EU CAP NETWORK

Organic farming

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EU CAP NETWORK

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List of acronyms

CMEF	Common Monitoring and Evaluation Framework
DiD	Difference in difference
ECA	European Court of Auditors
ERDF	European Regional Development Fund
EAFRD	European Agricultural Fund for Rural Development
FBI	Farmland Bird Index
GHGs	Greenhouse gases
GVA	Gross value added
IACS	Integrated Administration and Control System
LPIS	Land Parcel Identification System
NIR	National Inventory Report
PMEF	Performance Monitoring and Evaluation Framework
RD	Rural development
RDP	Rural Development Programme
SOC	Soil organic carbon
SP	Strategic Plan
TOC	Total organic carbon
TOE	Tonne of oil equivalent
UAA	Utilised agricultural area
UK	United Kingdom

European Union (EU) country codes sorted by official protocol order

Member State	Country codes	Member State	Country codes	Member State	Country codes	Member State	Country codes
Belgium	(BE)	Spain	(ES)	Hungary	(HU)	Slovakia	(SK)
Bulgaria	(BG)	France	(FR)	Malta	(MT)	Finland	(FI)
Czechia	(CZ)	Croatia	(HR)	Netherlands	(NL)	Sweden	(SE)
Denmark	(DK)	Italy	(IT)	Austria	(AT)		
Germany	(DE)	Cyprus	(CY)	Poland	(PL)		
Estonia	(EE)	Latvia	(LV)	Portugal	(PT)		
Ireland	(IE)	Lithuania	(LT)	Romania	(RO)		
Greece	(EL)	Luxembourg	(LU)	Slovenia	(SI)		

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Questions and suggestions regarding the content of the publication can be addressed to the European Evaluation Helpdesk for the CAP at evaluation@eucapnetwork.eu.

Introduction

This publication presents findings identified from Member States CAP evaluations concerning organic farming. As a sustainable production model, organic farming supports ecosystem health, ethical treatment of animals, nutritious food, and human well-being by utilising natural systems, rotating crops, and maintaining self-sufficient nutrient cycles. A sustainable food system is at the heart of the European Green Deal. Under the Green Deal's Farm to Fork strategy, the European Commission has set a target of having 'at least 25% of the EU's agricultural land under organic farming by 2030'.

In support of the EU CAP Network, the European Evaluation Helpdesk for the CAP (Evaluation Helpdesk) identifies and collects evaluations undertaken by Member States in relation to the CAP on an ongoing basis to build the CAP evaluation database. The database serves multiple purposes, including bringing together common findings on related topics and identifying good and recommended evaluation practices. Some relevant evaluations from this database are published on the EU CAP Network website.

This publication contains a review of the evaluations in the CAP evaluation database related to organic farming. It gathers the available empirical research in the database on the topic, grouping findings with a similar focus and drawing preliminary conclusions based on the observed trends. In addition, it contains ideas on how to overcome common challenges confronted while undertaking these evaluations, based on a sample of evaluations that have undergone in-depth appraisals by experts in the field. Hence, the publication does not constitute a meta-analysis, which would imply a statistical process of analysing and combining results from several similar studies to produce new findings.

As such, this publication aims to inspire readers to delve deeper into the evaluations reviewed. It should serve as both a reference for readers seeking examples of findings from the evaluations undertaken by Member States concerning the CAP and organic farming, and to inspire future evaluators of the topic by sharing good evaluation practices identified in some of these reports.

First, an overview of the current state of play regarding the frequency with which these evaluations have been undertaken in individual Member States is provided, as well as an explanation of the type of evaluations carried out. The second chapter presents examples of the findings from these evaluations, along with a brief analysis of them. Finally, the third chapter examines some of the challenges commonly encountered when undertaking evaluations on the topic, including suggestions for overcoming these challenges to inspire future evaluators.

1. Where do we stand?

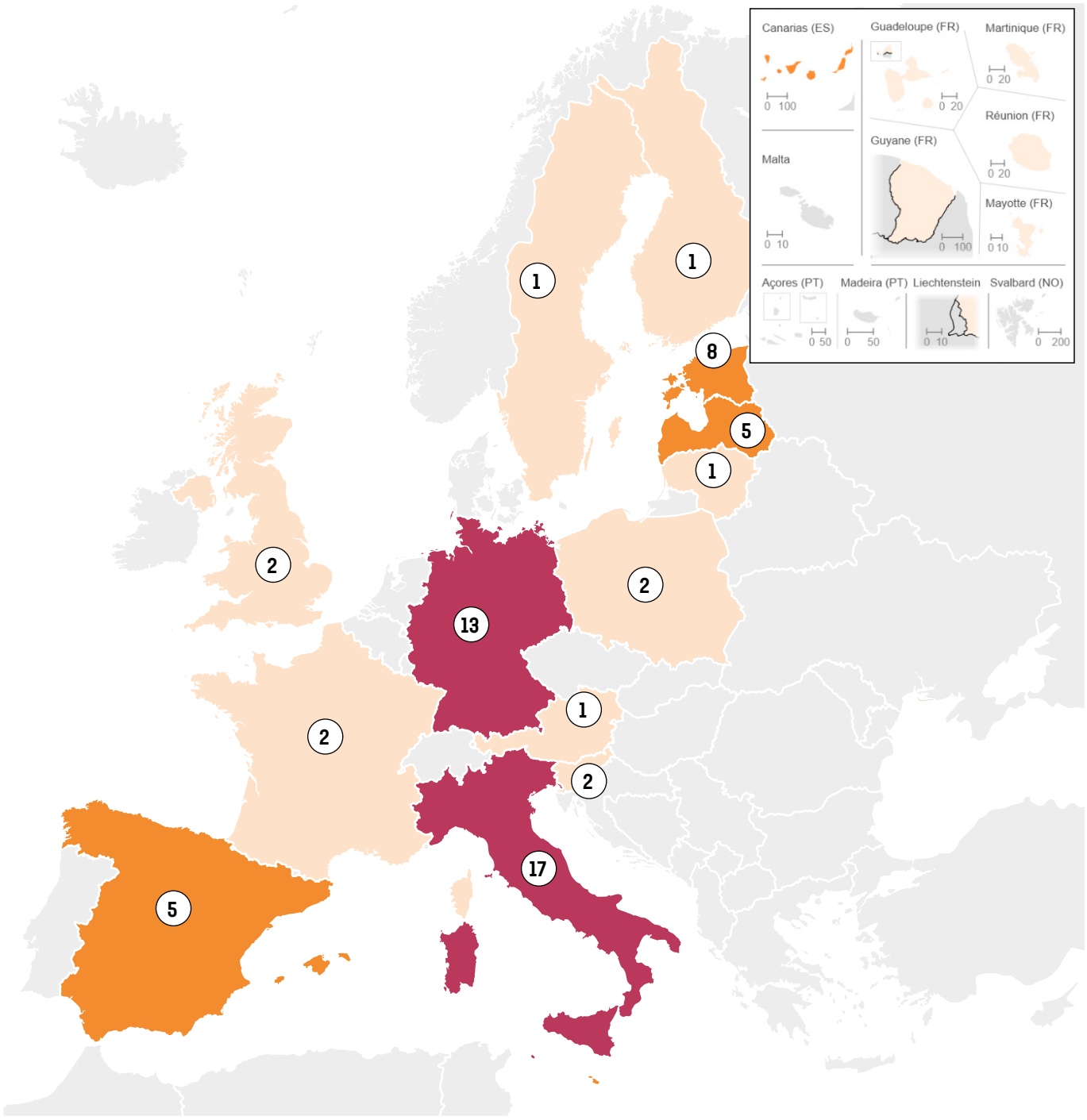
Between 2018 and 2025 (April), 60 evaluations undertaken by Member States have been identified as relevant concerning the CAP and organic farming (Annex I). These evaluations have been identified from over 650 evaluations stored in the CAP evaluation database of the Evaluation Helpdesk [1], and from here on, they are referred to as organic farming-related evaluations. It should be noted that additional Member State evaluations relevant to this topic may be available; however, these have not yet come to the attention of the Evaluation Helpdesk.

The CAP organic farming-related evaluations were identified based on the stated objectives of the evaluations, as well as the identification of findings related to organic farming (this also included evaluations where organic farming was not explicitly stated as the primary focus).

This chapter outlines the main characteristics of these evaluations, which were identified from 12 Member States and the United Kingdom (13 countries in total). Among the 60 studies, the highest number of evaluations originates from regionalised Member States, namely Italy (17 evaluations), Germany (13), and Spain (5), as well as Estonia (8) and Latvia (5). For the remaining Member States (France, Austria, United Kingdom, Finland, Lithuania, Sweden, Slovenia and Poland), between one and four CAP organic farming evaluations are currently stored in the database (Figure 1).

[1] The CAP evaluation database of the Evaluation Helpdesk consists of the CAP-related evaluations carried out by Member States since the previous CAP programming period (2014-2020).

