

From Field to Fork: Ensuring the Sustainability and Competitiveness of Irish Beef in an Era of Globalisation

A report for



NUFFIELD IRELAND
Farming Scholarships

by Michael Martin

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Scholar Contact Details

Michael Martin

Ballybawn, Rathnure, Enniscorthy, Wexford

Phone: 0879084327

Email: michaeljmartin99@gmail.com

In submitting this report, the Scholar has agreed to Nuffield Ireland publishing this material in its edited form.

NUFFIELD IRELAND Contact Details

Catherine Lascurettes

Executive, Nuffield Ireland

Phone: +353-86-2691197

Email: exec@nuffield.ie

Nuffield Report 2025

Executive Summary:

The report "***From Field to Fork: Ensuring the Sustainability and Competitiveness of Irish Beef in an Era of Globalisation***" explores the challenges and opportunities facing Ireland's beef industry in a competitive global market. Key findings highlight Ireland's strategic advantages, including its access to lucrative European markets and strong social connection to farming, which distinguishes it from competitors like Brazil and Argentina. However, global producers are improving their branding and sustainability efforts, while European beef production is declining. This presents Ireland with a unique opportunity to expand sustainably and position itself as a leader in EU beef production. Challenges include the heavy reliance on dairy-origin beef, the need for better consumer engagement, and the disconnect between consumer demand for sustainability and their unwillingness to pay higher prices.

The report recommends introducing a beef finishing bonus to support small-scale producers, rethinking how Ireland markets its beef to reconnect with consumers, and training dairy farmers to improve dairy beef calf quality through better genetics and management. By capitalising on its advantages and implementing these strategies, Ireland can maintain its competitiveness, strengthen its sustainability credentials, and secure a prominent role in the evolving global beef market.

Contents

Executive Summary:.....	3
Objectives:	6
Introduction	7
Brazil's booming beef	10
Case Study: The Scale of Beef Production in Brazil	11
Vast Production Capabilities	11
Feedlot Systems and Processing Efficiency.....	12
Key Takeaway: Scale is Critical in Global Trade	12
Case Study: Ireland's Strategic Advantage in Beef Farming.....	13
Free Trade and Market Access in the European Union	13
Barriers Facing South American Producers	14
Economic Benefits of the EU Consumer Base	14
Conclusion: Ireland's Competitive Edge	14
Case Study: The Rise of effective marketing in Global Beef Production	15
Brazil's Shift Toward a Sustainable Narrative	16
Uruguay and Argentina: Masters of Beef Branding.....	16
The U.S.: Lagging in the branding and game.....	17
Key Takeaway: Ireland Must Embrace Storytelling to Compete	17
Preserving Ireland's Social License in Beef Farming: A Case for Active Maintenance	18
Protecting Irelands social license.....	19
Case study: A survey on Irelands Agricultural social license	19
Declining European Beef Production: Case study in France	21
Integration of Dairy and Beef Production. Case study around Ireland.....	24
The Impact of Subsidies on Beef Farming	27
The Struggles of Unsubsidised South American Producers	27
Subsidies in the U.S.: Balancing Production and Sustainability	28
Ireland: A Model of Subsidised Sustainable Farming	28
Conclusion: The Critical Role of Subsidies in the Beef Industry	28
Consumer Demand vs. Price Sensitivity in Sustainable Beef Markets	30
Consumer Preferences vs. Purchasing Behaviour	30
Field Observations Across Multiple Markets	31
Implications for the Beef Industry	31
Conclusion.....	31
Research project conclusion.....	32
Recommendations:.....	34

Beef Finishing Bonus:	34
Consumer Engagement:	31
Strategic Engagement with Dairy Farmers to Improve Dairy-Beef Integration.....	32
Sustainable Production Leadership and Innovation.....	33
References	38

Key Findings:

1. **Scale is important:** Scale remains a decisive factor in global trade, with countries like Brazil leveraging their size to dominate markets. Ireland must amplify its voice to remain competitive.
2. **Strategic Advantages:** Ireland benefits from its position in the European union, enjoying access to free trade agreements and a prosperous consumer base, advantages envied by producers in the Southern Hemisphere.
3. **Big producers getting better at storytelling** - The big producers and big players are beginning to improve and get better at storytelling, creating a brand and improving their image. The US is slow to change its methods, but Brazil, Uruguay and Argentina are upping the game when it comes to creating a greener more sustainable image.
4. **Preserving Ireland's Social License:** Unlike other European nations, Ireland has maintained a strong connection between its farmers and society, but this must be actively preserved.
5. **Declining European Beef Production:** With major players like France and Germany reducing production, Ireland has an opportunity to fill the gap in the EU market.
6. **Integration of Dairy and Beef Production:** Over 67% of Irish beef originates from the dairy sector, highlighting the need for dairy farmers to adopt better practices for producing high-quality beef.
7. **Impact of Subsidies:** Government subsidies are pivotal to maintaining high standards in animal welfare and production, as evidenced by the struggles of unsubsidised South American producers.
8. **Consumer Demand vs. Price Sensitivity:** Although consumers demand sustainable beef, they are often unwilling to pay prices that reflect the cost of production.

Objectives:

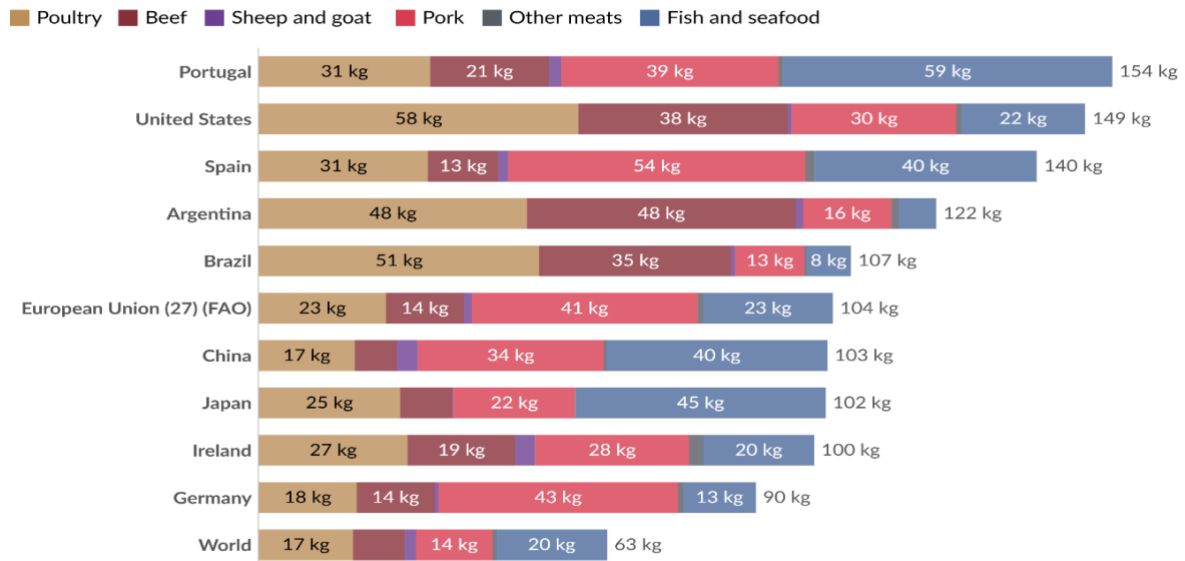
1. **Investigate the global landscape of beef production:**
Who are the big players, what does beef production look like in the southern hemisphere. Where is beef production heading in the next 20 years.
2. **Understanding consumer behaviour**
Analyse consumers demand for sustainable beef and their willingness to pay, examine effective strategies for engaging with consumers on sustainable beef and increasing consumer demand.
3. **Evaluate Irelands position**
Where does Ireland stand as a sustainable beef producer, are we at risk of losing our beef social license? How do Irish producers remain relevant and financially viable?
4. **Examine opportunities for Ireland within the EU**
The Mercosur trade deal signals the start of South American beef imports into the EU. How does Ireland capitalise on the reduced beef production levels across the EU and compete with Mercosur.

