Open access data base containing synchronised survey data of all EBAs, codebook and illustrations of main trends in farm management, farmers' biodiversity awareness and preferences

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SHOWCASE

SHOWCASing synergies between agriculture, biodiversity and Ecosystem services to help farmers capitalising on native biodiversity

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Key takeaway messages

- Provision of an open access data base containing synchronised farm survey data of all EBAs with detailed codebook on the BonaRes platform
- Covered a very wide range of respondents based on their farm management, farmers' biodiversity awareness and preferences
- Find strong differences between on the one hand farmers who are managing or willing to adopt biodiversity-friendly practices and those not willing to adopt these measures regarding their viewpoints on biodiversity management.

Summary

We run a large-scale farm survey in ten countries across Europe to assess farmers' viewpoints on biodiversity (management) in agriculture, collecting basic data on agricultural structure and farm management, including biodiversity innovations and other practices promoting biodiversity, the awareness and knowledge of farmers on the relevance of biodiversity for their economic and ecological performance and perceptions to achieve biodiversity targets based on stated preferences. We provide an open access data base containing the synchronised farm survey data with a detailed codebook on the BonaRes platform. With the survey we covered a very wide range of respondents based on their farm management, biodiversity awareness and preferences. We find strong differences between farmer types. On the one hand, there are farmers managing already or are willing to adopt biodiversity-friendly practices like hedgerows, flower strips, and extensive grassland management. They generally place strong emphasis on environmental outcomes, and are motivated by their care for the environment and nature, and environmental effectiveness. On the other hand, farmers that are generally not willing to adopt these biodiversity-friendly farming measures focus more on financial rewards, yield impacts, and risks in comparison to environmental aspects. Bridging the gap in knowledge about the specific biodiversity benefits of various management practices and offering appropriate financial incentives and advisory services will be key to encouraging wider adoption. Policymakers and agricultural support programs should consider these factors to create more attractive conditions for biodiversity-friendly agricultural practices.

List of abbreviations

AES	Agri-environmental schemes
EBA	Experimental Biodiversity Areas of SHOWCASE
EU	European Union

1 Introduction and objectives

Farmers' decision making to implement biodiversity-friendly farming and their underlying rationales to do so (or not) are not fully understood. Here we report the implementation, data gathering and data publishing of a representative farm survey in ten countries with an Experimental Biodiversity Areas of SHOWCASE (EBA), collecting basic data on agricultural structure and farm management, including biodiversity innovations and other practices promoting biodiversity, the awareness and knowledge of farmers on the relevance of biodiversity for their economic and ecological performance and perceptions to achieve biodiversity targets based on stated preferences.

Collected data does:

- Provide basis for the analyses of the above mentioned topics within T2.3, and the analyses of farmers' preferences for incentive designs in T2.4
- Subsequently feed into T3.9
- Inform T2.5, T2.7, and via T2.4 also support T2.8
- Support the development of biodiversity narratives in T4.1

2 Practical implementations

2.1 Development and implementation of survey

We developed the research questions based on insights from T2.1, T2.2, T3.1 and T3.2, visitations to the in-depth EBAs, talks with EBA farmers, and review of CAP (Draft) Strategic Plans of member stated and existing literature. Later the questions were advanced, partially adjusted to the local situations, translated into the national languages of the EBAs, pre-tested, and implemented together with the respective partners in an online farm survey in all countries with EBAs.

The survey contained the following chapters:

1. Farm structural data
2. Intervention logics that consider how farmers' motivations, necessary fulfilment of conditions, risk perception, existing knowledge and experience, and expected outcomes do affect the willingness to implement biodiversity measures (hedgerows, flower strips, extensive grassland management)
3. Discrete Choice Experiments (DCEs) on public incentive designs, and the acceptance of private key performance indicator (KPI) based business models (T2.4, and collaboration with T1.5)
4. Spatial allocation experiment for hedgerows and flower strips to investigate where farmers would place a biodiversity intervention
5. Attitudes towards biodiversity, to be able to connect them to measured biodiversity on fields (control and trial) for the EBA farmers (T3.9)
6. Demographics

To assure that the time for answering the survey did not exceeds a reasonable length, farmers were presented only a few blocks of the above mentioned survey chapters. They always had to answer the short farm structural data, attitude and demographics blocks, and then 1 – 3 of the other ones. The acceptable length of a survey differed across countries: Max. 5-10 minutes seemed acceptable in countries with many surveys to farmers (such as in the UK, where farmers reported they are currently over-investigated), whereas 20-30 minutes were

acceptable in countries, where farmers are seldom asked for their perspective, and in face-to-face and workshop situations. We tried as much as possible to reduce the length of the survey, with an average of 15 minutes as target.

The English version of the questionnaire was translated to the national languages of the EBAs via the artificial intelligence platform for translations DeepL (www.deepl.com). These translations were checked and corrected for the language by the EBA-partners, and also checked for plausibility. As a result some adjustments were made, such as adding in Portugal the option “Integrated production” for the question “How do you manage your farm? Conventional, Conventional with low input, Organic or Organic in conversion”.

All the questionnaires were implemented in the survey platform Qualtrics DesignXM Cloud Professional, which contains a conjoint analysis tool, used for the Discrete Choice Experiments.

The survey was launched first in Hungary beginning of December 2022, followed by the other countries and languages. Based on the experience in Hungary some small changes were implemented in the surveys of the other countries (e.g. the question on farm income was changes from an open text-field to categories to be ticked). Last responses were collected in November 2023.

2.2 Preparation of survey distribution

As the survey was checked for translation and distributed in ten countries mainly by the local partners of the project, several measures were undertaken to safeguard the quality of the survey and sampling, and to reach the necessary number of responses. We held several in-person and online workshops organised by WP2, giving an extensive guideline and many practical tips containing a list of ways to contact farmers, plus sharing experience from ourselves and colleagues and tips for distribution.

For the distribution, material was shared with the project partners of the 10 EBAs. For this, links, invitation texts and text blocks for email invitation, QR-codes in SHOWCASE cooperate design, and partially also banners for social network campaigns on Instagram, twitter and Facebook (both designed by Pensoft) were given to the responsible person(s) in the EBAs.

Regarding the invitation links to the survey, we distinguished between 1) EBA-farmers (those farmers that are involved in the ecological experiments of SHOWCASE) and 2) all other farmers not involved in SHOWCASE experiments. We gave a general anonymous link to invite farmers not participating in the SHOWCASE project. For the EBA-farmers, personal links were created to invite them individually, and be able to trace their answers. To assure their data protection, we worked with pseudonymisation and created for each farmer a pseudonym (e.g. NL03 or EE12). The key of which farmer identifies through which pseudonym stays with one responsible person in the EBA. The researchers investigating the survey results did only receive the pseudonym with the survey responses, not knowing which farmer identifies through which pseudonym. Through the pseudonym, we are able to connect farmers’ attitudes from this survey with the measured biodiversity on their field (T3.9). To further assure data protection, this data will be analysed only in an aggregated form. Additionally, pseudonyms are not published anywhere and are not part of the published data set. Information is only stored on the local computer of the researcher.

2.3 Sampling and steps undertaken to invite farmers to survey

ZALF team and the EBA leads sent more than 5000 direct emails to farmers to invite them to the online survey and spread the survey via newsletters and direct emails to members of collectives, advisory services and farmer networks and associations.

However, sampling proved to be difficult in the majority of the countries, as we can observe fatigue of farmers to answer surveys across Europe. We observed a generally low number of clicks on the survey links, even though the majority of these farmers, who once started the survey, also finished it (comparably low drop-out rates; in some countries only about 5%). Limited funding/financial resources were available to increase the response rate through incentivising farmers to participate, or to sub-contract sampling companies in the 10 countries. Consider: Farmer responses collected in UK via a survey sampling company cost 90-100 pounds per response, not including any reward for the participant. This means 100 responses alone in UK would cost 10.000 € (not containing any compensation payment/reward for the farmer, nor the price for the survey tool/platform).

Additionally, the distribution proved to be challenging in some countries, as limited experience was available among some of the local EBA-leading teams. As they are ecologists, relations to farmers, farmer networks, collectives or official/public institutions to distribute the survey was often not established yet and needed to be build-up. With partially low experience in this, the effort was underestimated, and therefore took longer than initially planned.

To increase the response rate to the survey we undertook several measures:

- Reminders
- Personal phone calls
- Article in farmers magazine (NieuweOogst), asking what farmers think (link to survey)
- Paper-based versions, where online sampling was not possible
- Personal visits of researchers to the farmers to fill in the survey
- Social media campaigns
- In-person workshops with farmers
- Financial incentives (e.g. possibility to win tickets for farmer fair; later: 20 pound vouchers for farm-related shop for each participant)

In the following, you can see examples of channels used to recruit farmers.

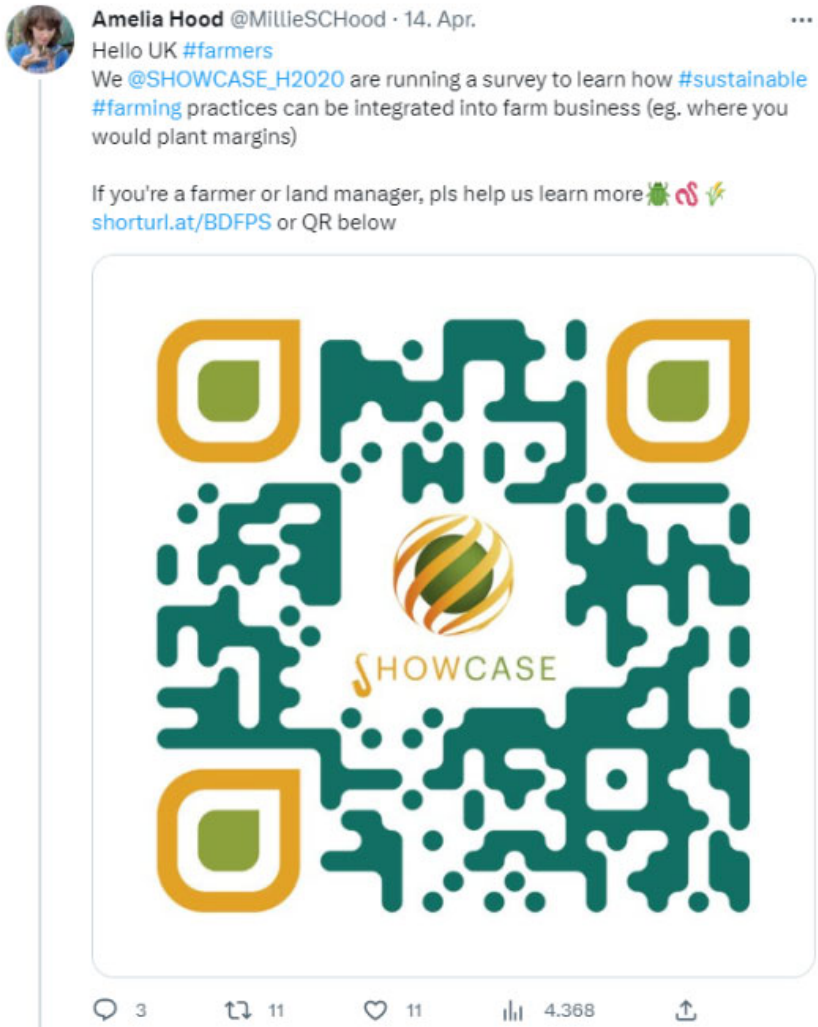

Figure 1. Example of Tweet from the social media campaign in The UK.

Estimado productor, estimada productora.

Desde el **Consejo Superior de Investigaciones Científicas (CSIC)** sabemos que está siendo un **año durísimo para la agricultura y la ganadería.** Una parte considerable de la producción se ha perdido a causa de largas sequías u otros factores climáticos, y los alimentos aún distan de ser valorados a un precio justo. Estas condiciones también están siendo especialmente duras para la **biodiversidad,** y estamos sufriendo su enorme pérdida en todos los ámbitos de la sociedad. Sin niveles adecuados de biodiversidad, **corremos el riesgo de perder por completo varios servicios ecosistémicos imprescindibles**, como la **polinización** o el **control natural de plagas.**

Actualmente, nos interesa analizar algunas de las acciones impulsadas desde la Unión Europea (UE) incluidas en la PAC que pretenden mejorar la biodiversidad. Sabemos que aún **distan de lograr sus verdaderos objetivos** y muchas veces **no son fáciles de implementar** por los agricultores y ganaderos.

Por ello queremos aportar nuestro granito de arena y contribuir todo lo que podamos a la mejora de vuestras condiciones. La mejor manera en que podemos hacerlo es **impulsando la reforma de ciertas políticas europeas** que aún son difíciles de implementar, y cuyos beneficios económicos y sociales para los productores y productoras son aún muy mejorables. Por otro lado, queremos asegurarnos de que las prácticas destinadas a favorecer la **biodiversidad** realmente funcionan, al mismo tiempo que no entran en conflicto con la **producción** o incluso la favorecen.

