade and marketing, alternative farming systems, animal welfare, aquaculture, biotechnology, food and nutrition, plant genome, rural information (including rural health), technology transfer, and water quality.

General

NAL Merges with ARS

NAL merged into USDA's Agricultural Research Service (ARS) as part of a departmental reorganization approved by Congress and signed by the President in October 1994. The reorganization took effect on December 1, 1994. With the merger, NAL remains a national library, but it now reports to the ARS administrator rather than to the under secretary for research, education, and economics.

In the spring of 1995, three task forces were named to facilitate the transition by exploring overlaps between NAL and ARS activities relating to libraries and databases. The ARS Library Services 2000 Task Force reviewed cooperative programs between NAL, five ARS regional research libraries, and a dozen ARS field libraries. The task force developed plans for integrating library services in ARS by the year 2000 in order to improve access to information for ARS administrators, researchers, and staff.

The TEKTRAN Task Force investigated methods and opportunities for providing Internet access to the TEKTRAN (Technology Transfer Automated Retrieval System) database. Managed by the ARS National Program Staff, TEKTRAN contains summaries and technical abstracts of articles submitted by scientists to journals. The task force recommended that the ARS National Program Staff continue to manage TEKTRAN but with NAL staff providing public access on NAL computer systems.

Finally, the Genetics Databases Task Force evaluated improvements that could be realized if various ARS databases containing genetics data are integrated.

Work Continues with Black Colleges and Universities

NAL continued to work with black colleges and universities funded under USDA's Capacity Building Grants Program. The program is a USDA initiative that advances the teaching and research capacity of 1890 land-grant institutions and Tuskegee University. The five projects funded in 1995 bring to 16 the total of teaching and research projects on which NAL has collaborated since the program began in 1990.

The new projects are--

- "Increasing Student Retention Through Technologically Advanced Instructional Delivery and Library Enhancements," Alcorn State University.
- "Agriscience and Technology Teaching Laboratory," Fort Valley State College.
- "Library and Multimedia Resources in Support of an International Trade Program," North Carolina A & T State University.
- "A Centralized Research Support System for Asimina Germplasm and Information" Kentucky State University.
- "Multimedia (Instructional Resource) Center for Interactive Learning in Food and Agricultural Sciences," Tuskegee University.

National Exhibits Highlight Special Collections

Throughout the year, NAL's Special Collections Section prepared public exhibits on a variety of agricultural topics. An exhibit titled "Contributions of Swiss Italian Immigrants to U.S. Agriculture," which had been displayed in the Embassy of Switzerland, in Washington, DC, was showcased in the NAL lobby for several months. Another exhibit, "Stewards of the Land," was displayed at the Grey Towers National Monument in Pennsylvania and in the USDA building in Washington, DC.

The most extensive exhibit developed by the Special Collections Section was undertaken in conjunction with

the Associates of the National Agricultural Library, a private "friends of the library" group. The exhibit, "Agriculture of the Americas, Images Past and Present," was displayed at the Organization of American States, in Washington, DC, to commemorate cooperation between USDA and the Inter-American Institute for Cooperation on Agriculture.

NAL's collection of memorabilia and scientific documents of entomologist Charles Valentine Riley received exposure at centennial celebrations of the University of Missouri's entomological department.

NAL Honored for 100 Years as Depository Library

On October 25, 1995, NAL was presented with a plaque from the Public Printer of the United States recognizing its 100 years of participation in the Federal Depository Library Program. As part of the Federal Depository Library Program, NAL is a primary source of published information from the federal government.

Vice President and Mrs. Gore Visit - RICHS Exhibit

NAL's Rural Information Center Health Service (RICHS) was one of about 20 organizations invited to exhibit at the Information and Technology Fair of the Substance Abuse and Mental Health Services Administration conference, in Washington, DC, in September 1995. Tipper Gore, wife of Vice President Al Gore, chaired the conference, which focused on "Building Quality State-Managed Mental Health and Substance Abuse Systems." RICHS staff gave demonstrations of the health files available on the Internet and ALF (the library's electronic bulletin board), and welcomed Vice President and Mrs. Gore to the RICHS booth.

Electronic Resources

World Wide Web Site Debuts

In January 1995, NAL assembled a World Wide Web Home Page Committee to establish NAL's presence on the Web. By April, the library had launched its Web server and provided another gateway (in addition to NAL's Gopher) for electronic access to the library's many resources and services. The Internet address is .

Some features of NAL's Web site include:

Access to information from the library's 10 information centers

- access to images such as botanical prints, plant pests and diseases, and forest insects
- on-line availability of NAL publications and other resources
- links to numerous Web servers, including other USDA sites
- links to agricultural items authored outside NAL.

