



UK aquaculture and livestock market study

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01 Executive summary

Purpose

This report provides a structured view of the UK market, highlighting areas where innovation and collaboration can deliver measurable value. It outlines sector dynamics, regulatory considerations, and practical pathways for entry to the market.

Market context

The UK remains a high-value agri-food market with strong innovation capacity and a clear focus on sustainability and animal welfare. Aquaculture is dominated by Scottish Atlantic salmon, while livestock sectors (dairy, beef, poultry) are investing in technologies that improve efficiency, welfare, and environmental performance.

Opportunity areas for Spanish companies

- Fish health and welfare: Diagnostics for gill health, humane delousing, water quality optimisation, selective breeding support, and treatment stewardship
- Shellfish and ecosystem services: Mussels and oysters aligned with local water quality and biodiversity objectives
- Automation and digitisation: Robotics and computer vision platforms (dairy/poultry), on-farm sensors, and biomass/feeding optimisation in aquaculture
- Genetic improvement: Genomics and precision breeding (plants already enabled in England; animals to follow once welfare assurance is finalised), plus proven reproductive technologies
- Low impact feeds: Alternative proteins and additives that measurably reduce methane, improve sustainability or improve feed conversion without welfare trade-offs

Recommended approach

- Prove it in UK testbeds: Run short, well-designed pilots with independent verification at innovation test sites including MAIC, Leeds (NPC), SRUC Poultry, Nottingham CDSI and SWDDC
- Build credibility via networks: Partner with recognised innovation centres, processors, and assurance bodies; document compliance and performance
- Be border ready: Prepare clear welfare, biosecurity, and sustainability documentation aligned to UK buyer requirements and devolved rules

The UK agri-food system is undergoing rapid change, driven by sustainability targets, and supply pressures. For Spanish companies with ready-to-deploy innovations, the environment is receptive. Engaging with the UK innovation ecosystem and the network of testbeds, research partners, and industry connections can provide a structured pathway to build credibility and scale solutions in the UK market.



02 Background and introduction

This study provides Spanish aquaculture and livestock businesses with UK market context to plan pilots, partnerships and market entry. It draws on the UK Agri-Tech Centre horizon scanning work for livestock and aquaculture and its primer on genetic tools, stakeholder segmentation research alongside current UK official statistics and trade intelligence. The focus is on where innovation, including genetics, welfare technologies, environmental outcomes, climate smart nutrition and data systems can deliver measurable value under UK regulation and buyer expectations.

Study objectives

- Map the UK market landscape including production systems, resource use, species, technologies, and regional infrastructure
- Analyse the innovation ecosystem and adoption barriers
- Compare UK and EU regulatory frameworks for welfare, biosecurity, genetic technologies, and trade in genetic materials
- Identify stakeholders and collaboration opportunities
- Provide a comparative SWOT and practical market-entry models



Sector snapshot (2024 to 2025)

Aquaculture in the United Kingdom is dominated by Scottish Atlantic salmon. Official statistics show 2023 output at 150,949 tonnes, a decrease of 11% year on year. Rainbow trout reached a record 9,258 tonnes. [The Scottish Government Vision for Sustainable Aquaculture to 2045](#) emphasises innovation within environmental limits and the streamlining of regulation, presenting opportunities.

In livestock, UK beef supply is tight with high prices and increased import needs. Dairy, pig and poultry producers continue to invest in efficiency, high welfare and lower emissions through automation, sensors and precision nutrition. For extensive grazing systems, the focus is more about fitting livestock to the environment than controlling the environment to maximise production.

Trade context

Public seafood tastes in the UK are not very adventurous, despite numerous national campaigns to diversify the public palate. The UK exports much of the seafood that it produces and imports much of what it consumes, with the “[big five](#)” (cod, haddock, salmon, tuna and prawns) dominating consumption domestically. Import volumes returned to growth in 2024, with tuna leading gains and whitefish remaining the largest category by volume. Salmon and mackerel led export performance. Frictions with the European Union continue, but seafood trade outperformed broader UK goods trade in 2024. This import dependence, combined with retailer and processor requirements on welfare, provenance and sustainability, creates opportunities for Spanish suppliers of high welfare products, value added seafood, feeds and on-farm technologies.

While livestock agriculture produces less food than the UK consumes, it is still seen as an important contributor to food security with a key role in sustainable food systems for the future. Resource efficiency is increasingly being considered at the food system level rather than just at the farm enterprise level.

Innovation priorities shaping demand

Consultation across the UK sector identifies cross cutting priorities for the next decade: animal health (novel diagnostics, parasite control and reduced antibiotic use), welfare (real time indicators using sensors and computer vision and humane slaughter), climate smart solutions (emissions measurement, methane reducing feeds and slurry management), productivity (genetic improvement and reproductive efficiency), optimised diets (alternative proteins and digestibility), biodiversity and ecosystem services (including shellfish and seaweed), systems optimisation and shared data assets. These themes align with Spanish strengths in diagnostics, engineering biology, recirculating aquaculture systems, feed additives, genomics and digital platforms.

Genetic tools and regulation

Genomic selection and SNP (single nucleotide polymorphism) panels are now standard tools in UK cattle and salmon breeding- these tools enable more accurate and efficient selection for desirable traits. In dairy, the use of sexed semen is widespread, helping to optimise herd composition. Gene editing is progressing as a complementary approach, particularly for enhancing traits like disease resistance. On the regulatory front, England has enacted the [Genetic Technology \(Precision Breeding\) Act 2023](#), with secondary legislation for plants signed in 2025 and full implementation expected by autumn. A regulatory framework for farmed animals is in development and will proceed once a welfare assurance process is finalised.

Under the UK's devolved governance system (where certain powers are transferred from the UK Parliament to Scotland, Wales, and Northern Ireland), these nations have the authority to set their own policies in the use of genetic tools. This means that while England is advancing legislation to support precision breeding, the devolved administrations currently classify precision bred organisms as genetically modified organisms (GMOs), subject to stricter controls. Businesses operating across the UK should prepare for parallel regulatory regimes, ensure careful product stewardship, and communicate clearly with different markets.

England is moving ahead on precision breeding, while Scotland, Wales and Northern Ireland still classify precision-bred organisms as genetically modified. Businesses should plan for parallel regimes, strong product stewardship and clear market communication.