Para ello, necesitamos que nos cuentes **tu experiencia y tu opinión** al respecto en la siguiente encuesta:

Clic aquí

Se trata de un cuestionario **anónimo**, interactivo, que no lleva más de **15 minutos** y que se puede rellenar fácilmente desde un móvil, **tablet** u **ordenador.**

Finalmente, te pedimos que una vez completado el cuestionario por favor lo **difundas lo máximo posible entre otr@s miembros del sector** y les animes a completarlo. Cuantas más respuestas, mejor será el análisis que realicemos y más fuerza tendrán los resultados para poder influenciar en la política Europea.

Si necesitas información más detallada sobre el proyecto, no dudes en preguntarnos,

Muchas gracias por tu tiempo y por tu ayuda,

Atentamente, Alberto Rodríguez, Elena Velado y Ignasi Bartomeus

EBD-CSIC, Proyecto SHOWCASE

SHOWCASE

Figure 2. Leaflet for farmers to participate the survey in Spain.

OPINIE AGRARISCH NATUURBEHEER

Boeren met biodiversiteit: hoe dan?

Weidevogelbeheer is weinig effectief voor biodiversiteit, omdat het de lage kuikenoverleving niet aanpakt, stelt David Kleijn. Foto: Burt Sytsma

Met een andere opzet kunnen boeren eerlijk worden beloond voor behoud van biodiversiteit, vindt wetenschapper David Kleijn.

De laatste jaren neemt de maatschappelijke druk toe om te boeren met biodiversiteit. Dit vertaalt zich in overheidsvoorstellen voor bijvoorbeeld kringlooplandbouw die ervan uitgaan dat ecologische processen zoals natuurlijke plaagbestrijding, stikstofbinding door klavers of bestuiving het gebruik van met name kunstmest en gewasbeschermingsmiddelen deels kan vervangen. Recent onderzoek van de Wageningen Universiteit plaatst daar kanttekeningen bij.

De studie toont aan dat meer biodiversiteit inderdaad leidt tot hogere opbrengsten, maar dat de extra inkomsten daarvan meestal niet opwegen tegen de extra kosten. De studie werd uitgevoerd in zonnebloem, een gewas dat door insecten bestoven wordt. Voor Nederland geeft het vermoedelijk een overschatting omdat granen, bieten en aardappels minder afhankelijk zijn van biodiversiteit.

Voorlopige resultaten van aanvullend onderzoek in Nederlandse graslanden geven aan dat meer biodiversiteit ook leidt tot meer koolstofopslag, minder stikstofuitspoeling en aantrekkelijker ogende percelen; belangrijke maatschappelijke baten. Maar ook hier blijkt dat boeren die beheren voor biodiversiteit er financieel op achteruitgaan. Kortom, het is niet meer dan logisch dat de meeste boeren landbouw blijven bedrijven op een manier die schadelijk is voor biodiversiteit, want dat loont.

Op dit moment is agrarisch natuurbeheer de belangrijkste manier om boeren te betalen voor het behoud van biodiversiteit. In het agrarisch natuurbeheer zijn vooral makkelijk inpasbare maatregelen populair die weinig opleveren voor biodiversiteit. In het weidevogelbeheer bijvoorbeeld de legselbescherming. Dit is nauwelijks effectief omdat dit het grootste probleem bij de weidevogels, de lage kuikenoverleving, niet aanpakt.

In Limburg wordt het scheerhagenpakket het meest afgesloten, maar dit zijn vaak levende schuttingen waarin nauwelijks een bloem of andere biodiversiteit te vinden is. Los daarvan compenseert agrarisch natuurbeheer uitsluitend het verlies aan inkomsten en kan een boer er dus geen geld mee verdienen. Hierdoor doen vooral boeren mee die toch al geïnteresseerd zijn in biodiversiteit.

Om het behoud van biodiversiteit echt te verweven met landbouw moeten boeren betaald worden voor hun inspanningen. Maar dan moeten die inspanningen wel daadwerkelijk leiden tot meer biodiversiteit. Deze twee uitgangspunten zijn niet te realiseren met het huidige instrumentarium. Dat kan mogelijk wel met een systeem van Kritische Prestatie Indicatoren (KPI's), waar momenteel mee wordt geëxperimenteerd in een aantal provincies.

Met goede KPI's, bijvoorbeeld het percentage niet-productief land, worden de inspanningen van boeren op het gebied van biodiversiteit eenduidig gekwantificeerd. KPI-scores vormen vervolgens de basis voor de beloning van boeren door de afnemers van hun producten, financiers of overheidsorganisaties zoals een waterschap. Veertig jaar agrarisch natuurbeheer heeft de achteruitgang van biodiversiteit op het boerenland niet tot staan weten te brengen. Het is tijd voor een andere benadering. Laat boeren verdienen aan effectief behoud van biodiversiteit.

DAVID KLEIJN
Wageningen Universiteit

▶ *Zelf meedenken? Vul de enquête in: https://bit.ly/landbouw-diversiteit*

Figure 3. Article on the topic of >Farmers and Biodiversity< published in an agricultural magazine, asking at the end for farmers' opinion on the topic.

Põllumajandustavad seoses bioloogilise mitmekesisusega
Veebiküsitlus

Lugupeetud daamid ja härrad,

Jätkusuutlike ja elurikkust ehk bioloogilist mitmekesisust toetavate põllumajandustavade integreerimine põllumajandusettevõtetesse on üha olulisem küsimus.

Sellega seonduvalt me soovime läbi viia küsitlust erinevate põllumajandustootjate seas. See uuring on oluline pikaajaliste ja praktiliste strateegiate ja vahendite väljatöötamiseks majanduslikult otstarbeka ja elurikkust ehk bioloogilist mitmekesisust arvestava põllumajanduse jaoks tulevikus.

Keskendudes alljärgnevatele üldisematele küsimustele, me sooviksime analüüsida ja hinnata teie seisukohti ja eelistusi jätkusuutliku põllumajanduse suhtes:

- Kuidas hindate uusi rahatusprogramme poollooduslike elupaikade majandamiseks?
- Kuhu te paigutaksite elurikkust ehk bioloogilist mitmekesisust toetavaid maastikuelemente enda põllumajandusmaadel?
- Kuidas hindate põllumajandustavasid, mille eesmärk on suurendada bioloogilist mitmekesisust?

Küsitlus toimub veebipõhiselt ja see võtab aega umbes 15 - 20 minutit. Me loodame, et küsitlusest võtab osa rohkearvuliselt erinevaid maakasutajaid. esindusliku valimi Eesti jaoks. See võimaldaks saada esindusliku valimi Eesti jaoks ning meil teha usaldusväärseid ja olulisi järeldusi, mida siis levitada poliitikakujundajatele ja teistele asjast huvitatutele Euroopa Liidus.

Küsitluses osalemiseks kasutage järgnevat linki: https://showcase.qualtrics.com/jfe/form/SV_bx9xOSqleECgv9I

Või skaneerige alljärgnev QR-kood oma mobiilse seadmega.

See küsitlus viiakse läbi projekti SHOWCASE (SHOWCASing synergies between agriculture, biodiversity and Ecosystem services to help farmers capitalising on native biodiversity - www.showcase-project.eu) raames. See projekt keskendub elurikkuse ehk bioloogilise mitmekesisuse integreerimisele põllumajandustavadesse. Selle projekti raames teevad koostööd mitmed teadlased rohkem kui 20 teadusasutusest ja 15 Euroopa riigist.

Küsitlus on välja töötatud Saksamaal asuvas Leibnizi põllumajandusmaastiku uurimise keskuses (Leibniz Centre for Agricultural Landscape Research (ZALF)). Kui teil on küsimusi või märkusi, võite meiega ühendust võtta:

- Kati Häfner (kati.haefner@zalf.de, inglise keeles), Leibnizi põllumajandusmaastiku uurimise keskus (ZALF), Saksamaa;
- Või Indrek Melts (indrek.melts@emu.ee, eesti keeles), Eesti Maaülikool

Küsitluse läbiviimisel me järgime Euroopa andmekaitse määrust. Selle küsitluse käigus kogutud andmete analüüs ja hindamine on anonüümne ehk anonüümsed ja koondatud uurimistulemused ei võimalda teha järeldusi üksikisikute/ettevõtete kohta.

Ette vabandades ristpostituste pärast, aga tänades kõiki küsitluses osalejaid!
Kati ja Indrek

Figure 4. Example of an email distributed among Estonian farmers.

As a result, we received 870 usable responses from farmers across all ten countries, of which 660 farmers filled in the survey completely, among them data of 82 farmers that are involved in SHOWCASE experiments (EBA-farmers) to connect their attitudes with the environmental outcomes (Table 1).

Based on answers to the attitude questions and farm and farmer characteristics we could capture the viewpoints of a wide range of farmer types (see chapter on farm management and farmer characteristics). This could be mainly achieved by using the (old and newly) established direct contacts and networks to conventional and organic farmers. However, we need to

consider the self-selection bias of our respondents that tend to have a rather positive attitude towards biodiversity management already.

Table 1. Final overview of full responses to the farm survey.

EBA	Number of usable responses	number of full responses	of which are EBA farmers
HU	49	36	3
NL	176	131	21
CH	36	30	9
UK	72	47	5
P	187	149	14
ES	147	108	9
EE	129	91	-
RO	30	30 (all lack some answers)	-
FR	25	22	15
SE	19	16	6
Total	**870**	**660**	**82**

As not all chapters of the survey were asked in all countries and farmers only saw a few blocks of questions to reduce survey length, not all data is available for all countries. Therefore, please see Table 2 for an overview on which data is available for which country.

3 Open Access Data Base

This chapter describes how we provide access to the collected data according to FAIR principles (Findable, Accessible, Interoperable, Reusable) on the BonaRes Repository for Soil and Agricultural Research Data: https://www.bonares.de/research-data .

3.1 Overview of gathered data in the 10 Countries

As we collected data on several aspects of biodiversity management in 10 countries, the survey would have been too long to pose each question to all farmers. We therefore concentrated on some aspects of the survey in the respective countries. Decisions were based mainly on the relevance of the questions in the countries. As example, the question of farmers' willingness to implement hedgerows was not posed in Sweden and Romania, because hedgerows were described by the local EBA partners not as a relevant or typical practice there. Or in UK, the questions on hedgerow management were limited to the DCE and the spatial question, because the survey got too long from farmers' viewpoint there.

As a result, please see the overview of the gathered data in the 10 countries in Table 2.

Table 2.

Nr.	Data collected/available	Unit	NL	EE	UK	RO	P	ES	CH	SV	HU	FR
1	Farm structure	diverse	x	x	x	x	x	x	x	x	x	x
2	Demographics + Farmers' attitudes towards biodiversity	diverse	x	x	x	x	x	x	x	x	x	x
3	Willingness to implement flower strips (motivation, necessary conditions, perceived risks, knowledge, expected outcome)	Likert 1-10; I don't know	x	x			x	x	x	x	x	x
4	Willingness to implement hedgerows (motivation, necessary conditions, perceived risks, knowledge, expected outcome)	Likert 1-10; I don't know	x	x			x	x	x		x	x
5	Willingness to implement ext. grassland management (motivation, necessary conditions, perceived risks, knowledge, expected outcome)	Likert 1-10; I don't know	x	x		x				x	x	x
6	Spatial Experiment flower strip (Where in the field would farmers place a flower strip under different scenarios: baseline, shape, field size, slope, soil quality, forest)	first, and second choice of diverse options	x	x	x		x	x	x	x	x	x
7	Spatial Experiment hedgerow (Where in the field would farmers place a hedgerow under different scenarios: baseline, slope, soil quality, wind, street, forest, other hedgerows)	first, and second choice of diverse options	x	x	x	x	x	x	x	x	x	x
8	DCE on acceptance of wide/tall hedgerows, incl. Biodiversity labelling, connection bonus, advice/information	€/m	x		x							
9	DCE on acceptance of ext. Grassland management (SNH), incl. Biodiversity labelling, advice/ information, cooperation along the value chain through food hubs	€/ha		x		x						

Nr.	Data collected/available	Unit	NL	EE	UK	RO	P	ES	CH	SV	HU	FR
10	DCE on acceptance of KPI levels on entire farm for new biodiversity business model:											
	Minimum % of SNH on farm	additional €/l of olive oil; €/ha for entire farm	x			(x)	x	x				
	Max. field size	€/ha for entire farm	x			(x)						
	Min. number of crops in rotation	€/ha for entire farm	x									
	Management between rows in olive grove	additional €/l of olive oil					x	x				
	Min. number of solitary trees in olive grove	additional €/l of olive oil					x					

3.2 Synchronised survey data of all EBAs

The data was organized and cleaned to be published according to FAIR principles (Findable, Accessible, Interoperable, Reusable).