Introduction

The European union is major player in global beef production, currently sitting as the third largest producer in the world (Jean-François Hocquette et al., 2018). With just over 100,000 farms with beef animals in Ireland, the country plays a very big role in maintaining this standing and is proud of its sustainable beef production practises (Central Statistics Office, 2024). Ireland's beef industry is a vital contributor to the rural economy, fostering development while enriching the nation's social and cultural fabric. Beef operations in Ireland are diverse and vary from extensive rough grazing in parts of the west to more intensive practises with rotational grazing pastures and indoor finishing in the south and east. Breeds of beef cattle have shifted from being primarily continental beef breeds to dairy beef animals coming from the dairy industry (Brock *et al.*, 2022). Humans around the world have been eating beef since the beginning of mankind. Today the EU consumes over 4.3 million tonnes of carcass per year (EU Beef Report, 2024), on a per capita basis in the EU that is 14 kg consumed annually, in Ireland consumption is higher at 19 kg annually (Food and Agriculture Organisation of the United Nations, 2021). The EU produces 6.8 million tonnes of beef annually, but this is expected to fall in the coming years (Spencer, 2025). Figure 1 shows that Irish and EU per capita beef consumption significantly lags that of major consumers such as the US, Argentina, and Brazil. *Figure 1. Beef consumption per capita (Food and Agriculture Organisation, 2021).* Why is one of the wealthiest continents in the world not consuming one of its greatest products?

Per capita meat consumption by type, 2021

Our World
in Data



Data source: Food and Agriculture Organization of the United Nations (2023)

OurWorldinData.org/meat-production | CC BY

Note: Data refers to meat 'available for consumption'. Actual consumption may be lower after correction for food wastage.

Figure 1 Graph illustrating meat consumption on a per capita basis (Food and Agriculture Organisation of the United Nations, 2021).

Beef supply and demand operate on a global market. Within Europe, Ireland plays a relatively large role in beef production, but globally it is a much smaller player. Larger producers like Brazil, Argentina, the USA, and Australia often determine global supply and, subsequently, price. Currently, within the EU, Ireland does not have to compete with these major global players. However, this may be about to change. Globalisation can be defined as the increasing integration of economies, governance, societies, and cultures on a global scale, driven by interconnected markets, technological dissemination, and transnational influences. It reshapes political, economic, and social structures, with debates on whether it fosters growth and opportunity or leads to instability and loss of national sovereignty (Dreher, Gaston and Martens, 2008). The Mercosur trade deal has to undergo ratification and approval by the EU, and this may take place in early 2026. It will undoubtedly make a significant impact on the Irish beef sector. This is an example of globalisation at its finest. The Irish beef sector faces many challenges, climate change, low farm incomes, reduced beef demand and now the increasing trend of globalisation around the world. This is undoubtedly the biggest challenge to date. How can the Irish beef industry remain competitive in an era of open markets and consumers demanding sustainability, yet mostly unwilling to pay more for it? One study found that consumers want sustainably produced fish, but 47% of them surveyed in eight European countries were not willing to pay extra for it (Zander and Feucht, 2018). A similar study in the US state of Georgia found that 66% of

consumers said they would buy environmentally friendly beef at a slight premium, but only 53% would do so when asked about specific price increases (Wong, 2009).

The sustainability and competitiveness of Irish beef depend on consumer demand for high-quality, traceable beef produced to the highest standards. Ireland cannot compete with the large-scale South American producers on price, scale, or supply. What sets Irish beef apart is its unique story, which must be preserved and further developed to ensure its future viability. Ireland's future beef strategy must ensure the survival of small-scale producers, to maintain the industry's resilience. For example, less than 10% of Irish beef farms show constant or increasing returns to scale, meaning most farms are already at or beyond optimal size (Finneran, 2013). Only a very small proportion of farms (4%) could increase efficiency by growing larger. In fact, small farms often play a crucial role due to their efficient scale, diverse income sources, and support for rural communities. Rather than increasing farm size to improve efficiency, the report suggests focusing on structural changes and leveraging the strengths of smaller farms to ensure long-term sustainability.

