

## SURVEY

### Characteristics of the farm:

Q1. To which sector do you belong to?

(Please, mark only one option)

Horticultural (vegetable cultivation)
Fruit trees (fruit cultivation)
Fruits and vegetables
Extensive crops (cereals, leguminous plants, fodder, ornamental, hop and so on)
Vineyard
Other/s: .....

Q2. What type of agriculture do you practice?

(Please, mark only one option)

Ecological
Conventional
Others: .....

Q3. If you choose conventional, is it extensive or intensive?

(Please, mark only one option)

Extensive (agricultural production system that maximizes short-term productivity by making use of the natural resources present in your farm)
Intensive (massive agricultural production system, with a high level of technification and the need for a high investment of capital, energy and other external resources)

Q4. How many hectares has your farm?

(Please, mark only one option)

< 2 hectares
3 to 5 hectares
6 to 10 hectares
11 to 15 hectares
16 to 30 hectares
31 to 70 hectares
> 70 hectares

Q5. What is the degree of mechanisation of your farm?

Very low						Very high
1	2	3	4	5	6	7

Q6. If the degree of mechanization of your farm is very low, is this due to its topography (inclination)?

(Please, mark only one option)

Yes
No

Q7. How many years have you been working in the sector?

0 to 10 years
11 to 20 years
21 to 30 years
31 to 40 years
41 to 50 years
More than 50 years

Q8. How many permanent workers do you have working for you per year?

(Please, mark only one option)

Between 1 and 2 persons
Between 3 to 5 persons
Between 6 to 10 persons
Between 11 to 15 persons
Between 16 to 20 persons
More than 20 persons

Q9. How many temporary workers do you have working for you per year?

(Please, mark only one option)

Between 1 and 2 persons
Between 3 to 5 persons
Between 6 to 10 persons
Between 11 to 15 persons
Between 16 to 20 persons
More than 20 persons

Q10. Your farm is:

(Please, mark only one option)

Rental
Concession (lucrative)
Purchase (owned by you)
Family
Others: .....

Q10.1. Do you belong to a farming cooperative?

(Please, mark only one option)

Yes
No

Q11. Are you fully devoted to farming?

(Please, mark only one option)

Yes
No

Q12. In your farm, do you have family members working with you?

(Please, mark only one option)

Father and / or mother
Brother/s or sister/s
Son/s or daughter/s
Other family: .....

Q13. Do you think there is a generational replacement problem in the agri-food sector?

(Please, mark only one option)

Yes
No

Q13.1. From the previous question, state the reason for your answer .....

Q13.2. Would you like your descendants to work in agriculture?

Yes
No
Others: .....

Q14. What do you understand by agroecological practices? .....

Q15. Please, indicate how informed you feel regarding:

	Not informed at all						Very informed
	1	2	3	4	5	6	7
Agroecological practices.							
The cost of adopting agroecological practices.							

Market (demand) for agro-ecological products.							
Quality of agroecological products.							
The price of agro-ecological products.							
The performance of the agro-ecological crops.							
Production of agro-ecological products							
Use of phytosanitary products based on living organisms							
Diversification of crops							
Crop rotation							

Agroecological practices are agricultural practices that aim to produce significant quantities of food, making the best use of ecological processes and eco-systemic services to integrate them as fundamental elements in the development of practices, and not simply relying on ordinary techniques, such as application of chemical fertilizers and synthetic pesticides or technological solutions, such as genetically modified organisms. Indeed, agroecological practices contribute to improve the sustainability of agro-ecosystems and are based on various ecological processes and ecosystem services such as the nutrient cycle, biological N fixation, natural regulation of pests, soil and water conservation, biodiversity conservation and carbon sequestration.