3.2.1 Data cleaning and organisation

Original data was processed in the following way:

- All respondents were consecutively numbered in a standardized way, starting with the country acronym, followed by the consecutive number
- The Qualtrics code (such as Q22) was replaced for all columns with a given specific name in capital letters (such as ORGANIC for the question, whether farmers operate the farm organically)
- Removal of all responses with a progress of < 10%
- Removal of test entries
- For the spatial experiment: responses of farmers who indicated in the open responses that they chose their answers randomly have been removed (i.e. EE025, EE035, EE048, ES131, NL025, PT328, UK029)
- Rearrangement of data from country-specific data files (=downloads from the Qualtrics webpage) into files of question-chapters such as farm structure or spatial experiment, which contains then all data from all countries, but only those responses that were filled in (=removal of empty rows)
- Reshaping of the data from the discrete choice experiments from long into wide shape, so it can be more easily processed already.

3.2.2 Anonymisation

For publishing the data they needed to be further anonymised to keep the rights of the respondents according to our data protection policy. For this the service of the platform FAIRagro (https://fairagro.net/en/) was used, who advised us on legal aspects. The FAIRagro consortium with more than 25 partners is building a FAIR research data management system for the agrosystems research community. Accordingly, several measures were undertaken to further anonymise the data, so no farmer or farm could be traced back. This includes:

- Date and time of data collection was minimized to the information of month and year
- Birth year was recoded to age categories at the time of the survey
- Information given by the respondent that allow to trace back the farmer or the farm was deleted. This includes the zip code, and the EBA pseudonym for the farmers that are involved in the ecological experiments for analysis in T3.9, but also given phone numbers in free text fields etc.

3.2.3 Further measures

Additionally, we decided for protecting the data, as we see the risk of a “mis-use” of the data through artificial intelligence programmes scanning the www to train their AI. Therefore, it is necessary to write an email with a short description of the planned (academic) project/analysis for downloading the data. This embargo might be taken away in the future.

3.2.4 Access

The data is uploaded to the BonaRes Repository for Soil and Agricultural Research Data (https://www.bonares.de/research-data) as part of FAIRagro, under the name “Survey of farmers on (perception of) biodiversity management in agriculture in ten European countries”.

3.3 Codebook

An accompanying codebook with the about 400 variables is available, containing information on:

- Code (= specific given name of the variable)
- Question/Text (= question/text that respondents saw)
- Sub-question (= e.g. categories of a multiple choice question)
- (Pre-)Condition (= condition that needed to be fulfilled so that question was posed to respondents, e.g. how grassland is managed, only if they stated before that they have grassland)
- Range (= range of the scale, e.g. 1 to 10)
- Range description
- Unit
- Peculiarities (describing briefly exceptions, mainly if question was posed only in one or two countries)

The full codebook can be seen in the Appendix, and is part of the dataset uploaded to BonaRes.

4 Illustrations of main trends in farm management, farmers' biodiversity awareness and preferences

4.1 Farm management and farmer characteristics

The sample of the survey represents a wide range of farmer and farm types, with different farm and farmer characteristics and viewpoints towards biodiversity. While the sample has some biases, and may deviate from a full representative sample, we succeeded to cover a very wide range of farm and farmer types with very diverse farm management strategies, and positive but also very critical attitudes towards biodiversity in agriculture, which we explain in the following.

The **farm focus** of the sample is evenly distributed across categories (see Table 3) with 20 – 25% of the respondents managing a livestock farm, arable farm, a farm with focus on permanent crops or integrated/mixed farm, respectively. Only in the Netherlands we have an over proportionally representation of the category *other*, where farmers then reported the farm is a hobby farm, or focuses on horse breeding/rearing, nature conservation, special varieties such as asparagus, or flower bulbs.

The average **farmsize** of the entire survey sample is 223 ha, which is very much beyond the EU average of 17.4 ha in 2020, where two-thirds of the farms were smaller than 5 ha (Eurostat: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Farms_and_farmland_in_the_European_Union_-_statistics). We have reached with our survey many large farms, up to 24350 ha (from Portugal) or 9200 ha (from Hungary), and therefore have an overrepresentation of large farms in our sample. However, while the majority of the respondents works as **full time** farmer, in some countries, i.e. Estonia, Spain, Hungary, The Netherlands and Portugal a large share of the respondents works in agriculture as part-time farmer.

Table 3. Farm and farmer characteristics on frequencies of farm focus, whether they operate part-/full-time, and average farm size in hectar. In bold the highest frequency per country.

	Country										Freq.	Perc.
	CH	EE	ES	FR	HU	NL	PT	RO	SE	UK		
livestock farming	7	**44**	32	4	**15**	43	28	14	2	24	213	24.5
arable farming	11	28	30	**13**	10	**46**	3	0	**9**	**25**	175	20.1
permanent crops	2	6	**65**	0	6	17	**118**	1	0	2	217	24.9
integrated/mixed farm	**15**	36	12	6	14	29	27	**15**	8	17	179	20.6
other	1	15	8	2	4	41	11	0	0	4	86	9.9
full-time farmer	**27**	**86**	**87**	**24**	23	**99**	**123**	**23**	**13**	**56**	561	65.4
part-time/hobby farmer	9	42	60	1	**26**	67	63	7	6	16	297	34.6
mean farm size [ha]	33	187	138	171	380	60.5	435	64.5	355	361		

Almost 59 % of the farms are managed **conventional**, even though almost the half of them reported to manage the farm conventional with low input use (extensive farm management), compare Table 4. Hence, with the more than 40% of organic (full or in conversion) farms, the majority of responses came from rather extensive farms. But also if we only consider those farms that are fully organic, we have an over representation of organic farms in our sample in comparison to the share of fully organic farms in the EU in the year 2020 (Eurostat - https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Fully_organic_farms_in_the_EU#Organic_farms). This is on the one hand due to a self-selection bias (A survey on biodiversity management in agriculture attracts more respondents that are more interested in the topic, which usually

correlates with organic farming), but in some countries also the way we sampled. E.g. in Estonia the survey was spread via a mailing list of organic farmers, hence inviting already more organic than conventional farmers to the survey.

Table 4. Frequencies how many farmers of the sample manage their farm conventional, conventional with low input use, organically, or are in conversion. In bold the highest frequency per country.

	CH	EE	ES	FR	HU	NL	PT	RO	SE	UK	**Freq.**	**Percent**
conventional	8	9	**61**	8	16	**72**	16	5	**9**	26	214	31.8
conv. with low input use	**20**	7	38	7	5	55	39	10	2	**36**	180	26.7
organic	8	**113**	37	**10**	**23**	37	**56**	1	8	8	245	36.4
organic (in conversion)	0	0	10	0	5	6	24	**12**	0	2	35	5.2
integrated production							79*					
share of fully organic farms in EU 2020 (%)		16	2	10	0.5	2.5	1	1	9			

About two-third of the survey respondent stated they did already **participate in agri-environmental schemes** (AES) (Table 5). Interestingly in Estonia, where the majority of farms declare themselves as organic farms, stated they did never participate in an AES, even though the financial support for organic certification is settled in the second pillar of the CAP as and AES. We can only speculate that the policy setting of organic farming as an AES was not fully understood in this question and respondents might have considered more concrete measures, such as a support maintaining semi-natural habitats and alike.

Table 5. Frequencies of how many of the respondents did already participate in agri-environmental schemes before. In bold the highest frequency per country.

	CH	EE	ES	FR	HU	NL	PT	RO	SE	UK	Total
participated already in AES	**32**	61	59	**20**	**40**	**150**	82	**28**	8	**62**	542
did never participate in AES	3	**67**	**85**	5	9	25	**104**	2	**10**	10	320

When asked about concrete **biodiversity measures** that farmers did implement already on their farm, we see a rather equal distribution across the main biodiversity measures, with the highest frequency of extensive grassland management (Table 6). Specific measures are very prominent in some of the countries, while they are completely untypical for some others. For instance hedgerows are implemented by the farmers very often in the Netherlands and UK, while they are not implemented by one respondent in Sweden. In the two southern countries Portugal and Spain the largest group are respondents that stated they did so far not implement any biodiversity measure on their farm yet.

Table 6. Frequencies of how many of the respondents did already implement any of the following biodiversity measures. Multiple answers could be ticked. In bold the highest frequency per country.

manages already:	CH	EE	ES	FR	HU	NL	PT	RO	SE	UK	Total
flower strip	27	27	27	**13**	4	69	38	2	**10**	36	253
hedgerow	13	28	31	12	8	**108**	62	6	0	**63**	331
ext. grassland	**32**	**58**	23	10	**30**	79	53	**15**	9	49	358
other biodiv. measure	17	20	30	3	9	50	54	3	8	27	221
none	0	36	**71**	2	13	15	**65**	7	2	2	213

Looking at the **attitudes** of the respondents towards biodiversity in general and biodiversity in agriculture, we asked for the agreement with statements on that topic (Table 7). Over the entire sample we can observe on the one hand, a general high agreement on the importance of biodiversity to them, but also that biodiversity management and protection is important and that farmers in general should consider biodiversity management and protection in their farm management; and on the other hand a strong disagreement with the statement that biodiversity management and protection is useless (in general and more specifically in agriculture). However, while these two clear trends are valid for all countries, there are some deviations that stick out. We see a more critical attitude for the sample in Switzerland, Spain, the Netherlands and Sweden with lower agreement on the positive statements towards biodiversity, and higher agreement on the uselessness of biodiversity protection and management. Especially Romania agrees above average on the uselessness of biodiversity protection and management, even though they have one of the strongest agreements on the statement that farmers should consider biodiversity in their farm management.

Table 7. Farmers' agreement with statements on biodiversity in general and biodiversity in agriculture, rated on a Likert scale ranging from 1 = I don't agree at all to 10 = I fully agree.

	CH	EE	ES	FR	HU	NL	PT	RO	SE	UK	Total
Biodiversity in general is very important to me.	8.0	8.9	7.6	8.3	8.9	7.8	8.9	8.0	7.4	8.8	8.3
Biodiversity in agricultural landscapes is very important to me.	7.5	8.6	7.3	8.6	8.8	7.6	8.7	8.2	7.7	8.8	8.1
I think that biodiversity management/ protection in general is positive.	7.7	8.6	7.9	8.4	8.5	7.4	8.8	8.2	6.2	8.3	8.1
I think that biodiversity management/ protection in agricultural landscapes is positive.	7.1	8.5	7.6	8.5	8.4	7.3	8.8	8.0	7.5	8.2	8.0
I think that biodiversity management/ protection in general is useless.	2.7	2.2	2.6	1.8	2.0	3.2	1.8	5.8	2.1	2.6	2.5
I think that biodiversity management/ protection in agricultural landscapes is useless.	2.8	2.0	2.7	1.7	2.2	3.3	1.8	5.8	1.8	1.9	2.5
Farmers should consider biodiversity management/ protection in their farm management.	7.0	8.4	7.3	7.7	8.1	7.0	8.5	8.7	7.2	8.8	7.9

4.2 Farmers viewpoints on biodiversity management, their awareness and preferences: Intervention Logics

We assessed farmers' willingness to implement or manage biodiversity interventions and investigated those three biodiversity interventions that are most applied and examined in the ecological experiments of the SHOWCASE project. These are dark green measures such as the implementation and management of:

- hedgerows,
- flower strips,
- and extensive grassland.

We asked the respondents to please rate on a Likert-scale from 1 (= absolutely unimportant) to 10 (= extremely important) how important the following aspects are for them for implementing the biodiversity intervention. Several of these aspects/dimensions were considered:

- the importance of different motivations for their decision-making,
- which conditions must be fulfilled,
- how much specific risks affect their willingness to implement the intervention,
- to their knowledge/experience, how much specific measures maximize positive effects on biodiversity,
- and how important the outcomes of the interventions are for them.

For the analysis of the main trends we distinguish between three groups of farmers: 1) those that stated they apply already the intervention on the farm, meaning they do have already hedgerows, manage a flower strip or apply extensive grassland management, 2) those that stated they currently don't apply the intervention, but would be willing to establish the intervention on their farm, and 3) those that stated they currently don't apply the intervention, and would also not be willing to establish the intervention on their farm.

4.2.1 Hedgerows

The willingness of farmers to implement and/or manage hedgerows to increase biodiversity was assessed in seven of the ten countries with an EBA (PT, NL, ES, HU, EE, FR and CH). In some countries the questions of this block were not shown to respondents, because hedgerows are not a usual practice there (RO and SE), or because survey respondents were extremely difficult to recruit and to motivate to stay in a lengthy survey (UK). In total, we received responses from 155 farmers, of which 60 farmers have already hedgerows, 61 farmers stated that they would be willing to implement hedgerows, and 34 stated they would not be willing to do so. Details for their motivations, necessarily fulfilled conditions, seen risks, knowledge on management and expected outcomes can be found in Table 8 and are describes below.

