# Appendix D. Overview of strategies.

Table D1. Current and future strategies for maintaining the status quo, and alternative future systems in 10 EU farming systems. Current strategies are largely based on FoPIA-SURE-Farm 1. Full tables were earlier presented in FoPIA-SURE-Farm 2 case study reports in Accatino et al. (2020). Bold font indicates that these strategies were mentioned during the workshop for a specific system. Normal font indicates that, based on the discussions during the workshop, it seems likely that strategies will be applied in certain systems. In some case studies, this distinction was not made.

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| **BG-Arable** |  | **Current system** | **Future systems** | | | | |  |  |
| **Strategy** | **Domain** |  | **Status quo** | **Innovation and technology improvement** | **Processing and increasing value added** | **Crop diversification** | **Exit farming / change of sector** | **Collaboration** | **Moving the farm to a different region** |
| Changes into production technologies and modernization | Agronomic | V | V | **V** | V | **V** |  | V | V |
| Diversification of crops | Agronomic | V |  | V |  | **V** |  |  |  |
| Increase of the farmed land | Economic | **V** | **V** |  |  |  |  |  |  |
| Preservation of the marketing of the products | Economic | V |  |  | **V** |  |  | **V** |  |
| Introduction of insurances | Economic | V |  | V |  |  |  |  |  |
| Preservation of soil quality | Environmental |  |  | **V** | V | V |  |  |  |
| Application of good farming practices | Environmental | V | V | V | V | V | V | V | V |
| Policy support | Institutional | V |  | V | V |  |  | V |  |
| Better cooperation with research institutions and universities | Institutional |  |  | **V** | V |  |  |  |  |
| Marketing/production/processing cooperatives | Social |  |  |  | **V** |  |  | **V** |  |
| Stimulating succession and improved attractiveness of the sector | Social | V | V | V | V |  | V |  | V |