List of agroecological practices that have already been adopted:

Q16. Next, we are going to show you a list of agroecological practices. List all the agroecological practices that you have already adopted:

Agroecological practices	Description of the practice
Production of organic fertilizers	Production of: animal manure (and its treatment), organic fertiliser, worm castings, efficient microorganisms and biofertilizers. Use of biodigester effluents.
Split fertilization	Application of fertilizers (chemical and organic) with various operations.
Biofertilizer	Application of live microorganisms to seeds, plant surfaces or soil.
Organic fertilization	Application of exclusively organic fertilization or mixed with inorganic.
Reduction of the use of supplies?? that are harmful to the environment	Increase in the use of natural and local supplies?, combined with the reinforcement of biological interactions to promote ecological processes and services.
Choice of crops and rotations	integration of different crops in rotations (including cover crops).
Create plant barriers around your crops, plots or the farm itself	Minimizes the negative impact of possible aerial pests or severe meteorological phenomena such as wind, torrential rain and

	so on. It serves as a reservoir for predatory fauna of pests and diseases
Agroforestry with wood, fruit trees or nuts. Establishment of systems that combine ecological farming with forestry systems through native tree plantations both on and off the farm	Planting of: poles and / or living fences, forest and / or fruit trees plantations, tree protein banks, trees scattered in meadows, hydroregulatory strips, trees interspersed with agricultural crops, trees interspersed with pastures and / or forages, biological corridors and trees in non-productive / arable soils.
Polyculture. Diversification of cultivable species on the same farm	Leave monoculture aside and put polyculture into practice. Existence in the production system: agricultural, livestock, fruit trees, sugarcane, beekeeping, aquaculture, rabbit breeding, poultry, porcine, ovine and / or goats, buffalo, wood, flowers and ornamental plants.
Drip irrigation	
Choice of cultivars	Use of resistant crops to any stress or crops with selected traits that enhance the activities of the rhizosphere (for example: mycorrhizae or rhizobacteria that promote plant growth).
Conservation agriculture (soil protection by covering the soil with plant debris from a previous crop, planting plant covers and so on)	Soil cover with: mulch (dead cover) and crop residues, use of: legumes / green manures, rehabilitation and / or renovation of grasses and barriers (dead or alive) against soil erosion, seeding on terraces against the soils' slope and increased soil organic matter.
Intercropping and relay intercropping	Intercropping: coexistence of two or more crops in the same field at the same time. Intercropping of relay crops: subpopulation of relay crops in existing crops (for example, planting legumes in cereals).
Elimination of synthetic chemical pesticides	Decrease in the diversity and quantity of synthetic chemical pesticides used. Use biopesticides and biofertilizers.
Biological pest control	Control of weeds, pests and diseases based on the introduction of natural enemies, pheromones.
Use of natural pesticides / botanical pesticides	Pesticides derived from plants or plant extracts.
Management of weeds, pests and diseases by integrating allelopathic plants in crop rotation	
Use of the soil's own organisms (to promote soil biological activity to increase crop yields and promote soil health)	Maximize agricultural productivity and minimize environmental impacts.
Effective nutrient management, recycling biomass and regularly adding plant remains	Reinforce the accumulation of organic matter in the soil and balances and

and animal excreta processed into organic fertilizers	optimizes the nutrient cycle, which increases the fixation and sequestration of carbon by the soil.
Use of the different concentrations of nutrients that irrigation water contains (nitrates, phosphates and so on) to reduce the inputs of synthetic chemical fertilizers	Use the concentrations of different nutrients in the irrigation water (nitrates, phosphates, ...) that the irrigation water contains to reduce the inputs of synthetic chemical fertilizers.
Do not depend 100% on external inputs from the farm	Help the farmer's own decision to modify natural ecosystems to transform them into agroecosystems.
Use of clean and efficient technologies for the use of energy and water to mitigate the negative effects of greenhouse gases	Solar energy through photovoltaic panels, hydraulic through turbines in the ditches, humidity sensors to maximize the use of irrigation water.
Tillage management and reduced tillage	Direct seeding into live cover crops or mulch. Planting crops directly (no tillage) in previous cover crops (live or destroyed, that is, mulched) or crop residues.
None of the above	

Q16.1. From the previous question, would you like to add any other practice/s that have not been mentioned above? Tell me which one/s.

Barriers and accelerators

The adoption of agroecological practices or ecological farming sometimes includes a series of barriers or obstacles that make their adoption difficult.

Q17. Next, using a scale from 1 "totally disagree" to 7 "strongly agree", please indicate which are the barriers that you consider for the adoption (or not) of agroecological practices.