The main **motivation** for farmers for managing or implementing hedgerows are care for the environment and nature, and the environmental effectiveness of the measure. This is the case for those farmers who have already hedgerows, as well as for those willing to establish them on their farm. For those farmers with hedgerows, also landscape aesthetics and tradition and cultural landscape heritage are ranked among the most important motivations for their decision-making. While financial rewards are still considered as an important motivation among all three groups, only those farmers, who are generally not willing to establish hedgerows name financial rewards as the most important motivation.

Table 8. Farmers' evaluation of the importance of motivational factors, necessarily fulfilled conditions, seen risks, which specific measures maximise positive effects on biodiversity according to their knowledge and experience, and the importance of outcomes for their decision to implement hedgerows.

		have hedgerow	*willing to establish hedgerow*	*not willing to establish hedgerow*
	Variable	**Mean**	**Mean**	**Mean**
Motivations	Financial rewards	7.03	7.10	5.76
	Social recognition within the community	5.66	4.00	3.09
	Societal demands and pressure	4.33	3.36	2.91
	Care for the environment and nature	8.17	8.37	5.24
	Environmental effectiveness of the measure	7.96	8.02	4.68
	Landscape aesthetics	7.68	6.53	3.39
	Tradition and cultural landscape heritage	7.20	6.64	4.22
Conditions	Financial compensation	7.31	7.59	5.97
	Possibility to subcontract the implementation and management of the hedgerow	4.68	5.47	3.63
	Technical capacity to implement and manage the hedgerow by myself	6.42	7.05	4.61
	Availability of time and labour force to implement and manage the hedgerow	7.05	7.38	5.06
	Own knowledge of implementing and managing the hedgerow	7.42	6.90	4.53
	Advisory service offered	6.35	6.40	4.25
	Availability of space	7.73	7.48	6.70
Risks	Yield losses in the field due to competition between the hedgerow and crops for light and water	4.93	5.27	7.00
	The hedgerow prevents air ventilation (favourable conditions for fungi)	4.40	4.34	5.97
	The hedgerow is a habitat for pests, diseases, and weeds (infection pool)	3.98	4.14	6.12
	Technical problems when harvesting	4.54	4.91	7.27
	Technical problems for tillage	4.03	5.00	7.52
	Limited success of the hedgerow due to the drift of pesticides from neighbouring fields	3.62	4.52	5.87
	Negative recognition by other farmers	2.70	2.35	4.88
Knowledge/Experience| Pos. effect on biodiv	No pruning or cutting of the hedgerow - natural growth	6.73	6.48	4.50
	Yearly pruning in winter to keep the hedgerow at a height of no more than 2,5 meters	5.29	5.62	4.04
	Establishing different height zones for diversifying the habitat	6.93	5.78	5.12
	Regularly pruning of fast-growing species in winter	5.95	5.86	4.64
	Periodically cutting back to the trunk (every 10 years gradually in winter, not all at once)	5.62	5.49	4.40

	Variable	*have hedgerow* Mean	*willing to establish hedgerow* Mean	*not willing to establish hedgerow* Mean
	Establishment of a grass strip of 2m width between cultivated field and hedgerow + management of the grass strip (mowing once every second year, no fertilizer)	7.21	6.54	4.78
Importance of outcomes	No negative impact on yield on the cropped field	6.74	6.81	6.26
	Increased water retention	7.11	7.78	4.84
	Reduced soil erosion	7.92	8.45	5.41
	Wind break	7.13	8.31	5.78
	Increased plant species diversity	7.67	7.91	4.48
	Increased animal species diversity	7.97	8.12	4.32
	Increased pollinators abundance	7.92	8.53	5.26
	Natural pest control	7.48	8.12	4.73
	Increased landscape attractiveness	8.02	6.89	3.91
	Preservation of natural heritage and traditions	7.26	6.93	3.86

Many parameters are ranked as an important **conditions** that must be fulfilled to manage hedgerows. The most important precondition for all three groups is the availability of space, followed by financial compensation, and availability of time and labour force to implement and manage the hedgerow. Interestingly also own knowledge of implementing and managing the hedgerows is considered an important condition that must be fulfilled from farmers' point of view, and highlights the importance of the provision of information and experience with an intervention to gain the necessary knowledge. Subcontracting the effort of implementing and managing the hedgerows appear to be no suitable condition, even though it could reduce the transaction costs of farmers by for instance cutting the hedgerows.

Only those farmers, who are not willing to establish hedgerows evaluate the importance of **risks** for their decision-making high. They see technical problems when harvesting of for tillage as main risks. This is likely associated with the necessary precondition of availability of space. If a hedgerow e.g. takes space from the headland to turn the machine, it would reduce the field size and thereby the revenues, even if the hedgerow would not be placed on the field.

When we asked for the **knowledge and experience**, how much specific measures **maximise the biodiversity** in a hedgerow, overproportionally many farmers stated "I don't know" in all the groups of farmers (not shown in table). As example, even in the group of farmers that manage already hedgerows 21 out of 55 that answered this question stated they don't know how much of an impact periodically cutting the hedgerow back to the trunk will have on biodiversity, or 18 out of 57 did now know how to answer on the biodiversity impact of an accompanying extensively managed grass strip of 2 m width between cultivated field and hedgerow. This shows that there is a large gap in farmers' knowledge of the biodiversity impacts of hedgerow management, which future initiatives and policy instruments must and can address to enable farmers to contribute to biodiversity-friendly agriculture. Among those farmers who evaluated the biodiversity impact of hedgerow management practices natural growth, establishment of different height zones and the accompanying extensively managed grass strip are evaluated as most beneficial for biodiversity. This is in line with suggestions for biodiversity-friendly hedgerow management. However, the positive effect of periodically cutting back hedgerows to the trunk is not recognised that much by respondents, even though

it is actually very beneficial. In contrast, the annual pruning to keep the hedgerow tidy and neat of no more than 2.5 meters is relatively overrated. This management can offer habitat for birds, but reduces to potential to provide food and habitat for pollinators.

While we identified some major knowledge (and experience) gaps towards the biodiversity benefits of hedgerow management, many farmers evaluated the importance of **outcomes** that are associated with biodiversity as very important to them. Increased pollinator abundance, plant and animal species diversity are among the most important expected outcomes of hedgerow management. But also private benefits, from which farmers can derive direct benefits for agriculture, such as reduced soil erosion or increased water retention are evaluated as important. They also acknowledge the importance of natural pest control of hedgerow management, a clear benefit where farmers could capitalise on biodiversity.

In conclusion, farmers who currently manage hedgerows or are generally willing to do so have strong biodiversity-related motivations and regard the biodiversity outcomes of their management practices as highly important. While they do not perceive many risks, they do face knowledge and experience gaps that hinder their ability to optimize hedgerow management for maximum biodiversity benefits. In contrast, farmers who are not willing to establish hedgerows prioritize financial rewards and yield over biodiversity-related motivations and outcomes, reflecting their limited focus on the ecological benefits of hedgerow management.

4.2.2 Flower strips

The willingness of farmers to implement and/or manage flower strips to increase biodiversity was assessed in eight of the ten countries with an EBA (PT, NL, ES, HU, EE, SE, FR and CH). In total, we received responses from 221 farmers, of which 68 farmers manage already flower strips, 111 farmers stated that they would be willing to implement flower strips, and 42 stated they would not be willing to do so. Details for their motivations, necessarily fulfilled conditions, seen risks, knowledge on management and expected outcomes can be found in Table 9 and are describes below.

The primary **motivations** for farmers regarding the management or establishment of flower strips are care for the environment and nature, and the environmental effectiveness of the measure. These motivations are particularly strong among farmers who already have flower strips and those willing to establish them. Financial rewards remain an important consideration for all groups. However, it is most strongly emphasized by farmers who are willing to establish flower strips compared to lower scores in the other two groups. Therefore, financial instruments could pose an important incentive for farmer willing to establish flower strips.

When considering the **conditions** necessary for the implementation and management of flower strips, similar to the evaluation for hedgerows, a wide array of conditions are considered important. Only subcontracting the management of flower strips is not seen as a favourable condition, with relatively low ratings across all groups, reflecting that farmers prefer to manage the flower strips themselves or with their immediate resources. Again own knowledge of how to implement and manage the flower strip, as well as an offered advisory service are seen as rather important condition, underscoring the importance of information provision and expertise for successful implementation.

Table 9. Farmers' evaluation of the importance of motivational factors, necessarily fulfilled conditions, seen risks, which specific measures maximise positive effects on biodiversity according to their knowledge and experience, and the importance of outcomes for their decision to implement flower strips.

		have flowerstrip	*willing to establish flowerstrip*	*not willing to establish flowestrip*
	Variable	**Mean**	**Mean**	**Mean**
Motivations	Financial rewards	6.14	7.23	5.69
	Social recognition within the community	5.47	5.05	2.54
	Societal demands and pressure	4.54	3.86	2.45
	Care for the environment and nature	8.45	8.72	6.00
	Environmental effectiveness of the measure	7.95	8.26	5.45
	Landscape aesthetics	7.18	6.69	4.62
	Tradition and cultural landscape heritage	6.15	6.61	4.05
Conditions	Financial compensation	6.52	7.58	6.63
	Possibility to subcontract the implementation and management of the flower strip	3.67	4.56	3.39
	Technical capacity to implement and manage the flower strip by myself	6.79	6.79	4.68
	Availability of time and labour force to implement and manage the flower strip	6.45	6.99	5.03
	Own knowledge of implementing and managing the flower strip	6.94	7.06	5.30
	Advisory service offered	6.30	6.61	4.95
	Availability of space	6.78	7.07	6.21
Risks	Limited success of the flower strip due to unfavourable weather conditions	5.34	6.07	5.16
	Limited success of the flower strip due to the drift of pesticides from neighbouring fields	3.89	5.02	4.35
	The flower strip is habitat for pests, diseases, and weeds (infection pool)	3.64	3.95	6.50
	Subsequent cropping problems might occur	4.03	3.92	6.51
	Citizens enter the flower strip / field	3.15	4.13	5.00
	Negative recognition by other farmers	2.42	2.78	3.08
Knowledge/Experience| Pos. effect on biodiv	Rotary tillage (2-3 x) before sowing	5.37	4.58	4.67
	Specific regional and site-adopted wildflower seed mixture	8.23	8.12	5.43
	Low cut (<10cm) every second year	5.93	5.23	5.23
	High cut (ca. 12cm) every second year	5.93	5.99	4.33
	Mulching every second year	5.53	5.79	5.25
	Fertilization of the flower strip	4.22	4.74	4.48
	Implementation for at least 3 years	6.85	7.46	5.30
	Ploughing and re-seeding of the flower strip after 2 years	4.84	4.38	3.97
	Establishing accompanying habitats (e.g. mounds)	6.78	6.57	4.19

	have flowerstrip	*willing to establish flowerstrip*	*not willing to establish flowestrip*
Measures to protect from pesticide drift	6.00	6.87	4.32
Importance of outcomes: No negative impact on yield on the cropped field	7.36	7.25	6.31
Improved soil health/ structure/ fertility/ water retention	8.08	7.93	6.24
Reduced soil erosion	8.05	8.13	6.05
Increased plant species diversity	8.27	8.19	5.35
Increased animal species diversity	8.27	8.08	5.68
Increased pollinators abundance	8.97	8.93	6.32
Natural pest control	8.32	8.37	5.54
Increased landscape attractiveness	7.76	7.15	4.35

In terms of **risks**, those who have flower strips or are willing to implement them see the greatest risk in a limited success of the flower strip due to unfavourable weather conditions, while those who are not willing to establish flower strips rate risks such as pests, diseases, and weeds (the “infection pool” effect) and subsequent cropping problems significantly higher than the other groups. Hence, while the group of (willing) adopters sees mainly risks related to biodiversity effects, the opposing group overrates risks related to negative effects on yield.

Regarding **knowledge and experience**, there are clear gaps in understanding the specific measures that maximize the biodiversity benefits of flower strips. While farmers who have flower strips or are willing to establish them do provide some ratings on different management practices, there are still significant gaps, particularly for those unwilling to establish flower strips. For example, the practice of using a specific regional and site-adapted wildflower seed mixture was rated highly positive for biodiversity by farmers with experience in flower strips and those willing to establish them, but much lower by those not willing to establish them. This highlights the importance of tailored, region-specific guidance and support. The practice of measures to protect from pesticide drift was also rated as important by those who already manage flower strips, showing an awareness of external factors influencing their success (for biodiversity). Interestingly, fertilisation of flower strips, a measure not beneficial for biodiversity, was rated comparatively high, constituting a wrong information.

Finally, when asked about the importance of **outcomes**, the results show that farmers value the environmental benefits of flower strips highly. Increased pollinator abundance, plant and animal species diversity, and natural pest control are seen as among the most important outcomes for all groups. These biodiversity-related outcomes are considered highly important even among those who are not willing to establish flower strips, although their ratings are slightly lower compared to the other groups. Additionally, private benefits like improved soil health, reduced soil erosion, and increased water retention are also valued highly, particularly by farmers already managing flower strips or those willing to establish them. These benefits, which contribute directly to agricultural sustainability, appear to align well with farmers’ motivations.