EU reform efforts currently cover plants only. In March 2025 the [Council of the European Union agreed a negotiating mandate](#) for a regulation on plants obtained by new genomic techniques. The proposal includes a two-category approach and transparency measures, while keeping animals outside the scope. These changes are relevant where UK and EU supply chains intersect.

Areas of opportunity

Solutions that improve fish and livestock health and welfare, reduce emissions and waste, and reduce risks based on compliance and biosecurity risk are rewarded in the UK.

- Technologies that generate trusted data for buyers, including retailers and assurance bodies, are in high demand
- Successful market entry often involves testing, trialling and demonstrating solutions, with independent performance monitoring
- Early engagement with retailers and assurance bodies helps align solutions with market expectations
- Tight beef supplies and resilient seafood import demand create favourable conditions for co-development and licensing partnerships
- Trial-ready solutions with complete compliance documentation are well positioned for uptake



03 Livestock: Overview and trends

Livestock remains a core pillar of UK food production, with beef, dairy, sheep, pigs and poultry contributing to rural economies, trade flows, food security and sustainability goals. The national herd and flock decreased again in 2024, shaping 2025 supply, prices and import needs. Innovation and welfare standards are increasingly central to investment decisions, with technology adoption accelerating across species.

Beef

Beef production is forecast at approximately 885,000 tonnes in 2025, around 4% lower than 2024. This reflects fewer prime cattle and continued contraction in the suckler breeding herd. Firm prices and sustained import demand are expected through 2025.

Dairy

Milk output has stabilised and is projected to grow modestly in 2025. Great Britain milk production is expected to rise by about 1.1%, supported by steadier margins, better grass growth and improved weather later in the 2024–2025 season. Dairies processed 1,206 million litres in December 2024, with cheese remaining the largest manufactured product and cheddar accounting for about 71% of cheese output. Daily delivery data in late summer 2025 support trend of higher year-on-year flows. Demand continues to shift from liquid milk toward higher value dairy such as cheese and yoghurt, shaping processor investment and farm nutrition strategies.

Sheep

UK sheep meat production totalled 277,000 tonnes in 2024, down about 7% year-on-year, reflecting a smaller breeding flock and challenging lambing conditions. The national flock reached a historic low by June 2024 at 31.02 million head, and tight store and finished lamb availability is likely to persist into 2025.

Pigs

UK pig meat production reached 920,000 tonnes in 2024, up nearly 4% year-on-year, supported by heavier carcass weights and improved throughput later in the year. As of June 2024, the total pig population was broadly stable at 4.7 million, with a 1.7% fall in the breeding herd partly offset by more finishing pigs. By December 2024, England's census indicated an 8.7% year-on-year increase in the overall herd and an 8.1% rise in the female breeding herd, signalling tentative recovery after a sharp prior contraction.

Poultry

UK poultry meat production exceeded 2.03 million tonnes in 2024, a record high, driven by strong broiler throughput and stable carcass weights. Broiler numbers fell 3.5% to 112 million in June 2024, while the laying and breeding flock rose 1.5% to nearly 55 million, supported by retailer moves to cage-free egg supply through 2025. New projects funded under the [Farming Innovation Programme](#) are rolling out automated camera monitoring and circular protein sources to improve welfare and feed efficiency at scale.



Projections for 2026

UK livestock markets in 2026 are expected to remain supply-constrained, with modest recovery in some sectors. Beef production is projected to decline slightly to around 870,000 tonnes, reflecting continued herd contraction and high input costs, though firm prices will sustain import demand. Dairy output is forecast to grow by 0.8–1.2%, supported by stable margins and efficiency gains from automation and methane-reducing feed additives. Sheep meat production is likely to remain tight, with the national flock stabilising but not rebounding significantly; imports will continue to fill gaps. Pig production should consolidate recent gains, with output near 930,000 tonnes as breeding herd recovery supports throughput. Poultry is expected to maintain record levels above 2 million tonnes, driven by strong retail demand and cage-free commitments, though avian influenza remains a risk factor. Across species, sustainability and welfare compliance will remain key drivers of investment and procurement decisions.

Trade context

The UK remains a net importer of livestock products, particularly beef and dairy. Import volumes are shaped by domestic supply constraints and evolving consumer preferences, with cheese, yoghurt and poultry products driving demand. Export opportunities exist for high-welfare and traceable products, especially in markets with strong assurance requirements. Retailer and processor standards on carbon, welfare and antibiotic use continue to influence sourcing and supplier selection.

Areas of opportunity

- Expansion of cheese and yoghurt capacity aligned with consumer demand and processor investment strategies
- Uptake of methane-reducing feed additives and precision nutrition tools in dairy and beef systems
- Development of circular feed solutions primarily in pig and poultry production, including insect protein and seaweed, to improve sustainability and reduce reliance on imported feed
- Technology platforms for welfare monitoring, pasture management and disease diagnostics across species
- Export growth for high-assurance livestock products, supported by verified welfare and carbon metrics

Case study: Building a successful innovation consortium

The Novel Seaweed Chicken Feed Feasibility Project

Funded by Innovate UK, the [NSCFF project](#) demonstrates how cross-sector collaboration accelerates sustainable innovation. Led by Seaweed Generation, the consortium includes Scotland's Rural College (SRUC), University of West London, Microgrow, and the UK Agri-Tech Centre. Together, they aim to reduce reliance on imported soybean meal by developing a locally sourced, protein-rich alternative from cultivated dulse seaweed.

Innovation pathway

- Automated cultivation systems: Piloting large-scale dulse production in tanks and at sea
- Feed trials: SRUC-led poultry trials assessing digestibility, growth, carcass quality, and gut health
- Economic and sustainability analysis: Evaluating cost-efficiency, emissions impact, and supply chain integration

Actionable outcomes

- Protein substitution potential: Early trials confirm dulse can partially replace soybean meal, reducing dependency on imports and supporting UK net zero targets
- Commercial feasibility insights: Data on cultivation costs and life-cycle emissions inform investment decisions for scaling seaweed-based feed

This case illustrates how cross-sector consortia, backed by targeted funding, can create pathways for sustainable feed innovation.