Agroecological practices	1	2	3	4	5	6	7
Lack of technical advice and support							
Lack of agroecological training in farmers							
Lack of knowledge when applying biopesticides							
Lack of research							
Limited knowledge of the rules for the use of any type of pesticide, be it chemical or ecological							
Low levels of education and training in pesticide handling							
The type of soil (for example, the cultivation of carrots does not allow it to be done in a clay-like soil, but in a sandy or sandy loam)							
The irregular topography of the farm (for example, there are crops that do not allow cultivation in areas with medium / high slopes since the machinery can neither access it correctly nor perform correctly the agricultural tasks that this crop requires)							

The weather (a factor that affects, for example, when deciding whether to install a greenhouse or not to promote the early production of certain ecological products)							
The type of demand and the willingness to pay of consumers							
Low prices at origin and / or market							
Unfair competition from other producers							
Receive a low price for a high demand for ecological products							
That the neighbour makes conventional and contaminates their plots causing the difficult adoption of ecological practices							
The consumer does not take into account the effort that exists behind producing ecological products							
Producer loss of income							
Low diversity of ecological products							
Low efficiency of ecological products							
High perception of the efficacy of chemical pesticides							
Depending on the type of soil, there are viable agroecological practices (or not). For example, the restricted use of anti-grass nets in stony areas							
Reduction of aid from the Common Agricultural Policy							
Low yields of agroecological practices							
My economic situation (income) does not allow it							

Q17.1.1. From the previous question, would you like to add any other barrier (s) that have not been mentioned above? Tell me which one/s.

Q18. Using a scale from 1 “Not important at all” to 7 “Very important” please indicate how important the following factors are when adopting agroecological practices.

Practices	1	2	3	4	5	6	7
Penalties for the products that do not obey with the legislative regulations on prohibited phytosanitary products							
Advantages in the regulations of agroecological products							
Favourable cultural environment to motivate the adoption of agroecological practices							
To learn about other farmers' experiences							
High demand of sustainable products							
Recognition and rewards at social level							
Rigour of legislation and rules for organic products							
Rigour in import policies for products from third countries							
Environmental regulations / market regulations							
Lack of initiatives for the incorporation of young people into the agri-food sector and the rural world							
Government support (grants)							

Q18.1.1 From the previous question, would you like to add any other factor (s) that have not been mentioned above? Tell me which one/s.

#### Q19. Motivations

On a scale from 1 'totally disagree' to 7 'strongly agree', indicate the extent to which you agree or disagree with the following statements:

Characteristics	1	2	3	4	5	6	7
Agroecology aims to:							
Agroecology reinforces the health and well-being of the soil, the environment, the producer and the consumer							
Agroecology increases farmer participation and decision-making at the particular and community levels							
Agroecology allows generating medium-high benefits							
Agroecology increases farmer sovereignty							
Agroecology makes efficient use of natural resources							
Agroecology allows for an equitable distribution of agroecological products							
Agroecology promotes the circular economy							
Agroecology aims to change the sociocultural model towards a more sustainable one							
Agroecology constitutes equitable and sustainable production, distribution and consumption networks							
Agroecology reduces the excessive food consumption							
Agroecology reduces the environmental degradation							
Agroecology incorporates ancestral and avant-garde values and knowledge							
Agroecology eliminates hunger, poverty and negative consequences for the environment							
Agroecology makes it possible to protect and / or conserve the natural ecosystems							
Agroecology makes it possible to reduce the use of pesticides and synthetic chemical fertilizers							
Agroecology reduces the use of fossil fuels							
Agroecology supports and collaborates with other farmers							
Agroecology gives the farmer the power to set the final price of the product							
Agroecology promotes the proximity sale of its product/s							
Government support							
Agroecology increases favourable conditions in contracts with clients							
Agroecology increases R & D for more efficient ecologic products							
Agroecology values collaboration to promote the change of the current agri-food system to a more sustainable one. This is due to the support of producers, marketers, companies, consumers and so on							

#### Adoption of agroecological practices in the short, medium and long term

Q20. Do you plan to adopt agroecological practices in the future?



(Mark from 1 to 7 the probability that you will adopt agroecological practices in the future, being 1 "not probable at all " and 7 "very probable")

Not probable at all						Very probable
1	2	3	4	5	6	7

Q21. The following table describes a series of agroecological practices, please select those you have intention to adopt: in the short, medium or long term.