In conclusion, the results indicate that farmers who already manage flower strips or are willing to do so are primarily motivated by biodiversity-related factors, such as improving the environment and enhancing ecological effectiveness. While these farmers recognize a variety of conditions, they are generally more confident in their ability to manage the flower strips effectively, especially with the right knowledge and support. On the other hand, farmers not willing to establish flower strips tend to focus more on immediate financial and operational

concerns, such as yield and potential risks related to pests or crop management, rather than the biodiversity outcomes. This suggests that increasing awareness of the biodiversity benefits and providing targeted knowledge could help bridge the gap for farmers who are less inclined to adopt flower strips.

4.2.3 Extensive grassland management

The willingness of farmers to implement and/or manage extensive grasslands to increase biodiversity was assessed in six of the ten countries with an EBA (NL, HU, EE, SE, FR and RO). In total, we received responses from 112 farmers, of which 59 farmers have already extensive grassland, 44 farmers stated that they would be willing to implement extensive grassland, and 9 stated they would not be willing to do so. Details for their motivations, necessarily fulfilled conditions, seen risks, knowledge on management and expected outcomes can be found in Table 10 and are describes below.

Farmers managing or willing to establish extensive grassland are primarily **motivated** by care for the environment and nature, and the environmental effectiveness of the measure. Similarly, landscape aesthetics and tradition and cultural landscape heritage are also important but slightly less emphasized compared to environmental motivations. The group not willing to establish extensive grassland rates the environmental and cultural/aesthetic motivations much lower. In contrast, financial rewards are considered an important motivation by all groups, with financial compensation being a key driver. It is rated much more important for the adoption of this practice across all groups as it was for hedgerows, and especially flower strips.

In terms of **conditions** required for implementing and managing extensive grassland, financial compensation remains the most important factor across all groups, closely followed by the availability of space and access to additional fodder sources. For the group of farmers that would be generally willing to establish extensive grassland management, the limited space seems to be the perceived main hindering factor to implement this management on their farm. Advisory services and own knowledge of biodiversity-friendly grassland management are also important conditions. Subcontracting the management of the grassland is not seen as a favourable condition by any of the groups, especially those unwilling to establish it, reflecting the preference for hands-on management rather than outsourcing.

Table 10. Farmers' evaluation of the importance of motivational factors, necessarily fulfilled conditions, seen risks, which specific measures maximise positive effects on biodiversity according to their knowledge and experience, and the importance of outcomes for their decision to implement extensive grassland management.

		have ext. grassland	*willing to establish ext. grassland*	*not willing to establish ext. Grassland*
	Variable	**Mean**	**Mean**	**Mean**
Motivations	Financial rewards	8.17	8.36	7.78
	Social recognition within the community	6.21	6.18	4.67
	Societal demands and pressure	5.47	5.71	4.78
	Care for the environment and nature	8.52	8.48	6.00
	Environmental effectiveness of the measure	8.11	7.95	5.11
	Landscape aesthetics	7.92	7.40	4.78
	Tradition and cultural landscape heritage	7.59	7.56	4.44

		have ext. grassland	*willing to establish ext. grassland*	*not willing to establish ext. Grassland*
Conditions	Financial compensation	8.29	8.15	7.89
	Access to additional fodder sources	7.02	6.78	6.22
	Possibility to subcontract the grassland management	4.69	5.53	2.22
	Availability of time and labour force to implement and manage the grassland	6.56	6.74	4.50
	Own knowledge of biodiversity-friendly grassland management	7.76	7.77	5.22
	Advisory service offered	6.31	7.00	5.67
	Availability of space	7.23	8.43	6.38
Risks	Yield losses	5.64	6.22	7.89
	Fodder quality losses	5.46	5.97	8.67
	The biodiversity-friendly grassland is a habitat for pests, diseases, and weeds (infection pool)	4.98	5.48	6.63
	Limited success of the measure due to the drift of pesticides from neighbouring fields	5.23	5.40	4.00
	Wild animals enter the field	5.05	5.27	6.11
	Negative recognition by other farmers	3.72	3.94	3.22
Knowledge/Experience | Pos. effect on biodiv	Establishment of permanent grassland	7.53	7.20	7.25
	Ploughing and re-seeding of the grassland after 5 years	4.80	6.00	4.38
	Sowing in of flower-rich species	6.79	7.40	7.50
	No mineral fertilizer input	6.05	6.83	5.33
	No organic fertilizer input	5.23	5.51	2.78
	Low stocking density	6.15	6.40	5.33
	No mechanical management	5.80	5.47	4.38
	Mosaic management (gradual mowing, portioning pastures)	6.93	6.76	5.78
	Delay of cutting time	5.91	6.71	5.00
	Few cuttings	6.31	7.11	5.25
	Shrub removal	4.31	5.52	5.29
Importance of outcomes	No negative impact on yield	6.51	6.13	9.33
	No negative impact on fodder quality	6.14	6.19	9.44
	Improved soil health/ structure/ fertility/ water retention	8.00	7.79	8.00
	Reduced soil erosion	7.38	7.55	7.44
	Increased plant species diversity	8.02	7.95	6.13
	Increased animal species diversity	7.67	7.66	5.33
	Increased pollinators abundance	7.93	8.59	6.56
	Natural pest control	7.72	7.89	5.67

	have ext. grassland	*willing to establish ext. grassland*	*not willing to establish ext. Grassland*
Increased landscape attractiveness	7.39	7.45	5.11
Preservation of natural heritage and traditions	7.07	7.79	3.44

On average **risks** are perceived as more important for the decision to manage extensive grassland across all three groups than they have been for hedgerows or flower strips. We can only speculate that why this is. On the one hand, extensive grassland management indeed is related to some trade-offs such as yield loss or a change in the grass species composition, e.g. towards Sauergräser or with partially unfavourable plants being indigestible/poisonous for livestock. On the other hand, in contrast to the line-shaped measures of hedgerows and flower strips that can be put on edges, extensive grasslands are an area-based measure with potentially large effects on wide areas of the farm. Both might possess reasons for greater concerns over the risks. Regarding the detailed evaluation of the risks, the group unwilling to establish extensive grassland expresses greater concern over yield losses and fodder quality losses compared to the other two groups. These concerns reflect the immediate financial consequences that extensive grassland management may have on agricultural productivity, e.g. if the area has rather fertile soils. Other risks, such as wild animals entering the field or pesticide drift, are not seen as major issues by any group, although they do vary slightly across groups. Interestingly, farmers with extensive grassland management or willing to implement it, rate the negative recognition by other farmers higher than those farmers not willing, and especially higher as for hedgerow or flower strip management. This topic seems to be more sensitive for grassland farmers.

Also regarding **knowledge and experience** what maximises **positive biodiversity effects**, the answers are more homogeneous across the groups, than they were for hedgerows and flower strips, probably because it is a very traditional and widely applied practise across Europe. There is a clear understanding of several biodiversity-friendly practices related to extensive grassland management, such as sowing flower-rich species and maintaining low stocking densities. However, there are some gaps in the knowledge of other practices, such as no organic fertilizer input or no mechanical management, with lower scores observed, especially among those unwilling to adopt extensive grassland. There is also a clear understanding for mosaic management, such as gradual mowing and portioning pastures, which is seen as beneficial for biodiversity.

Finally, when it comes to the importance of **outcomes**, all three groups of farmers recognize the environmental benefits of extensive grassland management. Increased plant species diversity, pollinator abundance, and natural pest control are ranked as highly important outcomes, underscoring the strong alignment with environmental motivations. Improved soil health and reduced soil erosion are also highly valued, reflecting an understanding of the longer-term benefits of extensive grassland management for agricultural resilience. However, farmers who are unwilling to establish extensive grassland place more emphasis on no negative impact on fodder quality and yield, indicating that they are concerned with the immediate agricultural benefits over the broader environmental outcomes. Preservation of natural heritage and traditions is ranked as an important outcome by farmers already or willing to manage extensive grassland but is evaluated as extremely important by those unwilling to adopt this practice, even though extensive grasslands have a long tradition throughout Europe.

In conclusion, the results suggest that farmers who manage or are willing to establish extensive grassland are largely motivated by biodiversity and environmental concerns,

including increased species diversity and improved ecosystem services. These farmers tend to recognize the importance of adequate compensation, space, and knowledge to successfully manage extensive grasslands. On the other hand, farmers who are not willing to establish extensive grassland tend to prioritize financial rewards, yield, and fodder quality over the environmental outcomes. This group also expresses greater concern about the risks related to yield and fodder quality. Addressing these concerns through targeted support (e.g. increasing the access/availability of additional fodder sources/markets), offering additional space where passible, e.g. communal areas, education, and increased financial incentives could help bridge the gap and encourage wider adoption of biodiversity-friendly grassland management practices.

4.2.4 Summary and conclusion

Farmers who are managing or willing to adopt biodiversity-friendly practices like hedgerows, flower strips, and extensive grasslands generally place a strong emphasis on environmental outcomes, particularly biodiversity and ecosystem services. However, concerns about financial rewards, yield impacts, and fodder quality remain significant barriers, particularly for those not willing to adopt these measures. Bridging the gap in knowledge about the specific biodiversity benefits of various management practices and offering appropriate financial incentives and advisory services will be key to encouraging wider adoption. Policymakers and agricultural support programs should consider these factors to create more attractive conditions for biodiversity-friendly agricultural practices.

5 Outlook

The results of the other chapters of the survey are part of the deliverable D2.4 Report on farmers' willingness to accept incentive schemes to increase biodiversity and the relative importance of different design principles within these schemes. There we report farmers' preferences for public and private incentive designs, and the in-depth analysis of influence of spatial arrangement of where to place biodiversity interventions.

6 Appendix - Codebook

Code	Question/Text	Sub-question	(Pre-)Condition	Range	Range description	Unit	Peculiarities
ID	Number						
CNTRY	Country						
FINISH	Finished			0|1	0 = survey not finished 1 = survey finished		
MONTHYEAR	Recorded date and time (submitted), recoded to MONTH and YEAR				Dez-22 till Nov-23		
LANGUAGE	User Language						
FOCUS	What is the primary focus of your farm?	choice		1-5	1 = livestock farming 2 = arable farming 3 = permanent crops 4 = integrated/mixed farm 5 = other		
FOCUS_T		other (txt)	FOCUS = 5				
FULLTIME	I am a full-time/part-time farmer			1-2	1 = full-time 2 = part-time or hobby farmer		
ORGANIC	Do you manage your farm conventionally, organically, or are you in the process of conversion?			1-4	1 = conventional 2 = conventional (low input) 3 = organic 4 = organic (in conversion)		
AREA_CROP	How large is your utilized agricultural land?	arable land				ha	
AREA_PERM		permanent crop				ha	
AREA_GRASS		grassland				ha	
AREA_OTH		other				ha	
OWNED	What share of this land is owned by your farm?	owned				ha	
LEASED		leased				ha	

PERMGRASS	How much of your grassland is permanent grassland?		AREAGRASS ≠ 0			ha	
GRAZED	How is your grassland managed?	mainly grazed/mowed	AREAGRASS ≠ 0	1-2	1 = mainly grazed 2 = mainly mowed		
LSU	Grazed with how many LSU/ha:		GRAZED = 1			LSU/ha	
INTENSEGRASS	This grassland is managed:	intensively/extensively	GRAZED = 2	1-2	1 = intensively 2 = extensively		
CROPROT	How many crops are in your rotation?						
PRE_FLOWER	Have you already implemented any of the following biodiversity measures?	flower strips		empty|1	1 = checked		
PRE_HEDGE		hedgerows					
PRE_GRASS		extensive grassland management					
PRE_OTH		other					
PRE_NONE		I have not implemented any of the above					
AES	Have you ever participated in Agri-Environmental Schemes or contractual conservation schemes?			1-2	1 = Yes 2 = No		
OLIVE	Is one of the permanent crops olives?		AREA_PERM > 1 OR FOCUS == 3	1-2	1 = Yes 2 = No		(only in PT & ES)
ORGANIC_CON	Do you manage your farm conventionally, organically, or are you in the process of conversion?	conventional		empty|1	1 = checked		(only in PT)
ORGANIC_CON_LOW		conventional with low input use		empty|1	1 = checked		
ORGANIC_ORGANIC		organic		empty|1	1 = checked		
ORGANIC_ORG_CONV		organic (in conversion)		empty|1	1 = checked		
ORGANIC_INT_PROD		integrated production		empty|1	1 = checked		
ATT_BIODIV	How much do you agree with the following statements?	Biodiversity in general is very important to me.		1-10	1 = I don't agree at all -> 10 = I fully agree		
ATT_BIODIVAGRI		Biodiversity in agricultural landscapes is very important to me.					
ATT_MANAGEPRO		I think that biodiversity management/ protection in general is positive.					
ATT_MANAGEAGRIPRO		I think that biodiversity management/ protection in agricultural landscapes is positive.					