04 Aquaculture: Overview and trends

Aquaculture is a strategic component of UK food production and rural economies, with Scotland accounting for the majority of output. The sector is dominated by Atlantic salmon, supported by smaller but growing volumes of trout and shellfish. It operates under strict environmental and welfare standards and is central to national sustainability goals. Innovation is focused on health management, water quality, feed efficiency and circular systems, while regulatory changes and market expectations are shaping investment priorities.

Finfish

In 2023, Atlantic salmon production in Scotland was 150,949 tonnes. This represents an 11% decrease from 2022, due to market and environmental pressures. However, 1,480 people were directly employed in seawater salmon production. Rainbow trout reached a record 9,258 tonnes across the UK in 2024. The British Trout Association's highlights key interventions that aim to move trout production in the UK towards a more sustainable, profitable sector by 2040. The Scottish Government's [Vision for Sustainable Aquaculture to 2045](#) prioritises innovation, environmental limits and community benefit, providing long term direction for investment decisions.

Health and welfare

Gill health is a priority, with a high share of recent mortalities linked to complex gill conditions. Current frontline treatments are freshwater and hydrogen peroxide baths, and there is active work on genetics, husbandry and water quality to improve resilience. Trials of peracetic acid show promise as an alternative, although efficacy is variable and requires optimisation before broad application.

Diversification and circularity

Bivalve aquaculture, including mussels and oysters, is receiving growing attention for water quality and biodiversity services, with recent reviews highlighting environmental and economic benefits and a role in local food strategies. UK innovation priorities also include on-farm monitoring, low-impact feeds and circular systems that link aquaculture by-products to feed, and fertiliser uses.



Sea lice regulation

From 1 February 2024, the [Scottish Environment Protection Agency](#) began phasing in a new sea lice regulatory framework that sets risk-based controls for interactions with wild salmon, including standstill conditions in higher risk areas from spring 2025. This affects applications for new sites and expansions and encourages additional lice management measures during sensitive periods. Operators are adapting lice control strategies, integrating medicinal, mechanical and barrier methods to meet the new thresholds while managing welfare and performance.

Projections for 2026

UK aquaculture is forecast to return to moderate growth in 2026. Atlantic salmon production in Scotland is expected to recover toward 155,000–160,000 tonnes, supported by improved juvenile salmon survival and adaptive lice management under SEPA's regulatory framework. Rainbow trout output is projected to edge higher, building on record 2024 volumes, while shellfish farming is set for incremental expansion aligned with water quality and biodiversity objectives. Regulatory compliance costs will remain significant, but investment in gill health solutions, selective breeding for disease resistance, and automated feeding systems is expected to enhance productivity. Demand for high-welfare, low-carbon seafood will continue to shape market opportunities, particularly for suppliers offering traceability and environmental assurance.

Trade context

Import volumes returned to growth in 2024, driven by products such as tuna, while salmon and mackerel led export performance. This import dependence, together with assurance requirements on welfare and provenance, shapes opportunities for technology suppliers and value-added seafood exporters.

Areas of opportunity

- Continued implementation of Scotland's sea lice framework through spring 2025 and the response of site design, fallowing plans and barrier technologies
- Progress in gill health research and the uptake of selective breeding for resistance, alongside optimisation of water treatment protocols
- Expansion of shellfish capacity linked to water quality objectives and nature positive food strategies



“The UK’s aquaculture ambitions, represent a major export opportunity for Spanish technology and service companies, but success hinges on navigating the sector’s distinctive regulatory landscape across the devolved nations.

The primary market traction lies in Scotland, the undisputed leader in UK aquaculture, particularly for high-value salmon. Here, Spanish expertise in AI-driven Precision Aquaculture—real-time water quality monitoring, automated feeding, and predictive disease analytics— could be essential for improving the efficiency and sustainability of existing operations, as these solutions are technology-based and not impacted by the gene-editing debate.

However, the regulatory environment is fragmented. Scotland maintains a strict stance, treating gene-edited organisms as GMOs. Conversely, England’s Genetic Technology (Precision Breeding) Act offers a progressive pathway for innovation, presenting a unique opportunity for Spanish companies to enter the English market with advanced breeding solutions for finfish such as trout or arctic charr.

Away from finfish, environmental monitoring and farm infrastructure engineering present good opportunities for Spanish companies looking to engage with lower trophic production, particularly in southwest England’s growing aquaculture cluster.

Spanish exporters must, therefore, employ differing strategies: leading with non-gene-edited, high-tech AI services for the core Scottish market, while simultaneously leveraging England’s new regulatory framework to introduce innovative genetics, and exploiting the fast-paced lower trophic sector. This dual approach is key to capturing the full spectrum of the UK’s high-value, sustainable seafood economy.”

Martin Sutcliffe

UK Agri-Tech Centre Head of Agri-Systems

05 Innovation and technology landscape

Innovation in UK aquaculture and livestock is driven by productivity, sustainability and compliance. The sector is investing in technologies that deliver measurable returns while meeting high welfare and environmental standards.

Genetic tools

Genomic selection and SNP panels are widely used in dairy and beef breeding to improve accuracy and accelerate genetic gain. Sexed semen is standard in dairy to optimise herd composition. Precision breeding is enabled in England under the [Genetic Technology \(Precision Breeding\) Act 2023](#) for plants, with animals expected to follow once a welfare assurance framework is finalised. Gene editing is being explored for traits such as disease resistance, heat tolerance and polled cattle, and research is targeting sterile salmon to prevent genetic mixing with wild stocks. These tools are complemented by reproductive technologies such as artificial insemination, embryo transfer and sexed semen, which increase selection intensity and genetic progress.

Automation and digital systems

Robotics and computer vision are scaling in dairy and poultry where return on investment can be demonstrated within two to three years. Robotic milking systems are now commonplace in progressive dairy units, often integrated with health collars, and automated dosing. In poultry, Innovate UK funded pilots are deploying camera-based welfare monitoring to detect behaviour and stress indicators in real time. Aquaculture is adopting remote sensing and automated feeding systems, supported by underwater cameras and biomass estimation, to improve feed conversion and reduce waste.

Systems optimisation

Systems optimisation extends beyond individual technologies to the interconnected systems that underpin UK land use, food security, and farm enterprise viability. Optimisation at this level means aligning resource management, nutrient provision, and environmental stewardship with economic performance. It involves designing farming and aquaculture systems that not only deliver sustainable and welfare-compliant outputs but also enhance resilience and profitability across the supply chain. By viewing land, livestock, and aquatic resources as part of a dynamic food system, innovation can drive practices that improve nutrient efficiency, reduce emissions, and support biodiversity while safeguarding long-term food security for society.