NAL also established a web management team that will continue developing the site, create policies and guidelines for document management, assist with staff training, and handle other issues.

Electronic Policy Document Developed

At the request of the interagency Biotechnology Research Subcommittee of the President's National Science and Technology Council, NAL's

Biotechnology Information Center developed an electronic version of an important biotechnology policy document for the federal government. Entitled *Biotechnology for the 21st Century--New Horizons*, the interagency report was released in October 1995 and outlines future biotechnology research opportunities. The document is accessible over the World Wide Web and, with 17 images and over 120 pages of text, is the largest electronic document project to date of the Biotechnology Information Center.

School Meals System Established

NAL's Food and Nutrition Information Center (FNIC) is establishing a Healthy School Meals Resource System that will serve the nation's 92,000 schools by way of the Internet. FNIC will develop a tutorial on the system as well and is evaluating software for use in nutrient analysis of school meals.

As part of a cooperative agreement, NAL and USDA's Food and Consumer Service are reviewing training materials and putting them in a database available on the Internet and through other access points.

Electronic access points to the Healthy School Meals Resource System include a Gopher site and the World Wide Web. Additionally, a discussion group, called Mealtalk, gives users a forum for sharing ideas on healthy school meals.

Water Resources Available on Web

NAL's Water Quality Information Center (WQIC) established a World Wide Web site that provides a means to locate and view materials on water resources and agriculture. Information available includes a monthly list of calls for papers, listings of related meetings and satellite conferences (typically containing 80-90 entries) 6-bibliographies, a listing of related Internet discussion groups, and an annotated guide to information available on the Internet.

Working with the University of Maryland, WQIC also made water quality information from the national dairy database available on the World Wide Web. WQIC staff edited documents from the database, inserted graphics, and constructed an easy-to-use interface.

Electronic Resources Selection Council Formed

NAL established an Electronic Resources Selection Council (ERSC) to identify Internet resources for cataloging as part of the Internet cataloging project of the Online Computer Library Center, Inc. (OCLC). This pilot project involves 200 libraries in the United States and the rest of the world. ERSC is also drafting NAL's collection development policy for these materials. ERSC is connected to NAL's acquisitions and serials home page, which lists recent selections that are linked to resources. The result of this project will be rapid access to a large body of remote resources in the catalog of Internet resources at the Web site of the Online Computer Library Center.

Wetlands Materials Available Electronically

NAL's Water Quality Information Center (WQIC) collaborated with the Natural Resources Conservation Service in producing an electronic bibliography covering the use of constructed wetlands to improve water quality. The bibliography is available via Gopher and World Wide Web and contains more than 600 citations, many of which are annotated.

WQIC developed an on-line guide to *Bibliographic Databases for Water Quality and Related Subjects*. Available on the Web, the guide lists, describes, and provides hypertext links to bibliographic databases covering water resources.

NAL an Access Point for USDA Dietary Publications

NAL's Food and Nutrition Information Center (FNIC) provided the only electronic access point for USDA's *Dietary Guidelines for Americans* via the FNIC World Wide Web site. Center staff also provided Internet access for ARS's Nutrient Data Laboratory, the Survey Systems Food Consumption Laboratories, and nutrition research reports.

FNIC also worked with the Center for Nutrition Policy and Promotion to make the *Dietary Guidelines Advisory Committee Report* available via the Internet and NAL's electronic bulletin board ALF. In response to requests from the Centers for Disease Control and Prevention, FNIC made the materials available in ASCII format so that public health departments throughout the United States could use the information.

Mississippi Delta Project Assisted

The Food and Nutrition Information Center (FNIC) managed information generated by ARS's Lower Mississippi Delta Nutrition Intervention Research Project. FNIC staff provided an electronic mailing group for the exchange of information among project participants and developed an electronic site where project participants could view draft reports.

Animal Welfare Web Site Set Up

A cooperative agreement with Washington University in St. Louis led to the development of a World Wide Web site for NAL's Animal Welfare Information Center at the university. The Web site averages about 100 "hits" per week.

Internet Discussion Group on Rural Health Established

NAL's Rural Information Center (RIC) collaborated with Marshall University School of Medicine in Huntington, WV, to create an Internet discussion list. The private list, called NOSORH--L, serves the National Organization of State Offices of Rural Health and enables the group to share insights on rural health issues. RIC serves as the moderator for the group.

Aquaculture Guide Put on Internet

The *Resource Guide to Aquaculture Information*, a publication produced through the Aquaculture Information and Technology Transfer Task Force under the federal Joint Subcommittee on Aquaculture, was put on the Internet by NAL's Aquaculture Information Center (AIC). AIC made this resource available on two systems on the Internet--AquaNIC at Purdue University and "Fishnet" through Compuserv. In addition, AIC is uploading all new publications to the NAL electronic bulletin board ALF, the NAL Gopher, and AquaNIC.