Behind every polished green advertisement crafted by marketing teams stands a farmer in their well-worn boots, tending to their cattle. These individuals, the backbone of our industry are often overlooked, yet they are the ones who must be safeguarded. The narrative of sustainable beef production appears compelling, precisely because it is built on the dedication of thousands of small-scale producers, whose presence fosters strong connections between communities and their farmers. However, as these farms become financially unviable due to their small scale, we risk not only losing farmers but also the invaluable relationship between producers and the people they nourish. The expansion of large-scale, industrialised operations threatens the very foundation of our industry. Preserving small-scale producers is not merely an economic necessity, it is essential to maintaining the social license that underpins sustainable beef production. Their survival must remain a priority. For example, Hennessy *et al.* (2018) note that small-scale suckler beef farmers are crucial to the Irish economy, rural society, and environment, and any negative impacts to this sector will be most acutely felt in rural regions

Brazil's booming beef

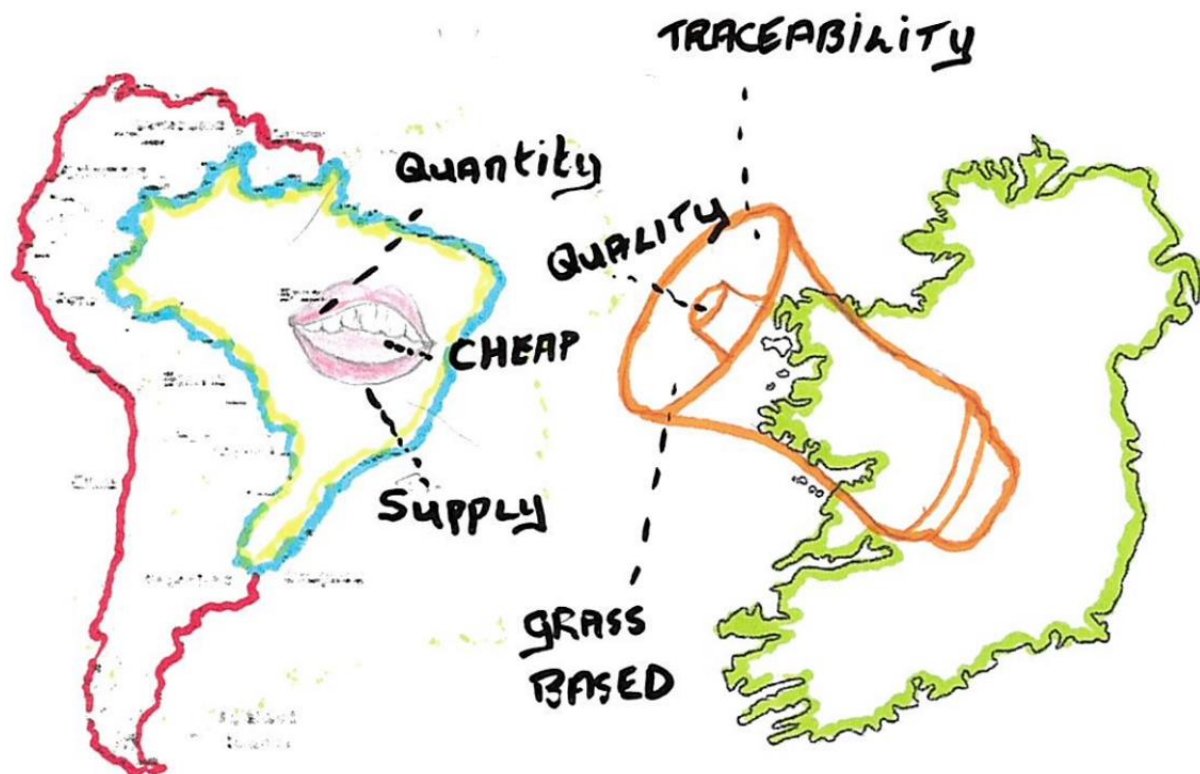


Figure 2 Graphic portraying S.American versus Irish beef characteristics.

