USDA

U.S. DEPARTMENT OF AGRICULTURE

Implementation Plan to Increase Public Access to USDA-Funded Research Results

June 28, 2023

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1.   INTRODUCTION

1.1 USDA Mission and Public Access Background

USDA is made up of 29 agencies and staff offices with nearly 100,000 employees who serve the American people at more than 4,500 locations across the country and abroad.

The mission of the U.S. Department of Agriculture (USDA) is to "serve all Americans by providing effective, innovative, science-based public policy leadership in agriculture, food and nutrition, natural resource protection and management, rural development, and related issues with a commitment to deliver equitable and climate-smart opportunities that inspire and help America thrive."[1] The mission statement highlights the importance of research and science as a basis for decision-making.

USDA has long embraced its responsibility for making the products of its research more publicly available. In response to the February 2013 Office of Science and Technology Policy (OSTP) memo entitled "Increasing Access to the Results of Federally Funded Scientific Research,"[2] USDA released its initial Implementation Plan in November 2014[3] and proceeded to develop infrastructure and processes to provide public access to USDA-funded research. The Department also codified requirements for public access in USDA Departmental Regulation 1020-006, Public Access to Scholarly Publications and Digital Scientific Research Data.[4]

This document provides an updated implementation plan to carry out OSTP memorandum entitled, "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research" from August 2022.[5]

As noted in the OSTP memorandum, the USDA implementation plan and the subsequent policy will be consistent with federal statutes and their implementing regulations regarding information management, including: the Paperwork Reduction Act, E-Government Act, Freedom of Information Act, Federal Information Security Management Act, Privacy Act, Health Information Technology for Economic and Clinical Health Act, Information Quality Act, Foundations for Evidence-Based Policymaking Act, Confidential Information Protection and Statistical Efficiency Act, Federal Policy for the Protection of Human Subjects, Federal Records Act, and other laws and implementing regulations or policies that require federal agencies to protect trade secrets, confidential commercial information, personally identifiable information, and other information which is protected under law or policy.

Office of Management and Budget (OMB) guidance and circulars will also govern the implementation plan and subsequent USDA policy. These include OMB guidance under OMB M-13-13 and subsequent open data policies (e.g., those to be promulgated under the OPEN Government Data Act and Pub. L. No. 115-435) and OMB Circular A-130.

This implementation plan will guide the Department and those agencies and staff offices that carry out USDA's research functions.

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1. March 2022, U.S. Department of Agriculture Strategic Plan, Fiscal Years 2022-2026 USDA Strategic Plan Fiscal Years 2022-2026, page 3.
2. February 22, 2013, Increasing Access to the Results of Federally Funded Scientific Research https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf.
3. November 7, 2014, Implementation Plan to Increase Public Access to Results of USDA-funded Scientific Research USDA-Public-Access-Implementation-Plan.pdf.
4. July 20, 2022, USDA, Public Access to Scholarly Publications and Digital Scientific Research Data USDA Departmental Regulation 1020-006.
5. August 24, 2022, Office of Science and Technology Policy (OSTP), Ensuring Free, Immediate, and Equitable Access to Federally Funded Research, 08-2022-OSTP-Public-Access-Memo.pdf (whitehouse.gov).

1.2 Overview of leadership roles and responsibilities

The USDA Chief Scientist and the staff office that supports the position, the Office of the Chief Scientist (OCS), lead science policy development for the Department and are responsible for USDA's public access policy.

The USDA Science Council advises the Secretary and the Chief Scientist on the priorities for USDA's science agenda, reflecting the high priority issues impacting all aspects of United States food, agriculture, natural resources, energy, and communities. The USDA Science Council provides advice on issues related to ensuring free, immediate, and equitable access to USDA-funded research.

OCS works closely with the National Agricultural Library (NAL) to develop and coordinate policy implementation in USDA agencies and across the Department. NAL provides day-to-day support and service in implementing public access policies.

OCS and NAL convene a cross-agency group called the Public Access and Open Science Forum that serves as an implementation-level advisory, communication, and coordination body for public access and related activities at USDA. This group consists of representatives from the USDA agencies and staff offices that make up the USDA Science Council.