AIC was a distribution point for the publication *Guide to Drug, Vaccine and Pesticide Use in Aquaculture*. The publication was produced jointly by federal agencies and aquaculture industry organizations. AIC

distributed over 4,500 copies in 6 months.

Federal Information Available Electronically

Electronic access to federal government publications and information became available at no charge at NAL. As a member of the Federal Depository Library Program, NAL added to its collection of agricultural materials subscriptions to GPO Access, the Federal Bulletin Board, and STAT-USA- all services of the Government Printing Office (GPO).

GPO Access offers computer access to the full text and graphics of

- the *Federal Register* (1994 to the present)
- the *Congressional Record* (1994 to the present)
- the Congressional Bills database (103rd Congress to the present)
- the General Accounting Office reports (known as "the blue books").

The Federal Bulletin Board gives the public electronic access to a large number of publications from all branches of the U.S. Government.

STAT-USA is a U.S. Department of Commerce database of business and economic information from over 50 federal agencies.

Genome Database Expands

The Agricultural Genome Information System (AGIS), formerly called the Plant Genome Database, was expanded by NAL's Genome Informatics Group. Now included are cow, pig, sheep, and poultry genome information, as well as *Online Mendelian Inheritance in Animals*, a reference database on animal genetic research. The plant genome area of AGIS was expanded to include information on alfalfa, *Chlamydomonas*, cotton, sorghum, beans, and plant gene nomenclature. Major updates were released for maize, wheat, barley, oats, rye, *Arabidopsis*, rice, tomatoes, peppers, potatoes, soybeans, and forest trees.

Another change to the database was the addition of databases on ethno-botanical plant uses, Native American food and medicinal plants, phytochemicals, Wheat International Nursery data, and soybean germplasm. Links were also made to a number of sequence, metabolism, germplasm, and reference databases.

New software was developed to provide curators with tools to enhance databases. The software includes a program to find AGRICOLA numbers and GRIN (Germplasm Resources Information Network) accession identifiers by taxonomy and to retrieve DNA sequences based on genus. Another new tool is a method to search the World Wide Web for information based on taxon and a tool for adding captions to images.

The newsletter section of AGIS was expanded to include the *Barley Genetics Newsletter*, the *Report of the Tomato Genetics Cooperative*, the *Poultry Genome Newsletter*, the *Pig Genome Update*, *Weeds World* (the newsletter of the *Arabidopsis* genome community), the home page of the *Curcubit Genetics Cooperative* (including newsletters), the *Rice Genetics Newsletter*, and the *National Animal Genome Research Program Newsletter*.

The peer-reviewed electronic journal, *The Journal of Quantitative Trait Loci*, was made available through AGIS. And, the abstracts from the Plant Genome III conference were put on-line, and a method was developed to electronically submit abstracts for the Plant Genome IV conference.

Improvements Continue to Internet Biotech Site

Since its inception in 1993, NAL's Biotechnology Information Center (BIC) has developed one of the most comprehensive and widely recognized Internet sites for biotechnology information. The site offers a global audience access to an extensive collection of biotechnology documents. The past year saw the development of the BIC World Wide Web home page, which gives patrons around the world access to nearly 10,000 biotechnology documents each month. Usage and the number of available documents are expanding regularly. The BIC Web site has been featured in scientific publications and is cross-referenced by other biotechnology Web sites.

Improving Services

Customers Rate NAL Favorably

The vast majority of NAL customers are either "satisfied" or "very satisfied" with the services and products of the library. These are the results of customer surveys undertaken by NAL in 1995. The surveys show that 93 percent of federal customers, 96 percent of nonfederal customers, and 80 percent of agricultural librarian customers are satisfied or very satisfied with NAL. Only 3 percent of customers responded negatively to any of the questions. Over 550 NAL customers completed the surveys. NAL was assisted by the 3M Company in developing the survey and tabulating the data.

NAL surveyed the three customer groups from March to April 1995 and achieved response rates of 42 percent, 22 percent, and 46 percent, respectively. The largest responses came from educational institutions for the nonfederal survey and the agricultural librarian/information specialist survey and from USDA employees.

NAL used the concerns expressed by customers to develop customer service standards. The standards state what customers can expect in areas such as turnaround time for information services, delivery methods, facilities, and information products. The standards will be measured during 1996 and reported to the National Performance Review.

NAL's customer service was recognized as a benchmark when the DuPont Company chose the NAL information centers program as an example of the "best in the business" in providing, gathering, managing, analyzing, and disseminating information. DuPont selected the NAL information centers because of their success in providing specialized information to diverse clientele. NAL was the only public sector organization selected in DuPont's study.