Figure 1. Organic farming-related evaluations undertaken by 12 Member States and the United Kingdom between 2018 and May 2025

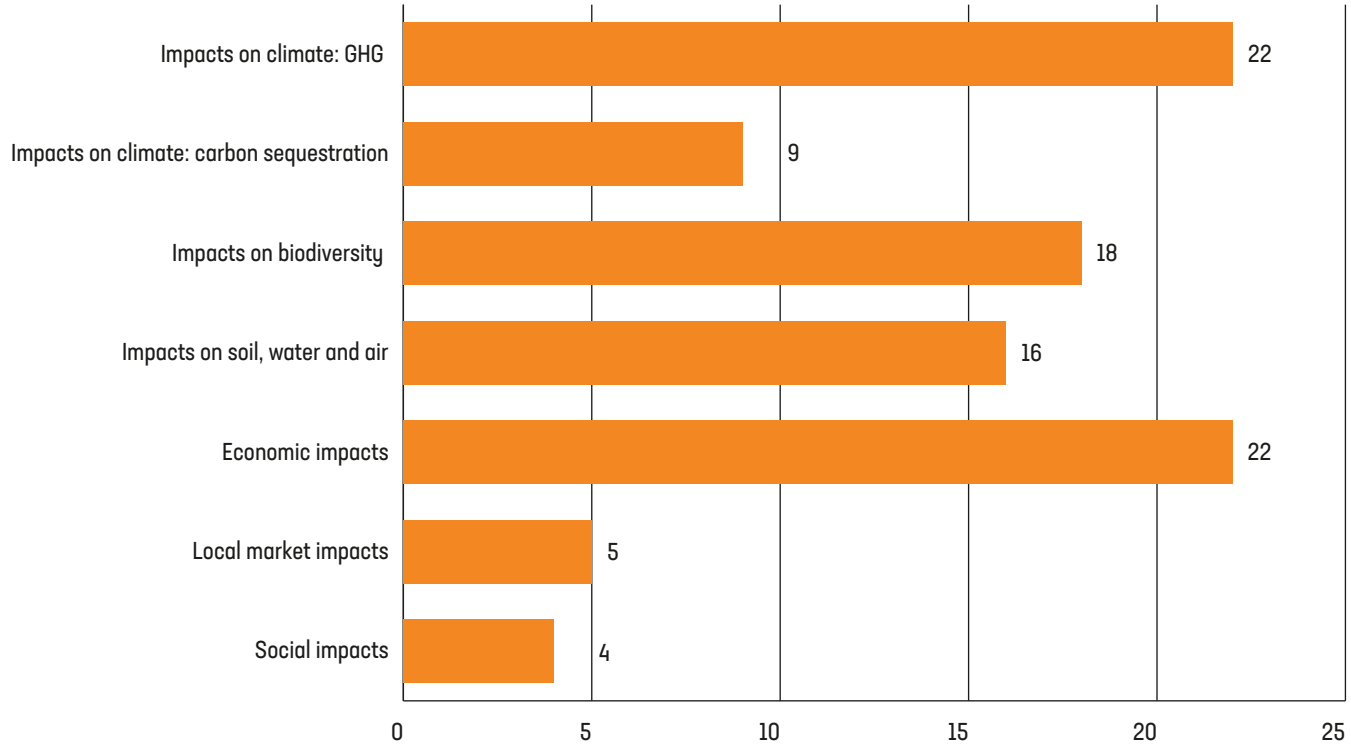


Source: CAP evaluation database (2025), EU CAP Network

Except for four evaluations published in 2018 or 2019, most of the organic farming-related evaluations (56) available in the CAP evaluation database were published between 2020 and 2024.

These evaluations generally focused on the effects of support for organic farming under the Rural Development Programmes (RDP) implemented during the 2014-2020 programming period on the development of organic farming and its impact on different CAP objectives. For instance, 31 evaluations examined the impact of organic farming on climate change, out of which 22 contained findings related to greenhouse gases (GHGs) and nine explicitly associated with carbon sequestration. Almost a third (18 of the 60 evaluations) observed the impact of organic farming on biodiversity, and 16 measured the impact on soil, water and air. Finally, 22 evaluations contained findings on the economic impact of support for organic farming via the CAP, while nine examined the impact on the local market and social impacts. It should be noted that a single evaluation may examine the impact of the development of organic farming supported by the CAP on several objectives, resulting in a total number exceeding 60 (Figure 2 below).

Figure 2. Types of impact considered by the 60 organic farming-related evaluations



Source: CAP evaluation database (2025), EU CAP Network

Another way to classify the evaluations is also by type of evaluation. For this purpose, four categories were used as described below (Table 1).

Table 1. Organic farming-related evaluations across evaluation types

Type of evaluation	Definition	Numbers of evaluations
Impact-oriented evaluation	An evaluation that captures the higher-level effect (impacts) of a programme/ intervention against a baseline situation (with or without a counterfactual approach)	24
Result-oriented evaluation	An evaluation that captures achievements of results by beneficiaries in relation to targets planned, but does not necessarily capture effects against a baseline situation	24
Process-oriented evaluation	An evaluation that assesses how a programme/intervention is implemented (e.g. governance, delivery system, communication, technical assistance, networks)	3
Research study supporting evaluation	Analytical work that supports evaluation without assessing the effect of the programme/intervention (e.g. context analysis, environmental monitoring study, study to develop evaluation methods, identification of data gaps)	9

Source: CAP evaluation database (2025), EU CAP Network

As indicated in Table 1, the CAP evaluation database contains CAP organic farming-related evaluations from all four categories. Nonetheless, this synthesis primarily focuses on impact-oriented (24) and result-oriented (24) evaluations [2].

[2] An example of a result evaluation is the study undertaken by Spain-La Rioja, on 'Contribution of the RDP to organic production in the region', while for an impact evaluation, an example is the one undertaken by Finland on 'Assessment of the significance of the Mainland Finland Rural Programme 2014-2020 for biodiversity and the landscape'.

2. What has been found?

Context – The sector

Organic agriculture is a production system that promotes environmental sustainability, animal welfare, human health and food quality by relying on natural processes, crop rotation and closed nutrient cycles [3]. As of 2022, approximately 16.9 million hectares of agricultural land in the EU were under organic management, representing about 10.5% of total agricultural land (Eurostat, 2023), up from 9.1% in 2020 and reflecting steady growth [4]. Over 450 000, or nearly 9% of the farms with more than two hectares of land, were certified as organic in 2022, with significant variation across Member States. For instance, Italy and Spain lead in the number of farms, while France and Spain lead in hectares of land. Denmark and Austria have the highest share of organic land. Permanent grassland dominates EU organic land (45%), followed by cereals (15%), forage plants (12%) and permanent crops like fruit trees, olive groves and vineyards (10%). Organic livestock production in the EU is growing but remains a niche sector. In 2022, organic farming in the EU included 7.2% of bovines, 4.9% of cows, 10.4% of sheep and 12.7% of goats. Meanwhile, although the organic poultry sector is small (~4%), it is experiencing rapid annual growth of approximately 8-10% [5]. Organic dairy and meat also experience substantial growth rates (~5-7%), especially in Northern Europe [6].

The EU organic market was valued at EUR 46.5 billion in 2023, with annual per capita spending being the highest in Denmark (EUR 384) and Austria (EUR 254) [7]. Germany remained the largest market in Europe, with sales of EUR 16.1 billion, followed by France with sales of EUR 12.1 billion. Retail sales in the EU grew by more than double from 2014 to 2023. In 2023, the number of organic food manufacturers reached 89 379, marking a 1.8% increase from 2022, with Italy leading with 24 800 [8].

Context – Rationale for supporting organic agriculture

Support for organic agriculture was introduced into the CAP as part of the 1999 'Agenda 2000' reform [9], and RDPs formalised organic payments as a core measure, with funding for conversion and maintenance becoming standard across Member States. The evaluations of the RDPs' organic agriculture measure for 2014-2020, as examined in this chapter, were conducted within a specific legal and policy framework shaped by the EU's CAP and its commitment to sustainable farming. Governed by Regulation (EU) N° 1305/2013 [10] and aligned with organic standards under Regulation (EC) N° 834/2007 [11] and later with Implementing Regulation (EU) 2018/848 [12], the RDPs provided targeted support through Measure 11 (M11 – Organic agriculture), offering payments for conversion to and maintenance of organic farming, aiming to scale up organic farming and deliver environmental and socioeconomic benefits [13]. The organic area supported by CAP increased by a stunning 135.3% from almost 5.2 million ha in 2015 to 12 million ha in 2022. In 2022, nearly 82% of organic land received specific CAP support. The needs driving organic agriculture support in the 2014-2020 RDPs encompassed ecological challenges (e.g. biodiversity loss, soil degradation), economic barriers (e.g. conversion costs, market opportunities), social demands (e.g. consumer preferences for sustainable food), policy imperatives (e.g. EU 2020 Strategy, CAP objectives) and regional disparities (e.g. low uptake in some Member States).

In 2024, a European Court of Auditors (ECA) report [14] highlighted the need for more consistency in EU and national policies for the organic sector to enhance the overall effectiveness of support for organic farming. It also emphasised that while EU funding has helped expand the area of organic farming, the integration of environmental and market objectives into the CAP should be improved to strengthen the organic sector and ensure environmental benefits. Finally, the ECA report stated that there is a lack of reliable and comprehensive data to assess the impact of CAP support for organic farming, as existing monitoring tools do not adequately measure results, and fewer statistical variables are now being collected, making it challenging to inform policy decisions and track progress. The ECA recommended that the European Commission, utilising existing data, collaborate with Member States to evaluate the effectiveness of CAP support for organic farming in achieving CAP objectives. Additionally, it urged improved data collection through the Farm Sustainability Data Network (FSDN) and the use of more granular metrics for the organic sector to better evaluate the impacts of policies and inform decisions.