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| **NL-Arable (1)** | | |  | | **Current system** | **Future systems** | | | | | | | |
| **Strategy** | | | **Domain** | |  | **Status quo** | | **Alternative crops** | | **Precision agriculture** | **Nature inclusive** | | **Collaboration & water** |
| Extend knowledge on soil & varieties | | | Agronomic | | V | V | | V | | V | V | | V |
| Better varieties (starch content, nematode resistance) | | | Agronomic | | V | V | | V | | V | V | | V |
| Precision agriculture | | | Agronomic | | V | V | |  | | **V** | **V** | | V |
| Exchange land with dairy farms | | | Agronomic | | V | V | |  | | **V** | **V** | | V |
| Changing crop rotation | | | Agronomic | |  | **V** | | **V** | |  | **V** | |  |
| Protein crops for animal and human consumption | | | Agronomic | |  |  | | **V** | |  |  | |  |
| Different way of fertilizing (alternative) crops | | | Agronomic | |  |  | | **V** | |  |  | |  |
| Increasing water use efficiency | | | Agronomic | |  |  | | **V** | |  |  | | V |
| Applying drones (for early risk detection and damage assessment) | | | Agronomic | |  |  | |  | | **V** |  | |  |
| Improve circularity | | | Agronomic | |  | V | | **V** | | V | V | |  |
| Scaling up | | | Economic | | V | V | |  | | V |  | |  |
| Increase value of starch products | | | Economic | | V | V | | V | | V | V | | V |
| Reduce costs (in general) | | | Economic | | V | V | |  | |  |  | |  |
| Reduce crop inputs | | | Economic | | V |  | |  | | **V** | **V** | |  |
| Have land available outside contract farming | | | Economic | | V | V | |  | |  |  | |  |
| Developing new business models | | | Economic | |  |  | | V | | V | **V** | |  |
| Introduction of new value chains | | | Economic | |  |  | | **V** | |  |  | |  |
| Having a good marketing strategy | | | Economic | |  |  | | **V** | |  |  | |  |
| High value products | | | Economic | |  |  | | V | | **V** |  | |  |
| Improve soil quality | | | Environmental | | V | V | | **V** | | V | **V** | | V |
| Maintain water locally in canals | | | Environmental | |  |  | |  | |  |  | | **V** |
| Take lower laying lands out of production | | | Environmental | |  |  | |  | |  |  | | **V** |
| Actively replenishing ground water levels | | | Environmental | |  |  | |  | |  |  | | **V** |
| Land consolidation / redesign of the landscape | | | Environmental | |  |  | |  | |  | **V** | | **V** |
| Nature friendly interventions at field level (buffer strips, strip cropping, green manures etc.) | | | Environmental | |  |  | |  | |  | **V** | |  |
| Customized water levels | | | Institutional | |  |  | |  | |  |  | | **V** |
|  | | |  | |  |  | |  | |  |  | |  |
| **NL-Arable (2)** | | |  | | **Current system** | **Future systems** | | | | | | | |
| **Strategy** | | | **Domain** | |  | **Status quo** | | **Alternative crops** | | **Precision agriculture** | **Nature inclusive** | | **Collaboration & water** |
| Relax constraining regulations (water management, collaboration, taxes) | | | Institutional | |  |  | |  | |  |  | | **V** |
| Rewarding services with regard to nature | | | Institutional | |  |  | | V | |  | **V** | | **V** |
| Adapting trading policies | | | Institutional | |  |  | |  | |  | **V** | |  |
| Allowing genetic improvement techniques (Crispr-Cas) | | | Institutional | |  |  | |  | | **V** |  | |  |
| Raising awareness about soil quality | | | Social | | V | V | | V | | V | V | | V |
| Raising awareness about water availability | | | Social | | V | **V** | |  | |  |  | | **V** |
| More contact between consumers and producers | | | Social | |  |  | | V | |  |  | |  |
| Precision agriculture as shared responsibility of processors and farmers | | | Social | |  |  | |  | | **V** |  | |  |
| Collective action | | | Social | |  |  | | V | |  |  | | **V** |
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| **UK-Arable** |  |  | | **Current system** | | | **Future systems** | | | | | | | |
| **Strategy** |  | **Domain** | |  | | | **Status quo** | | **Desirable system** | | | **Likely system** | | |
| Land tenure arrangements |  | Agronomic | |  | | | V | | V | | |  | | |
| Reintroduction of livestock |  | Agronomic | |  | | |  | | V | | | V | | |
| Responsible management |  | Agronomic | |  | | |  | | V | | |  | | |
| Agricultural diversification |  | Economic | |  | | | V | |  | | | V | | |
| Increased area farmed |  | Economic | | V | | | V | |  | | |  | | |
| Non-agricultural diversification |  | Economic | | V | | |  | |  | | | V | | |
| Adoption of agri-environmental schemes |  | Environmental | | V | | | V | | V | | | V | | |
| Adoption of conservation farming |  | Environmental | |  | | |  | | V | | |  | | |
| Collaboration |  | Institutional | |  | | | V | | V | | | V | | |
| Knowledge exchange |  | Institutional | | V | | | V | | V | | | V | | |
| Farmer led exchange |  | Social | | V | | |  | | V | | |  | | |
| Peer Learning |  | Social | | V | | | V | | V | | | V | | |

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| **DE-Arable&Mixed** |  | **Current system** | **Future systems** | | | |
| **Strategy** | **Domain** |  | **Status quo** | **Organic farming** | **Better societal appreciation** | **Intensification** |
| Extend knowledge on local varieties and climate smart techniques | Agronomic |  |  | **V** |  | **V** |
| Better varieties (drought resistant) | Agronomic |  |  | **V** |  | **V** |
| Precision agriculture | Agronomic | **V** | **V** |  |  | **V** |
| Integrate knowledge from R&D | Agronomic | **V** | **V** | **V** | **V** | **V** |
| Cost leadership through cost reduction | Economic |  |  |  |  | **V** |
| Increase value of raw materials | Economic |  |  | **V** |  | **V** |
| Increase share of profit in value chain | Economic |  |  | **V** |  |  |
| New varieties with climate services (tree crops) | Environmental |  |  | **V** | **V** |  |
| Improve efficiency of irrigation schemes | Environmental | **V** | **V** | **V** |  | **V** |
| Improve rural infrastructure | Institutional | **V** | **V** | **V** | **V** | **V** |
| Create alternative jobs and social/cultural offers | Institutional |  |  | **V** | **V** | **V** |
| Stronger regulation of international agricultural trade system | Institutional |  |  | **V** |  |  |
| Simplify system of labelling and certification | Institutional |  |  | **V** | **V** | **V** |
| De-bureaucratization (duration of approval, frequency of controls, paper work for new investments) | Institutional |  |  | **V** |  | **V** |
| Fair prices instead of direct payments | Institutional |  |  | **V** | **V** | **V** |
| Align funding with locally specific conditions | Institutional |  |  | **V** | **V** | **V** |
| Improve marketing of farms and the whole sector | Institutional |  |  | **V** | **V** | **V** |
| Improve culture of trust | Social |  |  | **V** | **V** | **V** |
| Better cooperation between all stakeholders | Social |  |  | **V** | **V** | **V** |