Commitment Continues to Electronic Library Goal

In January 1995, electronic information became the preferred medium for library materials in an all-out push by NAL to make its services and collection available in various electronic formats worldwide. NAL's goal is to become a library without walls, in which the collection can be accessed by computer by anyone, anywhere, and anytime. NAL made this commitment because of its belief that the current paper-based information delivery system is inadequate to keep pace with the needs of the modern agriculturalist.

The electronic library goal was highlighted in a report, "Electronic Information Initiative-Phase I," developed as part of a strategic plan to guide NAL operations into the next century.

Part of the initiative involved establishment of the Electronic Research Database Committee, which is

surveying nonbibliographic, agricultural, electronic research databases. The committee began developing a list of organizations that produce agriculture-related electronic research databases and identified over 250 research resources, including those in USDA. These included on-line, CD-ROM, tape, and many Internet databases.

An Electronic Media Collection Committee was also established. The committee recommended the purchase of electronic media and examined issues concerning access and use of electronic media. In 1996, the committee will identify new sources of electronic information and consider ways to convert NAL acquisitions from paper to digital formats. NAL currently provides access to 689 information sources in electronic form, including CD-ROMs, text files, databases, and Internet resources collections.

Retrospective Conversion Begins

NAL's Cataloging Branch awarded a 5-year contract to Library Systems and Services, Inc. (LSSI) for the retrospective conversion of 198,000 paper-based, monographic catalog records into machine-readable form. The objective is to increase the availability of the material described on these records by adding them to NAL's on-line catalog. LSSI has completed the first year of the contract, and 24,700 converted records have been loaded to ISIS-NAL's on-line public catalog-and distributed in the AGRICOLA database.

Document Delivery Improved

NAL's Document Delivery Services Branch established a Materials Access Section, which is responsible for providing loans and copies of agricultural materials to other libraries, information centers, commercial organizations, and USDA employees and for obtaining materials for USDA researchers not available from the NAL collection. The result is a streamlined process for document delivery using electronic and on-line methods. In many cases the new system has resulted in 6- to 24-hour response times rather than the 7-10 days needed to respond by mail. The electronic and on-line methods NAL uses include the ARIEL document delivery system, telefacsimile, the Internet, and commercial vendors who provide rapid document delivery.

Minnesota University Designated "Center of Excellence"

The library at the University of Minnesota, St. Paul, is the regional coordinating library for region 4 of NAL's Regional Document Delivery System. NAL designated the library as a center of excellence in recognition of the strength of its forestry collection. Since May 1995, Washington State University, the region 7 coordinating library, has referred requests for U.S. Forest Service materials to the St. Paul library instead of directly to NAL. The St. Paul library has been able to fill most of these. In late 1995, the library started accepting forestry requests from the rest of the Regional Document Delivery System.

In the future, NAL will expand this new approach to handling requests within the system as subject strengths in other cooperating libraries are identified.

ISIS Grows

In 1995, NAL implemented a circulation subsystem in ISIS (Integrated System for Information Services), its minicomputer-based library system. The subsystem was developed by the library's system vendor, VTLS, Inc. The circulation subsystem provides NAL with library circulation functions including checkouts, check-ins, renewals, holds and recalls, patron notification, monitoring, circulation reports, and a special

microcomputer-based circulation backup system.

NAL expanded access to ISIS through use of the Internet. Currently, all USDA employees and selected staff in the libraries of the land-grant universities and 1890 institutions have telnet access into ISIS. Worldwide access is expected in 1996.

ISIS contains over 477,000 indexing and 590,000 cataloging records and serves as an agricultural union catalog (a central catalog) of bibliographic citations for materials from NAL, the U.S. National Arboretum, and ARS regional research center libraries.

Rural Development and Nutrition Collections Acquired

The National Rural Electric Cooperative Association (NRECA) donated a substantial part of its collection to NAL in 1995 before moving its national headquarters to Arlington, VA. A welcome addition to NAL's collection, the titles deal with rural development, overseas activities of the Rural Electrification Administration (REA), the history of the REA and NRECA, results of consumer surveys, comparisons and oversight of loan programs, and histories of state electrification projects. Also included are documents from the House and Senate committees on agriculture and forestry. Nearly all of the titles were cataloged and added to NAL's on-line catalog by the end of the fiscal year.

NAL also acquired a collection of nutrition material, part of which is the work of A.O. Atwater and his colleagues. Atwater was a nutritionist who, during the early part of this century, identified many of the food values known today. The materials, which had been housed for many years at the Human Nutrition Research Center in Beltsville, MD, include books, bulletins, project reports, nutrition surveys, correspondence, and memoranda. NAL's Food and Nutrition Information Center worked closely with the International Life Sciences Institute to produce a CD-ROM from these materials. The disc, completed in 1995, will be distributed without charge to interested nutritionists and information providers.