Data integration and decision support

Producers and processors are demanding platforms that consolidate data from multiple sources, including sensors, health records and environmental monitors. Horizontal benchmarking and vertical data sharing across the supply chain are becoming prerequisites for assurance schemes and retailer contracts. Decision support tools are increasingly linked to sustainability metrics, enabling farms to track emissions, welfare and productivity in one dashboard.

Welfare and sustainability technologies

The Animal Welfare Act 2006 underpins high welfare expectations, supported by species specific codes. Retailers and assurance bodies require evidence of compliance, driving uptake of real time welfare indicators and automated monitoring. Sustainability priorities include reducing greenhouse gas emissions, improving nutrient efficiency and supporting biodiversity. Feed innovation is central, with trials of methane reducing additives such as 3-NOP and red seaweeds, and development of alternative proteins for both livestock and aquaculture. Circular systems that valorise by-products, such as using aquaculture waste for fertiliser or insect protein production, are gaining traction.

Regulatory and market alignment

Compliance readiness is critical for market access. Businesses entering the UK must align with welfare codes, biosecurity frameworks and sustainability reporting requirements. For genetic technologies, clear communication on regulatory status and product stewardship is essential, particularly where UK and EU rules diverge. Engagement with innovation networks, testbeds and research consortia remains the most effective route to validate solutions and build credibility.



“Key stakeholder groups in England are ready to implement gene-editing, but divergent policies across the devolved nations presents some challenges. Modern genetic evaluation systems are well integrated into the poultry, pig and dairy industries, with the beef industry engaged to a lesser degree and the sheep industry least. Compared to the commercial control of genetic improvement systems for pigs and poultry, dairy, genetic evaluations are industry led, while beef and sheep systems are more aligned with breeds. Dairy evaluations are closely tied to other international groups. Although market penetration of genetics is lower in beef and sheep, progressive breeders are seeking out the latest tools used by the dairy industry.

Genetic improvement of feed efficiency has long been the domain of the poultry and pig industries, but it is now gaining ground for dairy, beef and sheep production as they reduce the emphasis on production. Recent developments include refocusing efficiency to have an environmental impact dimension as well. Broader breeding goals are benefiting from the use of genomic evaluations that combine use of performance, pedigree and DNA marker information.”

Mark Young

UK Agri-Tech Centre Innovation Lead



06 Innovation ecosystem and stakeholders

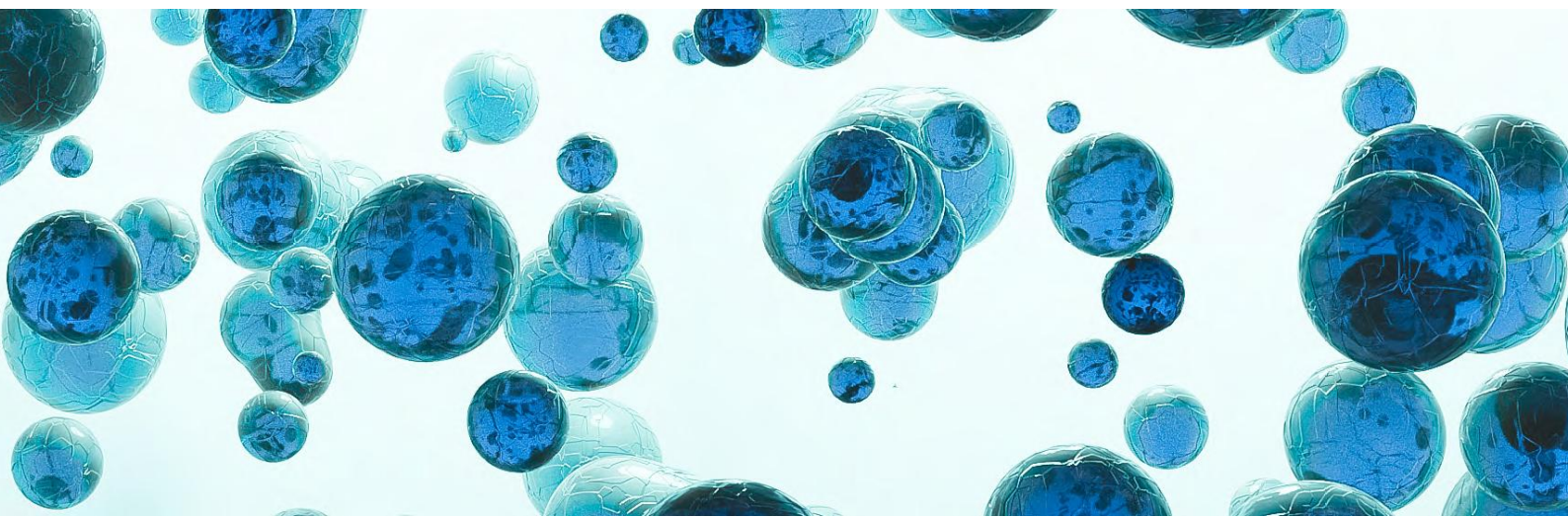
The UK agri-tech innovation system is diverse but strongly inward focused, with most organisations being small or medium-sized businesses. It brings together farmers, technology developers, researchers, and supply chain actors, each playing a different role in shaping innovation and adoption. Understanding how these groups operate and what they value is essential for building partnerships and planning market entry.

Ecosystem structure (indicative)

The ecosystem includes a mix of research institutions, agri-tech companies, farmers, input suppliers, consultants, food processors, retailers, innovation centres, government bodies, and trade associations. While universities and research organisations form a significant part of the network, there is also a strong presence of commercial players who are critical for scaling innovation. Most organisations are UK-based, which reflects the domestic focus of the sector, but there is also a small international presence that brings opportunities for collaboration and knowledge exchange.

Segment	Size (UK)	Collaboration rate	Entry strategy
Core agriculture	1,752 organisations	24%	ROI-focused demonstrations
Support ecosystem	1,378 organisations	33%	Research partnerships
Broader value chain	604 organisations	10%	Strategic policy engagement

Data from UK Agri-Tech Centre Stakeholder Research, July 2025





Stakeholder groups

The first group is core agriculture, which includes farmers, producers, agri-tech companies, and input suppliers. These organisations are closest to practical implementation and are often the first to test and adopt new technologies. Their priorities are clear: they want solutions that work on real farms, deliver measurable returns within two to three years, and come with practical support for scaling up.