[3] Regulation (EU) 2018/848 of the European Parliament and the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) N° 834/2007 (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R0848).

[4] Eurostat: EU organic farming: 16.9 million hectares in 2022. 19 June 2024. Accessible at: https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240619-3.

[5] FiBL & IFOAM – Organics International. The World of Organic Agriculture. Statistics and Emerging Trends 2025. Accessible at: Organic Eprints - The World of Organic Agriculture. Statistics and Emerging Trends 2025.

[6] Eurostat: Developments in organic farming. Data from June 2024. Accessible at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Developments_in_organic_farming.

[7] FiBL & IFOAM above.

[8] FiBL & IFOAM above.

[9] European Commission, *Agenda 2000 for a stronger and wider Union*: Agenda 2000: for a stronger and wider Union | EUR-Lex.

[10] Regulation (EU) 1305/2013 of the European Parliament and the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) N° 1698/2005 (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1305).

[11] Regulation (EC) N° 834/2007 of the Council of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) N° 2092/91 (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834).

[12] Same as 1.

[13] The wide range of expected outcomes from supporting organic agriculture is encapsulated by EU Regulation (EC) 1305/2013's recital 23 to include: response to societal demand for environmentally friendly practices and high standards of animal welfare; enhanced biodiversity and environmental benefits; avoiding large-scale return to conventional farming and encouraging long-term commitment to organic methods.

[14] European Court of Auditors, 2024, *Organic farming in the EU – Gaps and inconsistencies hamper the success of the policy*, Special report 19/2024. Available at: https://www.eca.europa.eu/en/publications?ref=SR-2024-19.

This context underscores the crucial importance of evaluating support for organic agriculture within the 2014-2020 RDPs, considering the complex interplay of ecological, economic and social objectives alongside identified policy gaps and data limitations. This chapter presents valuable insights from 60 evaluations related to organic farming, reflecting the extent to which the RDPs have addressed the identified needs and achieved the anticipated environmental and socioeconomic benefits of organic farming. It is structured to provide insights on a range of topics, starting with the uptake and results of support for organic agriculture, and then describing the various impacts of organic farming on biodiversity, water, air, soil, climate, socioeconomic factors and the market. These sections aim to gather the available empirical research on the topic and draw first conclusions on the performance of organic farming support, as well as identify lessons for future policy design.

2.1. Uptake and results of support for organic farming

RDPs supported the aims of the EU Organic Action Plan. Attracting land and farms to organic farming has been and remains an important policy target. The EU Organic Action Plan (2021) [15] has an objective for 25% of EU agricultural land to be under organic management by 2030, aligning with the European Green Deal's Farm to Fork strategy and the EU Biodiversity Strategy. Based on the evaluation findings presented in this document, support for organic agriculture under the CAP during the 2014-2020 programming period, most frequently under M11, contributed to substantial increases in the area under organic management and in the number of participating farmers across several Member States. However, the extent to which the targets, expressed in national action plans or RDPs, were achieved varies by country and region.

Twenty-one evaluations across Europe highlight the success of RDPs in expanding organic farming, with notable increases in both land area and operator participation [16]. In Italy, Emilia-Romagna (Ref. 33) supported 83% of its organic land, covering 14% of the utilised agricultural area (UAA). At the same time, the Marche region (Ref. 38) saw its organic area surge from 4.2% of UAA in 2016 to 25.4% in 2020. Lombardy (Ref. 37) achieved nearly 25% of its UAA under organic cultivation, whereas Sardinia (Ref. 42) lagged with only 10% of its UAA. In Spain, the Balearic Islands (Ref. 22) achieved a 19.6% UAA under organic farming. In Germany, Saarland (Ref. 10) reported 18% of its land as organic, aiming for 25% by 2025, while North Rhine-Westphalia (Ref. 8) and Schleswig-Holstein (Ref. 13) saw organic areas grow by 37% and 100%, respectively, by 2020. Lithuania (Ref. 51) recorded a 48% increase in certified organic land, reaching 236 000 ha (8.59% of UAA) by 2020. Operator engagement was also significant, with almost 9% of the 2020 farm holdings supported in one Italian region (Ref. 31), covering more than a quarter of its UAA, and ~6% of the 2020 farm holdings in North Rhine-Westphalia (Ref. 8) managing ~5% of the region's UAA. These results demonstrate substantial progress in the adoption of organic farming, although regional disparities highlight uneven uptake.

Organic support was granted to a variety of crop and livestock farm types. The RDPs primarily supported the organic cultivation of permanent grassland and pastures, arable crops (mainly cereals, legumes and buckwheat), olive groves, vineyards, fruits, berries, vegetables, and livestock systems (including extensive grazing and beekeeping), with priorities varying by region and country. In Spain and Italy, organic support was often directed towards olive groves and vineyards. In areas of Spain, 'arable crops and olive groves' were noted as major groups for which organic premiums were claimed (e.g. Ref. 24) as well as in Italian regions (e.g. Ref. 31). Organic livestock farming's pervasive grazing systems were a significant component of RDP support in Spain, Italy and Germany.

Not all organically cultivated land is supported. Evaluations provided clear evidence that support addresses only a fraction of the organically farmed land in several regions and Member States. In La Rioja (Ref. 24), 55.18% of the organic area received support from the RDP, meaning nearly half of the organic area was not supported. Excluding organic pastures, the area not supported by the RDP accounted for 22.2% of the organic crop area. In Navarre (Ref. 25), 66% of the organically grown area and 71% of organic livestock units benefited from RDP support. In Estonia, the RDP supported 79% of the country's registered organic area. In the Balearic Islands (Ref. 22), only 60% of the area registered in the Organic Farming Regulatory Council is claiming RDP support. In the less-favoured areas of Lithuania (Ref. 51), financial compensation and measures aimed at sustainable land management provided the preconditions not only for attracting farmers to convert but also for maintaining organic farming activities and reducing the risk of land abandonment, which was the only alternative to conventional arable farming apart from converting to supported organic agriculture.

Payment levels and eligibility criteria affected the effectiveness of RDPs in attracting farmers to organic cultivation. Survey responses in Sweden (Ref. 58) and the Schleswig-Holstein study in Germany (Ref. 13) indicated that the level of compensation was a significant factor in the decision to convert to organic production methods. Farmer surveys in Latvia (Ref. 49) and Lithuania (Ref. 51) noted the low level of support (Lithuania) and the effect of payment levels on the choice of crops (Latvia). Eligibility criteria for organic farming support significantly influence access and outcomes, often favouring larger, established operations over small or new entrants, as seen in Lithuania (Ref. 51), where area thresholds and commitment durations affect participation, in Sweden (Ref. 58) where rural-urban definitions and administrative compliance shape geographic and farm type eligibility, and in the region of La Rioja in Spain (Ref. 24) where strict area requirements limited adoption to 55–60% of organically managed land, while in Latvia (Ref. 46), certification requirements demanded a certain level of income which led to intensified management practices on protected grasslands.

[15] European Commission, *An Action Plan for the Development of Organic Production*, COM(2021) 141 final/2. Accessible at: https://eur-lex.europa.eu/resource.html?uri=cellar:13dc912c-a1a5-11eb-b85c-01aa75ed71a1.0003.02/DOC_1&format=PDF.

[16] Ref. 33, 38, 40, 47, 41, 4, 10, 6, 57, 14, 24, 31, 51, 58, 18, 22, 25, 30, 37, 9 and 13.

Diverse organic farms' structures and farmers' characteristics [17]. In Lithuania (Ref. 51), beneficiaries of organic farming were predominantly smaller farms compared to their conventional counterparts. As a result, 90% of beneficiaries received about 60% of the allocated support. This indicates that a significant portion of the support, approximately 40%, was allocated to only 10% of the beneficiaries. In Sweden (Ref. 58), between 2013 and 2017, the average area of supported organic cultivation increased from roughly 53.4 ha per supported farmer to 65.1 ha. In addition, more than three-quarters of organic farmers operated in less-favoured areas. In the German region of Schleswig-Holstein (Ref. 13), the evaluation indicated that conversion to organic farming was possibly undertaken by less productive or less intensively managed farms, suggesting that low-productivity farms, due to low fertility or other constraints, selected organic farming as a sustainable alternative. In North Rhine-Westphalia (Ref. 9), the farms in receipt of organic payments were characterised by higher grassland use, and by a higher average area (44 ha) than conventional farms (37 ha). In the Marche region of Italy (Ref. 38), 81% of newly established farms adopted organic farming methods directly linked to the objectives and incentives of the tender for young farmers, which favoured organic agriculture, highlighting a strong effect in attracting new farmers. Among young farmer beneficiaries in Lazio, Italy (Ref. 36), 36.4% applied for support for conversion to organic farming, a figure substantially higher than the regional and national average for farmers under 40, indicating the measure's particular appeal to new and younger entrants. In Estonia (Ref. 14), the share of economically viable organic producers increased from 40% in 2019 to 47% in 2020, and the evaluation suggested that M11 helped maintain and grow the organic sector by making it more attractive to new entrants.