Animal Welfare Workshops Gain in Popularity

In 1995, NAL continued the popular Animal Welfare Act workshops, with the Animal Welfare Information Center (AWIC) conducting four separate sessions. More than 260 people, including the first international participants, took part in the workshops at NAL. AWIC also conducted workshops at three private research facilities, two academic institutions, one government facility, and a professional association.

As a result of the workshops, the Department of Defense made changes to its animal-use protocol form to reflect the need to search the literature to comply with the Animal Welfare Act. The Food and Drug Administration changed its animal-use protocol forms after its representatives participated in a workshop.

Electronic Document Delivery Preferred

NAL now delivers documents electronically whenever possible, providing same-day access, worldwide, to library resources. Requests for photocopies of collection documents of less than 30 pages are filled using either the ARIEL document delivery system or telefacsimile at no additional charge to the requester. NAL sends documents longer than 30 pages via first class mail.

To receive materials by either of these methods, a requester needs only to include an ARIEL address or telefax number on a request. Developed by the Research Libraries Group, ARIEL is software that allows

articles, photos, and other documents to be transmitted electronically over the Internet to other ARIEL workstations.

Foodborne Illness Prevention Center Opened

Information about preventing foodborne illness became available from a new service at NAL. Part of the Food and Nutrition Information Center (FNIC), the new service, called the Foodborne Illness Education Information Center, assists educators, trainers, and organizations developing education and training materials for food workers and consumers.

A joint program of the USDA Food Safety and Inspection Service and the Food and Drug Administration, the center was established as part of a national campaign to reduce the risk of foodborne illness and to increase knowledge of safe food handling and preparation.

An additional service was provided this year with the development of the Hazard Analysis Critical Control Point database. This database tracks training materials of interest to industry trainers, health professionals, and educators. FNIC developed a special, nonlicensed, searchable database program to make the information on the database easier to use.

Plant Genome an NAL Focus

An NAL focus throughout the year was support of USDA's plant genome research program. NAL's Plant Genome Data and Information Center began training researchers in the use of a system of databases that allows scientists to locate, analyze, and store genetic mapping and associated plant genome data. The two-phase program provides training on accessing plant genome and molecular biology databases via e-mail servers and eventually will offer instruction on using the plant genome databases via Gopher and World Wide Web. Forty-four scientists took the phase I training in 1995.

NAL also increased coverage of plant genetics literature in AGRICOLA. Since the beginning of the USDA plant genome research program in 1990, AGRICOLA has accumulated over 25,000 citations related to molecular genetics. The share of genetics and breeding citations that have full abstracts increased from 20 percent in 1990 to over 50 percent in 1995. Over 5,000 citations in AGRICOLA are identified as containing molecular sequence data.

Technology

Services Available over the Internet

Access to NAL resources and staff became available worldwide over the Internet as NAL set up numerous e-mail addresses.

The addresses are:

<agref@nal.usda.gov>	for general reference services
<aic@nal.usda.gov>	for aquaculture information and assistance from the Aquaculture Information Center
<alf@nal.usda.gov>	for NAL's computer bulletin board ALF
<awic@nal.usda.gov>	for animal welfare information

<biotech@nal.usda.gov>	for biotechnology information
<circinfo@nal.usda.gov>	for information on the availability of specific titles and NAL lending policy
<dcrc@nal.usda.gov>	to communicate with NAL's branch at USDA headquarters in Washington, DC
<epu@nal.usda.gov>	to communicate with NAL's Education Programs Unit, which handles tours and demonstrations
<fnic@nal.usda.gov>	for food and nutrition information
<gopher@nal.usda.gov>	Gopher access to NAL
<lending@nal.usda.gov>	to submit interlibrary loan or document delivery requests
<nalafsic@nal.usda.gov>	for information on alternative farming systems
<nalrdds@nal.usda.gov>	for information on the Regional Document Delivery System, which provides document delivery and lending services to USDA employees
<paffs@nal.usda.gov>	for news media inquiries
<pgenome@nal.usda.gov>	for plant genome information
<ric@nal.usda.gov>	for rural development and rural health information
<speccoll@nal.usda.gov>	to communicate with the Special Collections Section, which handles rare books and collections of research materials of noted agriculturalists
<agref@nal.usda.gov>	for information on the transfer of new agricultural technology from the federal government to private enterprise
<wqic@nal.usda.gov>	for water quality information.

NAL Branches Establish Home Pages

Both the Indexing Branch and the Cataloging Branch loaded their home pages on the World Wide Web in 1995. The indexing site provides information on the types of publications indexed, on processing priorities, and on access to indexing records, and information on international partners. There are links to working tools and publications for database users. Some of these tools and publications can be viewed in their entirety.