ATT_MANAGECON		I think that biodiversity management/ protection in general is useless.		
ATT_MANAGEAGRICON		I think that biodiversity management/ protection in agricultural landscapes is useless.		
ATT_FARMMANAGE		Farmers should consider biodiversity management/ protection in their farm management.		
AGECAT	In what year were you born? -> recoded to age categories at the time of the survey		1-8	1 = < 20 years 2 = 20 - 29 years 3 = 30 - 39 years 4 = 40 - 49 years 5 = 50 - 59 years 6 = 60 - 69 years 7 = 70 - 79 years 8 = >= 80 years

ECOSIZE	In which class of economic size do you see your farm, roughly? (total value of outputs of the farm within one year)	1-7	In NL, FR, ES, P, EE, and CH: 1 = 0 - < 2000 €/a or CHF/a 2 = 2000 - < 8000 €/a or CHF/a 3 = 8000 - < 25 000 €/a or CHF/a 4 = 25 000 - < 50 000 €/a or CHF/a 5 = 50 000 - < 100 000 €/a or CHF/a 6 = 100 000 - < 500 000 €/a or CHF/a 7 = >= 500 000 €/a or CHF/a Romania: 1 = 0 - < 10 000 RON/a 2 = 10 000 - < 40 000 RON/a 3 = 40 000 - < 100 000 RON/a 4 = 100 000 - < 250 000 RON/a 5= 250 000 - < 500 000 RON/a 6 = 500 000 - < 2 500 000 RON/a 7 = >= 2 500 000 RON/a Sweden: 1 = 0 - < 20 000 kronor/a 2 = 20 000 - < 85 000 kronor/a 3 = 85 000 - < 250 000 kronor/a 4 = 250 000 - < 500 000 kronor/a 5 = 500 000 - < 1 000 000 kronor/a 6 = 1 000 000 - < 5 000 000 kronor/a 7 = >= 5 000 000 kronor/a UK: 1 = 0 - < 2000 £/a 2 = 2000 - < 7000 £/a 3 = 7000 - < 20 000 £/a 4 = 20 000 - < 40 000 £/a 5 = 40 000 - < 85 000 £/a 6 = 85 000 - < 400 000 £/a 7 = >= 400 000 £/a	(NOT in HU)

EDUGEN	What is your highest general education? - Selected Choice	Choice		1-7	1 = none 2 = primary 3 = lower secondary 4 = upper secondary (preparing for tertiary) 5 = post-secondary non-tertiary (programmes that prepare for the labour market) 6 = university degree 7 = other		
EDUGEN_T		Other (txt)	EDUGEN = 7				
EDUAGRI	What is your highest agricultural education? - Selected Choice	Choice		1-5	1 = none 2 = family/traditional knowledge 3 = farmer education degree 4 = university degree 5 = other		
EDUAGRI_T		Other (txt)	EDUAGRI = 5				
FINC	What is your overall farm income, roughly?					HUF	(only in HU)
FIELDSIZE	What is your average size of the parcels you are working on approximately?					ha	
LANDUSE	The largest share of your land is/are	cropland/meadows/pastures		1-3	1 = cropland 2 = meadows 3 = pastures		
HILL	The region you are working in is mostly	flat/hilly/mountainous		1-3	1 = flat 2 = hilly 3 = mountainous		

TRACTOR_C	What is the approximate actual weight of the heaviest tractor that is used on your cropland?	LANDUSE = 1	1-7	1 = <3,5 t 2 = 3,5 - 6 t 3 = 6 - 10 t 4 = 10 - 15 t 5 = >15 t 6 = hand-operated machines 7 = horses	
TRACTOR_M	What is the approximate actual weight of the heaviest tractor that is used on your meadows?	LANDUSE = 2	1-7	1 = <3,5 t 2 = 3,5 - 6 t 3 = 6 - 10 t 4 = 10 - 15 t 5 = >15 t 6 = hand-operated machines 7 = horses	
TRACTOR_P	What is the approximate actual weight of the heaviest tractor that is used on your pasture?	LANDUSE = 3	1-7	1 = <3,5 t 2 = 3,5 - 6 t 3 = 6 - 10 t 4 = 10 - 15 t 5 = >15 t 6 = hand-operated machines 7 = grazed	
WORKWIDTH_C	What is the maximum working width of the machines that are used on your cropland?	LANDUSE = 1			m
WORKWIDTH_M	What is the maximum working width of the machines that are used on your meadows?	LANDUSE = 2			m

WORKWIDTH_P	What is the maximum working width of the machines that are used on your pasture?	LANDUSE = 3			m
F1BASE_1	Where would you place the wildflower strip? (BASELINE)		1-4	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal	
F1BASE_1E	Why would you choose this option?				
F1BASE_1W	Which width of the wildflower strip would you choose?	≥4			m
F1BASE_2	Please select your second preference.		1-4	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal	
F1BASE_2E	Why would you choose this option?				
F2SHAPE_1	Where would you place the wildflower strip? (SHAPE)		1-7	1 = standard (right) 2 = bottom 3 = top 4 = left (area) 5 = left (strip) 6 = in-field vertical 7 = in-field horizontal	
F2SHAPE_1E	Why would you choose this option?				

F2SHAPE_2	Please select your second preference.			1-7	1 = standard (right) 2 = bottom 3 = top 4 = left (area) 5 = left (strip) 6 = in-field vertical 7 = in-field horizontal
F2SHAPE_2E	Why would you choose this option?				
F3SIZE_1	Where would you place the wildflower strip? (SIZE)			1-4	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal
F3SIZE_1E	Why would you choose this option?				
F3SIZE_1W	Which width of the wildflower strip would you choose?	≥4			m
F3SIZE_2	Please select your second preference.			1-4	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal
F3SIZE_2E	Why would you choose this option?				
F4SLOPE_1	Where would you place the wildflower strip? (SLOPE)			1-5	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal 5 = bottom
F4SLOPE_1E	Why would you choose this option?				

F4SLOPE_2	Please select your second preference.	1-5	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal 5 = bottom
F4SLOPE_2E	Why would you choose this option?		
F51SOIL_1	Where would you place the wildflower strip? (SOIL LEFT+ RIGHT-)	1-5	1 = standard (left) 2 = standard (right) 3 = top 4 = in-field vertical 5 = in-field horizontal
F51SOIL_1E	Why would you choose this option?		
F51SOIL_2	Please select your second preference.	1-5	1 = standard (left) 2 = standard (right) 3 = top 4 = in-field vertical 5 = in-field horizontal
F51SOIL_2E	Why would you choose this option?		
F52SOIL_1	Where would you place the wildflower strip? (SOIL TOP+ BOTTOM-)	1-5	1 = standard (left) 2 = top 3 = bottom 4 = in-field vertical 5 = in-field horizontal
F52SOIL_1E	Why would you choose this option?		
F52SOIL_2	Please select your second preference.	1-5	1 = standard (left) 2 = top 3 = bottom 4 = in-field vertical 5 = in-field horizontal
F52SOIL_2E	Why would you choose this option?		

F61FOREST_1	Where would you place the wildflower strip? (FOREST RIGHT)	1-3	1 = standard (left) 2 = standard (right, forest) 3 = top
F61FOREST_1E	Why would you choose this option?		
F61FOREST_2	Please select your second preference.	1-3	1 = standard (left) 2 = standard (right, forest) 3 = top
F61FOREST_2E	Why would you choose this option?		
F62FOREST_1	Where would you place the wildflower strip? (FOREST TOP)	1-3	1 = standard (left) 2 = top (forest) 3 = bottom
F62FOREST_1E	Why would you choose this option?		
F62FOREST_2	Please select your second preference.	1-3	1 = standard (left) 2 = top (forest) 3 = bottom
F62FOREST_2E	Why would you choose this option?		
H1BASE_1	Where would you place the hedgerow? (BASELINE)	1-4	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal
H1BASE_1E	Why would you choose this option?		
H1BASE_2	Please select your second preference.	1-4	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal
H1BASE_2E	Why would you choose this option?		

H2SLOPE_1	Where would you place the hedgerow? (SLOPE)	1-5	1 = standard (left) 2 = top 3 = bottom 4 = in-field vertical 5 = in-field horizontal
H2SLOPE_1E	Why would you choose this option?		
H2SLOPE_2	Please select your second preference.	1-5	1 = standard (left) 2 = top 3 = bottom 4 = in-field vertical 5 = in-field horizontal
H2SLOPE_2E	Why would you choose this option?		
H31SOIL_1	Where would you place the hedgerow? (SOIL LEFT+ RIGHT-)	1-5	1 = standard (left) 2 = standard (right) 3 = top 4 = in-field vertical 5 = in-field horizontal
H31SOIL_1E	Why would you choose this option?		
H31SOIL_2	Please select your second preference.	1-5	1 = standard (left) 2 = standard (right) 3 = top 4 = in-field vertical 5 = in-field horizontal
H31SOIL_2E	Why would you choose this option?		
H32SOIL_1	Where would you place the hedgerow? (SOIL TOP+ BOTTOM-)	1-5	1 = standard (left) 2 = top 3 = bottom 4 = in-field vertical 5 = in-field horizontal
H32SOIL_1E	Why would you choose this option?		

H32SOIL_2	Please select your second preference.	1-5	1 = standard (left) 2 = top 3 = bottom 4 = in-field vertical 5 = in-field horizontal
H32SOIL_2E	Why would you choose this option?		
H4WIND_1	Where would you place the hedgerow? (WIND)	1-5	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal 5 = bottom (wind)
H4WIND_1E	Why would you choose this option?		
H4WIND_2	Please select your second preference.	1-5	1 = standard (left) 2 = top 3 = in-field vertical 4 = in-field horizontal 5 = bottom (wind)
H4WIND_2E	Why would you choose this option?		
H51STREET_1	Where would you place the hedgerow? (STREET RIGHT)	1-3	1 = standard (left) 2 = standard (right, street) 3 = top
H51STREET_1E	Why would you choose this option?		
H51STREET_2	Please select your second preference.	1-3	1 = standard (left) 2 = standard (right, street) 3 = top
H52FOREST_1	Where would you place the hedgerow? (FOREST RIGHT)	1-3	1 = standard (left) 2 = standard (right, forest) 3 = top

H52FOREST_1E	Why would you choose this option?		
H52FOREST_2	Please select your second preference.	1-3	1 = standard (left) 2 = standard (right, forest) 3 = top
H52FOREST_2E	Why would you choose this option?		
H53FOREST_1	Where would you place the hedgerow? (FOREST TOP)	1-3	1 = standard (left) 2 = top (forest) 3 = bottom
H53FOREST_1E	Why would you choose this option?		
H53FOREST_2	Please select your second preference.	1-3	1 = standard (left) 2 = top (forest) 3 = bottom
H53FOREST_2E	Why would you choose this option?		
H54HEDGE_1	Where would you place the hedgerow? (HEDGEROW1)	1-3	1 = standard (right) 2 = top (hedge) 3 = bottom
H54HEDGE_1E	Why would you choose this option?		
H54HEDGE_2	Please select your second preference.	1-3	1 = standard (right) 2 = top (hedge) 3 = bottom
H54HEDGE_2E	Why would you choose this option?		
H55HEDGE_1	Where would you place the hedgerow? (HEDGEROW2)	1-4	1 = standard (right) 2 = standard (left, hedge) 3 = top (connect) 4 = bottom
H55HEDGE_1E	Why would you choose this option?		