Agroecological practices	Description of the practice	Short term	Medium term	Long term	Never
Production of organic fertilizers	Production of: animal manure (and its treatment), organic fertiliser, worm castings, efficient microorganisms and biofertilizers. Use of biodigester effluents.				
Split fertilization	Application of fertilizers (chemical and organic) with various operations.				
Biofertilizer	Application of live microorganisms to seeds, plant surfaces or soil.				
Organic fertilization	Application of exclusively organic fertilization or mixed with inorganic.				
Reduction of the use of supplies?? that are harmful to the environment	Increase in the use of natural and local supplies?, combined with the reinforcement of biological interactions to promote ecological processes and services.				
Choice of crops and rotations	Integration of different crops in rotations (including cover crops).				
Create plant barriers around your crops, plots or the farm itself	Minimizes the negative impact of possible aerial pests or severe meteorological phenomena such as wind, torrential rain and so on. It serves as a reservoir for predatory fauna of pests and diseases				
Agroforestry with wood, fruit trees or nuts. Establishment of systems that combine ecological farming with forestry systems through native tree	Planting of: poles and / or living fences, forest and / or fruit trees plantations, tree protein banks, trees scattered in meadows, hydroregulatory strips, trees interspersed with agricultural crops, trees interspersed with pastures and				

plantations both on and off the farm	/ or forages, biological corridors and trees in non-productive / arable soils.				
Polyculture. Diversification of cultivable species on the same farm	Leave monoculture aside and put polyculture into practice. Existence in the production system: agricultural, livestock, fruit trees, sugarcane, beekeeping, aquaculture, rabbit breeding, poultry, porcine, ovine and / or goats, buffalo, wood, flowers and ornamental plants.				
Crop irrigation (by drip)					
Use of crops resistant to any stress	Use of resistant crops to any stress or crops with selected traits that enhance the activities of the rhizosphere (for example: mycorrhizae or rhizobacteria that promote plant growth).				
Conservation agriculture (soil protection by covering the soil with plant debris from a previous crop, planting plant covers and so on)	Soil cover with: mulch (dead cover) and crop residues, use of: legumes / green manures, rehabilitation and / or renovation of grasses and barriers (dead or alive) against soil erosion, seeding on terraces against the soils' slope and increased soil organic matter.				
Intercropping and relay intercropping	Intercropping: coexistence of two or more crops in the same field at the same time. Intercropping of relay crops: subpopulation of relay crops in existing crops (for example, planting legumes in cereals).				
Elimination of synthetic chemical pesticides	Decrease in the diversity and quantity of synthetic chemical pesticides used. Use biopesticides and biofertilizers.				
Biological pest control	Control of weeds, pests and diseases based on the introduction of natural enemies, pheromones.				
Use of natural pesticides / botanical pesticides derivatives					

from plants or plant extracts.					
Management of weeds, pests and diseases by integrating allelopathic plants in crop rotation					
Use of the soil's own organisms	To promote soil biological activity to increase crop yields and promote soil health.				
Effective nutrient management, recycling biomass and regularly adding plant remains and animal excreta processed into organic fertilizers					
Use of the different concentrations of nutrients that irrigation water contains (nitrates, phosphates and so on) to reduce the inputs of synthetic chemical fertilizers					
Do not depend 100% on external inputs from the farm					
Use of clean and efficient technologies	Use of energy and water to mitigate the negative effects of greenhouse gases.				
Do no tillage at all	Direct seeding (no tillage) in previous cover crops and minimum tillage (use of surface tillage without soil inversion).				
None of the above					

Q21.1.1. From the previous question, would you like to add any other practices that have not been mentioned above? Tell me which one / s you would adopt.

#### Producers' trust in institutions

Local, national and international institutions are important for the agri-food sector to be more efficient, profitable and productive in terms of energy, water, social and environmental levels.