The second group is the support ecosystem, made up of research institutions, consultants, trade bodies, and investors. This group plays a central role in knowledge transfer and research commercialisation. They value collaboration platforms, technical depth, and clear routes from research to market. They are also highly engaged in shaping policy and standards that influence adoption.

The third group is the broader value chain, which includes food processors, retailers, government agencies, NGOs, and logistics providers. These organisations have fewer direct projects but exert strong influence on market requirements, assurance schemes, and sustainability frameworks. Their focus is on building farmer confidence, aligning standards, and creating the conditions for sector-wide adoption.

Priorities and opportunities

All groups share a need for easier access to funding, practical support for scaling technology, and clear evidence of return on investment. These common needs can be addressed through shared services such as funding navigation and collaboration matchmaking. However, each group also has distinct priorities. Core agriculture requires hands-on validation and farmer-to-farmer proof points. The support ecosystem needs structured knowledge exchange and data integration solutions. The broader value chain looks for leadership on sustainability, policy alignment, and sector-wide coordination.

In the short term, the greatest opportunity lies in strengthening links with research and advisory organisations while building practical demonstration capacity for farmers. At the same time, engaging processors, retailers, and policymakers early helps shape consistent requirements on welfare, sustainability, and data, reducing barriers to adoption later.

Case study: Mapping UK innovation centres

Innovation centres in UK agri-tech

Innovation centres provide facilities and expertise to test and validate new technologies for aquaculture and livestock under commercial-scale conditions. They work closely with industry, researchers, and assurance bodies to ensure innovations are robust, compliant, and ready for commercial use.

Key centres:

- National Pig Centre (Leeds)
- SRUC Poultry Research Centre
- Nottingham Centre for Dairy Science Innovation
- UK Agri-Tech Centre
- South West Dairy Development Centre

Each centre has a specific focus: pigs (precision nutrition, health monitoring, welfare), poultry (automated welfare monitoring, sustainable feed trials), and dairy (automation, methane-reducing feed additives, integrated data tools).



Map of the UK Agri-Tech Centre facilities and capabilities.

For Spanish businesses, working with UK innovation centres is a practical way to enter the market. Innovation centres support independent pilots and provide trusted data for the UK market. They also help with introductions to processors, retailers, and regulatory bodies, and offer guidance on compliance and market requirements. Early engagement with these centres can reduce barriers to adoption and speed up the path to commercial deployment.

07 Regulatory review

The United Kingdom regulates aquaculture and livestock through UK wide law and devolved systems in Scotland, Wales and Northern Ireland. For market entry, the two practical watchpoints are: rules can differ by nation, and imports from the European Union into Great Britain now follow a risk-based border model.

Policy area	UK position	EU position
Precision breeding	Governed by the Genetic Technology (Precision Breeding) Act 2023 in England. This law allows certain gene-edited plants under a proportionate approval process. Animals are not yet included; a welfare assurance framework is being developed.	Currently treated under the genetically modified organism (GMO) framework. Reforms for plants are under discussion, but currently animals remain outside this scope.
Animal welfare	Covered by the Animal Welfare Act 2006 and species-specific codes of practice. These codes guide farm standards and are often used in audits.	Based on Directive 98/58/EC, implemented by individual member states.
Biosecurity	Managed through Department for Environment, Food and Rural Affairs (DEFRA) frameworks, aligned with World Organisation for Animal Health (OIE) and World Trade Organization (WTO) standards.	Governed by the EU Animal Health Law (Regulation (EU) 2016/429).
Genetic material trade	Rules set under the UK–EU Trade and Cooperation Agreement (TCA) and sanitary and phytosanitary (SPS) protocols. These govern the movement of genetic material such as semen and embryos.	Controlled by EU veterinary and customs regulations.

Genetic technologies and precision breeding

England has switched on the precision breeding framework for plants under the Genetic Technology (Precision Breeding) Act 2023 and the Precision Breeding Regulations 2025. These regulations create proportionate routes to authorise precision bred organisms, known as PBOs, used in food or animal feed. The Food Standards Agency, FSA, will run the service with a two-tier process. Tier 1 relies on an applicant's safety case where the risks are low and well characterised. Tier 2 adds an FSA risk assessment where uncertainties remain. Animals are not being progressed until a welfare assurance process is developed.

In Scotland, Wales and Northern Ireland, precision bred organisms continue to be treated as genetically modified organisms, GMO. If the intention is to sell precision bred plant products in England, careful distribution planning is needed to also target the devolved nations or the European Union.

Aquaculture regulation by nation

Scotland. The Scottish Environment Protection Agency, SEPA, now leads the sea lice framework for interactions with wild salmon. From February 2024, new and expanding sites are screened against a lice exposure threshold. During the spring period from mid-March to 31 May, standstill lice limits are being added to relevant permits from 2025. Applications that would push exposure above the threshold can be refused unless location, biomass or barrier measures are adjusted.

England and Wales. Any fish or shellfish farm must be authorised by the [Fish Health Inspectorate](#), FHI, under aquatic animal health rules. Marine sites usually also require a marine licence and, where relevant, environmental permits. To help applicants, Seafish hosts an Aquaculture Regulatory Toolbox that maps the full consent path. In 2025, new step-by-step guidance was issued for marine seaweed farms in English waters.

Wales. [Natural Resources Wales](#), NRW, is the competent authority for environmental permits and marine licensing and provides a single-entry point alongside the Welsh Aquaculture Regulatory Toolbox.

Northern Ireland. [The Department of Agriculture, Environment and Rural Affairs](#), DAERA, licenses fish and shellfish farms. A fish culture licence is compulsory. Optional shellfish or marine fish fishery licences can secure exclusive cultivation rights within a defined area. Marine finfish proposals also need a marine licence and may require an environmental impact assessment.