The cataloging site provides information on the number and types of bibliographic records created, databases that offer access to these records, and national and international programs in which the branch participates. The home page also provides links to remote cataloging tools such as USMARC documentation, Library of Congress Weekly Subject Headings, tables, cataloging-related electronic serials, remote library catalogs, and other Web servers.

Text Digitizing Rolls On

The National Agricultural Text Digitizing Program (NATDP), shepherded by NAL and now in its eighth year, continued to produce and distribute CD-ROMs of important agricultural literature. With funds from the

American Society of Agronomy, the second *Agronomy Journal* CD-ROM (volumes 17-22) was mastered in November 1994. It was distributed to the land-grant and 1890 university libraries in February 1995. Material for the third *Agronomy Journal* disc, covering volumes 23-28, has been scanned and is expected to be mastered in 1996. A second food irradiation CD-ROM was completed and published in September 1995. This disc incorporates the largest database published by NATDP to date, containing over 11,000 images.

In April and May 1995, NATDP provided training to two librarians from the Egyptian National Agricultural

Library (ENAL) in all aspects of data capture, database design and building, and CD-ROM premastering. As a result of this effort, a CD-ROM entitled "Nicoll's Birds of Egypt" was produced in June 1995. It is the first disc with color images produced by NATDP (see related story "Aid to Egyptian Library Continues," page 16).

NAL also ordered a second scanning station and a digital camera for NATDP. Plans for 1996 include publication of the third *Agronomy Journal* disc, the first disc containing volumes of the *American Journal of Agricultural Economics*, and a third food irradiation CD-ROM. NAL may also begin planning the preservation scanning of USDA materials that are in poor condition.

SGML a Key to NAL's Future Activities

NAL established the Standard Generalized Markup Language (SGML) Initiative to coordinate and facilitate electronic publishing and archiving at the library. The project will encourage the use of international standards for coding digital text to create a "digital core" of information at NAL.

The SGML Initiative working group established a World Wide Web Authoring Lab for HyperText Markup Language (HTML), SGML and Portable Document File (PDF) document creation that is available to NAL employees who create documents for the Web. The lab consists of a scanning station, software for creating HTML, SGML, and PDF documents, and reference documents and books. A computer will be added to run software for creating SGML documents and a multimedia lab is being set up to explore the use of imaging and sound files.

AgNIC Takes Shape

NAL continues planning for an Agriculture Network Information Center (AgNIC), an electronic system that will provide access to agricultural information, subject experts, and other resources. NAL envisions that AgNIC will eventually involve agricultural organizations throughout the world. The AgNIC pilot project is currently limited to selected land-grant universities, research libraries, and professional societies.

NAL and USDA's Cooperative State Research, Education, and Extension Service hosted an AgNIC planning workshop in Washington, DC, early in 1995. Organizations attending included universities, private groups, federal agencies, and the Canadian Agricultural Library. In July 1995, NAL received funding from the General Services Administration to participate with the University of Arizona on AgNIC projects. These will be developed and conducted throughout 1996.

NAL has developed a prototype directory of primary agriculture-related resource databases (nonbibliographic), datasets, and information systems that can be viewed alphabetically or searched by keyword. The directory, known as AgDB, includes links to resources available over the Internet. A key component of AgNIC, the AgDB directory is a first step toward development of quality-reviewed resources. AgDB was made available for review by the AgNIC Steering Committee via the Internet. It will be made available through the AgNIC World Wide Web home page in 1996.

Electronic Thesaurus Available for AGRICOLA Indexers

CAB Thesaurus, the controlled vocabulary of indexing records in AGRICOLA, was made available electronically to AGRICOLA indexers in late 1995. The main reason for creating the file was the advantage of updating an electronic file with periodic amendment lists from the agricultural information company CAB International. NAL chose MultiTes, commercial thesaurus management software, to support the electronic thesaurus because of its compatibility with Windows and a LAN environment. NAL indexers can browse the

complete thesaurus of 60,000 descriptors and display the entire word block and hierarchy for each descriptor. Enhancements to the file, such as adding definitions and indexer notes, will give AGRICOLA indexers a better tool for subject analysis.

Indexing Training Refined

NAL's development of the Computer-Assisted Indexing Tutor (CAIT) has enabled the Indexing Branch to offer self-directed, elementary training in subject indexing. To further serve CAIT students, as well as experienced indexing staff, the branch put some of its printed indexing tools and reference materials into electronic form. The first of these, *AGRICOLA Subject Category Codes With Scope Notes*, was completed in 1995. The electronic version includes the full 170-page text and index and is fully searchable by textstring or code. Evaluations of the product indicate that, with minor alterations, the indexing staff prefer electronic AGRICOLA category codes over the printed publication.