H55HEDGE_2	Please select your second preference.			1-4	1 = standard (right) 2 = standard (left, hedge) 3 = top (connect) 4 = bottom
H55HEDGE_2E	Why would you choose this option?				
H56HEDGE_1	Where would you place the hedgerow? (HEDGEROW3)			1-3	1 = standard (left) 2 = top 3 = left + top (connect)
H56HEDGE_1E	Why would you choose this option?				
H56HEDGE_2	Please select your second preference.			1-3	1 = standard (left) 2 = top 3 = left + top (connect)
H56HEDGE_2E	Why would you choose this option?				
FSWILL	In principle, would you be willing to establish a flower strip?		PRE_FLOWER = empty	1-2	1= yes 2= no
FSMOTIV_MON	How important are the following motivations for you for implementing a flower strip?	Financial rewards		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
FSMOTIV_SOCTY		Social recognition within the community			
FSMOTIV_PRESS		Societal demands and pressure			
FSMOTIV_NAT		Care for the environment and nature			
FSMOTIV_EFFECT		Environmental effectiveness of the measure			
FSMOTIV_AESTH		Landscape aesthetics			
FSMOTIV_TRAD		Tradition and cultural landscape heritage			
FSCOND_MON	How important is the fulfilment of the following conditions for implementing the flower strip?	Financial compensation		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
FSCOND_SUBC		Possibility to subcontract the implementation and management of the flower strip			

FSCOND_TECH		Technical capacity to implement and manage the flower strip by myself		
FSCOND_TIME		Availability of time and labour force to implement and manage the flower strip		
FSCOND_KNOW		Own knowledge of implementing and managing the flower strip		
FSCOND_ADV		Advisory service offered		
FSCOND_SPACE		Availability of space		
FSCOND_OTH		Other		
FSCOND_OTH_T		Other (txt)		
FSRISK_WEATHER	How much do the following risks affect your willingness to implement a flower strip?	Limited success of the flower strip due to unfavourable weather conditions	1-10; 12	1 = does not affect at all -> 10 = very strongly affects; 12 = I don't know
FSRISK_DRIFT		Limited success of the flower strip due to the drift of pesticides from neighbouring fields		
FSRISK_INFECT		The flower strip is habitat for pests, diseases, and weeds (infection pool)		
FSRISK_CROP		Subsequent cropping problems might occur		
FSRISK_CITIZEN		Citizens enter the flower strip / field		
FSRISK_RECOGN		Negative recognition by other farmers		
FSRISK_OTH		Other		
FSRISK_OTH_T		Other (txt)		
FSEFFECT_TILL	To your knowledge/experience, how much do the following measures maximize positive effects on biodiversity in a flower strip?	Rotary tillage (2-3 x) before sowing	1-10; 12	1 = no positive effect at all -> 10 = extremely positive effect; 12 = I don't know
FSEFFECT_SEED		Specific regional and site-adopted wildflower seed mixture		
FSEFFECT_LOW		Low cut (<10cm) every second year		
FSEFFECT_HIGH		High cut (ca. 12cm) every second year		
FSEFFECT_MULCH		Mulching every second year		
FSEFFECT_FERTIL		Fertilization of the flower strip		
FSEFFECT_YEARS		Implementation for at least 3 years		
FSEFFECT_PLOUGH		Ploughing and re-seeding of the flower strip after 2 years		
FSEFFECT_HABIT		Establishing accompanying habitats (e.g. mounds)		

FSEFFECT_DRIFT		Measures to protect from pesticide drift			
FSEFFECT_OTH		Other			
FSEFFECT_OTH_T		Other (txt)			
FSOUTC_YIELD	How important are the following outcomes of flower strips for you?	No negative impact on yield on the cropped field		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
FSOUTC_SOIL		Improved soil health/ structure/ fertility/ water retention			
FSOUTC_ERO		Reduced soil erosion			
FSOUTC_FLORA		Increased plant species diversity			
FSOUTC_FAUNA		Increased animal species diversity			
FSOUTC_POLL		Increased pollinators abundance			
FSOUTC_PEST		Natural pest control			
FSOUTC_AESTH		Increased landscape attractiveness			
FSOUTC_OTH		Other			
FSOUTC_OTH_T		Other (txt)			
HRWILL	In principle, would you be willing to establish a hedgerow?		PRE_HEDGE = empty	1-2	1= yes 2= no
HRMOTIV_MON	How important are the following motivations for you for implementing a hedgerow?	Financial rewards		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
HRMOTIV_SOCTY		Social recognition within the community			
HRMOTIV_PRESS		Societal demands and pressure			
HRMOTIV_NAT		Care for the environment and nature			
HRMOTIV_EFFECT		Environmental effectiveness of the measure			
HRMOTIV_AESTH		Landscape aesthetics			
HRMOTIV_TRAD		Tradition and cultural landscape heritage			
HRCOND_MON	How important is the fulfilment of the following conditions for implementing and managing the hedgerow?	Financial compensation		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
HRCOND_SUBC		Possibility to subcontract the implementation and management of the hedgerow			

HRCOND_TECH		Technical capacity to implement and manage the hedgerow by myself		
HRCOND_TIME		Availability of time and labour force to implement and manage the hedgerow		
HRCOND_KNOW		Own knowledge of implementing and managing the hedgerow		
HRCOND_ADV		Advisory service offered		
HRCOND_SPACE		Availability of space		
HRCOND_OTH		Other		
HRCOND_OTH_T		Other (txt)		
HRRISK_YIELD	How much do the following risks affect your willingness to implement a hedgerow?	Yield losses in the field due to competition between the hedgerow and crops for light and water	1-10; 12	1 = does not affect at all -> 10 = very strongly affects; 12 = I don't know
HRRISK_WIND		The hedgerow prevents air ventilation (favourable conditions for fungi)		
HRRISK_INFECT		The hedgerow is a habitat for pests, diseases, and weeds (infection pool)		
HRRISK_HARVEST		Technical problems when harvesting		
HRRISK_TILL		Technical problems for tillage		
HRRISK_DRIFT		Limited success of the hedgerow due to the drift of pesticides from neighbouring fields		
HRRISK_RECOGN		Negative recognition by other farmers		
HRRISK_OTH		Other		
HRRISK_OTH_T		Other (txt)		
HREFFECT_NOPRUNE	To your knowledge/experience, how much do the folling measures maximize positive effects on biodiversity in a hedgerow?	No pruning or cutting of the hedgerow - natural growth	1-10; 12	1 = no positive effect at all -> 10 = extremely positive effect; 12 = I don't know
HREFFECT_YEARLY		Yearly pruning in winter to keep the hedgerow at a height of no more than 2,5 meters		
HREFFECT_DIV		Establishing different height zones for diversifying the habitat		
HREFFECT_FAST		Regularly pruning of fast-growing species in winter		
HREFFECT_PERODIC		Periodically cutting back to the trunk (every 10 years gradually in winter, not all at once)		

HREFFECT_GRASS		Establishment of a grass strip of 2m width between cultivated field and hedgerow + management of the grass strip (mowing once every second year, no fertilizer)			
HREFFECT_OTH		Other			
HREFFECT_OTH_T		Other (txt)			
HROUTC_YIELD	How important are the following outcomes of biodiversity-oriented hedgerow management for you?	No negative impact on yield on the cropped field		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
HROUTC_WATER		Increased water retention			
HROUTC_ERO		Reduced soil erosion			
HROUTC_WIND		Wind break			
HROUTC_FLORA		Increased plant species diversity			
HROUTC_FAUNA		Increased animal species diversity			
HROUTC_POLL		Increased pollinators abundance			
HROUTC_PEST		Natural pest control			
HROUTC_AESTH		Increased landscape attractiveness			
HROUTC_TRAD		Preservation of natural heritage and traditions			
HROUTC_OTH		Other			
HROUTC_OTH_T		Other (txt)			
GLWILL	In principle, would you be willing to establish biodiversity-oriented grassland management?		PRE_GRASS = empty	1-2	1= yes 2= no
GLMOTIV_MON	How important are the following motivations for you for implementing biodiversity-friendly grassland management?	Financial rewards		1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
GLMOTIV_SOCTY		Social recognition within the community			
GLMOTIV_PRESS		Societal demands and pressure			
GLMOTIV_NAT		Care for the environment and nature			
GLMOTIV_EFFECT		Environmental effectiveness of the measure			
GLMOTIV_AESTH		Landscape aesthetics			

GLMOTIV_TRAD		Tradition and cultural landscape heritage		
GLCOND_MON	How important is the fulfilment of the folling conditions for implementing biodiversity-friendly grassland management?	Financial compensation	1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know
GLCOND_FEED		Access to additional fodder sources		
GLCOND_SUBC		Possibility to subcontract the grassland management		
GLCOND_TIME		Availability of time and labour force to implement and manage the grassland		
GLCOND_KNOW		Own knowledge of biodiversity-friendly grassland management		
GLCOND_ADV		Advisory service offered		
GLCOND_SPACE		Availability of space		
GLCOND_OTH		Other		
GLCOND_OTH_T		Other (txt)		
GLRISK_YIELD	How much do the following risks affect your willingness to implement biodiversity-friendly grassland management?	Yield losses	1-10; 12	1 = does not affect at all -> 10 = very strongly affects; 12 = I don't know
GLRISK_QUAL		Fodder quality losses		
GLRISK_INFECT		The biodiversity-friendly grassland is a habitat for pests, diseases, and weeds (infection pool)		
GLRISK_DRIFT		Limited success of the measure due to the drift of pesticides from neighbouring fields		
GLRISK_ANIMAL		Wild animals enter the field		
GLRISK_RECOGN		Negative recognition by other farmers		
GLRISK_OTH		Other		
GLRISK_OTH_T		Other (txt)		
GLEFFECT_PERM	To your knowledge/experience, how much do the folling measures maximize positive effects on biodiversity when implementing biodiversity-friendly grassland management?	Establishment of permanent grassland	1-10; 12	1 = no positive effect at all -> 10 = extremely positive effect; 12 = I don't know
GLEFFECT_PLOUGH		Ploughing and re-seeding of the grassland after 5 years		
GLEFFECT_SEED		Sowing in of flower-rich species		
GLEFFECT_MINERAL		No mineral fertilizer input		
GLEFFECT_ORGANIC		No organic fertilizer input		
GLEFFECT_DENS		Low stocking density		

GLEFFECT_MECH		No mechanical management			
GLEFFECT_MOSAIC		Mosaic management (gradual mowing, portioning pastures)			
GLEFFECT_DELAY		Delay of cutting time			
GLEFFECT_FEWCUT		Few cuttings			
GLEFFECT_SHRUB		Shrub removal			
GLEFFECT_OTH		Other			
GLEFFECT_OTH_T		Other (txt)			
GLOUTC_YIELD	How important are the following outcomes of biodiversity-friendly grassland management for you?	No negative impact on yield	1-10; 12	1 = absolutely unimportant -> 10 = extremely important; 12 = I don't know	
GLOUTC_QUAL		No negative impact on fodder quality			
GLOUTC_SOIL		Improved soil health/ structure/ fertility/ water retention			
GLOUTC_ERO		Reduced soil erosion			
GLOUTC_FLORA		Increased plant species diversity			
GLOUTC_FAUNA		Increased animal species diversity			
GLOUTC_POLL		Increased pollinators abundance			
GLOUTC_PEST		Natural pest control			
GLOUTC_AESTH		Increased landscape attractiveness			
GLOUTC_TRAD		Preservation of natural heritage and traditions			
GLOUTC_OTH		Other			
GLOUTC_OTH_T		Other (txt)			
HEDGE_IMI	Which measure could you imagine to participate?		1 - 4	1 = Planting new hedgerows 2 = Management of my hedgerows towards enhanced biodiversity 3 = Both, planting new and managing my hedgerows towards enhanced biodiversity 4 = None	(only in NL & UK)
NO_PARTI_H	Why would you choose not participate in the hedgerow scheme? Please describe briefly.	HEDGE_IMI == 4			(only in NL & UK)

HEDGE_LENGTH_ALL	How many metres of hedgerow does your farm currently have, approximately?				m	(only in NL & UK)
HEDGE_LENGTH_COP	How many metres are approximately already hedges that are coppiced/laid every 6-15 years?				m	(only in NL & UK)
HEDGE_LENGTH_NEW	How many metres of hedgerow would you be willing to plant new (maximum)?	HEDGE_IMI == 1 OR HEDGE_IMI == 3			m	(only in NL & UK)
RID	Response ID for DCEs					(only in NL & UK)
choicesituation	For which of the following options would you choose to sign a contract?		1-12	number of the choice situation		(only in NL & UK)
choice	I choose:		1 - 3	1 = alternative 1 was selected 2 = alternative 2 was selected 3 = alternative 3 (opt-out option) was selected		(only in NL & UK)
a1_x1_H	Alternative 1 - Attribute "Market opportunity through biodiversity labelling"		1 - 3	1 = None 2 = Internationally recognized biodiversity label 3 = Regional biodiversity label		(only in NL & UK)
a1_x2_H	Alternative 1 - Attribute "Advice and information"		1 - 3	1 = None 2 = Personal farm visit 3 = Demonstration farm		(only in NL & UK)
a1_x3_H	Alternative 1 - Attribute "Spatial cooperation bonus"		1 - 2	1 = None 2 = 0.3 €/m, or 0.3 £/m		(only in NL & UK)
a1_x4_H	Alternative 1 - Attribute "Annual payment per m"		1.0 - 6.4	Hight of compensation payment in € per m and year, or in £/m*a		(only in NL & UK)
a2_x1_H	Alternative 2 - Attribute "Market opportunity through biodiversity labelling"		1 - 3	1 = None 2 = Internationally recognized biodiversity label 3 = Regional biodiversity label		(only in NL & UK)

a2_x2_H	Alternative 2 - Attribute "Advice and information"		1 - 3	1 = None 2 = Personal farm visit 3 = Demonstration farm	(only in NL & UK)
a2_x3_H	Alternative 2 - Attribute "Spatial cooperation bonus"		1 - 2	1 = None 2 = 0.3 €/m, or 0.3 £/m	(only in NL & UK)
a2_x4_H	Alternative 2 - Attribute "Annual payment per m"		1.0 - 6.4	Hight of compensation payment in € per m and year, or in £/m*a	(only in NL & UK)
WOODMEAD	Do you manage a special kind of grassland?	Woody meadow	0|1	1 = checked	(only in EE)
WOODPAST		Woody pasture			
MEADJUNI		Meadow with junipers			
PASTJUNI		Pasture with unipers			
COASTMEAD		Coastal meadow			
COASTPAST		Coastal pasture			
OTHERGRASS		Other semi-natural grassland and/or semi-natural meadows (aruniit või muu niit)			
NOSPECGRASS		No, I do not manage one of these special grasslands as described above.			
KNOWAES	Have you ever heard of or even participated one of the following?	Agri-environmental Schemes by the Common Agricultural Policy of the EU in general	1 - 3	1 = I have never heard of it 2 = I have heard of it, know what this is 3 = I participated it	(only in RO)
KNOWAESGL		Agri-environmental measure for maintaining semi-natural habitats (grassland management)(EE)/Agri-environmental measure for maintaining high nature value grassland (RO)			(only in EE & RO)
KNOWFOODH		Food-hubs			(only in EE & RO)
GL_IMI	Could you imagine to participate the measure for semi-natural habitats?		1-2	1 = Yes 2 = No	(only in EE & RO)