2.2. Impacts on biodiversity

RDP support for organic farming is widely evidenced to enhance biodiversity [18]. Nineteen studies directly reference the impacts of organic agriculture on biodiversity, discussing the effects, indicators and the most effective organic farming practices for biodiversity. Organic farming in Finland (Ref. 57) and Saarland (Ref. 10) has significantly enhanced biodiversity on arable land, surpassing the impact of catch crops and flowering areas supported by agri-environmental measures, which justified the retention of current funding levels for organic farming. In Lower Saxony (Ref. 6), evaluation findings showed that although organic farming had only a medium positive biodiversity effect, it is the most critical biodiversity measure due to its extensive coverage, i.e. the area it encompasses.

Organic farming promotes biodiversity-sensitive farm practices. The compulsory ban or reduction of certain synthetic pesticides and fertilisers was shown to improve biodiversity in soils, plants and insects, e.g. Saarland, Germany (Ref. 10). Crop rotation and diversification practices, especially with the introduction of legumes, enhanced flora richness, increased species abundance and improved the botanical structure (e.g. Ref. 21). Permanent grassland maintenance and a higher share of grasslands in organic farms benefit biodiversity (Ref. 15). Some evaluations mentioned landscape elements, grasslands and flower strips, as well as wider buffer zones, which increased flower and bumblebee abundance (e.g. Ref. 17 and Ref. 37).

Evaluations used a range of biodiversity indicators [19] to assess the impact of organic and agri-environmental measures. Evaluations in Estonia (Ref. 14), Latvia (Ref. 50) and Germany (Ref. 8), demonstrated that organic farming significantly enhanced biodiversity, with indicators like the 'Farmland Bird Indicator', or additional indicators reflecting bird abundance, bumblebee population status, insect diversity, and botanical composition showing improved ecological outcomes due to bans on synthetic pesticides and mineral fertilisers, better habitat conditions from flowering plants and synergistic effects in Natura 2000 (e.g. Ref. 6) or high nature value areas (e.g. Ref. 43); notably, organic farms outperform conventional ones in supporting soil bacterial diversity and insect protection, particularly on arable land, with effectiveness linked to long-term, widespread implementation (Ref. 8).

Inadequate or suboptimal scheme designs may reduce the effects of organic farming on biodiversity. Lack of coordination among eligibility criteria, requirements, spatial targeting and other design elements can reduce the effectiveness of organic farming in terms of biodiversity. In Latvia (Ref. 46), the eligibility conditions for organic farming, encouraged by the certification requirement, required beneficiaries to demonstrate that they received at least 200 euros of income per hectare of agricultural land, irrespective of the type of land. This criterion also applied to the Habitats Directive (92/43/EEC) [20] Annex I conservation grassland, which resulted in the use of more intensive practices. As underlined by the evaluation, this option could have been avoided if this type of grassland had been defined as a separate category, with different eligibility criteria. In Brandenburg (Ref. 3), within the nature conservation areas for 'amphibians', the share of fallow land which could contribute to meeting the ecological focus area (EFA) requirement of the 'greening' payments was found to be below the average. One reason was that organic farmers were automatically eligible for the greening payment and, with no obligation to leave a proportion of their arable land fallow under the EFA requirements. In addition, some evaluations noted that the long-term effects may weaken if funding is only temporary, either because farms may revert to conventional cultivation or a significant decline in organic farming areas could reduce the landscape-level benefits that come from having a large-scale organic presence, as in Finland (e.g. Ref. 57). The latter underlines the importance of studying scheme dropout or non-renewal rates. Unfortunately, this was examined in only one evaluation in the Balearic Islands (Ref. 22), which calculated the number of dropouts between the first and last year of commitment at around 7-8%. The same assessment, however, noted that on the occasion of applying for an extension, 13% of the 2015 call beneficiaries did not continue either because they wanted to abandon organic cultivation or because they wished to apply to the upcoming strategic plan (SP).

[17] Seven evaluations refer to the structural characteristics of supported organic farms including their average farm size (Ref. 58, 51, 18 and 9), special locational characteristics (Ref. 58 and 9), farm diversification and adoption of organic cultivations (Ref. 58 and 39) and the need for training (Ref. 44 and 36).

[18] Ref. 46, 3, 27, 10, 6, 57, 1, 14, 29, 43, 51, 58, 55, 17, 8, 50, 37, 19 and 20.

[19] Eight evaluations make explicit and direct use of biodiversity indicators including the FBI or other bird, bumblebee or other insect indicators (Ref. 56, 43, 16, 14 and 8), flora species and botanical diversity (Ref. 46, 50 and 37) or soil bioma (Ref. 8) while one evaluation (Ref. 57) makes implicit reference to a biodiversity indicator.

[20] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

2.3. Impacts on natural resources: water, air and soil

Research studies in Germany, Italy and Lithuania, generally demonstrated the positive role of organic farming in reducing nutrient leaching and nitrogen loads to water (e.g. Ref. 7, Ref. 51 and Ref. 32), lower ammonia emissions to air (e.g. Ref. 34), and improved soil organic matter and soil structure compared to conventional agriculture (e.g. Ref. 60). In general, this was confirmed in the reviewed evaluations, with support for organic farming seen to have a notable positive impact on soil nutrient balance and water quality in several Member States, although with some variations and caveats.

Support for organic farming lowered nitrogen (N) and other nutrient inputs. Eleven evaluations [21] found that organic farming used significantly lower nutrient inputs and lower nutrient balances than conventional farming due to system-inherent practices such as the very low use of mineral fertilisers, lower stocking rates and increased reliance on crop rotations and legumes. One evaluation in Germany (Ref. 7) found that organic farming differs from conventional farming in terms of nutrient flows, characterised by significantly lower inputs per unit area and correspondingly lower nutrient outputs via plant and animal products. Crop rotation, legumes and green manures were the primary practices directly supported under organic farming, which enhanced nutrient cycling and reduced surpluses. In Puglia (Ref. 40), organic agriculture resulted in an 18 kg/ha reduction in nitrogen loads, equivalent to a 35% decrease from the baseline. In contrast, integrated agriculture achieved a 15% reduction, equivalent to approximately 11 kg/ha. In Austria (Ref. 52), organic farming methods had equally beneficial effects on nutrient management.

Effects on water quality can be significant. Reduced nutrient leaching and loads were a key benefit of organic agriculture. The Latvian evaluation (Ref. 47) identified organic support as the most critical area for payment measures to improve water quality in the 2014-2020 RDP. However, the evaluation noted the absence of a targeted approach to implementing organic agriculture as a measure for improving water quality. Thus, organic farming was recommended for target areas and territories with significant water quality impacts from agriculture. By prohibiting most synthetic pesticides and mineral fertilisers, organic farming was associated with lower water pollution risks and a positive effect on the water footprint (Ref. 10).

Organic agriculture benefits soils by enhancing organic matter and increasing protection against soil erosion [22]**.** Organic farming was shown to enhance soil health across Europe. Practices like legume cultivation and humus buildup increased soil organic matter (Ref. 1) and winter vegetation cover (on up to 53% of arable land in Ref. 15) reduced nutrient leaching and erosion. Organic farms in Lithuania (Ref. 51) increased carbon stocks (41 600 to 49 000 tonnes annually), leading to improved erosion resistance. In Lombardy, Italy (Ref. 37), organic practices supported soil protection and carbon stocks on 18% of the regional UAA.

Organic agriculture reduced ammonia emissions primarily by restricting or eliminating the use of synthetic nitrogen fertilisers and lowering stocking densities for livestock, key sources of ammonia emissions in conventional agriculture. In Marche (Ref. 38), organic farming was the most significant contributor to ammonia reductions, estimated at 370 tonnes per year. In Lithuania (Ref. 51), where the annual total ammonia emissions were approximately 30 kt, organic farming reduced ammonia emissions by 3.69 kt between 2015 and 2020.

Flawed or impractical scheme designs can reduce the effectiveness of organic agriculture in protecting resources. Evaluations from Italy (Ref. 40) and Latvia (Ref. 47) suggested that while organic support is beneficial, it is not always well-targeted to areas of the highest water quality risk and thus does not operate at its full potential. In other evaluations (e.g. Ref. 14), it was noted that although improvements were positive, the extent of adoption was 'insufficient to prevent negative changes' such as in ammonia emissions or excess nitrogen balance on soils or to reverse trends in water quality fully. In rare cases, evaluations identified potential adverse effects, including increased erosion and decreased soil organic matter, underscoring the need for further research and context-specific recommendations on how to mitigate possible adverse effects (Ref. 54).

2.4. Impacts on climate

Evaluations highlighted the positive effects of organic agriculture in reducing GHG emissions by lowering or eliminating synthetic nitrogen fertiliser use and enhancing soil carbon sequestration, as documented in direct emission reduction figures and scenario models across multiple countries.

Organic farming reduced GHG emissions primarily by avoiding synthetic nitrogen fertilisers [23]**.** Organic farming significantly reduced GHG emissions across several European regions, with Austria (Ref. 52) achieving 144.1 kt CO_2e in 2014-2020, Italy (Ref. 34 and Ref. 39) reporting reductions of 16 652 t and 9 836 t CO_2e per year (99% from organic farming), Lithuania (Ref. 51) cutting 433.58 kt CO_2e from 2015-2020. In the UK (Ref. 59), scenario modelling, including nature-based solutions (NBS) and organic farming, projected a cumulative CO_2e reduction of up to 67% by 2100. The high variation in the magnitude of reduced GHG emissions primarily reflected the variation in the size of organic farming applications, rather than their efficiency, i.e. the tonnes reduced per hectare of implemented organic farming.