Animal welfare and assurance

The Animal Welfare Act 2006 underpins farm animal welfare and is supported by species-specific codes. England updated the Code of Practice for the Welfare of Pigs in 2020 and refreshed poultry guidance in 2024. The codes are not law, yet courts can use compliance as evidence of good practice. Retailers and assurance schemes typically expect farms to meet these codes during audits. For farmed fish, the current legal duty is to avoid avoidable pain, distress or suffering at killing. Fish are not yet covered by the detailed slaughter provisions applied to terrestrial animals. Government, industry and welfare bodies are developing guidance and practical stunning options that work commercially.

Veterinary medicines and feed additives

The Veterinary Medicines Directorate, VMD, authorises veterinary medicines in Great Britain and Northern Ireland. The Product Information Database lists current licences for aquaculture therapeutants and livestock products and is the reference point for label and use conditions. Methane reducing feed additives are moving into routine use. For example, Great Britain has authorised 3-Nitrooxypropanol, marketed as Bovaer, as a zootechnical additive for dairy cattle. The FSA confirms that milk and meat from animals given Bovaer are safe for consumers when used at approved dosages.

Animal by-products and farm waste

Animal by-products, ABP, are animal materials not intended for human consumption. Rules are based on retained EU law that creates three categories with set disposal routes. Category 2 covers higher risk material such as mortalities and certain disease risks. Category 3 covers lower risk material such as by-products fit for human consumption at source but not intended for that use. Fish farm mortalities are Category 2 material and must go to approved processing or disposal. Most processing waste is Category 3. Operators must keep records of category, storage, transport and disposal and use approved contractors.

Import requirements for Spanish exporters

The UK uses the Border Target Operating Model, BTOM, for live animals, products of animal origin and animal by-products entering from the European Union. BTOM is the UK's risk-based model for sanitary and phytosanitary border controls. IPAFFS is the UK system for pre-notifying imports of animals and related products. Export Health Certificate, EHC, is the official veterinary certificate issued in the exporting country. Commodities are categorised as high, medium or low risk. The category determines documents, prenotification in the Import of Products, Animals, Food and Feed System, IPAFFS, and the rate of identity and physical checks at Border Control Posts.

08 SWOT analysis

The UK agri-tech and livestock sectors combine strong innovation networks and high retail standards with active research and co-funding opportunities. However, challenges such as high costs, labour shortages, and regulatory complexity persist.

Strengths	Weaknesses
Strong retail standards; innovation culture; leading salmon industry. Active research ecosystem and co-funding for pilots. Growing demand for welfare, traceability and low-carbon products.	High costs; labour shortages; disease and environmental constraints. Regulatory and planning complexity (aquaculture & livestock). Fragmented adoption among smaller farms; uneven digital maturity.
Opportunities for Spanish firms	Potential threats to manage
Fish-health tools, shellfish systems, RAS engineering and water treatment. Dairy/poultry automation, welfare monitoring and precision dosing. Genetic and feed innovations aligned to UK regulation. Data platforms and decision-support integrating with farm hardware.	Local competition and the need for UK case studies. Long procurement cycles; references required. Regulatory divergence across UK nations; certification requirements. Integration and data-sharing concerns at farm level.

Entry points

- Anchor early activity where standards and innovation networks are strongest, such as Scottish salmon farms running welfare and environmental monitoring and UK demonstration centres for livestock
- Close weaknesses with design choices such as costed pilot bundles including installation, training, and 90-day support, simple data connections to existing farm tools, and local specialists for planning and consenting
- Exploit opportunities with collaboration for technical development and for driving industry uptake
- Manage threats with an evidence-led compliance pack covering safety, welfare, environmental claims, and data handling, and clear statements on where the product can be used today and next steps for devolved roll-outs

Case Study: Unlocking bilateral innovation

In March 2025, eight leading Spanish agri-tech companies and research institutes joined a week-long UK mission, curated by the UK Agri-Tech Centre and the British Embassy in Madrid. The programme unlocked direct access to the UK's agri-tech ecosystem, driving new market insights, strategic partnerships, and collaborative opportunities.

The visit provided Spanish delegates with direct access to leading UK institutions such as Rothamsted Research, NIAB, Harper Adams University, and the James Hutton Institute. Delegates engaged in site tours, bilateral presentations and strategic networking sessions.

Key outcomes

- 100% of delegates reported identifying potential collaborations or market opportunities
- 4+ Horizon Europe project leads emerged, including joint research on gene editing, drought-resistant crops, and digital traceability
- Delegates cited NIAB, Rothamsted, and Harper Adams as top-value visits for their relevance to sustainability, innovation, and startup support
- Fundación Cajamar and Stelviotech expressed interest in becoming gateways for UK-Spain startup exchange and joint acceleration programmes
-

Participating companies

IRNASA-CSIC
Stelviotech.
Biorizon Biotech
Fundación Cajamar

“The UK visit was an amazing exchange and networking initiative! Visiting key research institutes and interacting with leading UK and Spanish innovators was incredibly enriching. We’re already seeing real opportunities for collaboration emerge.”

**Carmen Sánchez Cañizares, Researcher,
IRNASA-CSIC**

Partnering and market entry

Collaboration models

Joint ventures

Co-development where partners jointly invest to build and validate a product or service. Typical partners include a technology owner, a UK farm or fish farm host, a processor or retailer sponsor, and a research and technology organisation where helpful.

Technology transfer and licensing

Scale-up of a proven method or tool by a UK licensee. Typical partners include a licensor, a UK manufacturer or service provider, qualified installers and a quality assurance body where required.

Research consortium

Multi-party work where shared infrastructure and expertise are needed, for example sea lice strategies, gill-health tools, methane mitigation or data standards. Typical partners include a processor or retailer, one or two farms or fish-farms, a university or research and technology organisation and the solution provider.

Pilot and demonstrators

Proof of performance on UK sites prior to purchase. Partners typically include the solution provider, a host farm or fish-farm, an independent monitor and, where relevant, a processor or retailer sponsor.





Routes to market

Direct sales and specialist distributors

A direct sales team or a specialist dealer network can reach farms, fish farms and integrators quickly, especially where installation and aftersales support matter. The approach suits hardware, on-farm services, sensors and recurring software.

Processor and retailer partnerships

Processors, packers and retailers specify welfare, provenance and food safety standards in supplier contracts. This route suits tools that reduce audit risk, improve compliance or deliver verified performance claims.