Brazil is a major player in the global beef market, boasting a vast cattle herd and strong export revenues. In 2021, the country had approximately 196.47 million cattle, slaughtering 39.14 million and producing 9.71 million tons of beef, with 2.48 million tons exported. Beef exports generated around \$35.7 billion. Cattle are raised across diverse biomes, with 82.81% from grazing systems and 17.19% from feedlots (Nunes et al., 2024). These feedlots are spread across the country, some owned by farmers and more by meat processors like JBS. Production methods vary from low-tech systems with minimal intervention and low productivity to intensive farming that incorporates genetic improvements, forage management, and disease control. The dominant breed is Nellore (*Bos taurus indicus*), making up over 80% of the herd due to its adaptability to tropical conditions, with crossbreeding with European breeds becoming more common. While Brazil remains a top exporter, primarily supplying China, Hong Kong, Chile, and the USA, domestic beef consumption has declined due to rising prices and a shift toward poultry and pork. In 2023, a temporary embargo by China on Brazilian beef was lifted after the two countries agreed on sanitary protocols (Da Costa, Debone and Miraglia, 2025).

Agriculture and agribusiness equate for 25.2% of GDP in Brazil (Williams, 2025). This is evident as you travel across the vast region from Campo Grande to Cuiaba to Alta Floresta in the Amazon region. Large fields and rolling landscapes filled with soybean, maize corn and cotton have

allowed Brazil to become a powerhouse in global agriculture. Beef production is spread across the 6 biomes in Brazil, each biome must adapt its management and particularly its breeding to suit the climate (Maksic *et al.*, 2022). In the North of the region the Nelore and Brahman cattle (*Bos indicus*) fill the feedlots and pastures, these breeds are well suited to dry, hot weather conditions. Further south in places like Rio Grande De Sul, Angus and Hereford are much more popular, as they experience a cooler more temperate climate. Farming in South America, is run differently when compared to Ireland. Farms are run like businesses, most have many employees, they operate on scale and continue to grow to drive up farm profits. Farmers don't have the generational attachment to farms like in Ireland, this is primarily down to the farms being relatively new as many of them were part of the Amazon rainforest a few decades ago. Agriculture in South America is seen as cool, trendy and attractive to young people (Arends-Kuenning *et al.*, 2021). It is becoming quite the opposite in Ireland and Europe, as attracting young people into a declining industry is becoming increasingly challenging (Zagata and Sutherland, 2015). The focus on running beef farms like businesses is something many farmers in Brazil say is the key to their success.

Case Study: The Scale of Beef Production in Brazil

Brazil's beef industry is a global powerhouse, a leader in both production and export. The scale of its operations is unparalleled, positioning the country as the world's largest beef exporter while also catering to a strong domestic demand. With a production volume of 8.91 million tonnes in 2023—a staggering 11.2% increase from 2022—Brazil's dominance in global trade is undeniable. This case study examines the scale of Brazilian beef production, incorporating insights from multiple farm visits across the country and highlighting the importance of scale in maintaining global competitiveness.

Vast Production Capabilities

From the northern Amazon biome to the southern Pampa grasslands, Brazil's beef industry thrives on its vast land area, diverse climates, and ability to produce cattle efficiently. During my farm visits, it became evident that size matters when it comes to beef production. In northern Brazil, expansive farms, some covering thousands of hectares, host large herds of cattle, primarily Nalori and Brahman breeds, which are well-adapted to the humid tropical conditions. In the south, where production more closely mirrors that of Ireland, Hereford and Angus cattle dominate the landscape, grazing rolling pastures.

One farm in Mato Grosso, one of the country's largest beef-producing states, exemplifies Brazil's scale advantage. Spanning over 3,880 hectares, the farm operates with a mix of grass-fed and feedlot-finished cattle. In contrast to the smaller-scale operations seen in Ireland, Brazilian farms benefit from lower land costs and fewer regulatory constraints, enabling them to run massive herds with relatively low input costs.