Organic farming significantly boosted soil carbon sequestration through practices like legumes, catch crops and reduced tillage, with evaluations in Lithuania (Ref. 51) reporting a 41.6 thousand-ton increase in carbon stocks from 2015 to 2020, and in Italy (Ref. 45) assessing a 6.9% rise in soil organic carbon (5 600 tonnes/year). In another Italian region (Ref. 37), RDP interventions resulted in an increase in organic carbon reservoirs of approximately 158 000 tonnes of CO_2 equivalent annually, primarily due to commitments to organic farming. The substantial differences in the figures above reflect considerable variability in both the scale and duration of organic farming support measures implemented.

[21] Ref. 7, 5, 10, 40, 32, 43, 35, 14, 18, 51 and 47.

[22] In nine evaluations there is an explicit and frequently quantitative assessment of the effects of organic agriculture on soils: Ref. 51, 15, 45, 26, 54, 1, 18, 21 and 60.

[23] Ten evaluations make explicit reference and calculate the effects of organic farming on GHG emissions reduction: Ref. 34, 52, 32, 43, 51, 39, 45, 37, 59 and 1.

2.5. Socioeconomic and market impacts

The economic viability and profitability of organic farms were highly dependent on economic support. Organic farming often requires financial support to be economically viable, and, as is shown in several evaluations (e.g. Ref. 51, Ref. 21), organic farms would operate at a loss without subsidies. Especially in Estonia (Ref. 51), the farm net income calculations revealed that organic farming is only profitable with the support of subsidies. Without them, all production options were loss-making. Support payments were critical for profitability and continued activity, especially in less-favoured areas. Among producers who received agri-environmental support, including support for organic agriculture, the share of economically viable producers was lower for organic agriculture (47%) compared to other environmentally friendly farming practices (77%). This represented a significant improvement over the previous year (Ref. 14).

Organic farms could increase rural employment, diversify benefits, and support the local economy. Organic farming could boost rural economies by fostering job creation, business diversification and local market support through direct sales and cooperation with local processing companies (Ref. 58), while attracting young farmers for rural and generational renewal (Ref. 36) and improving working conditions and farm safety (Ref. 53). In Sweden (Ref. 58), organic farms tended to sell directly to local consumers and cooperated with local processing companies, supporting local markets and economies while having a positive social impact through job creation and local sales, which can potentially benefit rural communities.

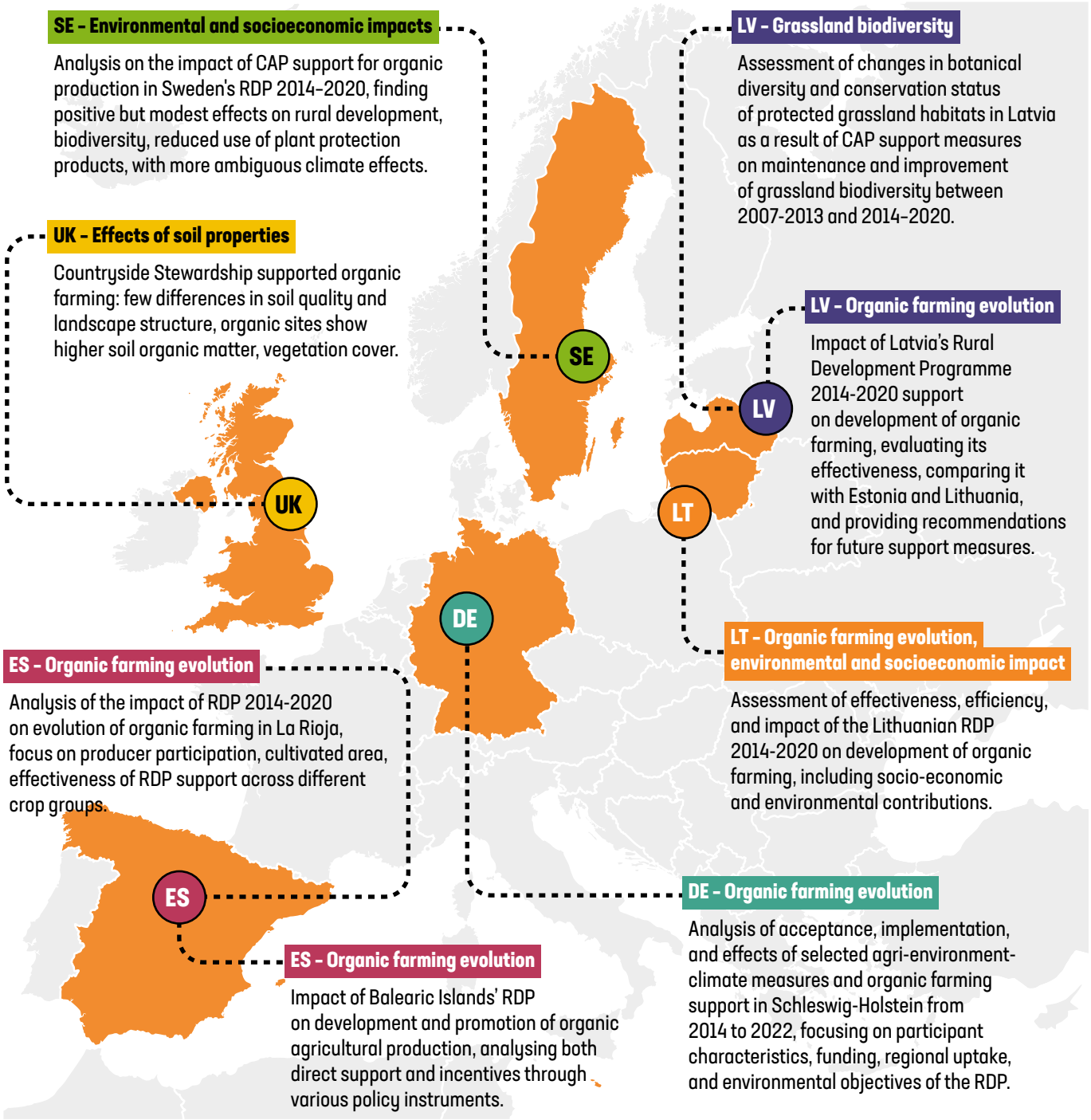
While production is increasing, consumer demand still lags behind supply. Evaluations revealed that limited product availability, high and volatile prices, and low consumer awareness constrained the significant growth potential of markets for organic products. In Spain (Ref. 22), organic products constitute only 2.48% of food consumption. The Italian evaluation (Ref. 44) emphasised the importance of effective price monitoring for organic versus conventional products, while the Latvian evaluation (Ref. 48) provided examples of organic product prices fluctuating in 2020, ranging from 13% (for sheep meat) to 100% (for fruits and berries). Four evaluations in Spanish and German regions raised issues related to consumer education, awareness, and the promotion of organic products [24]. Educating the consumer required a clear, focused message that provided science-based information to guide purchasing decisions, thereby driving producers to adopt more sustainable practices (Ref. 2). Raising consumer awareness was not simply about 'telling people' that 'organic is better' – it was about explaining the specific way that consumer choices could drive down chemical inputs (Ref. 2).

[24] Ref. 2, 22, 25 and 26.

3. How were the evaluations done and what can we learn?

Of the 60 evaluation studies on CAP support to organic agriculture available in the CAP evaluation database, eight have been quality appraised by evaluation experts (Figure 3), focusing on the evaluation framework, data, and methodologies: six were dedicated evaluations [25], focusing exclusively on organic agriculture, and two included organic agriculture in a broader examination of RDP environmental measures [26], mainly agri-environmental measures. These appraisals have identified common challenges in assessing the effects of CAP on organic agriculture and highlighted best practices for addressing them.

Figure 3. Distribution across Member States of the eight organic farming-related evaluations that were appraised and the specific topics treated in the evaluations



Source: CAP evaluation database (2025), EU CAP Network

[25] Ref. 49 (Latvia), 24 (Spain, La Rioja), 51 (Lithuania), 22 (Spain, Balearic Islands) and 60 (United Kingdom).
[26] Ref. 13 (Germany) and 50 (Latvia).

This chapter aims to provide Managing Authorities and evaluators with practical advice on how to approach organic farming-related evaluations, outlining the critical decisions to be made, the challenges to be faced, and the best practices to be adopted. The overall lesson from appraising these eight evaluations demonstrates that conducting a high-quality assessment is possible, even though examining organic agriculture can be complex and challenging. Indeed, an evaluation can focus on the effects of a programme on the adoption of organic agriculture as a farming system as well as on the impacts of organic farming on the programme's thematic objectives, such as biodiversity, climate change, and natural resource conservation. The following sections outline best practices, challenges, and recommendations for evaluating the effects of support for organic farming.

3.1. Creating a robust evaluation framework

Evaluating organic agriculture within the context of the CAP requires a nuanced framework that distinguishes between assessing the implementation of organic farming as an intervention and evaluating its contribution to CAP policy objectives. Organic agriculture is uniquely positioned in European policy, notably under the Green Deal and EU Biodiversity Strategy, which set an ambitious target of 25% of UAA under organic management by 2030, making it the only CAP-supported farm system with such a precisely defined mission. No other farm system, such as integrated farming, or a single farm practice, such as the use of cover crops, has been assigned a pan-European target. For this reason, many of the Member States' evaluations shown in the previous section often focus on implementation analysis, examining factors that influence the adoption, retention and sustainability of organic farming practices at the farm level, such as eligibility criteria, funding allocation and administrative processes. At the same time, society is interested in the contribution of organic farming to the CAP's objectives, as expressed in the Focus Areas for 2014-2020 and the Specific Objectives for 2021-2027, and thus prioritises organic farming-related evaluations. This dual approach requires a structured evaluation framework that can first analyse the effectiveness of CAP interventions [27] in driving the expansion of organic farmland and, second, quantify the downstream impacts of these interventions on policy objectives. By addressing both the implementation dynamics and the implications for policy objectives, evaluations can provide comprehensive insights into how organic agriculture advances the EU's sustainability agenda while identifying gaps in aligning support with environmental and market outcomes, as noted by the European Court of Auditors (ECA, 2024).

