Chapter 2
Advancing Technology and Improving Infrastructure

In 2003, NAL continued to improve its use of information technology, the Library's physical infrastructure, and administrative services in support of operations.

Voyager Integrated Library System (ILS) Implementation

The installation and implementation of the Voyager ILS represents the most significant advancement to NAL's operational systems environment in the last 2 decades. After years of planning and overcoming considerable challenges, NAL began using the new Voyager ILS for cataloging in November 2003.

Voyager is in use by over 600 libraries around the world, including the Library of Congress and the National Library of Medicine. Its Oracle operating system offers standards-based technology that provides the capability for adding future enhancements.

NAL's new ILS affects a wide array of the Library's technical, bibliographic, and customer services and provides opportunities for future advances and improved efficiencies. Voyager equips NAL staff to more easily

4,080,552 Bibliographic records cited in AGRICOLA, September 30, 2003, including 42,401 linked to full-text content.

Front cover of Miss C.H. Lippincott's Catalog, 1897. Henry G. Gilbert Nursery and Seed Trade Catalog Collection. Special Collections, National Agricultural Library.

acquire materials, more effectively process receipts and invoices, and more efficiently create and maintain bibliographic records for AGRICOLA (AGRICultural On-Line Access) (http://agricola.nal.usda.gov/help/aboutagricola.html). In addition, staff now can add URLs to full-text records and customers can access the AGRICOLA database using a more sophisticated Web interface.

Most significantly, NAL's Web customers now enjoy improved search capabilities for accessing NAL's databases of serials and monographic content, due to the Voyager Web interface. When this upgraded and more reader-friendly AGRICOLA search interface was made available for public use in December 2003, use quadrupled—from an average 103,929 hits to AGRICOLA before implementation of the new Voyager Web interface to an average 413,815 hits per month after implementation.

Integrated Document Request and Delivery Management System

In 2003, NAL received 125,538 document delivery requests from customers at USDA, as well as from libraries and institutions around the world. To manage document requests and support delivery of the requested documents, Library staff acquired the Relais Enterprise document delivery system. Implementation of NAL's Relais system will enable customers to request and receive materials and to check on the status of their requests via the Web. The Relais system will also provide tracking and administrative control over the entire document delivery operation.

Plans to integrate the new Relais document delivery system with the Library's Voyager system in early 2005 will provide NAL customers with a seamless way to search, request, and receive specific items. This Relais-Voyager system integration will form the focus of NAL staff activity in 2004.

Woman standing by a bamboo gate. Dorsett-Morse Oriental Agricultural Exploration Expedition Collection. Special Collections, National Agricultural Library.

125,538 Requests for documents received by NAL in FY 2003. Of these, 76% were filled from NAL collections, the balance from other sources. NAL filled 98% of document delivery requests within 2 days.

Crandall Technology Consultancy

NAL consulted with Michael Crandall, Technology Manager for The Bill and Melinda Gates Foundation, to analyze NAL Web technologies and provide NAL with recommendations for integrated service development by reusable process-driven designs. Crandall's review of NAL's technology infrastructure generated recommendations for realigning NAL's structural, planning, and service functions. In a Web Technologies Analysis report, the consultant provided NAL with a rich mix of suggestions, directions, recommendations, and observations that generated much discussion, excitement, and interaction among NAL staff from all segments of the Library. This consultant initiative will provide the basis for planning future direction, technology, and systems needed for NAL to provide customer-centered services.

Fifth Floor Renovation for Special Collections

In May 2003, NAL completed the redesign and construction of the 5th floor of the Library's Abraham Lincoln Building to house rare and special collections. The 9,000-square-foot state-of-the-art facility was designed to meet National Archives and Records Administration (NARA) standards for materials requiring the highest level of environmental controls and security. The new facility has an independent air-handling system capable of maintaining stable temperature and humidity, an air filtering mechanism, a dry pipe sprinkler design, and a lighting system designed to protect materials from ultraviolet radiation. With the completion of this specialized facility, NAL's extensive collections of special, rare, and archival documents will be maintained within an environment suitable to the value and nature of these treasures.

Imperial Iris Garden, [Meiji] Shrine Ground, Tokyo, Japan. Special Collections, National Agricultural Library.

315,000 Total square feet of NAL's 200-foot tall Abraham Lincoln Building.
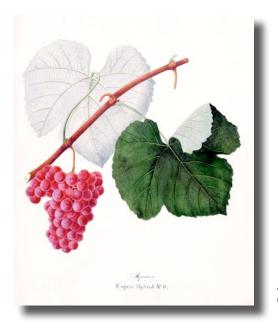
Physical Security

With USDA supplemental funding from the Department of Defense, the Agricultural Research Service Homeland Security staff worked with NAL staff to enhance physical internal and perimeter security for NAL's Abraham Lincoln Building. These security upgrades included reinforced entrance security fixtures, new digital video surveillance system components, increased exterior lighting, a new cardkey access system, and the installation of Mylar film to prevent window glass fragmentation. In addition, NAL created a shelter-in-place area in the sub-basement to protect staff and customers in case of emergencies.

Cyber Security and Upgraded Technology

NAL reviewed emerging cyber security trends and practices and formulated standard internal operating procedures in 2003. Infrastructural security changes and improvements included upgrading the Library's firewall, installing new interior doors, replacing the data center cardkey access system, and prototyping a virtual private network (VPN) for more secure remote access.

NAL also strengthened its technology infrastructure by improving local area networks, upgrading the Library's Internet connectivity (doubling available bandwidth and positioning NAL for further increases), completing a Library-wide migration to Windows 2000, planning and procuring a prototype audiovisual streaming system, implementing automated Help-Desk software, deploying primary and secondary Web servers, continuing life-cycle planning for servers and desktop clients, and upgrading NAL's Web search engine.

Agawam. *Grapes of America*, 1867. Special Collections, National Agricultural Library.