



Deliverable 2.3

Science-Policy Dialogue on IACS and Policy Effects on Land Use Change across the EU



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List of Abbreviations and Acronyms

Abbreviation	Full form
AMS	Area Monitoring System
BISS	Basic Income Support for Sustainability
CAP	Common Agricultural Policy
CoP	Community of Practice
CSD	Crop Sequence Diversity
D2.3	Deliverable 2.3
DG AGRI	Directorate-General for Agriculture and Rural Development
EC	European Commission
EC-CINEA	European Climate, Infrastructure and Environment Executive Agency
ELMS	European Land Monitoring System
EU	European Union
FSDN	Farm Sustainability Data Network
GSA	Geospatial Aid Application
IACS	Integrated Administration and Control System
IAMO	Leibniz Institute of Agricultural Development in Transition Economies
ICE	Integrated Administration and Control System: Community Exchange Conference
ID / IDs	Identifier / identifiers
INSPIRE	Infrastructure for Spatial Information in the European Community
JRC	Joint Research Centre
LPIS	Land Parcel Identification System
QA	Quality assessment
Qa4CAP	Quality assessment for the Common Agricultural Policy
UCPH	University of Copenhagen
WP2	Work Package 2

Executive Summary

This deliverable reports on the Europe-LAND science-policy dialogue held as a dedicated session at the ICE Conference in Sofia in September 2026. The dialogue constituted the concluding knowledge-exchange activity of the Europe-LAND Task 2.3, which analyses agricultural behaviour and its biophysical, socioeconomic, and policy drivers across the European Union. Task 2.3 builds on the harmonised parcel-level IACS database developed within Europe-LAND. By linking agricultural parcels across years and, where stable pseudonymised holding identifiers are available, to agricultural holdings, the task examined spatial and temporal patterns of agricultural behaviour. The analyses focused particularly on crop sequences and their diversity, as well as on the environmental, structural, and socioeconomic factors associated with their spatial variation. The findings demonstrated substantial variation within and between countries. Climate, topography, livestock production, market accessibility, and farm structure emerged as relevant drivers of agricultural land-use patterns. Additional applications illustrated how IACS can support analyses of organic farming, livestock intensity, farm size and fragmentation, environmental pressures, and the spatial targeting of policy interventions.

These research findings provided the empirical foundation for the Sofia dialogue. The dedicated Europe-LAND session brought together a wide range of stakeholders that produce, verify, control, or use IACS data to examine how Integrated Administration and Control System (IACS) data can improve the analysis of agricultural land-use change and policy effects across the European Union. The session participants presented recent research findings using IACS data to the national paying agencies, European institutions, and data providers. The contributions demonstrated the exceptional value of IACS as a high-resolution, annually updated source of information on agricultural parcels. Harmonised data enable comparative analyses of crop sequences, land-use dynamics, environmental pressures, and agricultural responses across countries. Linking parcels over time reveals substantial spatial variation in crop-sequence diversity and helps identify the environmental, structural, and socioeconomic factors shaping agricultural landscapes.

The dialogue confirmed that IACS's research potential remains underused. Access restrictions, inconsistent national implementation, limited metadata, technical barriers, and insufficient harmonisation continue to constrain research and policy evaluation. An IACS data user survey showed that one quarter of responding researchers had abandoned projects because they could not obtain the required data. A particularly important limitation is the lack of stable, pseudonymised holding identifiers. Without them, parcels cannot be reliably linked to farms over time. This restricts the analysis of how agricultural holdings respond to CAP interventions through changes in farm size, crop choice, diversification, livestock management, organic production, or participation in environmental measures.

The dialogue identified five priorities to enhance the inherent strengths and increase impact of scientific IACS analyses: (i) improved access to IACS data for research, (ii) common European data and metadata standards, (iii) stable pseudonymised holding identifiers, (iv) greater interoperability with environmental and socioeconomic datasets, and (v) sustained cooperation among paying agencies, policymakers, data providers, and researchers. Progress is constrained by national responsibility for IACS classifications under the subsidiarity principle, fragmented data-governance and access arrangements, limited institutional resources, and the additional administrative workload that harmonisation and data provision impose on paying agencies.

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Purpose and scope of the deliverable

This deliverable documents the Europe-LAND science-policy dialogue on the use of agricultural data to understand policy effects on land-use change across the European Union. It builds on the research conducted under Task 2.3 on agricultural behaviour and its drivers and shows how its findings culminated in the science-policy dialogue. This report explains the deliverable's contribution to the objectives of WP 2, defines the scope and format of the dialogue, and clarifies how its findings should be interpreted.