NAL represents USDA on the National Science and Technology Council's Subcommittee on Open Science (SOS) and its working groups. This ensures USDA coordinates policy and implementation with other departments and federal agencies across the federal government.

USDA also partners and shares resources with other federal agencies for relevant public access initiatives and services. For example, USDA partners with the Department of Energy's Office of Scientific and Technical Information for digital persistent identifier services and actively participates in SOS guidance development. NAL also collaborates with outside stakeholders, including scientific societies and partners like CHORUS.

1.3 Organization of the implementation plan

This high-level plan consists of four sections.

The first section is entitled, "Updating Policies on Public Access to Scholarly Publications and Their Associated Research Data." It covers anticipated policy development activities.

The second section is entitled, "Updating Public Access Infrastructure." It describes infrastructure already in place for public access and how USDA will update it for new policy requirements.

The third section is entitled, "Training and Outreach." It covers customer- and stakeholder-centered approaches to raise awareness and train for implementation compliance.

The fourth section is entitled, "Activities and Milestones." It provides a list of major activities and milestones for FY 2023 through FY 2025 to meet the December 31, 2025, policy deadline and meet the December 31, 2024, deadline for a second public access implementation plan to ensure scientific and research integrity in agency public access policies.

2.   UPDATING POLICIES ON PUBLIC ACCESS TO SCHOLARLY PUBLICATIONS AND THEIR ASSOCIATED RESEARCH DATA

Established policy – in the form of a USDA Departmental Regulation and subsequent federal rulemakings – is the backbone for all other implementation activities. This section of the implementation plan describes USDA's policy approach to ensure free, immediate, and equitable public access to scholarly publications and their underlying scientific data funded by USDA.

The USDA will develop public access policies that will ensure, as appropriate and consistent with applicable law and implementing regulations, that:

- All peer-reviewed scholarly publications authored or co-authored by individuals or institutions resulting from federally funded research are made freely available and publicly accessible by default in agency-designated repositories without any embargo or delay after publication.
- Scientific data underlying peer-reviewed scholarly publications resulting from USDA-funded research will be made freely available and publicly accessible by default at the time of publication.

USDA public access policies will align with the August 2022 OSTP memorandum and governing associated federal statutes, regulations, and policies.

USDA will implement these new policies by December 31, 2025.

2.1 General Scope

The public access policy will apply to all unclassified scientific research, including intramural research and extramural research, that is supported wholly or in part by the USDA, regardless of the USDA funding level or funding mechanism.

This will include scientific research that is supported by:

- Any direct funding from a USDA grant or cooperative agreement when the new final USDA public access policy is approved.
- Any direct funding from a USDA contract signed after the final USDA public access policy is implemented.
- Any direct funding or arrangement, including in-kind support, from any USDA Intramural Research.

USDA will review the scope as part of the larger public access policy activity consistent with the latest OSTP memorandum. USDA will also solicit feedback on the scope during the implementation process.

There are connections between requirements for digital persistent identifiers (DPIs) for public access policy requirements and implementation requirements associated with National Security Presidential Memorandum 33 (NSPM-33) entitled, "Presidential Memorandum on United States Government-Supported Research and Development National Security Policy,"[6]

USDA policy will further update policies to ensure alignment between scientific and research integrity and public access policies by December 31, 2026, to be effective December 31, 2027.

USDA Departmental Regulation (DR) 1020-006, Public Access to Scholarly Publications and Digital Scientific Research Data, remains USDA policy while USDA develops new policies consistent with the August 2022 OSTP memorandum.

2.2 Policy for Scholarly Publications

The public access policy will apply to any manuscript that is peer-reviewed and is accepted for publication in a journal on or after the USDA approval of a new final public access policy.

USDA will consider expansion of the scope to other publication types during the policy consultation and development process.

