

## EXPANDING PUBLIC ACCESS TO AGRICULTURAL INFORMATION



**ARS facilitates the creation of agricultural knowledge through the effective stewardship of agricultural data, literature, and other information resources available at the National Agricultural Library (NAL), the world’s largest collection of agricultural information.** As the library of the USDA, NAL provides public access to USDA-funded scholarly literature and data and digitized access to special collections. The following milestones in 2021 demonstrate how NAL supports fact-based, data-driven decision-making.

**Increasing USDA full-text publications and peer reviewed citations in PubAg.** PubAg is NAL’s search system for USDA-funded scholarly agricultural literature and is the source for researchers, scientists, and the public to find scientific, peer-reviewed, agriculture-related citations and publications. In FY 2021, PubAg reached 3,487,840 million citations for peer-reviewed, agriculture-related scientific articles, an increase of more than 437,063 citations from FY 2020. NAL also increased the full-text corpus publicly accessible through PubAg by nearly 10,000 full-text articles, for a total of 311,877 full-text articles.

**i5K Workspace.** The i5K Workspace is a place for arthropod genome communities to curate, visualize, and share data about agricultural pests and other arthropods. In FY 2021 the total number of workspace users increased to 15,044, with 57,962 total annual page views. The i5k Workspace improved a functional annotation pipeline for arthropod genomes, added seven new genomes to its platform, and released five functional genome annotations to the National Center for Biotechnology Information (NCBI), with more slated for FY 2022. ARS i5k Workspace personnel also contributed to the Ag100Pest project in FY 2021 via upgrades that will support an initial assembly of 25 genomes.

**LCA Commons.** Life cycle assessment (LCA) is a methodology for assessing environmental impacts associated with all the stages of the life cycle of a commercial product, process, or service. The LCA Commons is an open repository and publication workflow for government funded and produced LCA research products. Since 2018, the Federal LCA Commons at NAL has grown to include more than 12 agencies across government and includes participation from the Department of Commerce, Department of Defense, Department of Transportation, and the Council on Environmental Quality. The LCA Commons maintains access to more than 20 major LCA data collections, some of which have been included in tools that support policy making across the federal government. NAL leads the Federal LCA Community of Practice, an inter-agency group valued for its unbiased expertise and high-quality data that is supporting USDA priorities related to Climate Smart Agriculture.

**Hosting and disseminating USDA nutrition data.** FoodData Central is an integrated data system that provides expanded nutrient profile data and links to related agricultural and experimental research. NAL hosts the FoodData Central website, providing online access to data for more than 383,713 different foods with more than 18.5 million food component entries. Combined, the FoodData Central platform and the legacy Food Composition Database generated nearly 15 million pageviews during 2.1 million user sessions in FY 2021. Application developers from private industry and academia made nearly 36 million

“**NAL supports public access to USDA-funded research data primarily via the Ag Data Commons catalogs and repository, but also via hosting of FoodData Central, i5K Workspace@NAL, and the LCA Commons.**”

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application programming interface (API) calls to FoodData Central, making the FoodData Central API among the most popular in government. NAL made major improvements in the API application code that increased the efficiency of the query system.



A satellite navigation system is mounted on the far right of this private spray plane's control panel. June 30, 2010. USDA Photo. <https://flic.kr/p/8zybzv>



# TOP 2021 RESEARCH ACCOMPLISHMENTS

PART 3. HOW ARS DOES IT: PRIORITIZING ANIMAL,  
HUMAN, PLANT, AND ENVIRONMENTAL HEALTH