Position of D2.3 within Europe-LAND

WP 2 aims to improve understanding of agricultural behaviour and its biophysical, socioeconomic and policy drivers across the EU. A central element of this work is harmonising and analysing Integrated Administration and Control System (IACS) data. These annual, spatially explicit data provide detailed information on agricultural land use at parcel level. Where suitable identifiers are available, they also allow parcels to be linked to agricultural holdings and followed over time (Jänicke et al. 2025).

Within WP 2, Task 2.3 analyses agricultural behaviour and its drivers using the harmonised IACS data developed by the project. The research links parcels across years to examine crop sequences and their diversity and investigates how these patterns relate to climatic, topographic, structural, and socioeconomic conditions. It also assesses the analytical value of holding identifiers for studying farm-level characteristics and responses to policy interventions, as well as the limitations arising from differences in national datasets, crop classifications, and data access.

Deliverable 2.3 translates this analytical work into a structured exchange with decision-makers and other stakeholders. These stakeholders include representatives of national and regional paying agencies, DG AGRI, the Joint Research Centre, national policy bodies, IACS data providers and custodians, researchers, and private-sector organisations working with agricultural data. The purpose of the deliverable is to present and scrutinise results concerning policy effects on land-use change across the EU. The deliverable therefore connects Europe-LAND's scientific findings with the knowledge, needs, and practical experience of policymakers, data custodians, paying agencies, and researchers.

Stakeholder engagement is treated here as part of the analytical process rather than as a mere dissemination activity. We initiated the dialogue to assess the relevance, robustness, and practical applicability of Europe-LAND's data products and analytical approaches. The dialogue also provided an opportunity to identify the legal, institutional, and technical conditions that determine whether IACS data can be used effectively for research, monitoring, and policy evaluation.

The Europe-LAND Science-Policy Dialogue

Deliverable 2.3, originally described as a living lab, was operationalised as a European-level science-policy dialogue developed through sustained engagement among IACS researchers, data custodians, and decision-makers. The process began with the establishment of the IACS Data Community of Practice by the research teams involved, particularly IAMO and UCPH. The Community brought together land-use researchers, representatives of EU institutions, national data providers, and other experts working with IACS data. It subsequently developed through regular virtual and in-person meetings, scientific collaboration, and exchanges at the 2025 Integrated Administration and Control System: Community Exchange Conference (ICE) Conference in Reims, organised by the EU's Joint Research Centre. This process culminated in a dedicated Europe-LAND science-policy dialogue session at the subsequent ICE Conference in Sofia in September 2026 (https://joint-research-centre.ec.europa.eu/events/integrated-administration-and-control-system-community-exchange-conference-2026-09-08_en).

The conference audience reflected the European scope of the deliverable by bringing together IACS data custodians, national paying agencies from EU member states, researchers, private-sector organisations, and key EU-level stakeholders, particularly DG AGRI and the Joint Research Centre (JRC). Although IACS data are collected and managed nationally or subnationally, they can support the implementation and evaluation of common EU policies by providing a comparable European evidence base. Developing a systematic understanding of CAP policy effects requires data exchange across countries, administrative levels, and professional communities.

The dedicated Europe-LAND session at the ICE Conference combined four complementary components. First, presentations introduced Europe-LAND findings and related evidence on the analytical potential of harmonised IACS data. Second, empirical applications illustrated how parcel-level time series can be used to examine agricultural land-use dynamics, crop sequences, and their environmental and socioeconomic drivers. Third, interactive questions and moderated discussion enabled participants to scrutinise the approaches and identify barriers related to data access, harmonisation, interoperability and interpretation. Finally, participants jointly identified priorities for strengthening the future use of IACS data in research and policymaking, which the panel discussed.

Embedding this science-policy dialogue in a well-established international conference format targeted at IACS provided access to national authorities, EU institutions, data custodians, private sector firms, and researchers. This setup permitted technical questions about data infrastructures to be considered alongside the substantive policy questions.

Scope and Limitations

The dialogue focused on using IACS data to analyse agricultural behaviour, CAP implementation, and policy effects on land use and management. Particular attention was given to harmonised parcel-level time series, the added analytical value of linking parcels to agricultural holdings, and the potential for integrating IACS with environmental, socioeconomic and policy data.

A central limitation concerns the availability of stable, pseudonymised holding identifiers. Where such identifiers are missing, parcels cannot be linked reliably to the same agricultural holding over time. As a result, many indicators that capture farm-level management, its changes over time, and how farms respond to policy interventions cannot be reliably quantified. The holding identifiers enable analyses of changes in farm size, farm-level crop diversity, production strategies, livestock management, organic farming, and participation in environmental measures. The availability of holding identifiers therefore undergirds the ability and capacity of IACS data to support policy evaluations and to assess policy impacts at the farm level where agricultural decisions are made.