The average beef cattle farm size in Brazil varies significantly depending on the region. However, according to Maurela Zaroni an EMBRAPA advisor he said generally, In the Amazon and Cerrado biomes, where extensive grazing systems dominate, beef farms can range from 500 to over 10,000 hectares, with some exceeding 50,000 hectares in large-scale operations. In southern Brazil (such as Rio Grande do Sul), where farms are smaller and more intensively managed, average farm sizes tend to be around 100 to 500 hectares.

Feedlot Systems and Processing Efficiency

Brazil's processing and finishing systems further demonstrate the significance of scale. During a visit to a JBS feedlot in Campo Grande, I observed a highly efficient system capable of fattening 30,000 cattle annually. Unlike Ireland, where most beef farms are smaller and more fragmented, Brazilian feedlots operate on a service model, where farmers pay a daily fee to have their cattle finished. This model provides farmers with flexibility while maintaining high throughput, reinforcing Brazil's ability to meet global demand at competitive prices.

The sheer volume of cattle moving through the system is reflected in slaughter rates and processing efficiencies. The average slaughter age has dropped from 48 months in 2019 to 36 months, and for those targeting the Chinese market, cattle must be processed at under 30 months. The ability to meet such export requirements, even without a standardized traceability system, showcases how Brazil leverages its scale to dominate international trade.

Key Takeaway: Scale is Critical in Global Trade

The primary takeaway from my research is clear—scale is a decisive factor in global beef trade. Brazil's ability to produce at such an extensive level ensures its competitive advantage, allowing it to dictate market conditions and pricing structures. Ireland, by contrast, must find ways to amplify its presence in global markets despite operating on a much smaller scale. Whether through enhanced traceability, branding, or sustainability credentials, Ireland must leverage its strengths to remain relevant in an industry increasingly driven by economies of scale.

Brazil's beef industry serves as both an inspiration and a challenge. While its massive production capabilities fuel global supply chains, its environmental and regulatory complexities raise

important questions about sustainability. Nevertheless, the country's dominance is a testament to the power of scale in shaping the future of the beef industry worldwide.

Case Study: Ireland's Strategic Advantage in Beef Farming



Figure 3 Graphic portraying the ease of which Ireland can export freely into the EU.

Ireland's position within the European Union provides a significant strategic advantage for its beef industry, offering access to free trade agreements, a prosperous consumer base, and a regulatory framework that ensures high-quality production. Compared to beef producers in the Southern Hemisphere, Irish farmers enjoy easier market access, stable pricing, and strong consumer demand. This case study examines how these advantages benefit Irish beef producers and why they are envied by competitors in South America and beyond.

Free Trade and Market Access in the European Union

One of the key benefits of Ireland's EU membership is the ability to export beef seamlessly across member states without tariffs or trade barriers. The EU's single market allows Irish beef to reach over 440 million consumers without the bureaucratic hurdles faced by non-EU producers. This unrestricted access provides stability for Irish farmers and helps maintain strong farmgate prices.

During my travels across Europe, I saw the clear advantages of this system. In France, Irish beef is positioned as a premium product, benefiting from strong traceability and high environmental standards. Similarly, in Germany and the Netherlands, supermarkets and restaurants actively promote Irish beef, leveraging its grass-fed reputation to command higher prices. This level of

access and demand is something South American farmers can only aspire to, as their beef exports are subject to strict import restrictions within the EU.

Barriers Facing South American Producers

In contrast, South American beef exporters, particularly from Brazil and Argentina, encounter significant challenges in accessing the European market. While Brazil is the world's largest beef exporter, its beef often faces high tariffs, stringent sanitary regulations, and quotas under the EU-Mercosur trade agreement. These restrictions are imposed due to concerns over traceability, deforestation, and animal welfare standards.

During my visit to Brazil, I spoke with numerous farmers who expressed frustration over these trade barriers. Unlike in Ireland, where Bord Bia's Quality Assurance Scheme ensures rigorous traceability from farm to fork, many Brazilian farmers struggle with fragmented supply chains and a lack of national traceability systems. For example, beef destined for China is often classified based on an animal's teeth count rather than an integrated tracking system, highlighting the disparities in production standards. These gaps make it difficult for Brazilian beef to compete with Irish beef in high-value European markets.