NOGL_IMI	As you have currently no grassland, please imagine that your municipality offers 30 ha of grassland that should be managed as high nature value grassland (mowed or /grazed). Could you imagine to lease the land for 30 €/ha and participate the measure for semi-natural habitats?		AREA_GRASS == 0	1-2	1 = Yes 2 = No	(only in EE & RO)
IMP_INTLAB	What do you think about the presented characteristics?	international biodiversity label		1 - 10	1 = not important at all 10 = extremely important	(only in EE & RO)
IMP_REGLAB	Please rate how important are they for you for participating the semi-natural habitat measure.	regional biodiversity label with festival				(only in EE & RO)
IMP_PERSAD		advice through personal farm visitation by independent advisory service				(only in EE & RO)
IMP_DEMOAD		advice through visitation to demonstration farm				(only in EE & RO)
IMP_FOODH		possibility to cooperate with actors in the value chain through local food hub				(only in EE & RO)
IMP_COMP		financial compensation				(only in EE & RO)
NO_PARTI_GL	Why would you choose not to participate in the scheme for semi-natural habitats? Please describe briefly.		GL_IMI == 2 OR NOGL_IMI == 2			(only in EE & RO)
RID	Response ID for DCEs					(only in EE & RO)
choicesituation	For which of the following options would you choose to sign a contract?			1-12	number of the choice situation	(only in EE & RO)
choice	I choose:			1 - 3	1 = alternative 1 was selected 2 = alternative 2 was selected 3 = alternative 3 (opt-out option) was selected	(only in EE & RO)
a1_x1_GL	Alternative 1 - Attribute "Market opportunity through biodiversity labelling"			1 - 3	1 = None 2 = Internationally recognized biodiversity label 3 = Regional biodiversity label	(only in EE & RO)

a1_x2_GL	Alternative 1 - Attribute "Advice and information"		1 - 3	1 = None 2 = Personal farm visit 3 = Demonstration farm	(only in EE & RO)
a1_x3_GL	Alternative 1 - Attribute "Spatial cooperation bonus"		1 - 2	1 = None 2 = Support through food-hub at community level	(only in EE & RO)
a1_x4_GL	Alternative 1 - Attribute "Annual payment per ha"		80 - 480; 60 - 300	Hight of compensation payment in € per ha and year (for Romania RON/ha*a translated to €/ha*a with 1 RON = 0,2 €)	(only in EE & RO)
a2_x1_GL	Alternative 2 - Attribute "Market opportunity through biodiversity labelling"		1 - 3	1 = None 2 = Internationally recognized biodiversity label 3 = Regional biodiversity label	(only in EE & RO)
a2_x2_GL	Alternative 2 - Attribute "Advice and information"		1 - 3	1 = None 2 = Personal farm visit 3 = Demonstration farm	(only in EE & RO)
a2_x3_GL	Alternative 2 - Attribute "Cooperation and Coordination"		1 - 2	1 = None 2 = Support through food-hub at community level	(only in EE & RO)
a2_x4_GL	Alternative 2 - Attribute "Annual payment per ha"		80 - 480; 60 - 300	Hight of compensation payment in € per ha and year (for Romania RON/ha*a translated to €/ha*a with 1 RON = 0,2 €)	(only in EE & RO)
KPI_IMI	Can you imagine to participate the new payment programme?			1 = Yes 2 = No	(only in NL)
NO_PARTI	Why would you choose not to participate the new payment programme? Please describe briefly.	KPI_IMI = 2			(only in NL)

SNH_NL	What is the share of semi-natural habitat currently on your farm, roughly? Semi-natural habitats are: hedges, woodlots, isolated trees, ponds, ditches and ditch banks, unpaved roads, field boundaries (permanent vegetation between two agricultural fields), permanent buffer strips, hay meadows.			%	(only in NL)
CROT	How many crops do you currently have in rotation?		1 = Less than 3 2 = 3 3 = 4 4 = 5 5 = 6 6 = More than 6		(only in NL)
AV_FIELDSZ	What is the current approximate average field size on your farm?			ha	(only in NL)
RID	Response ID for DCEs				(only in NL)
choicesituation	For which of the following options would you choose to sign a contract for your entire farm?	1-12	number of the choice situation		(only in NL)
choice	I choose:	1 - 3	1 = alternative 1 was selected 2 = alternative 2 was selected 3 = alternative 3 (opt-out option) was selected		(only in NL)
a1_x1_KPI	Alternative 1 - Attribute "Minimum percentage of semi-natural habitat on your farm"	1 - 3	1 = No prescription 2 = At least 4 % 3 = At least 7 %		(only in NL)
a1_x2_KPI	Alternative 1 - Attribute "Crop diversity"	1 - 3	1 = No prescription 2 = At least 5 crops 3 = At least 6 crops		(only in NL)

a1_x3_KPI	Alternative 1 - Attribute "Maximum field size"			1 - 3	1 = No prescription 2 = Max. 5 ha 3 = Max. 2.5 ha		(only in NL)
a1_x4_KPI	Alternative 1 - Attribute "Bonus Payment"			50 - 450	Hight of payment in € per ha and year for the entire farm		(only in NL)
a2_x1_KPI	Alternative 2 - Attribute "Minimum percentage of semi-natural habitat on your farm"			1 - 3	1 = No prescription 2 = At least 4 % 3 = At least 7 %		(only in NL)
a2_x2_KPI	Alternative 2 - Attribute "Crop diversity"			1 - 3	1 = No prescription 2 = At least 5 crops 3 = At least 6 crops		(only in NL)
a2_x3_KPI	Alternative 2 - Attribute "Maximum field size"			1 - 3	1 = No prescription 2 = Max. 5 ha 3 = Max. 2.5 ha		(only in NL)
a2_x4_KPI	Alternative 2 - Attribute "Bonus Payment"			50 - 450	Hight of payment in € per ha and year for the entire farm		(only in NL)
KPI_IMI	Can you imagine to participate the new payment programme?			1-2	1 = Yes 2 = No		(only in P)
NO_PARTI_OLIVE	Why would you choose not to participate the new payment programme? Please describe briefly.		KPI_IMI = 2				(only in P)
SNH_P	What is the share of semi-natural habitat currently on your farm, roughly? Semi-natural habitats are: Montado grassland, semi-natural or improved grassland, riparian vegetation, and mediterranean forest.					%	(only in P)
RMGMT_PLO	How do you currently manage the area between the tree rows?	Ploughing		0|1	1 = checked		(only in P)
RMGMT_MOW		Mowing		0|1	1 = checked		(only in P)
RMGMT_GRAZ		Grazing		0|1	1 = checked		(only in P)
RMGMT_HERB		Herbicide application		0|1	1 = checked		(only in P)

RMGMT_SEED		Vegetation ground cover seeding		0|1	1 = checked	(only in P)
RMGMT_OTH		Other		0|1	1 = checked	(only in P)
RMGMT_OTH_T		Other (txt)				(only in P)
RMOW	When do you mow?	Choice		1-3	1 = Early in the season after winter 2 = Late in the season, just before the harvest 3 = Other	(only in P)
RMOW_T		Other (txt)	RMOW == 3			(only in P)
STREE	How many living solitary trees per ha does your farm have?			1-4	1 = None 2 = 1 - 5 trees/ha 3 = 6 - 10 trees/ha 4 = > 10 trees/ha	(only in P)
RID	Response ID for DCEs					(only in P)
choicesituation	For which of the following options would you choose to sign a contract for your entire farm?			1-12	number of the choice situation	(only in P)
choice	I choose:			1 - 3	1 = alternative 1 was selected 2 = alternative 2 was selected 3 = alternative 3 (opt-out option) was selected	(only in P)
a1_x1_O	Alternative 1 - Attribute "Minimum percentage of semi-natural habitat on farm"			1 - 3	1 = No prescription 2 = Min. 5 % semi-natural habitat 3 = Min. 15 % semi-natural habitat	(only in P)
a1_x2_O	Alternative 1 - Attribute "Management between rows"			1 - 2	1 = No prescription 2 = Only late cut, before the harvest	(only in P)
a1_x3_O	Alternative 1 - Attribute "Minimum number of solitary trees"			1 - 3	1 = No prescription 2 = Min. 5 trees / ha 3 = Min. 10 trees / ha	(only in P)

	a1_x4_O	Alternative 1 - Attribute "Additional payment per l of olive oil"	0.5 - 5.0	Additional payment in € per l of olive oil		(only in P)
	a2_x1_O	Alternative 1 - Attribute "Minimum percentage of semi-natural habitat on farm"	1 - 3	1 = No prescription 2 = Min. 5 % semi-natural habitat 3 = Min. 15 % semi-natural habitat		(only in P)
	a2_x2_O	Alternative 1 - Attribute "Management between rows"	1 - 2	1 = No prescription 2 = Only late cut, before the harvest		(only in P)
	a2_x3_O	Alternative 1 - Attribute "Minimum number of solitary trees"	1 - 3	1 = No prescription 2 = Min. 5 trees / ha 3 = Min. 10 trees / ha		(only in P)
	a2_x4_O	Alternative 1 - Attribute "Additional payment per l of olive oil"	0.5 - 5.0	Additional payment in € per l of olive oil		(only in P)
	KPI_IMI	Could you imagine to participate in the new payment scheme based on farm-level performance indicators (KPIs)?		1 = Yes 2 = No		(only in RO)
	PERMG_10_START	If the contract requires you to maintain at least 10 % of the land on your farm as permanent grassland... At what payment would you start to think about signing this contract?			RON/ha	(only in RO)
	PERMG_10_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
	PERMG_10_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
	PERMG_50_START	If the contract requires you to maintain at least 50 % of the land on your farm as permanent grassland... At what payment would you start to think about signing this contract?			RON/ha	(only in RO)

PERMG_50_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
PERMG_50_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
PERMG_100_START	If the contract requires you to maintain at least 100 % of the land on your farm as permanent grassland... At what payment would you start to think about signing this contract?			RON/ha	(only in RO)
PERMG_100_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
PERMG_100_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
LFEAT_0_START	If the contract requires you to remove all landscape feature from the land on your farm... At what payment would you start to think about signing such a contract?			RON/ha	(only in RO)
LFEAT_0_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
LFEAT_0_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
LFEAT_20_START	If the contract requires you to maintain about 20 % of the land on your farm with landscape features... At what payment would you start to think about signing such a contract?			RON/ha	(only in RO)
LFEAT_20_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
LFEAT_20_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)

LFEAT_50_START	If the contract requires you to maintain about 50 % of the land on your farm with landscape features... At what payment would you start to think about signing such a contract?			RON/ha	(only in RO)
LFEAT_50_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
LFEAT_50_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
FSIZE_01_START	If the contract requires an average size of all the arable fields on your farm to remain smaller than 0.1 ha? At what payment would you start to think about signing this contract?			RON/ha	(only in RO)
FSIZE_01_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
FSIZE_01_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
FSIZE_20_START	If the contract requires an average size of all the arable fields on your farm to remain smaller than 20 ha? At what payment would you start to think about signing this contract?			RON/ha	(only in RO)
FSIZE_20_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
FSIZE_20_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
FSIZE_50_START	If the contract requires an average size of all the arable fields on your farm to remain smaller than 50 ha? At what payment would you start to think about signing this contract?			RON/ha	(only in RO)

FSIZE_50_DEAL	At what payment level would you consider this contract to be a good bargain, a good deal for you?			RON/ha	(only in RO)
FSIZE_50_NO	I would not consider participating at all, whatever the payment level.	0|1	1 = checked		(only in RO)
PERMG	What is the share of permanent grassland currently on your farm, roughly?			%	(only in RO)
LFEAT	What is the approximate share of landscape features on your farm?			%	(only in RO)
FSIZE	What is the current approximate average field size of the arable fields on your farm?			ha	(only in RO)
NO_PARTI	Why would you choose not to participate in the new business solution based on KPIs? Please describe briefly.				(only in RO)