NAL Teaches the Internet

NAL's D.C. Reference Center (DCRC), an NAL branch located in the USDA headquarters complex in Washington, DC, designed and presented a series of demonstrations on use of the Internet for USDA employees. Over 235 employees participated. Also, DCRC staff began to monitor electronic bulletin boards and library discussion groups on the Internet and attracted several outside groups and individuals who have since become NAL customers.

International

NAL and IICA Agree To Share Information

NAL and the Inter-American Institute for Cooperation on Agriculture (IICA) agreed to work together to enhance access to agricultural information in the United States and countries in Latin America and the Caribbean. This agreement is the basis of a memorandum of understanding signed by NAL and IICA in 1995. The memorandum of understanding furthers the objectives of the General Agreement for Technical Cooperation between USDA and IICA, signed in 1994, which calls for technical cooperation between IICA and USDA in agricultural development in Latin America and the Caribbean.

NAL Cooperates with Eastern and Central Europe

NAL continues to forge ties with agricultural libraries in Eastern and Central Europe. It has helped these libraries with gifts of books and journals, internships at NAL, assistance in writing grant proposals, and advice on setting up electronic information management systems.

NAL began cooperating with Eastern and Central European countries in 1991 when it arranged and sponsored a conference in Beltsville, MD. Representatives from six countries attended. Assisting NAL in this activity was the Associates of the National Agricultural Library (a private, nonprofit "friends of the library" group). Since then, conferences have been held annually at various sites, including Budapest, Hungary; Radzikow, Poland; Nitra, Slovakia; and most recently Prague, the Czech Republic. Countries participating in the conferences include Albania, Belarus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovenia, Slovakia, and the Ukraine.

Aid to Egyptian Library Continues

NAL continued to assist the government of Egypt in establishing an Egyptian National Agricultural Library (ENAL). NAL is training ENAL staff and has helped ENAL procure microcomputer workstations, a CD-ROM development system, and an integrated library system. NAL began working on this project in 1990.

A training program NAL conducted to teach Egyptian librarians about CD-ROM technology resulted in "Nicoll's Birds of Egypt" CD-ROM. The disc was produced by Egyptian librarians who spent 2 months at NAL.

NAL's Cataloging Branch created 125 serial cataloging records for a collection of microfiche titles purchased by NAL for ENAL. These records are part of a larger bibliographic database of monographs and serials purchased for ENAL with funds from the U.S. Agency for International Development.

Progress Continues on Agricultural Thesaurus

The Thesaurus Management Section of NAL's Indexing Branch completed the classification of the English version of AGROVOC, the thesaurus of the Food and Agriculture Organization (FAO) of the United Nations. This completion represented a milestone in the international effort to produce a Unified Agricultural Thesaurus (UAT). The UAT project was conceived in 1989 when the three major agricultural database producers-NAL, CAB International (CABI), and FAO-agreed to develop an automated, multilingual thesaurus system to give users enhanced access to multiple agricultural databases.

The project seeks to reconcile and unify the two major agricultural thesauri, AGROVOC and the CAB Thesaurus. A classification structure was developed to coordinate comparison of the two, since they exist only in alphabetical form with limited hierarchical structure.

In July 1995, members from NAL, CABI, and FAO met in Wallingford, the United Kingdom, to revise and update the 1993 version of the UAT classification structure. The revision was necessary since the classification of AGROVOC revealed some gaps and flaws. CABI, FAO, and NAL continue to classify and merge the approximately 30,000 subject descriptors in the CAB Thesaurus with the 8,000 subject descriptors from AGROVOC.

NAL Leads International Biotech Group

NAL's Biotechnology Information Center (BIC) has been leading the activities of a working group of the US-European Commission Task Force on Biotechnology Research, which focused on "Communicating Biotechnology to the Public." BIC has served as the focal point for improving information sharing between the United States and the European Commission on public attitudes and communication strategies for biotechnology. Meetings of the working group throughout the year resulted in a greater understanding of available resources and the beginnings of a mechanism to provide greater access to biotechnological material on both sides of the Atlantic.

Aquaculture Information Exchanged with Japan, Others

In 1995, NAL's Aquaculture Information Center completed its fifth year of participation in the publication exchange agreement of the United States/Japan Natural Resource Panel (UJNR). The center collected 129 aquaculture publications and received 135 publications in return. Publications were exchanged through the UJNR chair, representing the Department of Commerce, at the November 1994 meeting of the United States/Japan Natural Resources-Aquaculture Panel in Japan.

NAL Aids in World Food Day

For the first time, NAL's Water Quality Information Center (WQIC) led an effort to provide World Food Day materials over the Internet. The theme of World Food Day was "Water for Life" and USDA was the lead federal agency in this international celebration. WQIC staff also served on a World Food Day intergovernmental planning committee and the center was a downlink site for the World Food Day satellite teleconference on "Sharing Water: Farms, Cities and Ecosystems."

