# Open access
# & open data
# Policy

INRA
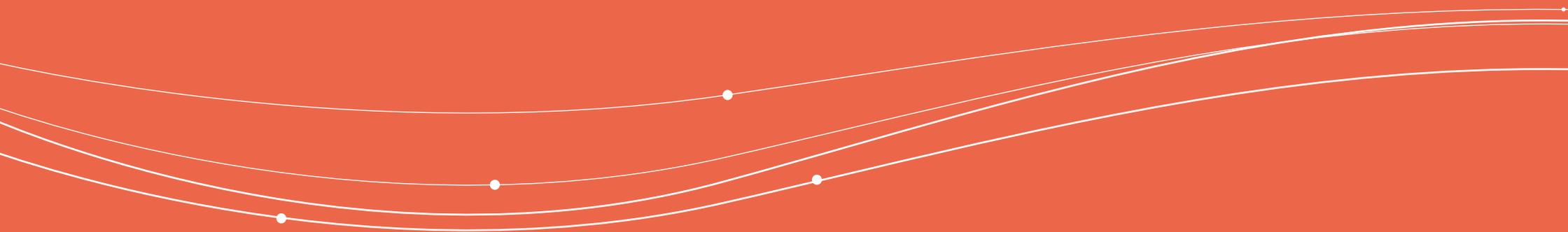SCIENCE & IMPACT

Global **guidelines**
accessible to **all**

The world is currently undergoing major transitions in agroecology, climate, nutrition, and land use. In this context, agricultural researchers will need to tackle new global challenges related to food security and nutrition in addition to more traditional research topics, a task that will require them to manage, share, and analyze digital scientific resources as never before. This policy document aims to provide clear guidelines related to INRA's commitment to open access.

As well as striving to **make its publications open access**, INRA has two main aims in increasing the accessibility of data produced at the institute:
• By **making data open access**, the institute is increasing the transparency of its research and improving the dissemination of its results to the general public, journalists, stakeholders in civil society, and NGOs and encouraging citizen science
• By **encouraging data reuse**, the institute seeks to create additional value from research investments and fuel innovation.

To achieve these two goals, there must be a major commitment within INRA to manage and exploit the data it produces. There must also be a shift in research approaches, such that INRA researchers seek out and exploit data generated outside of the institute.

# Over the next five years, INRA policy will focus on the institute's voluntary commitment to open access

As the world of scientific publication continues to evolve, French and European policies are taking shape with regards to making digital scientific resources open access.

In the recent governmental decree updating INRA's official mandates*, and as specified in the research code, INRA is developing approaches for enhancing the accessibility and usability of its digital research products, whether they be publications or data from research projects.

*Changes specified in the governmental decree published on November 23, 2015 related to INRA's functioning:*
*"...In its area of expertise, the institute shall: [. . .] 2) promote open access to the data and publications it produces, unless specifically prohibited by provisions or clauses to the contrary..."*

# The seven major principles of INRA open-access policy

**01** **INRA research products should be open access whenever possible**

INRA will systematically promote open access to research products produced by its publically funded research projects, except in cases where the rights and interests of stakeholders and other third parties take precedent. Such rights and interests may include intellectual property rights, issues of confidentiality, and concerns over sensitive data (e.g., for ethical or national-security reasons or a need to protect scientific or technological assets).

**02** **INRA is responsible for organizing the management of its research products and promoting their optimum use**

**ProdInra is the institute's repository for scientific publications**
ProdInra promotes open access http://prodinra.inra.fr while accounting for the copyrights of authors and publishers. All INRA researchers are strongly encouraged to submit the full text of their publications to ProdInra and to make them freely available, without any restrictions, provided that they retain the right to do so. This approach should be given preference over the uploading of publications to "social media" style platforms such as *ResearchGate* or *Academia*.

**Data are an asset that should be managed and used**
To better identify and disseminate data, INRA has undertaken to create a directory of its available research products. It is also developing infrastructure to aid in the storage and sharing of data. Depending on the discipline, certain international repositories may be preferred when submitting and disseminating data, if their policies regarding open access are compatible with those of the institute.

The publication of data papers is encouraged, as is the use of digital identifiers when referring to datasets. Researchers can contact the INRA Delegation for Scientific and Technical Information (DIST), which is responsible for assigning digital object identifiers (DOIs).

The full list of services related to data management and sharing can be viewed on the following website: http://datapartage.inra.fr

**03** **Interoperability is desirable because it promotes and facilitates data reuse**

Any resources targeted for dissemination must be structured and referenced in accordance with the technological standards and best practices set by the different scientific disciplines so as to be discoverable, identifiable, citable, and reusable[1]. The institute encourages its researchers and engineers to participate in international fora that aim to develop shared standards that promote information system interoperability across relevant research disciplines.

**1.** *see the FAIR Principles https://www.force11.org/fairprinciples*

## 04 Open access to publications and data is a priority, but legal restrictions must be respected

When publishing, researchers are strongly encouraged to submit their publications to ProdInra (see the second principle above) and choose to make their articles open access (meaning the copyright is not fully transferred to the publisher and the text is thus freely available to all). When it comes to data, the rule of thumb is "freely accessible by default," in accordance with French law (*loi Valter*). Nonetheless, there may be certain exceptions, which most notably come into play when research partnerships have been established with private entities. Moreover, the dissemination of data, whether obtained from INRA research projects or from third-party sources, must respect current legal and ethical restrictions, such as those related to the use of personal or confidential data (e.g., statistics, protection of scientific or technological assets), or the use of data obtained from a third party. The institute provides support to researchers to help them comply with these rules.