| **RO-Mixed** |  | **Current system** | **Future systems** | | | | | |
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| **Strategy** | **Domain** |  | **Status quo** | | **Commercial specialization of mixed family farms** | **Cooperation / multifunctionality** | **Organic farming** | **Alternative crops / livestock** |
| Information actions | Agronomic | V | V | **V** | | **V** | **V** | **V** |
| New technologies, new machinery and equipment adapted to the needs of small farms | Agronomic | V |  |  | | **V** |  |  |
| New crops / varieties to improve diversity. | Agronomic | V |  |  | | V | V | **V** |
| Land consolidation and technologization | Economic | V |  | **V** | |  | **V** |  |
| Diversification of activities; farm products processing | Economic | V |  | **V** | | **V** |  | **V** |
| Expansion of organic farming | Economic |  |  |  | |  | **V** |  |
| Creation of producers' associations / groups | Economic | V | V | **V** | | **V** | **V** | **V** |
| Insurance instruments adapted to small farms | Economic | V | V | **V** | | **V** |  |  |
| Diversification of activities | Economic | V |  | **V** | | **V** |  | V |
| Technological and managerial improvement to cope with climate changes | Environmental | V | V | **V** | | V | **V** | V |
| Informing campaigns regarding the eco-conditionality rules | Institutional | V | V |  | |  | V |  |
| Regulations / sanctions / penalties coming from authorities | Institutional | V | V | V | | V | V | V |
| More stable policies and fiscal regulations | Institutional | V | V | **V** | | **V** | **V** | **V** |
| Improved consultancy system | Institutional | V | V | **V** | | **V** | **V** | **V** |
| Facilities and incentives for cooperation | Institutional | V | V | **V** | | **V** | **V** | **V** |
| Funding / credit instruments adapted to small farms to enable their development and enlargement to medium-sized farms | Institutional | V |  | **V** | | **V** | V |  |
| Ensuring the correctness of paperwork | Institutional | V | V | V | | V | V | V |
| Quality rather than quantity | Institutional |  |  | **V** | |  | V | V |
| Ensuring the correctness of paperwork | Institutional | V | V | V | | V | V | V |
| Succession could be stimulated by offering old retiring farmers decent pensions or life annuities, and to young farmers easier access to finance and adapted financial instruments for funding operating and investment capital | Social | V | V | **V** | | **V** |  |  |
| For unskilled labour: continuous adult training and programs for exiting agriculture | Social | V | V | **V** | |  |  |  |
| For skilled labour: better adaptation of school / university training to the demand in the agricultural sector | Social | V | V | **V** | |  | V | V |