This deliverable distinguishes between findings generated through Europe-LAND research and the experiences, interpretations, and priorities which participants expressed during the dialogue. Finally, the ICE session of 2026, as well as our participation at the ICE in 20205 in Reims, France, are part of the broader stakeholder engagement undertaken throughout WP 2. It complemented earlier and ongoing exchanges with data providers, paying agencies, policymakers, and researchers.

Implementation of the Science-Policy Dialogue

This chapter describes how Europe-LAND implemented the science-policy dialogue required under D2.3. It outlines the preparatory role of the IACS Data Community of Practice, the institutional setting of the ICE Conference in Sofia, the purpose and format of the Europe-LAND session at the ICE, and the composition of its audience. The evidence and broader insights emerging from the dialogue are presented separately in chapter 3.

The IACS Data Community of Practice

Europe-LAND established the **IACS Data Community of Practice** to connect experts working on the provision, harmonisation, and analysis of IACS data. Its members include researchers, representatives of European institutions and specialists from organisations working with agricultural and environmental data across Europe. The Community brings together expertise in IACS administration, geospatial analysis, agricultural land systems, remote sensing, and policy evaluation.

We established the IACS Data Community of Practice (CoP) in February 2025. The CoP has since fostered ongoing exchange through in-person and virtual meetings and scientific collaborations among CoP members regularly every six months. The CoP features a growing network of scientists from the Joint Research Centre and European universities, practitioners, and public servants at the EU Commission.



Figure 1: Current geographic coverage composition of the Europe-LAND IACS Data Community of Practice

A second physical meeting took place at BOKU University in Vienna in June 2026. Topics at the CoP meetings included IACS-based farm typologies and analyses of crop sequences and crop diversity. CoP members exchange information about national IACS datasets, data harmonisation strategies, their institutional contexts, and the conditions governing access and reuse. This exchange has been particularly valuable for interpreting differences in data structures, crop classifications, metadata and the availability of holding identifiers.

Several collaborative research activities have emerged from the CoP. Work on EU-wide farm typologies examines how holding identifiers can connect parcels to farms and reveal differences in crop portfolios, management choices and responses to the CAP. A working group on crop sequences and diversity analyses spatial patterns in crop rotations and their environmental and socioeconomic drivers. Further work documents the benefits, practical challenges, and possible improvements associated with using IACS data for research, monitoring, and policy advice.

A special article collection is currently being prepared at the Journal of Land Use Science (<https://europe-land.eu/news/call-for-papers-leveraging-agricultural-data-from-the-eus-integrated-administration-and-control-system-iacs-for-research-and-policy/>). Given the engaged members and trustful relationships, we have built, we envisage the CoP as a lasting structure beyond the project duration, where data users and providers can develop a shared understanding of analytical requirements, confidentiality concerns, and feasible governance solutions. This continuing collaboration also formed the foundation for the wider science-policy dialogue at the ICE Conference in Sofia.

The ICE Conference in Sofia

The 2026 Integrated Administration and Control System Community Exchange Conference (ICE) took place in Sofia, Bulgaria, from 8 to 10 September 2026 (see also official page at: https://joint-research-centre.ec.europa.eu/events/integrated-administration-and-control-system-community-exchange-conference-2026-09-08_en). The Joint Research Centre (JRC) organised the conference in cooperation with the European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI) and the national host, the Bulgarian Paying Agency (the State Fund Agriculture). The ICE Conference provides a dedicated technical forum where Member States, EU institutions, and other organisations exchange experience on IACS implementation and quality assessment. Its European scope and strong participation by paying agencies made it an appropriate setting for the D2.3 science-policy dialogue.

Session Purpose and Format

The Europe-LAND session at the ICE examined how IACS data can support evidence-based implementation and evaluation of the Common Agricultural Policy (CAP). It addressed research needs, applications of IACS data for monitoring and policy advice, EU-wide analysis of agricultural land-use patterns, national experience with data access, and the Qa4CAP database managed by the JRC for DG AGRI.

Following an introduction by the chair, Martin Rudbeck Jepsen, the programme featured four short presentations (Table 1). Daniel Müller and Clemens Jänicke presented research from Europe-LAND. Andrea Ackermann from the Johann Heinrich von Thünen Institute contributed research from Germany using IACS, and Ferdinando Urbano from the JRC presented the European Commission perspective. All speakers and the chair are members of the IACS Data Community of Practice. A 40-minute moderated discussion then brought the speakers together with representatives of the JRC, DG AGRI and the Bulgarian paying agency (see Figure 2 on next page).