The public access policy for scholarly publications will ensure:

- Final peer-reviewed, accepted manuscripts will be made freely accessible to the public in machine-readable form through the USDA public access system (PubAg, hosted by the NAL). USDA will provide public access through PubAg on the date on which the publisher makes the article available online. Final versions of record may be submitted if the author has secured rights to submit them (e.g., by securing open access licensing).
- Scholarly publications will have digital persistent identifiers (DPIs), such as a Digital Object Identifier (DOI), consistent with current policy and practice.
- Scholarly publications will reference the USDA funding source(s).
- All authors of scholarly publications will have individual DPIs, such as the Open Researcher and Contributor ID (ORCID iD), that are linked to their scholarly publications.
- Digital scientific research data assets connected to a scholarly publication covered by USDA policy will also receive a DPI, such as a DOI. This will allow a scholarly publication and its catalog metadata to link to the published digital scientific research data asset from which the publication was developed.
- USDA will encourage authors of scholarly publications to obtain DPIs for other associated scientific research products,

6 January 14, 2021, Presidential Memorandum on United States Government-Supported Research and Development National Security Policy and subsequent implementation toolkit: January 2022, Guidance for Implementing National Security Presidential Memorandum 33 (NSPM-33) on National Security Strategy for United States Government-supported Research and Development

such as software, workflow documentation, curricular materials, and multi-media materials, if these products provide information that would help future users of the scholarly publication and are not subject to access restrictions.

- USDA will make clear that costs associated with publication of scholarly articles may be charged as an allowable expense in all research budgets.
- USDA will clarify the role of publishers (through their various Open Access models), institutional repositories, and other external entities in ensuring free, immediate, and equitable access to USDA-funded research outputs. USDA will also discuss intellectual property rights concerns in stakeholder discussions, to inform USDA policy on government purpose licensing and use and reuse rights for publications.

USDA Departmental Regulation (DR) 1020-006, Public Access to Scholarly Publications and Digital Scientific Research Data, remains USDA policy while USDA develops new policies consistent with the August 2022 OSTP memorandum.

2.3 Policy for Data Management Planning and Digital Scientific Research Data

The USDA public access policy will apply to any digital scientific research data asset connected to a scholarly publication covered by the USDA public access policy. The public access policy will also extend to other digital scientific research data assets as currently outlined in DR 1020-006, Public Access to Scholarly Publications and Digital Scientific Research Data.

USDA will describe categories of digital scientific research data assets that are exempt from public access requirements by statute or regulation and describe processes to review and approve requests for waivers and extensions to public access requirements.

USDA will require digital scientific research data assets covered by public access requirements be published in a machine-readable format by a data repository that is recognized by reputable registries and provides:

- Public access for search, retrieval, and analysis.
- A digital persistent identifier, such as a DOI.
- Long-term preservation of the data asset.

USDA will require that an approved data management plan (DMP) accompany all scientific research that produces digital scientific research data assets. The public access policy will prescribe the high-level DMP elements and explain when and how data will be publicly accessible.

As noted above in the Policy for Scholarly Publications section, digital scientific research data assets covered by this policy must also receive digital persistent identifiers (DPIs).

USDA will make digital scientific research data assets associated with scholarly publications covered by the public access policy publicly accessible immediately, simultaneous with the article publication. USDA also will continue to require data not associated with scholarly publications to be made available by the end of the period of performance of the award.

USDA will encourage authors of digital scientific research data assets to obtain DPIs for other associated research products such as software, workflow documentation, curricular materials, and multi-media materials if these products provide information that would help future users of the data asset and are not subject to access restrictions.

USDA will require all authors of digital scientific research data assets (data authors) have individual DPIs (e.g., ORCID iDs) that are linked to their data assets and other research products.

The public access policy will require a standardized metadata catalog entry that is machine-readable, references the USDA funding source(s), and describes the digital scientific research data asset be submitted to the publicly available USDA scientific data catalog system (Ag Data Commons, hosted by the NAL) simultaneous with the publication of the associated scholarly publication. USDA will require that the metadata catalog entry include the DPIs of the data authors, the published digital scientific research data asset, and any associated research products.

USDA will make clear that costs associated with publication, submission, curation, and management of digital scientific research data assets may be charged as an allowable expense in all research budgets.