## 05 When assessing the publication performance of INRA researchers and engineers, evaluation committees will rely exclusively on the publication lists and full texts available from ProdInra

ProdInra makes it possible for researchers to i) submit the different versions of their scientific articles (e.g., preprint, postprint, and published PDF) that emerge over the course of the publication process (from manuscript acceptance to final publication) by managing the different relevant copyrights, ii) obtain different types of publication lists[2] and iii) give evaluation committees access to publication lists and to the full text of their articles.

## 06 The storage and long-term preservation of digital resources must be ensured

Scientific publications submitted to ProdInra and sent on to the national repository, HAL (http://hal.archives-ouvertes.fr/), are permanently stored in CINES[3] digital archives. Resources hosted by data centers managed by INRA or its partners are stored and archived in accordance with the data management plans specified by the different relevant projects or platforms.

## 07 Research projects must help pay for data storage and accessibility as well as for publication fees

Fees related to text publication (also known as article processing charges, or APCs), data management, and data sharing can be estimated and included in grant budgets, as in the case of H2020 research projects. Researchers should contact journals directly to get an estimate of APCs. In the case of data management and sharing, an estimated range of fees can be obtained from INRA's DSI, the CINES, or any other provider of data storage, archiving, and access.

### Policy compliance
The institute has implemented a system for monitoring compliance with this policy that brings together INRA's different scientific communities and spans the institute's organizational hierarchy. The DIST has been tasked with this work.

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**2.** *In particular, ProdInra offers short URLs that can be used to obtain publication lists as follows.*
*For a publication list for a staff member with an INRA LDAP:* http://prodinra.inra.fr/au/ldap
*For a publication list for an INRA research unit:* http://prodinra.inra.fr/lab/num_unite *(where "num unité" is the unit's four-number identifier)*
*For a publication list for a research division:* http://prodinra.inra.fr/dp/sigle
**3.** http://www.cines.fr

# A summary of INRA's commitment to open access

INRA signed the Berlin Declaration[4] in July 2004; this non-binding international statement provided a broad definition of digital resources. Such resources include scientific publications, data, photographic images, videos, and software. Signatories are expected to uphold a commitment to make any digital resources they produce freely accessible. Over the past ten years, INRA has promoted open access in many tangible ways.

INRA is the publisher and co-publisher of academic journals whose contents are included in major abstract and citation databases (e.g., Web of Science, Scopus). The journals themselves have been ranked in internationally recognized classification systems such as the Journal Citation Report and Scimago. In INRA journals, open access takes two forms:

- The green road applies to journals which adhere to a "subscription" model. Articles published by these journals can be freely accessed in HAL (France's national open-access archive; **http://hal.archives-ouvertes.fr/ARINRA**) one year after they were first published. In 2016, more than 25,000 articles were open access. In some cases, the entirety of a journal's contents, from its moment of creation, was available (e.g., 1921 for the journal Le Lait or 1923 for the Annals of Forest Science).
- The gold road applies to journals which have opted to make their articles immediately available for free based on the payment of publication fees by the authors' research institutions.

Since 2005, INRA's open-access archive for publications, ProdInra (**http://prodinra.inra.fr**), has allowed researchers to submit the full text of their articles, based on the green open access option. For the recent years, 20% of

ProdInra bibliographic records include direct downloadable access to the full text. ProdInra is linked to HAL (**http://hal.archives-ouvertes.fr**), which allows metadata from one to be collected and transmitted to the other.

Currently, close to 20% of INRA publications that are annually referenced in the Web of Science appear in journals that use gold open access. In 2012, PLOS ONE became INRA's number one publication outlet. In that year alone, it contained more than 200 articles from INRA researchers (which represented about 5% of the total articles published). INRA subscribes to certain publishers, such as Biomed Central and PLOS, and as a result of the subscription, receives a 10–15% discount on publication fees, which has encouraged even more researchers to choose the open access option (given that the remainder of the fees comes out of research-unit or project budgets).

As for facilitating access to data produced by research projects, following work conducted by INRA's Scientific Advisory Board[5], the institute has affirmed its commitment to sharing data, which is an important part of its efforts to promote transparency, integrity in research, data reuse, and innovation. INRA launched its Data Management and Sharing Project in 2013, which has led to the development of services that help researchers manage and exploit digital scientific resources.

**4.** *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities;*
*http://openaccess.mpg.de/68042/BerlinDeclaration_wsis_fr.pdf*
**5.** *Gaspin, C., Pontier, D., Colinet, L., Dardel, F., Franc, A., Hologne, O., Le Gall, O., Maurin, N., Perrière, G., Pichot, C., Rodolphe, F. (2012). Rapport du groupe de travail sur la gestion et le partage des données [Report by the work group for data management and sharing] http://prodinra.inra.fr/record/206746*

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