Having this dual-focused approach in mind, i.e. implementation analysis and impact evaluation, ensures clarity and avoids conflating the effectiveness of policy support with the inherent performance of organic farming practices. For instance, evaluations like La Rioja's (Ref. 24) focused solely on 'assessing the effects of the RDP on the evolution of organic farming', hence focusing on the output of the organic support rather than its contribution to the CAP objectives. At the same time, Sweden's (Ref. 58) examination of the 'impact of compensation for supporting organic production' spanned multiple CAP objectives, including competitiveness and environmental outcomes. However, some evaluations exhibit ambiguity in their scope, and this can obscure causal relationships. Table 2 depicts the broad range of topics examined in the selected evaluations.

A well-articulated intervention logic is fundamental to overcoming such ambiguities. Evaluations from Lithuania (Ref. 51) and Latvia (Ref. 49) exemplified clear frameworks that linked identified needs (biodiversity support, nutrient reduction and societal demands) to objectives and interventions supporting the adoption of organic farming. This logic guided the selection of relevant evaluation questions and criteria, encompassing factors that influence implementation (such as adoption rates, payment levels, eligibility criteria and advisory services) and their impact on CAP objectives (including biodiversity, soil quality, climate, economics and social effects).

Moreover, the appraisals of evaluations showed the importance of considering coherence, relevance, and efficiency in addition to effectiveness. Organic farming often intersects with other agri-environmental and rural development measures, yet frameworks frequently overlook these interactions and potential trade-offs. For example, Schleswig-Holstein (Ref. 13), Sweden (Ref. 58), and Lithuania (Ref. 51) underscored the importance of evaluating the combined effect of multiple measures rather than isolating organic farming support in silos.

[27] Measure 11 payments under Regulation (EU) N° 1305/2013, or support in the CAP SP Regulation (EU) 2021/2115 in eco-schemes (Article 31), Environmental, climate-related and other management commitments (Article 70) and in sectoral support programmes (e.g. Articles 47, 58, etc.).

Table 2. The evaluation scope: indicative topics examined in the evaluations selected for in-depth appraisals.

Evaluation objective/Theme	Related topics and factors	Appraised evaluations
Adoption of organic practices and attractiveness		
Policy design	Measure design, eligibility and selection criteria	Ref. 24 and 58
	Payment levels	Ref. 49, 51 and 24
	Structure and differentiation of payments	Ref. 49 and 51
	Simplicity and clarity of administrative frameworks	Ref. 51
Beneficiaries	Farm and operator characteristics	Ref. 13
	Presence of producer groups and cooperatives	Ref. 51 and 49
Synergies and coherence	Access to investments and risk management tools	Ref. 49 and 22
	Role of advisory services	Ref. 51
Evaluation of organic agriculture's impacts		
Environmental and climate	Biodiversity	Ref. 58, 49 and 51
	Soil quality and fertility	Ref. 60 and 51
	Water quality	Ref. 58 and 51
	Climate impact and GHG emissions	Ref. 58 and 51
Socioeconomic	Economic impacts (profitability, farm income, competitiveness)	Ref. 58, 51 and 49
	Market development and value chains	Ref. 58 and 22
	Social impacts (job creation, support for small farms, social inclusion, local knowledge), social sustainability and community cooperation	Ref. 58, 49 and 51
Other	Health and food quality	Ref. 49
	Innovation and diversification	Ref. 58

Clearly defining the evaluation scope and questions that differentiate between the implementation and effects of support measures in adopting organic agriculture, as well as evaluating the impacts of organic farming practices on CAP objectives, is recommended based on the appraised evaluations. This involved incorporating criteria such as efficiency, relevance and coherence to account for interactions with other practices and avoiding ambiguous intervention logics due to overlapping objectives. It is also recommended to consider regional and agronomic diversity rather than a one-size-fits-all approach and to establish clear, quantitative judgment criteria that reflect the dynamic and lasting nature of organic agriculture policies. This foundation laid the groundwork for effective data collection and methodological rigour.

3.2. Data frameworks: structuring evidence to match the evaluation scope

High-quality evaluations depended on comprehensive and well-structured data frameworks that aligned with either an 'implementation analysis' or an 'impact evaluation'. The appraised evaluations showcased a spectrum of good practices in leveraging diverse data sources and indicators to capture participation metrics and thematic impacts.

Key output and result indicators derived from CMEF or PMEF frameworks effectively measure outputs, such as total organic area, the share of total agricultural land and the number of participating farms. Successful evaluations disaggregated data by land use type (e.g. grassland, arable), crop variety (e.g. legumes, cereals), regional location, farm size and farmer demographics. Notable examples included Latvia (Ref. 49), Spain (Ref. 24), Sweden (Ref. 58), and Germany's Schleswig-Holstein (Ref. 13), which integrated administrative registers (IACS, LPIS), FADN microeconomic data, organic certification registries and spatial GIS overlays to generate nuanced, geographically detailed insights.

Despite these advances, **evaluations consistently reported significant data fragmentation and gaps**. Disparate temporal and spatial resolutions, inconsistent farm-level environmental information and challenges linking diverse databases hampered the construction of coherent evidence frameworks. For instance, Sweden's evaluation (Ref. 58) highlighted a misalignment between support databases and organic operator registers, which complicated the identification of beneficiaries, and La Rioja's evaluation (Ref. 24) noted difficulties in mapping supported organic land accurately.

Further challenges included the lack of longitudinal datasets capturing adoption dynamics over time, poor integration of environmental monitoring data (including soil, water, and biodiversity) and insufficient information on non-supported organic producers. These shortcomings hindered the construction of reliable counterfactuals and the robust attribution of impacts.

The FADN emerged as a particularly valuable source of data, offering harmonised panel microeconomic data that enabled comparisons of income, profitability and structure between organic and conventional farms, as exemplified by the Latvian evaluation (Ref. 49). However, its interoperability with other data systems remained a critical area for improvement.

To surmount these challenges, it is recommended, based on the appraised evaluations, to enhance data quality and transparency through regular 'quality checks', develop panel datasets that track the same farms over time, expand indicator sets to encompass productivity, processing, employment and consumption, and standardise data collection protocols. Additionally, it would be desirable for Member States to coordinate data quality and transparency within a broader EU framework. Improved integration of organic producer registers with RDP beneficiary lists, georeferencing of organic parcels, and investment in digital platforms and training are also vital steps. In essence, strengthening data frameworks is indispensable for capturing the complex realities of organic farming and enabling precise, actionable evaluations.

3.3. Challenges and limitations of the evaluation methodological framework

The evaluations appraised are characterised by methodological diversity in assessing CAP support for organic agriculture, reflecting the complexity of isolating policy effects from broader agricultural dynamics. The appraised studies employ a rich mix of quantitative and qualitative approaches, including administrative data analysis, econometric modelling (difference-in-differences, panel regressions), counterfactual construction through matching algorithms, surveys, interviews and spatial analyses. For example, Latvia (Ref. 49) used panel data analysis based on FADN farms with stable status over 2013-2017 to control for farm-level heterogeneity, while Schleswig-Holstein (Ref. 13) applied difference-in-differences to identify the causal effects of participation on behavioural change. The UK (Ref. 60) employed matching techniques to create unbiased control groups that mimicked the conditions of organic farms.

Despite methodological rigour, evaluations grappled with several critical issues:

- Counterfactual construction: establishing unbiased, appropriate comparison groups remains challenging. Some evaluations compared organic farms to conventional ones, while others contrasted supported farms with unsupported ones. Panel data and matching methods were helpful, but they require high-quality, longitudinal data.
- Causality and attribution: the complex nature of farm practices and overlapping measures made it challenging to isolate the effects of organic farming. The UK evaluation (Ref. 60) acknowledged these attribution challenges, which are common across agricultural evaluations.
- Baseline establishment: accurate before-after comparisons required robust baseline data, which was often lacking or constructed retrospectively with limitations. For example, the UAA under organic farming at the start of the programming period, or taking stock of nitrogen in the soil or of nutrient balance at the beginning of the programming period, etc.
- Additionality and deadweight: determining whether support induced genuinely new adoption or merely rewarded farmers who would have converted anyway is pivotal. The Swedish evaluation (Ref. 58) highlighted concerns that the provision of support may potentially encourage free riders. Schleswig-Holstein (Ref. 13) evaluation explicitly discussed deadweight effects.
- Selection bias: participants may systematically differ from non-participants in unobserved ways, which can influence outcomes and complicate the attribution of effects. Latvia (Ref. 49) and Sweden (Ref. 58) noted that organic farms often operate under harsher conditions, which influences adoption motives and economic viability.
- Permanence of effects: the durability of environmental and socioeconomic benefits post-support is uncertain. The Lithuanian (Ref. 51) and Swedish (Ref. 51) evaluations emphasised the need for long-term monitoring, as benefits may wane without continued funding.