Figure 2: Session 10 of the ICE conference included presentations by Europe-LAND's Daniel Müller (a), Clemens Jänicke (b), and a panel discussion chaired by Martin Rudbeck Jepsen (c).

Nicola Britta Holsten, Deputy Head of Unit for CAP Strategic Plans Coordination at DG AGRI, and Alain Vander Velde from DG AGRI also contributed information on EU legislation and the division of responsibilities between the European Commission and the Member States. The chair concluded the session with a short synthesis.

Table 1: Session format with speakers and presentations

Time	Topic	Speaker
5 min	Welcome and objectives	Martin Rudbeck Jepsen (University of Copenhagen)
12 min	Research needs for evidence-based CAP implementation and the role of IACS data	Daniel Müller (Leibniz Institute of Agricultural Development in Transition Economies/Humboldt University Berlin)
12 min	Identifying spatial drivers of crop sequence diversity across the EU using IACS	Clemens Jänicke (Leibniz Institute of Agricultural Development in Transition Economies/Humboldt University Berlin)
12 min	Boundaries and benefits of using IACS data for monitoring and policy advice in Germany	Andrea Ackermann (Thünen Institute for Rural Studies)
12 min	Use of Qa4CAP IACS database in support of EU policy	Ferdinando Urbano (European Commission, Joint Research Centre)
40 min	Moderated discussion: How can collaboration between administrations and researchers unlock the full potential of IACS data for future CAP implementation and evaluation?	Speakers + Marijn van der Velde (JRC), Raphael D'Andrimont (DG Agri), Rositsa Ivanova-Stoyanova (Director, the Bulgarian Paying Agency)
5 min	Wrap-up and summary	Martin Rudbeck Jepsen

Approximately 250 people attended the session. The session was open to all conference delegates; there was no separate selection process for attendees. Participants represented national paying agencies, EU institutions, national policy bodies, and private-sector organisations. Paying agencies formed the largest group, consistent with the operational focus and primary audience of the ICE Conference.

The session combined presentations with Slido questions and a moderated panel discussion. Slido was used to document the institutional composition of the audience and to collect views on selected questions. The moderated discussion allowed speakers, panellists and audience members to clarify institutional responsibilities and compare national experience. Chapter 3 presents the resulting evidence and broader insights.

Insights from the Dialogue

The session combined empirical results from Europe-LAND with evidence from a national IACS user perspective and the European Commission's Qa4CAP database. Together, the presentations and discussion demonstrated the analytical potential of IACS, and the institutional and technical conditions that currently constrain its wider use. This chapter first summarises the evidence presented and then synthesises the broader insights emerging from the dialogue.

Key Insights from the Session Contributions

IACS for Evidence-Based CAP Implementation

Daniel Müller highlighted the importance of IACS for research because it provides annually updated information on agricultural land use at parcel and, where suitable identifiers are available, holding levels. IACS complements Earth observation by providing accurate information on declared crop types and selected agricultural management measures. He emphasised the crucial importance of holding IDs for obtaining farm-level management information. Stable, pseudonymised holding identifiers serve to link parcels to farms and to follow farm structures over time. However, only a small number of Member States currently include stable holding identifiers in IACS datasets released for research, substantially limiting comparative farm-level analyses across the EU (Figure 3). Where available, these identifiers enable analyses of farm size, fragmentation, crop portfolios, organic farming, livestock intensity, and responses to CAP interventions. Examples from organic agriculture, livestock density, farm structure, and peatland rewetting showed how IACS can support monitoring and spatially targeted policies. The presentation concluded that wider data access, stable holding identifiers, common standards, and greater interoperability with environmental, livestock, CAP, and economic datasets will help make IACS a crucial part of an integrated European agricultural data system.