Testbeds, pilots and demonstrators

Pilots on commercial farms and fish-farms generate the independent evidence buyers ask for. This path is often the quickest way to move from interest to first order where measured impact is decisive.

Licensing and original equipment manufacturer integration

Licensing or integrating technology into a UK partner's product or service works well for diagnostics, analytics, control software and specialist hardware.

Public funded collaborations and accelerators

Public programmes can de-risk development, create UK references and open channel relationships, especially for pre-competitive challenges.

Case study: Tecnafert's UK journey

Florentino Lopez, Director— Tecnafert

Tecnafert's UK business development strategy has focused on market entry, building partnerships with farmers, distributors, and research institutions, and introducing its supramolecular fertiliser technology as a sustainable solution in UK agriculture.

Why the UK?

Tecnafert, part of the Spanish group Euroabonos, expanded into the UK to tap into its advanced agricultural sector. Despite the market's potential, the journey involved navigating cultural and logistical challenges, especially around introducing unfamiliar technology and building trust.

Getting started

The company prioritised trials under UK conditions, joined the UK Agri-Tech Centre for technical support, and attended key events like Cereals and BASE to build networks and understand the local business environment.

Challenges and breakthroughs

Initial hurdles included a credibility gap and communication barriers. Farmers and distributors were cautious, but real-world trial results helped build trust and demonstrate the value of Tecnafert's supramolecular technology.

Opportunities and impact

The UK's strong focus on sustainability and innovation aligns with Tecnafert's mission. Trials in cereals, grapes, and onions have shown up to 10% yield increases. Interest is growing among farmers and distributors seeking solutions that combine performance with environmental responsibility.

Advice for Spanish companies

Florentino's advice: "Be patient, invest in relationships, and back up your technology with strong data. Joining local networks and clearly communicating your value propositions are key to success."



10 Conclusion and next steps

The UK aquaculture and livestock sectors is evolving and offers opportunity. For Spanish businesses, this creates a market that is open to innovation but selective about evidence, compliance, and practical fit.

A practical action plan for market entry

- Understand the landscape
Map regulatory differences across England, Scotland, Wales, and Northern Ireland, and identify where your solution fits within current assurance and sustainability frameworks
- Start with validation
UK buyers expect independent evidence. Plan early for pilots or demonstrations that generate trusted data on performance, welfare, and environmental outcomes
- Build partnerships
Engage processors, retailers, and assurance bodies to align with their specifications and accelerate adoption. Collaboration often unlocks faster routes to scale
- Prepare for compliance
Assemble clear documentation on welfare, biosecurity, sustainability claims and data handling
- Think long-term scalability
Consider licensing, integration, or joint ventures as pathways to embed your technology in UK supply chains and meet local service expectations





Find out more about ICEX Spain Trade and Investment at
www.investinspain.org

Find out more about the UK Agri-Tech Centre at
www.ukagritechcentre.com.

11 References

[References accessed 23 October 2025]

1. AHDB (2024). Beef and lamb market update: Defra's June survey shows UK beef and sheep populations at historic lows (19 December 2024). Herd and flock context for 2025. Available here: <https://ahdb.org.uk/news/beef-lamb-market-update-defra-s-june-survey-shows-uk-beef-and-sheep-populations-at-historic-lows>.
2. AHDB (2025). Beef market outlook (July 2025). Production forecast ~885,000 t, import needs. Available here: <https://ahdb.org.uk/beef-market-outlook>.
3. AHDB (2025). Dairy market outlook (February 2025). GB milk outlook and utilisation shifts. Available here: <https://ahdb.org.uk/dairy-market-outlook>.
4. AHDB. Methane-reducing feed additives (knowledge library). Options and evidence summary. Available here: <https://ahdb.org.uk/knowledge-library/methane-reducing-feed-additives>.
5. AHDB (2025). UK daily milk deliveries (updated 12 September 2025). Live dataset and trends. Available here: <https://ahdb.org.uk/dairy/uk-daily-milk-deliveries>.
6. Animal Welfare Act 2006. UK Public General Acts 2006 c.45. Available here: <https://www.legislation.gov.uk/ukpga/2006/45/contents>.
7. BRCGS. Global Standard Food Safety - Issue 9 (overview). Standard and key changes. Available here: <https://www.brcgs.com/product/global-standard-food-safety-issue-9/p-13279/>.
8. Business Wales - Marine and Fisheries. Aquaculture regulatory toolbox for Wales. Summary regulatory requirements and guidance. Available here: <https://businesswales.gov.wales/marineandfisheries/funding-and-business-development/aquaculture-regulatory-toolbox-wales>.
9. Council of the EU (2025). NGT plants negotiating mandate (14 March 2025). Two category approach and transparency. Available here: <https://www.consilium.europa.eu/en/press/press-releases/2025/03/14/new-genomic-techniques-council-agrees-negotiating-mandate/>.
10. DAERA. Aquaculture and licensing of aquaculture establishments. Fish culture, shellfish fishery and marine fish fishery licences. Available here: <https://www.daera-ni.gov.uk/articles/aquaculture-and-licensing-aquaculture-establishments>.
11. DEFRA (2025). Agriculture in the United Kingdom 2024 (10 July 2025). Livestock structure and context. Available here: <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2024>.