To address these challenges, on a general level, it is recommended to adopt good practices as presented above that can produce robust evaluation designs by incorporating unbiased counterfactuals, combining quantitative and qualitative methods to contextualise findings, collecting baseline data prior to programme implementation, and applying econometric techniques to adjust for selectivity and assess additionality and permanence.

Specific methodological recommendations for assessing organic agriculture's impacts on thematic objectives include:

- Biodiversity: employ repeated, representative surveys with standardised protocols, consider landscape heterogeneity, and integrate action and result-based measures.
- Climate change mitigation: measure GHG emissions and soil carbon at field and farm levels and compare emissions per unit area and product to understand trade-offs.
- Nutrient management and water quality: monitor nutrient balances and runoff via field trials and farm records, linking indicators to management practices.
- Socioeconomic themes: utilise FADN for financial assessments, apply mixed methods for social impacts and study innovation and collaboration patterns.

By integrating these three critical components – robust evaluation frameworks, strengthened data systems and advanced methodological approaches – future CAP evaluations can better unravel the complexities of organic farming support, yielding insights that drive sustainable agricultural transitions aligned with EU policy objectives. The following chapter presents concluding reflections and synthesises these findings to guide policy and evaluation stakeholders.

Conclusion

Organic farming is growing fast, and CAP support is a big reason why. By 2022, 10.5% of EU agricultural land (16.9 million hectares) was organic, up from 9.1% in 2020, with 450 000 farms involved. Italy and Spain have the most organic farms, while France and Spain lead in organic land area. Denmark and Austria stand out with the highest share of organic land. The organic market reached EUR 46.5 billion in 2023, a doubling of its value since 2014, with Germany and France as the most prominent players and Denmark leading in per capita spending. The CAP's RDPs, through M11, aimed to drive the adoption of organic farming by covering conversion and maintenance costs. Support for organic farming has contributed to substantial growth in the area, but with regional disparities. Evaluations show that CAP support for organic agriculture significantly contributed to the increase in area under organic management. Several Member States, notably Italy, Germany, Lithuania and Spain, achieved remarkable gains in both organically farmed land and the number of participating farmers. However, progress remains uneven. While some regions approached or exceeded national and EU-level targets (e.g. the 25% UAA goal of the EU Organic Action Plan), others lagged behind, with limited uptake and low payment rates. Challenges persist in ensuring comprehensive coverage and addressing regional disparities, highlighting the need for improved targeting and monitoring to fully realise environmental and market objectives.

The environmental benefits were solid. Evaluations have shown that organic agriculture delivered substantial environmental benefits across EU regions, including enhanced biodiversity through increased species richness of farmland birds, insects, flora and soil biota, driven by practices such as banning synthetic pesticides, promoting crop rotation, maintaining grasslands and incorporating landscape elements like flower strips. It also improved water quality by reducing nitrogen leaching, enhanced soil health through increased organic matter and reduced erosion. Additionally, it reduced ammonia emissions through decreased synthetic fertiliser use and livestock density, and mitigated climate change by avoiding synthetic inputs and enhancing soil carbon sequestration. However, evaluations highlighted challenges such as inconsistent policy coordination, unclear eligibility criteria and suboptimal targeting of organic support to high-risk areas, which could limit long-term impacts. To maximise these benefits, evaluations recommended sustained and increased funding, improved policy alignment, more explicit eligibility rules and more precise targeting of areas with high environmental risk to ensure organic farming's full potential in biodiversity conservation, resource protection and climate change mitigation is realised.

Socioeconomic effects vary: viability depends on support, while social benefits emerge. CAP support enhanced farm incomes through organic premiums. In some instances, without subsidies, many organic farms would not be economically viable, despite receiving price premiums for organic products. This highlighted the ongoing need for public investment in organic farming, particularly in marginal and less favoured areas. At the same time, several evaluations pointed to positive social and market spillovers. The diversity of the reviewed European evaluations revealed findings that, although limited to the specific context studied, offer points of reflection and ideas to ponder. Organic farms in Sweden and elsewhere were more likely to engage in diversification activities, such as agri-tourism or local food processing, thereby creating rural employment and reinforcing community ties. Young and newly established farmers in Italy appeared particularly drawn to organic methods, supporting policy objectives related to generational renewal in agriculture. On the consumer side, evaluations revealed a disconnect between the increasing organic production and relatively modest market demand. While some markets are maturing, others face challenges, including limited product variety, price volatility and low consumer awareness. Evaluations recommended implementing improved price monitoring systems and targeted promotional efforts to increase demand and ensure the economic sustainability of organic farming beyond the current reliance on subsidies.

A dual-focused framework is needed to analyse implementation and evaluate the impacts of organic farming on CAP objectives. A robust evaluation framework must, therefore, clearly separate the effects of support measures on the adoption of organic agriculture from the inherent performance of the organic farming practices, ensuring that intervention impacts are accurately attributed while also accounting for regional disparities and the interplay with other agri-environmental measures. By adopting a transparent intervention logic, dual-track evaluation questions and comprehensive data frameworks, future evaluations can better capture the complex dynamics of organic farming and provide actionable insights for optimising CAP support within diverse agronomic and market contexts.

Evaluation scope and methodologies vary, and methodological gaps persist. Significant challenges exist in the data frameworks, including issues pertaining to incomplete or inconsistent data, difficulties in linking data from various sources (such as FADN, IACS/LPIS and environmental monitoring systems), and the lack of longitudinal information to fully capture trends in the adoption of organic agriculture. The most frequent methodological issues concerned determining causality and establishing unbiased counterfactuals, identifying attribution, addressing self-selection and estimating the permanence of support for organic farming. Data challenges can be addressed by enhancing data integration and georeferencing, as well as by developing reliable, temporal datasets to facilitate effective counterfactual analyses. While many evaluations provide rich and relevant findings, the robustness of evidence varies significantly. The suggested approach is to adopt a combination of quantitative and qualitative methods – utilising advanced econometric techniques, such as difference-in-difference, alongside case studies and surveys – to rigorously evaluate programme impacts. This integrated methodological approach is considered essential for clarifying complex trade-offs and ensuring that future CAP evaluations can more accurately measure the actual impact of support on organic farming outcomes.

Policy coherence and targeting need reinforcement. Some evaluations identified a misalignment between organic support and other CAP tools or EU environmental objectives. For example, inconsistencies in eligibility criteria may reduce effectiveness. In some cases, organic support was spread too thinly or directed to farms or regions that already met environmental standards, resulting in a limited additional impact. More coherent planning, improved targeting, and stronger links with biodiversity and water policies (e.g. Natura 2000, Water Framework Directive) are needed to optimise the contribution of organic farming to sustainability goals.

Annex I: List of Member State evaluations related to organic agriculture analysed in this paper and available in the CAP evaluation database

The Member State evaluations below are those identified in the CAP evaluation database as relevant to organic farming and are thus analysed in this paper. Across this publication, the reference number, rather than the full study reference, is included for ease of reading.

Reference number	Member State	Year of publication	Title (English Version)	Author	Publisher
1	DE - Baden-Wurttemberg	2023	Strengthening climate protection in agriculturalsupport programmes	IfLS und Universität Hohenheim: Elisabeth Angenendt, Heike Nitsch und Christian Sponagel	Ministry of Food, Rural Areas and Consumer Protection Baden-Württemberg
2	DE - Baden-Wurttemberg	2022	Funding possibilities to reduce the use of pesticides in pome fruit cultivation	Hochschule Geisenheim, Institut für Phytomedizin	Ministry of Food, Rural Areas and Consumer Protection Baden-Württemberg
3	DE - Berlin-Brandenburg	2021	Evaluation of biodiversity effects ofecological priority areas in Brandenburg	Susanne Jungmann	Ministry of Rural Development, Environment and Agriculture
4	DE - Hessen	2023	Evaluating the effects of compensatory allowance on the maintenance of permanent grassland in North Rhine-Westphalia, Germany	Sander, Reiter, Roggendorf	Thünen Institute
5	DE - Niedersachsen-Bremen	2022	Effects on water and climate protection: An analysis ofoperational nutrient comparisons of the Lower Saxony-Bremen 2014-2020 RDP selected land measures	Roggendorf W.	Thünen Institute
6	DE - Niedersachsen-Bremen	2023	RDP 2014-2020 of Lower Saxony and Bremen – Contributions to the evaluation of the Focus Area 4A Biodiversity	Sander A., Bathke M.	Thünen-Institute
7	DE - Nordrhein-Westfalen	2021	Effects on water and climate protection – An analysis of farm nutrient comparisons for selected area measures	Wolfgang Roggendorf, Stefan Schwarze	Thünen Institute, Federal Research Institute for Rural Areas, Forests and Fisheries