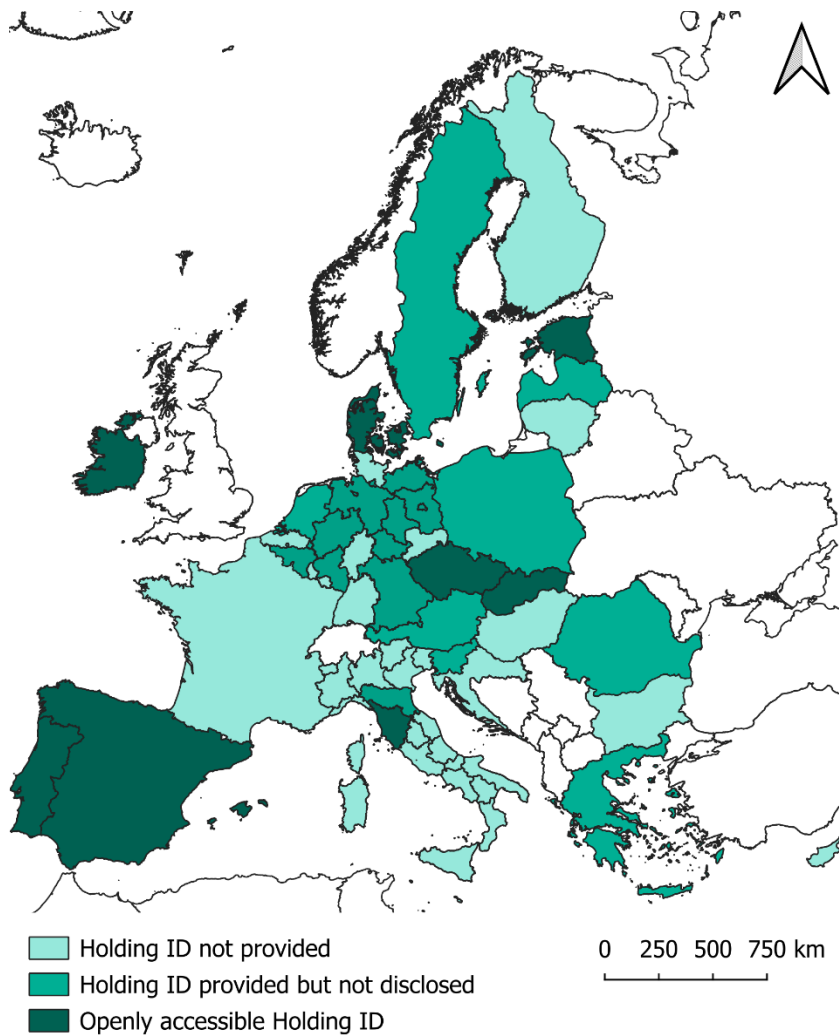


Figure 3: EU-wide access to holding IDs

Identifying spatial drivers of crop sequence diversity across the EU using IACS

Clemens Jänicke presented a Europe-LAND analysis of crop-sequence diversity using harmonised IACS data for countries with seven years of continuous observations between 2017 and 2024. The authors harmonised national crop labels, linked parcels across years, and mapped crop-sequence diversity on a common one-kilometre grid. The results revealed substantial variation in spatial patterns of land use within and across countries (Figure 4). A detailed look into the actual sequences grown in the study area showed that the most common sequences only had low to medium diversity (Figure 4). For example, the lowest diversity could be recorded for 500,000 ha of land where maize monocropping occurred. Machine-learning analysis indicated that climate, topography, animal husbandry and distance to markets contributed to these spatial patterns. Because differences in crop classifications and temporal consistency still constrain reliable comparisons of land-use change, the study focused on crop sequences and their spatial correlates rather than estimating quasi-causal effects of national CAP implementation (Figure 5).