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| **ES-Sheep (1)** |  | **Current system** |  | **Future systems** | |
| **Strategy** | **Domain** |  | **Status quo** | **Semi-intensive system** | **Hi-tech extensive system** |
| Use of technology for management efficiency improvement (electronic readers, blood test, etc.) | Agronomic |  |  | **V** | **V** |
| Research in more prolific and productive breeds. | Agronomic | V | V | **V** |  |
| Research for sanitary conditions of the ovine sector (new vaccines, medicaments, etc.) | Agronomic |  |  | **V** | **V** |
| Implementation of sanitary conditions (hygiene, spaced animals, etc.) | Agronomic | V | V | **V** | **V** |
| Use of technology for animal positioning (GPS, mobile phone, etc.) | Agronomic |  |  |  | **V** |
| Farmers training in new technology | Agronomic |  |  | **V** | **V** |
| Financial products to cover market volatile prices | Economic | V | V | **V** |  |
| Financial products to cover droughts | Economic | V | V |  | **V** |
| Opening up a foreign market | Economic | V | V | **V** | **V** |
| Short channel boost | Economic | V | V |  | **V** |
| Openness of local slaughterhouses | Economic |  |  |  | **V** |
| Diversification (on-farm) | Economic | V | V | **V** |  |
| Alternative income sources (off-farm) | Economic | V | V |  | **V** |
| Investment in the farm assets | Economic | V | V | V | V |
| Costs reduction and flexibility | Economic | V | V | V | V |
| Sales contracts | Economic | V | V | V | V |
| Access to market information | Economic | V | V | V | V |
| Improvement of the access to pastures and stubble fields | Environmental | V | V |  | **V** |
| Use of technology for control of grazed pastures | Environmental |  |  |  | **V** |
| Research in methane emissions from ovine sector | Environmental |  |  | **V** | **V** |
| Use of technology for real-time communication with administration | Institutional |  |  | **V** | **V** |
| Trained administration staff in region specificities | Institutional |  |  | **V** | **V** |
| Reduce bureaucracy and excessive and specific regulations | Institutional |  |  | **V** | **V** |
| Tailored legislation in environmental management | Institutional |  |  |  | **V** |
| Tailored legislation in sanitary conditions | Institutional |  |  | **V** | **V** |
| New urban legislation |  |  |  |  | **V** |
| Remuneration to the sector for contribution to public goods | Institutional |  |  |  | **V** |
| **ES-Sheep (2)** |  | **Current system** |  | **Future systems** | |
| **Strategy** | **Domain** |  | **Status quo** | **Semi-intensive system** | **Hi-tech extensive system** |
| Improve legislation in relation to wild fauna | Institutional | V | V |  | **V** |
| Innovation of laws for products origin and certification | Institutional |  |  | V | **V** |
| Promote generational renewal (early retirements, access to land, etc.) | Institut./Social |  |  | **V** | **V** |
| Creation of shepherd schools | Institut./Social |  |  |  | **V** |
| Promotion of lamb meat consumption | Institut./Social | V | V | **V** | **V** |
| Promotion of local breeds outside the region | Institut./Social |  |  |  | **V** |
| Improvement awareness of sector contribution to public goods | Institut./Social | V | V | V | **V** |
| Associations and cooperatives | Social | V | V | V | V |
| Improvement of quality of live (work intensity reduction with technology) | Social | V | V | **V** | **V** |

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| BE-Dairy | Domain | Current system | Future systems |
| Strategy |  |  | **Status quo\*** |
| Scale enlargement (total milk production/farm; investments of cooperatives to process additional milk) | Agronomic | V |  |
| Innovation (manure recycling, new technology) | Agronomic | V | V |
| Diversification (green energy, maintain diversity of dairy farms, broaden business) | Agronomic | V |  |
| Intensification (Increase efficiency (e.g. feedings, genetic improvement) | Agronomic | V |  |
| Improve entrepreneurial skills (use of market information, be prepared for exit or succession, improve data management, have a long-term strategy) | Agronomic | V | V |
| Conversion to organic production | Agronomic | V |  |
| Financial risk management (financial buffer, futures, cyclic investing) | Economic | V | V |
| Financial support (buying milk powder stocks, subsidies) | Institutional | V | V |
| Improve long-term vision of policies, improve coherence between different policy areas that pursue different policy objectives | Institutional |  | V |
| Stimulate learning settings with multi actor participation, other minded people | Social | V | V |
| Organization in cooperatives, producer organizations | Social | V |  |
| Cooperation with cooperation with value chain actors such as processors, retailers, and technology providers | Social | V | V |

\* Results from BE-Dairy were included in the synthesis of FoPIA-SURE-Farm I results, but not in the assessment in this paper. A desk study was performed, as COVID-19 did not allow to organize a workshop. No alternative systems were identified; the focus was on maintaining an improved status quo.