Reference number	Member State	Year of publication	Title (English Version)	Author	Publisher
8	DE – Nordrhein-Westfalen	2021	Contribution of Agri-Environmental Measures and Organic Farming to Insect Protection in North Rhine-Westphalia	Achim Sander	entera, Environmental Planning & IT
9	DE – Nordrhein-Westfalen	2021	Analysis of the use of selected agri-environmental and climate measures and organic farming methods	Reiter, Karin; Roggendorf, Wolfgang; Sander, Achim; Scholz, Julia; Schwarze, Stefan	entera, Environmental Planning & IT
10	DE – Saarland	2023	2020 ongoing evaluation of Saarland RDP	Reiner Doluschitz, Olaf Kühne	EAFRD Managing Authority
11	DE – Saarland	2020	Ongoing evaluation of the Saarland 2014-2020 Rural Development Programme	Reiner Doluschitz, Olaf Kühne	EAFRD Managing Authority
12	DE – Sachsen-Anhalt	2022	Evaluation of the 'Agricultural Investment Programme' database	Nicolas Heinrich	AFC Public Services GmbH
13	DE – Schleswig-Holstein	2021	Analysis of the use of selected agri-environmental and climate measures and organic farming methods	Karin Reiter, Wolfgang Roggendorf, Achim Sander, Julia Scholz, Stefan Schwarze	Thünen Institute
14	EE	2023	2021 report on studies examining Priorities 4 and 5	Põllumajandusuuringute Keskus	Agricultural Research Centre
15	EE	2023	2021 evaluation report: Priorities 4 and 5, and Priority 3 on animal welfare	Põllumajandusuuringute Keskus	Agricultural Research Centre
16	EE	2023	Survey on farmland bird abundance and species diversity for 2010-2022	Eneli Viik	Maaelu Teadmuskeskus
17	EE	2021	Analysis of bumblebee diversity and abundance in 2009-2022	Centre of Estonian Rural Research and Knowledge	Maaelu Teadmuskeskus
18	EE	2021	Evaluation report on specific measures of Estonia's 2014-2020 Rural Development Programme	Centre of Estonian Rural Research and Knowledge	Maaelu Teadmuskeskus
19	EE	2022	Survey of the abundance and species richness of farm birds 2010-2023	Maaelu Teadmuskeskus	Agricultural Research Centre

Reference number	Member State	Year of publication	Title (English Version)	Author	Publisher
20	EE	2022	Analysis of bumblebee diversity and abundance in 2009-2022	Maaelu Teadmuskeskus	Agricultural Research Centre
21	EE	2022	Complex study on organic and conventional farming in 2023	Maaelu Teadmuskeskus	Agricultural Research Centre
22	ES - Baleares	2021	Impact of RDP measures on the development of organic production in the Balearic Islands	Red2Red	Red2Red
23	ES - Castilla-la-Mancha	2021	Impact of the Rural Development Programme on the livestock sector of Castilla la Mancha	Tragsatec	General Directorate of Rural Development of the Ministry of Agriculture, Water and Rural Development
24	ES - La Rioja	2023	Analysis of organic farming relating to Rioja's RDP	Tragsatec S.A.	Ministry of Agriculture, Livestock, Rural World, Territory and Population of the Government of La Rioja
25	ES - Navarra	2021	Environmental monitoring plan report	Gestión Ambiental de Navarra, S.A. (GAN)	Department of Rural Development and Environment
26	ES - Navarra	2021	Navarre RDP report on 2023 environmental monitoring plan indicators	Gestión Ambiental de Navarra, S.A. (GAN)	Department of Rural Development and Environment
27	FR - Haute-Normandie	2021	Impact evaluation of the Rural Development Programme on the competitiveness of agricultural holdings	Oréade-Brèche	Normandy Region
28	FR - Bretagne	2023	Intersection of dynamics and investment logics inBreton agricultural enterprises: Analyses of agricultural trajectories 2014-2021	Edater	Région Bretagne
29	IT - Abruzzo	2023	2022 annual evaluation report of the Abruzzo region	ISRI	ISRI
30	IT - Basilicata	2021	Progress report of the Basilicata RDP	Nucleo Regionale di Valutazione e Verifica degli Investimenti Pubblici	Regional Unit for the Evaluation and Verification of Public Investments

Reference number	Member State	Year of publication	Title (English Version)	Author	Publisher
31	IT - Calabria	2024	Calabria's 2022 annual evaluation report	RTI ISRI-Sinapsys	Temporary grouping of enterprises ISRI-Sinapsys
32	IT - Campania	2024	2021 annual evaluation report of the Campania region	Lattanzio KIBS	Lattanzio KIBS
33	IT - Emilia-Romagna	2022	Updated interim report for the 2014-2020 period	Agriconsulting	Agriconsulting
34	IT - Emilia-Romagna	2022	Annual evaluation report 2020	Agriconsulting	Agriconsulting
35	IT - Emilia-Romagna	2021	Synthesis of the 2020 intermediate evaluation report for the Emilia Romagna region	Agriconsulting	Agriconsulting
36	IT - Lazio	2022	Thematic report on helping young farmers set up	COGEA	Lazio Managing Authority
37	IT - Lombardia	2021	2022 annual evaluation report of Lombardia	Agriconsulting	Agriconsulting Institutional Support S.r.l.
38	IT - Marche	2022	Generational renewal in the Marche region: evaluation results on start-up aid for young farmers	Lattanzio KIBS	Lattanzio KIBS
39	IT - Marche	2019	Interim assessment report: update 2021 of Marche region	Lattanzio KIBS	Lattanzio KIBS
40	IT - Puglia	2022	2021 annual assessment report of the Puglia region	Lattanzio KIBS	Lattanzio KIBS
41	IT - Sardegna	2023	2021 annual evaluation report of the Sardegna region	RTI ISRI-Intellera-Interforum-Primaidea	RTI ISRI-Intellera-Interforum-Primaidea
42	IT - Sardegna	2021	Opportunities for the development of organicfarming in Sardinia	RTI ISRI-Intellera-Interforum-Primaidea	RTI ISRI-Intellera-Interforum-Primaidea
43	IT - Sicilia	2024	2021 annual evaluation report of the Sicily region	RTI ISRI - AGT	RTI ISRI - AGT
44	IT - Toscana	2023	Comparison of organic and conventional production companies	Lattanzio KIBS	Lattanzio KIBS

Reference number	Member State	Year of publication	Title (English Version)	Author	Publisher
45	IT - Umbria	2021	The effects of Umbria's RDP amendment related to Measures 10 and 11	Lattanzio KIBS	Lattanzio KIBS
46	LV	2020	Impact of the RDP on Biodiversity: Botanical Diversity of Protected Grassland Habitats of EU Importance	P. Lakovskis, L. Dambiņa, S. Rūsiņa, H. Ezermale, K. Blate, L. Gustiņa	AREI (Institute of Agricultural Resources and Economics)
47	LV	2022	Report on water quality from agricultural land impact measures	P. Lakovskis, E. Benga, L. Ieviņa	AREI (Institute of Agricultural Resources and Economics)
48	LV	2024	Quantitative evaluation of organic agriculture sector's productivity in Latvia	A. Vēveris, E. Benga	AREI (Institute of Agricultural Resources and Economics)
49	LV	2019	Impact of RDP 2014-2020 support on thedevelopment of organic farming in Latvia	A. Vēveris, A. Pužulis, P. Lakovskis, E. Benga, J. Hazners, Z. Miķelsone, A. Hauka	AREI (Institute of Agricultural Resources and Economics)
50	LV	2021	Latvian assessment of the botanical diversity in protected grasslands of EU importance	S. Rūsiņa, A. Namatēva, I. Silamiķele, L. Ieviņa, P. Lakovskis	AREI
51	LT	2024	The impact of the Lithuanian Rural Development Programme for 2014-2020 on Organic Farming	UAB Smart Continent LT	Ministry of Agriculture
52	AT	2023	Reduction of greenhouse gases in agriculture to achieve the goals of the Climate Protection Act	Michael Anderl, Manuela Bürgler, Simone Mayer, Erwin Moldaschl, Elisabeth Schwaiger, Bettina Schwarzl, Peter Weiss	Umweltbundesamt
53	PL	2019	Development of entrepreneurship and agricultural services	Danuta Kołodziejczyk, Bogdan Buks	Institute of Agricultural and Food Economics – National Research Institute
54	PL	2021	Study on soil erosion impacts and soil management, carbon conservation and carbon sequestration in agriculture and forestry	Instytut Uprawy Nawożenia i Gleboznawstwa – PIB Instytut Technologiczno-Przyrodniczy	Ministry of Agriculture and Rural Development
55	SI	2018	Evaluating Slovenian Farmland Bird Index through common species monitoring	Kmecl P.	DOPPS-Birdlife Slovenia

Reference number	Member State	Year of publication	Title (English Version)	Author	Publisher
56	SI	2022	Final report for the determination of the Slovenian Farmland Bird Index	Kmecl P., Gamser M., Šumrada T.	DOPPS Birdlife Slovenia
57	FI – Mainland	2023	Assessment of the significance of the RDP 2014-2020 of Mainland Finland for biodiversity and the landscape	Janne Heliölä, Marja Aaltonen, Maarit Heinonen, Terho Hyvönen, Mikko Kuussaari, Ulla Ovaska	Ministry of Agriculture and Forestry
58	SE	2024	Compensation for organic production in the Rural Development Programme	Lina Bjerke, Sara Johansson, Sara Grigoryan, Susanne Lindh, Jordbruksverket	Swedish Board of Agriculture
59	UK – England	2023	Evaluating England land-use scenarios for climate change mitigation, nature conservation, food, timber and biomass production	n/a	Natural England
60	UK – England	2021	Impact of agri-environment support for organic farming	Paul Newell Price, Rachel Thorman, Andrew Crowe, Ian Adams, Sam McGreig, Naomi Jones	Natural England

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