Mean temporal crop diversity

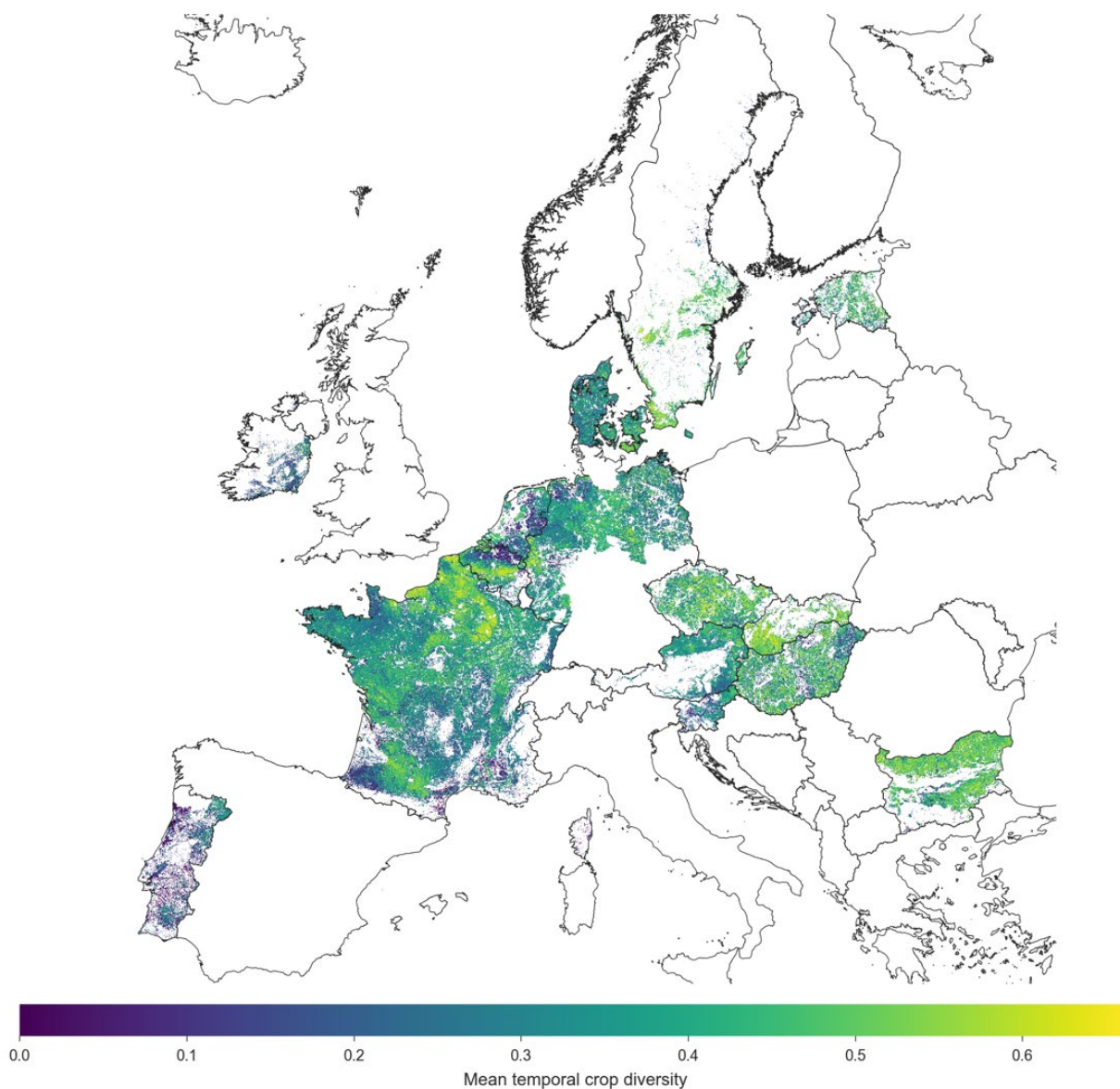


Figure 4: Crop sequence diversity (CSD) across EU countries with a temporal coverage of harmonised GSA data of 7 years between 2017 and 2024. A CSD of 0 indicates low diversity in sequences, and 1 indicates high diversity in sequences