USDA Departmental Regulation (DR) 1020-006, Public Access to Scholarly Publications and Digital Scientific Research Data, remains USDA policy while USDA develops new policies consistent with the August 2022 OSTP memorandum.

2.4 Public Input in New Policy Development

USDA will take the following steps to ensure public input in new public access policy development:

- Recharter the USDA Public Access and Open Science Forum through the Office of the Chief Scientist and the USDA Science Council. The USDA Public Access and Open Science Forum will:
    - Provide a platform for USDA agencies to collaborate through meetings, workshops and working groups on public access policy issues of agency and Departmental concern.
    - Review current USDA public access policies and survey USDA agencies' scholarly publications and associated science data policies, practices, and plans.
- Review policies and strategies of other federal agencies to gain insight into issues and practices that are relevant to USDA.
- Develop the USDA public access policy for approval by the Secretary through the USDA Office of the Chief Scientist and USDA Science Council, in consultation with external stakeholders.
- Convene the USDA Science Council specifically to review public access policy development progress to meet the December 30, 2025, deadline.
- Use formal Tribal Consultation Processes to ensure Tribal sovereignty in public access matters.
- Gather input on potential public access policies from external stakeholders consistent with federal law and regulation, including through the National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board.
- Follow formal federal rulemaking procedures (i.e., Advanced Notice of Proposed Rulemaking under the Administrative Procedures Act).
- Ensure implementation activities described elsewhere in this plan are consistent with anticipated USDA public access policies.

3. UPDATING PUBLIC ACCESS INFRASTRUCTURE

USDA has established public repositories for both USDA-funded peer reviewed scholarly publications and digital scientific research data. These repositories provide the basic infrastructure for providing public access, transparency, and scientific integrity using rich metadata, digital persistent identifiers (DPIs), and controlled vocabularies to connect research outputs to make them Findable, Accessible, Interoperable, and Reusable (FAIR).

USDA will improve this infrastructure so that the Department can compound the value of its research investments by increasing machine-readability, data storage capacity, process automation, and integration with internal and external sources to bring USDA research outputs to the public. In addition to enhancing research outcomes, this improved infrastructure will ensure free, immediate, and equitable access to USDA-funded research.

USDA will also develop an automated reporting framework from existing and planned research management systems to analyze public access policy effectiveness and compliance.

3.1 Public repository for USDA-funded Peer Reviewed Scholarly Publications

USDA's public access system to USDA-funded scholarly publications is PubAg. PubAg utilizes Alma and Primo VE to manage and deliver its content. It is available at NAL's integrated search service, https://search.nal.usda.gov.

PubAg supports current USDA policy by providing a search and discovery interface to citations and peer-reviewed journal articles in the food and agricultural sciences, including access to the best available full-text version of USDA-funded scholarly publications.

The Department will enhance PubAg to ensure compliance with Departmental public access policies, with an emphasis on enhancing submission processes, particularly for extramural researchers, and making full-text articles machine-readable. PubAg will ensure USDA-funded scholarly publications are freely, immediately, and equitably accessible.

3.2 Public Repository for USDA-funded Digital Scientific Research Data

USDA maintains a public catalog and repository for USDA-funded digital scientific research data called Ag Data Commons. It is available at https://data.nal.usda.gov/.

Ag Data Commons is a public, government, scientific research data catalog and general repository that enables the USDA's compliance with both public access and open data requirements to make federally funded research data open, accessible, and machine-readable.

USDA is currently in the process of migrating Ag Data Commons content and data sets from its custom prototype application to Figshare, a commercial software as a service (SaaS) solution. This transition embodies best management practices described in the report titled "Desirable Characteristics of Data Repositories for Federally Funded Research."[7]

The new platform will be configured to assist compliance with current and the updated public access policies resulting from the August 2022 OSTP memorandum.

4.   OUTREACH AND TRAINING

USDA will take a customer- and stakeholder-centered approach to providing free, immediate, and equitable access to USDA funded research results. Success will be achieved with broad community participation, inclusive partnerships, and interagency coordination. The Department is committed to Diversity, Equity, Inclusion, and Accessibility. The development and implementation of new public access policies will reflect this commitment, as will the outreach and training materials USDA develops.