Animal Welfare Information Shared with New Zealand

NAL entered into an agreement with New Zealand to exchange animal welfare information. Under a memorandum of understanding signed by NAL and the chief veterinary officer of the New Zealand Ministry of Agriculture and Fisheries (MAF), the two organizations in addition agreed to jointly produce materials of interest to both countries and to commit to educate farmers, ranchers, and those who use animals in research and teaching about animal welfare concerns and responsibilities. Coordinating this effort for NAL is its Animal Welfare Information Center. The center has similar agreements with organizations in the United Kingdom and Australia.

Animal Welfare Guide Published with England

The Animal Welfare Information Center and the Universities Federation for Animal Welfare, Hertfordshire, United Kingdom, completed a memorandum of understanding that resulted in publication of *Environmental Enrichment Information Resources for Laboratory Animals 1965-1995*. The publication is designed to help the international biomedical research community comply with laws and standards for animals used in research.

Responding To Agriculture Concerns

Global Change Program Tests Database

A sample database of global change information became available at NAL and over the Internet. A pilot project of the federal government's Global Change Data and Information System, the database is an effort by the United States Global Change Research Program to make global change data and information more accessible to researchers and others. NAL is coordinating the project, which is called Global Change-Assisted Search for Knowledge.

In 1995, the third of four prototypes of the database went on-line and operated successfully. The fourth prototype will be delivered in 1996. The project is a joint venture between the public and private sectors. The database can be accessed via the World Wide Web.

School Meals Software Evaluated

As part of USDA's School Meals Initiative for Healthy Children, NAL's Food and Nutrition Information Center (FNIC) is providing staff to the Food and Consumer Service's (FCS) School Meals Software Evaluation Team. Funded by an international agreement with FCS, FNIC nutritionists and dietitians evaluate nutrient analysis software programs that will be used by school systems. FNIC works closely with FCS staff to communicate to software developers specifications developed by FCS, an activity unique to USDA and the private sector.

Farm Equipment Industry Aided

The Transferring Technology for Industry Program of NAL's Technology Transfer Information Center served as a catalyst in helping the farm equipment industry find sensor technology to save lives and reduce injuries. The center sponsored research on the use of sensors to offset the thousands of farm fatalities and injuries that occur annually. One project involved identifying sensors that can detect potentially hazardous atmospheres, such as silo and manure gases, and compensate for them or warn farmers about unsafe areas. A second project involved identifying sensors that indicate when people are in danger when they are operating or near farm equipment.

Working with the center, researchers from the University of Illinois and Pennsylvania State University will publish their findings in reports due to be released in 1996.

National Academy of Sciences Seeks Animal Welfare Aid

A committee of the National Academy of Sciences sought assistance from the Animal Welfare Information Center (AWIC) in updating the U.S. Public Health Service's *Guide to the Care and Use of Laboratory Animals*. AWIC supplied all of the literature references used in the updating. AWIC also provided the references being used to update the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*.

Tables

Table 1. Public Services Activities

Document Delivery Requests

Received by NAL	139,830
Received by Regional Document Delivery Service	56,061
Filled by NAL	104,061
Filled by Regional Document Delivery Service	40,566
Filled by borrowing	12,001

Source of Requests

USDA	73%
Non-USDA	27%
Reference transactions (total)	51,985
Instruction, ready reference	37,307
Brief reference search	13,516
Extended reference search	1,162
Publications distributed	101,102
Online and CD-ROM searches	10,337

Outreach and Training

Number of activities	735
Persons reached	26,723

Technology Demonstrations

Number of demonstrations	996
Persons reached	2,774

Table 2. Technical Services Activities

Titles cataloged by NAL	16,613
Articles added to AGRICOLA	
Indexed by NAL	60,541
Other	<u>0</u>
Total	60,541
Abstracts	23,533
Cataloging done by	
NAL	16,459
Other	814
Total	17,273
Other cataloging activity	
NACO* headings	1,273
CONSER+ records	660
Acquisition funds expended	
Serials, including series	\$1,827,320
Monographs	<u>318,744</u>
Total	\$2,146,064
Titles sent to cataloging	
Monograph	8,624
Serial	<u>685</u>
Total	9,309
Serial volumes added	15,552

*NACO = National Coordinated Cataloging Operations.

† CONSER = Cooperative On-Line Serials Program.

Table 3. Information Systems Activities

AGRICOLA

Total records 70,560

Records to AGRIS

36,722

CALS*

Users 1,189

Number of profiles 62,652

Citations retrieved 1,282,853

Total accesses to NAL electronic resources

796,000

* CALS = Current Awareness Literature Service.