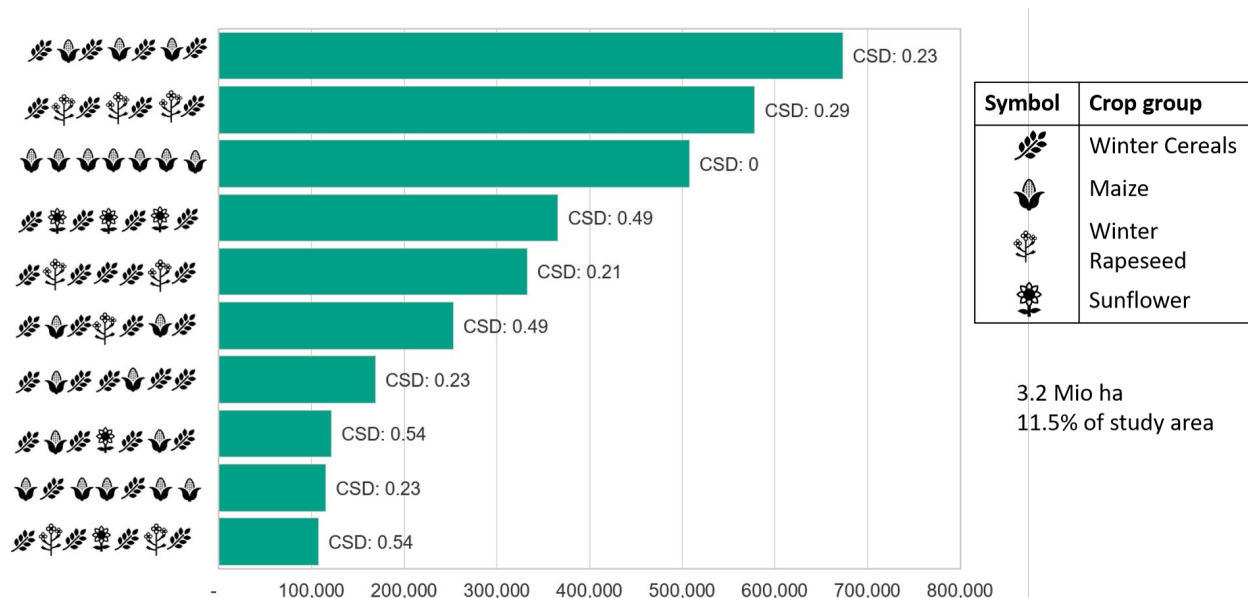


Figure 5 The ten most common crop sequences and their crop sequence diversity (CSD). A CSD of 0 indicates low diversity in sequences, and 1 indicates high diversity in sequences.

This work refines the approach set out in the proposal. Rather than estimating land-use conversions and quasi-causal effects of national CAP implementation, the analysis focuses on crop sequences and their spatial correlates. This adjustment was necessary because, despite harmonisation, the available GSA data remain heterogeneous across Member States and over time. Differences in crop coding, information content, and temporal consistency make consistent land-use-change comparisons unreliable for many countries. For example, Belgium no longer distinguishes between temporary and permanent grassland, while Czechia only recently began distinguishing grain maize from silage maize. The revised approach therefore uses the parts of the database that can be compared more robustly, while retaining the project's objective of generating EU-wide evidence on agricultural land-use and management patterns.

Boundaries and benefits of using IACS data for monitoring and policy advice in Germany

Andrea Ackermann from the Thünen Institut in Germany provided evidence on using IACS data for monitoring, research, and policy advice. A 2026 survey of 158 researchers identified comprehensive spatial coverage, high spatial resolution, and annual time series as the main strengths of IACS. However, respondents also reported substantial legal, administrative, and technical barriers, along with problems with data quality, documentation, and harmonisation. One quarter had abandoned research projects because they could not obtain the required data. Germany's decentralised data provision with 13 national Paying Agencies creates additional inconsistencies across federal states and years. The presentation called for clearer access arrangements, harmonised and research-ready datasets, improved documentation, and sustained exchange between data providers and users. She concluded

by calling for coordinated efforts among policymakers, data providers, and researchers to unlock IACS's full potential for sustainable land management.

The Qa4CAP database and its potential for EU policy

Ferdinando Urbano from JRC presented the EU-wide IACS database managed by the JRC for DG AGRI as part of the annual IACS quality assessment. Since 2023, the database has integrated GSA and LPIS data covering more than five million holdings and approximately 90 million agricultural parcels each year. The JRC uses these data to identify quality issues, promote good data-management practices, and improve interoperability through a harmonised crop-code legend. Further applications include developing indicators for the Farm Sustainability Data Network and analysing national patterns of parcel dispersion. These examples demonstrate the database's potential for policy support and research, while underlining the need for careful interpretation, transparent cooperation, and agreement with Member States on additional uses.

Lessons learned from the moderated discussion

During the presentations and moderated discussion, participants discussed access to and harmonisation of crop codes between Member States. While all recognised the benefits of harmonised crop codes to ease cross-country analyses of IACS, DG AGRI clarified that the EU subsidiarity principle prevents the Commission from instructing Member States to use specific crop codes. Instead, the subsidiarity principle allows Member States to define their own codes and crop names. DG AGRI clarified that the subsidiarity principle limits the Commission's ability to prescribe national classifications.

The panel discussion and informal discussions during conference breaks revealed **tension between the analytical value of harmonised IACS data and the operational priorities of national paying agencies**. Most participants recognised the benefits of comparable crop codes and holding IDs, but **paying-agency representatives also highlighted the additional workload associated with harmonisation and recurring data requests**. As paying agencies dominated the participant list, the discussions focused mainly on data collection, verification, and administrative responsibilities, with little attention to research and policy applications. By contrast, **the Commission and research representatives emphasised the potential of harmonised IACS data to evaluate CAP outcomes, inform policy debates, and support spatially targeted interventions**. The latter also called for stronger interoperability between IACS, the FSDN, livestock registers, and environmental datasets. Future progress therefore requires common standards, adequate resources, incentives for data providers, and governance arrangements that balance European comparability with national flexibility.

Researchers and Commission representatives emphasised IACS's broader value for evaluating CAP outcomes, informing policy debates, and designing spatially targeted interventions. They also called for **stronger interoperability between IACS, the Farm Sustainability Data Network (FSDN), livestock registers, and environmental datasets**. The discussion showed that wider data use requires clear responsibilities, adequate resources, practical incentives for data providers, and governance arrangements that balance European comparability with national flexibility.