USDA will maintain up-to-date public web pages to provide the latest information about USDA's public access policies and implementation resources. The Department anticipates USDA agencies and staff offices and external institutions receiving USDA funding will rely on these materials for their specific public access guidance.

USDA will develop outreach and training materials through the following processes:

4.1 Identify stakeholders

Coordinated by the Public Access and Open Science Forum, USDA will work with community partners to identify current and new stakeholders including:

- USDA-employed (intramural) and USDA-supported (extramural) researchers
- Federal and non-federal professionals and support teams
- Librarians, archivists, and museum curators
- Professional Society leaders and members
- Publishers
- Private and other non-governmental parties

4.2 Expand outreach and engagement

USDA will collaborate with customers and community stakeholders to expand outreach and engagement. USDA will:

- Identify audiences and develop initial communications and engagement materials appropriate to the audiences.
- Host and participate in meetings to inform and engage customers and stakeholders.
- Reflect and share lessons learned back to the audiences USDA is serving.
- Coordinate and share ongoing outreach and engagement plans with departments and agencies beyond USDA.

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7 The National Science and Technology Council, Desirable Characteristics of Data Repositories for
    Federally Funded Research, 2022, DOI: https://doi.org/10.5479/10088/113528.

4.3 Advance learning objectives

USDA will collaborate with customers and community stakeholders to identify learning objectives, assess learning needs, and develop training courses and materials to support free, immediate, and equitable access to USDA-funded research. Collaborative planning and knowledge sharing will be key to USDA's success. USDA will:

- Evaluate existing training materials and determine needs for new content.
- Identify the most effective ways to provide existing and new training content to meet customer and stakeholder needs.
- Establish regular evaluation cycles and continuing feedback mechanisms to ensure USDA is meeting customer and stakeholder training needs.

5. ACTIVITIES AND MILESTONES

Below is a listing of high-level activities and milestones. They will likely change as USDA carries out the August 2022 OSTP memorandum and learns through the policy development and implementation process.

FY 2023

- Draft implementation plan.
- Conduct initial customer and stakeholder engagement events for policy revisions.
- Review existing USDA public access policy to identify policy changes needed for December 31, 2025, deadline.
- Begin work to develop an automated reporting framework from existing and planned research management systems to analyze policy effectiveness.
- Ensure ongoing operations and maintenance, and enhancements to PubAg and Ag Data Commons continue to ensure public access to USDA-funded research outputs, with an emphasis on extramural research outputs.
- Inventory and evaluate existing outreach and training materials and processes and begin engagement with customers and community stakeholders.

FY 2024

- Continue customer and stakeholder engagement to validate information and requirements for making USDA-funded research freely, immediately, and equitably accessible by December 31, 2025.
- Make changes to existing USDA public access policy, following statutory and regulatory requirements and processes, so that USDA can implement new policies by December 31, 2025.
- Ensure ongoing operations and maintenance, and enhancements to PubAg, Ag Data Commons, and research management systems to ensure public access to USDA-funded research outputs, with an emphasis on digital persistent identifier issues to integrate research outputs consistently and at scale.
- Prototype automated reporting frameworks and processes needed to analyze policy effectiveness.
- Develop plans to carry out likely development needs as well as needs revealed during the policy development and implementation process.
- Develop new outreach and training materials and validate them with customers and community stakeholders.

FY 2025

- Continue customer and stakeholder engagement to ensure the public knows how USDA-funded research outputs will be freely, immediately, and equitably accessible by December 31, 2025.
- Implement formally the changes to existing USDA public access policies to meet the December 31, 2025, deadline.
- Draft and submit an update to the USDA public access plan to ensure scientific and research integrity in the Department's public access policies.
- Ensure ongoing operations and maintenance, and enhancements to PubAg, Ag Data Commons, and other research management systems to ensure public access to USDA-funded research outputs and to ensure data storage and long-term preservation and access at scale.
- Evaluate outreach and training materials and continue to validate them with customers and community stakeholders.

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