Q22. Consider the following sources of information on agroecology and its practices. How reliable do you think these sources are? (1 = Not trustworthy at all; 7 = Extremely trustworthy)

Factors	1	2	3	4	5	6	7
The Government							
Producers							
Producer associations or cooperatives							
Universities							
Media (Newspapers, TV and radio)							
Neighbour producers or friends							
Family, friends and colleagues							
Social networks (Twitter, Facebook and so on)							
The European Union							

#### Attitudes (risk preference) towards risk

Farmers' perception and attitudes to risk are important factors influencing the adoption of agroecological practices.

Q23. Are you a person who likes to take risks, or do you always try to avoid them? Please choose a number on a scale from 1 (unwilling to take risks) to 7 (fully prepared to take risks).

Unwilling to take risks						Fully prepared to take risks
1	2	3	4	5	6	7

Q24. Please use the following scale to indicate how willing are you to take risks when changing the production system on your farm?

Risk free	A little risk	Moderate risk	Aggressive risk	Extreme risk
1	2	3	4	5

#### Attitudes towards the environment

Q25. Mark the option that you agree the most about attitudes towards the environment:

Mark the option that you agree the most:		Strongly disagree	In disagree	Neither agree nor	Agree	Totally agree
1	We are approaching to the maximum number of people that the earth can support or maintain					
2	Humans have the right to modify the natural environment to meet their needs					
3	When humans interfere with nature, the consequences are often disastrous					

4	Human inventiveness will ensure that we do not make the Earth uninhabitable					
5	Humans are seriously abusing the Earth's natural resources					
6	The balance of nature is strong enough to adjust to the impacts of modern industrialised countries					
7	The balance of nature is very delicate and easy to disturb					
8	Humans will learn enough about how nature works to be able to control it					
9	If things continue as before, we will soon experience a great ecological catastrophe					

#### Perception of exposure and risk to chemicals

Q26. How informed do you feel about agrochemicals? Being 1 "not informed at all" and 7 "very informed".

Not informed at all						Very informed
1	2	3	4	5	6	7

Q27. Do you think that agrochemicals have any health risk?

(Please, mark only one option)

Yes
No
I do not know

Q28. How informed do you feel about the health effects of agrochemicals? Being 1 "not informed at all" and 7 "very informed".

Not informed at all						Very informed
1	2	3	4	5	6	7

Q29. What medium offers you more information about the topic of agrochemicals and possible health effects?

(Please, mark one or more than one option)

Television
Radio
The Internet
Newspapers
By word of mouth
Agrochemical packaging and labels
Courses
Others: .....

Q29. 1 If you have marked the option 'other' in the previous question, please specify the reason: .....

Q30. Have you or your employees ever had any of the following symptoms after applying agrochemicals to the fields?

(Please, mark all the symptoms you have experimented)

Headaches
Dizziness, diarrhoea and vomiting
Cancer
Congenital malformations
Abortions
Allergies
Respiratory problems
Skin rashes
Fatigue and tiredness
Male sterility
None of the above

Q31. How concerned are you about the affects you can suffer because of the use of agrochemicals? Being 1 "Very low" and 7 "Very high".

Very low						Very high
1	2	3	4	5	6	7

#### Sociodemographic characteristics

Q32. Residence (Municipality, Region): .....

Q33. Year of birth: DD/MM/YYYY

Q34. Sex:

Male
Female
Other
I prefer to remain silent

Q35. How many people live in your household? Please, indicate the number of members including you: .....

Q36. Is it the agriculture the only source of income you receive?

Yes
No

Q37. What is your net annual household income?

(Please, mark only one option)

Less than 12.000 € per year
Between 12.001 and 24.000 € per year
Between 24.001 and 36.000 € per year
36.001 or more € per year
I prefer to remain silent

Q37.1 What percentage of your net annual household income comes from your farm?

(Please, mark only one option)

Between 1 % and 20 %
Between 21 % and 40 %
Between 41 % and 60 %
Between 61 % and 80 %
Between 81 % and 100 %

Q38. How many people in your family work on the farm (including you)?

(Please, mark only one option)

1 person
2 persons
3 persons
More than 4 persons

Q39. What is your level of studies?

(Please, mark one or more than one option)

Primary studies not completed
Primary studies
Secondary studies
University studies
Others: .....

Q40. What is your zip code? .....

Q41. Do you want to add or comment something else about barriers, accelerators (motivations) or other agroecological practices? .....