The discussion was influenced by the large attendance of paying agencies (who are the key target group for the ICE conferences). It became clear that their main interests relate to managing and verifying IACS data (table 2).

Table 2: At the onset of the panel discussion of session 10, we asked the audience: "Which research analysis of the IACS do you miss?". This table lists the responses submitted on Slido.

The definitions and requirements vary in detail across the Member States; a direct comparison is not readily possible.
Can the CAP be approved and available before the start of the annual campaign?
I think it should be the mission of JRC and DGAgri to harmonize all this data and the improved datasets which already exists. Instead of the playing agencies. This is ELMS! ¹
It would be great to have a unified LPIS GSA pa European dataset. Knowing it is not the oficial version. For multiple purposes would be great to have access to that copy
What is the status of the implementation of the High Value Dataset Act, which required certain IACS elements to be made publicly available?
Qa4CAP: you mentioned the existence of crop types in the context of the QA. So far they are not reported. The November reporting only includes BISS parcels. Where does this information come from?
Given the option of recommendations by the EC in accordance with art. 2 from the CAP Regulation proposal in the next period, to what extend the subsidiarity is applied?
One thing the AMS experience taught us: guidance and control expectations across Commission services need to match before publication, not after. Worth fixing for the next period.
Cross-theme collaboration needs to include participatory discussion and agreement at, say catchment scale, in order to agree a plan, reward good compliance and monitor against it

The audience had little concern about using IACS data for policymaking or decision support. However, for some member states, even sharing of IACS data reportedly posed an extra burden on paying agencies and requests for updated IACS data were considered a nuisance.

This differed in the panel, where three panellists working for the EU Commission argued for the potential benefits of using insights from analyses of harmonised IACS to inform members of Parliament

¹ European Land Monitoring System (ELMS) is an upcoming framework designed to integrate with the EU's existing Integrated Administrative and Control System (IACS) to modernize agricultural and environmental monitoring

about the land-use consequences of the CAP. The same persons also called for **greater interoperability between land-use-related datasets, e.g. the IACS, the FSDN, and livestock registers.**

Key Takeaways from the Science Policy Interaction

The IACS dataset offers high-resolution, annual agricultural land-use data at the parcel level, making it invaluable for monitoring nutrient balances or greenhouse gas emissions, biodiversity, and CAP compliance, including eco-schemes.

Scientists from the Joint Research Centre and Europe-LAND researchers unanimously called for better data access through public data sharing and harmonisation of crop codes/names used by member states. The full IACS dataset should be disclosed, including geolocated livestock information. Access to harmonised IACS data would, for instance, allow analysis of the impact of changes in the Common Agricultural Policy (CAP) on land system patterns; identify areas where the CAP supports either greening or intensification of agriculture; and use these insights to design spatially targeted interventions.

The conference participants were predominantly from paying agencies. They showed little interest in using IACS data for policymaking, but raised concerns about controlling, sharing, and harmonising data because of expected workload increases. The current subsidiarity rules of the EU prevent the Commission from detailing how Member States report IACS crop codes/names, effectively working against harmonisation of the crop codes/names. Increasing crop code harmonization would require changes to the institutional setup behind the IACS system which is beyond the capacities of paying agencies.

Under these circumstances, it is worth considering whether differing data practices and case-by-case access for researchers are efficient for paying agencies. Regular publication of harmonised data could reduce the workload associated with individual requests, although preparing, updating and protecting the data would still require resources. More consistent compliance with, and stronger enforcement of, Article 67(3) of Regulation (EU) 2021/2116, which already requires Member States to make relevant IACS datasets publicly available, would likely improve data access and reduce reliance on individual requests. The Commission's consideration to simplify technical rules for formatting and sharing data and integrate access to INSPIRE data into data.europa.eu should balance researchers' needs with efforts to reduce the workload of paying agencies (European Commission, 2025).

Given the reluctance expressed by paying agencies, further harmonisation efforts appear unlikely in the near term. Nevertheless, the following measures could also reduce their workload in the longer term. Paying agencies across Member States could jointly develop and maintain a comprehensive



reference list of crop codes with common definitions, from which each agency selects the crops relevant to its needs. Existing national codes could be mapped to this list, allowing agencies to retain the distinctions needed for administering CAP payments while supporting cross-country comparisons. An agreed procedure for adding crops and documenting changes would help maintain consistency over time. This would be a voluntary collaboration between member states that does not violate the subsidiarity principle. The scientific community could assist this process by compiling and harmonizing data, if all national paying agencies implement operational and publicly accessible data sharing systems.

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