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| **FR-Beef** |  | **Current system** | **Future systems\*** | | | |
| **Strategy** | **Domain** |  | **Status quo** | **All-export** | **Only French market** | **Tourism** |
| Diversification of the production | Agronomic | V | V |  |  | V |
| Investing in new technologies and practices | Agronomic | V | V | V | V | V |
| Improving food self-sufficiency in the region | Agronomic | V | V |  | V | V |
| Improving feed self-sufficiency in the region | Agronomic | V | V | V | V |  |
| Developing grass fattening | Agronomic | V | V | V | V |  |
| Adopting practices that mitigate floods | Agronomic | V | V |  |  |  |
| Diversification of buyers | Economic | V | V | V | V | V |
| Bank help in debt limitations | Economic | V | V |  | V | V |
| Good risk assessment by banks | Economic | V | V |  | V | V |
| Advancement of payment by cooperatives | Economic | V | V |  | V | V |
| Insurance schemes | Economic | V | V | V | V | V |
| Policy supports direct payments and insurance schemes | Institutional |  | V | V | V | V |
| Improve access of farmers to public markets | Institutional |  |  |  | V |  |
| Better tax policy | Institutional |  |  |  | V |  |
| Developing farmers’ associations and cooperatives | Social | V | V |  | V | V |
| Facilitating young farmers’ installation | Social |  | V |  | V | V |
| Professionalise the workforce | Social |  | V | V | V | V |
| Adopting practices that fulfil social expectations | Social | V | V |  | V | V |
| Improve life quality at work | Social | V | V |  | V | V |
| Facilitating exchange of information between farmers | Social | V | V |  | V | V |
| Monitoring farmers’ situations | Social | V | V |  | V | V |
| Insurance replacement service | Social | V | V | V |  |  |
| Building a positive image of the Bourbonnais | Social |  |  |  | V | V |
| Promoting communication between farmers and other actors | Social |  |  |  | V | V |
| Improve the coordination among actors of the value chain | Social/Economic |  |  |  | V | V |
| \* A desk study was performed, as COVID-19 did not allow to organize a workshop. Future systems and strategies were identified by researchers and experts. | | | | | | |

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| **SE-Poultry** |  | **Current system** | **Future systems** | | | |
| **Strategy** | **Domain** |  | **Status quo** | **Large farms** | **Self-sufficiency fodder** | **Robots** |
| Knowledge management | Agronomic | **V** | **V** | **V** | **V** | **V** |
|  | Economic | **V** | **V** | **V** | **V** | **V** |
|  | Institutional | **V** | **V** | **V** |  |  |
| Technology adaptation | Agronomic | **V** | **V** | **V** | **V** | **V** |
|  | Economic | **V** | **V** | **V** | **V** | **V** |
| Farm size | Agronomic |  |  | V | V | V |
|  | Economic | V |  | V | V | V |
|  | Institutional | V |  | V | V | V |

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| **IT-Hazelnut** |  | **Current system** | **Future systems** | | | | |
| **Strategy** | **Domain** |  | **Status quo** | **Sustained demand (high and stable prices)** | **Product valorization** | **Technological innovation** | **Eco-friendly agriculture** |
| Mechanization | Agronomic | V | V | V |  | V | V |
| Open international markets | Economic |  |  | V |  |  |  |
| Agro-environmental policies | Environmental | V |  |  |  |  | V |
| Control of environmental requirements | Institutional |  |  |  |  |  | V |
| Consortia for technical advise | Institutional | V | V |  |  | V | V |
| Promotional policies | Institutional |  |  | V | V |  |  |
| CAP support | Institutional | V |  |  |  | V | V |
| Training activity | Social |  |  |  |  | V |  |
| Value chain activities – cooperation among stakeholders | Social | V | V | V | V | V | V |

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| **PL-Horticulture**  **Strategy** | **Domain** | **Current system** | **Future systems** | | | |
| **Status quo** | **Horticulture production** | **Shelter farming** | **Local organic production** |
| Marketing | Economic | V |  | V | V | V |
| Insurance | Economic | V |  |  |  |  |
| Enduring | Economic | V |  |  |  |  |
| Diversification | Economic | V |  |  |  |  |
| Diversifying outlets (entering new markets) | Economic |  |  |  |  | **V** |
| Education campaigns for consumers | Economic/Social |  |  | **V** |  |  |
| Simplification of regulations | Institutional |  |  | **V** |  |  |
| Additional actions in the RDP targeting quality and profitability of agricultural production | Institutional |  |  |  | **V** |  |
| State support | Institutional | V |  |  |  |  |
| Preferential taxation system for shelter farming | Institutional/Economic |  |  |  | **V** |  |
| Creation and promotion of a locally recognized brand | Institutional/Economic |  |  |  | **V** |  |
| Increase in the number of ecological farms | Social |  |  |  |  | **V** |
| Intensification of vertical cooperation | Social/Economic | V |  | **V** |  | **V** |
| Horizontal cooperation | Social/Economic | V |  | V | V | V |