12. DEFRA (2018). Animal by-product categories, site approval, hygiene and disposal. Available here: <https://www.gov.uk/guidance/animal-by-product-categories-site-approval-hygiene-and-disposal>.
13. DEFRA (2020). Code of Practice for the Welfare of Pigs. Available here: <https://www.gov.uk/government/publications/pigs-on-farm-welfare/caring-for-pigs>.
14. DEFRA (2025). Livestock populations in the United Kingdom at 1 June 2024 (updated 27 March 2025). Cattle, sheep, pigs and poultry structure. Available here: <https://www.gov.uk/government/statistics/livestock-populations-in-the-united-kingdom/livestock-populations-in-the-united-kingdom-at-1-june-2024>.
15. DEFRA (2025). Usage of milk by dairies in the United Kingdom: December 2024 (published 30 January 2025). Milk processed and cheese share. Available here: <https://www.gov.uk/government/statistics/historical-national-statistics-notice-on-milk-utilisation-by-dairies-2024/usage-of-milk-by-dairies-in-the-united-kingdom-statistics-december-2024-published-30-january-2025>.
16. Expert Panel on Livestock Methane (2024). Animal feed supplements: potential of feed additives for methane mitigation (May 2024). Technical review. Available here: <https://livestockmethane.com/wp-content/uploads/2024/05/2024-03-Animal-feed-supplements-.pdf>.
17. Fish Farming Expert (2022). Peracetic acid very promising as treatment for amoebic gill disease (28 June 2022). Treatment evidence and considerations. Available here: <https://www.fishfarmingexpert.com/amoebic-gill-disease-lilleborg-as-nofima/paracetic-acid-very-promising-as-treatment-for-amoebic-gill-disease/1334038>.
18. FSA (2024). Bovaer cow feed additive explained (5 December 2024). Consumer safety and authorisation status. Available here: <https://food.blog.gov.uk/2024/12/05/bovaer-cow-feed-additive-explained/>.
19. FSA (2023). Precision breeding explainer and framework updates (2023 to 2025). Devolved positions and authorisation routes -. Available here: <https://www.food.gov.uk/safety-hygiene/precision-breeding>.
20. FSA. Regulated product register - RP-1059, 3-nitrooxypropanol (Bovaer). Authorisation details. Available here: <https://data.food.gov.uk/regulated-product-applications/products-list/RP-1059>.
21. GOV.UK. Fish, shellfish or crustacean farm authorisation. Fish Health Inspectorate process and forms. Available here: <https://www.gov.uk/guidance/fish-shellfish-or-crustacean-farm-authorisation>.

22. GOV.UK (2024). Poultry: on-farm welfare (updated January 2024). Codes and audit expectations. Available here:
<https://www.gov.uk/government/publications/poultry-on-farm-welfare>.
23. GOV.UK (2025). Risk categories for animal and animal product imports to Great Britain (updated 26 March 2025). BTOM risk categories and rules. Available here:
<https://www.gov.uk/government/publications/risk-categories-for-animal-and-animal-product-imports-to-great-britain>.
24. GOV.UK (2024). The Border Target Operating Model - final, August 2023 (updated 13 February 2024). New approach to SPS and security controls. Available here:
<https://www.gov.uk/government/publications/the-border-target-operating-model-august-2023>.
25. Marine Conservation Society. How to buy the Big Five sustainably. Available here:
<https://www.mcsuk.org/news/how-to-buy-the-big-five/>
26. Nottingham Trent University (2024). Project awarded £3 million to power poultry welfare and sustainability (6 September 2024). Programme overview. Available here: <https://www.ntu.ac.uk/about-us/news/news-articles/2024/09/project-awarded-3-million-to-power-poultry-welfare-and-sustainability>.
27. Pig World (2025). December census figures show big leap in English pig and breeding herds (3 March 2025). Herd recovery signal. Available here:
<https://www.pig-world.co.uk/news/december-census-figures-show-big-leap-in-english-pig-and-breeding-herds.html>.
28. Poultry News (2025). Analysis: The end of the cage (6 January 2025). Retailer transition context. Available here:
<https://www.poultrynews.co.uk/production/analysis-the-end-of-the-cage.html>.
29. Red Tractor. Our standards. Assurance scheme standards and membership rules. Available here: <https://redtractor.org.uk/our-standards/>.
30. RSPCA Assured (2024). Welfare standards for farmed Atlantic salmon (May 2024). Standards and requirements. Available here:
<https://science.rspca.org.uk/sciencegroup/farmanimals/standards/salmon>.
31. Scottish Environment Protection Agency (2024). Sea lice regulatory framework - implementation (2024 to 2025). Risk-based controls and timelines. Available here:
<https://www.sepa.org.uk/regulations/water/aquaculture/sea-lice-regulatory-framework-implementation/>.
32. Scottish Government (2024). Scottish Fish Farm Production Survey 2023 (30 October 2024). Atlantic salmon and trout output. Available here:
<https://www.gov.scot/news/scottish-fish-farm-production-survey-2023/>.

33. Scottish Government (2023). Vision for sustainable aquaculture (July 2023). 2045 vision and regulatory direction. Available here: <https://www.gov.scot/publications/vision-sustainable-aquaculture/>.
34. Seafish (2025). 2024 UK Seafood Supply Chain Report (July 2025). Sector and supply trends. Available here: <https://www.seafish.org/media/v1jjebgx/2024-seafood-supply-chain-report.pdf>.
35. Seafish. Fish labelling and supply chain traceability. Registration and traceability guidance. Available here: <https://www.seafish.org/trade-and-regulation/uk-seafood-regulation/regulations-for-labelling-and-selling-seafood/fish-labelling-and-supply-chain-traceability/>.
36. Seafish. Latest UK seafood trade data - end 2024 summary. Import dependence and category trends. Available here: <https://www.seafish.org/insight-and-research/seafood-trade-data/latest-uk-seafood-trade-data/>.
37. SRUC (2024). £500k project explores use of seaweed in chicken feed. Available here: <https://www.sruc.ac.uk/all-news/500k-project-explores-use-of-seaweed-in-chicken-feed/>.
38. UK Agri Tech Centre (2024). Livestock and aquaculture innovation: shaping the next 10 years (July 2024). Executive summary and priorities. Available here: <https://ukagritechcentre.com/news-insights/reports-and-brochures/>.
39. UK Agri Tech Centre & Roslin Institute (2025). Harnessing genetic tools (March 2025). Genomics, gene editing cases and welfare safeguards. Available here: years (July 2024). Executive summary and priorities. Available here: <https://ukagritechcentre.com/news-insights/reports-and-brochures/>.
40. UK legislation. Genetic Technology (Precision Breeding) Regulations 2025. Regulations and implementation timetable. Available here: <https://www.legislation.gov.uk/ukdsi/2025/9780348269123>.
41. UKRI Farming Innovation Programme. Available here: <https://farminginnovation.ukri.org/>.
42. UKRI Gateway to Research. Mitigating salmon gill disease by integrating genotype–environment studies with host gill microbiome associations (project record). Research focus. Available here: <https://gtr.ukri.org/projects?ref=BB%2FY004574%2F1>.
43. University of Chester (2024). Funding boost for innovative UK projects to improve poultry welfare (24 October 2024). Project round-up. Available here: <https://www.chester.ac.uk/about/news/articles/funding-boost-for-innovative-prepreuk-projects-to-improve-poultry-welfare/>.