Economic Benefits of the EU Consumer Base

Beyond trade access, Ireland benefits from a consumer base with high purchasing power. European consumers prioritise quality, sustainability, and food safety attributes that Irish beef consistently meets due to strict EU regulations. The EU also provides financial support to farmers through the Common Agricultural Policy (CAP), which helps ensure sustainable production while maintaining profitability.

Conversely, South American farmers operate in a more volatile market environment, often dealing with currency fluctuations, high inflation, and unstable government policies. During my discussions with Brazilian farmers, it became evident that many envy the security that EU membership provides Irish farmers, particularly in terms of price stability and market access.

Conclusion: Ireland's Competitive Edge

Ireland's ability to export freely within the EU, coupled with its strong consumer base and high production standards, gives it a distinct advantage over beef producers in the Southern Hemisphere. While Brazil and Argentina may dominate in volume, their restricted access to European markets limits their ability to compete on quality and price. As global trade policies evolve, Ireland must continue leveraging its EU membership to maintain its position as a leading beef exporter while ensuring its farmers remain competitive on the world stage.

Ireland vs. South America – Beef Export Advantage

 Ireland	 South America
  Free access to EU single market	 Tariffs, quotas, sanitary restrictions
  440M+ EU consumers with high purchasing	 Limited access to high-value markets
  Traceability, sustainability, CAP support	 Fragmented traceability, environmental concerns
  Stable pricing, EU subsidies	 Volatile currency, trade uncertainty

Case Study: The Rise of effective marketing in Global Beef Production

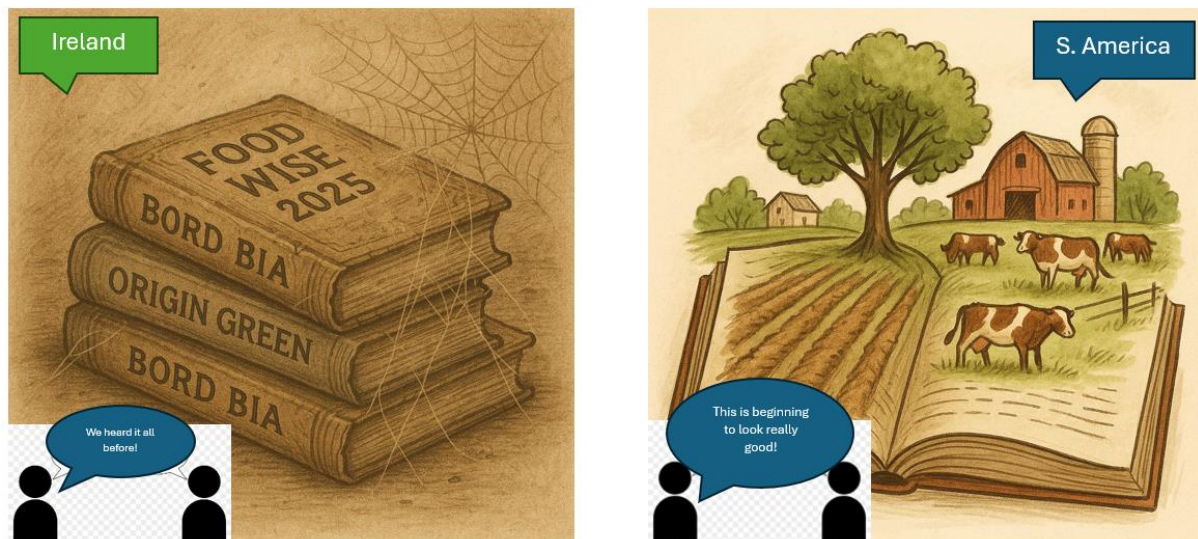


Figure 4 Graphic portraying S.Americans improved marketing abilities versus Ireland's same old story (and selling point).

In the global beef industry, branding and storytelling are becoming increasingly critical. Big players, including Brazil, Uruguay, and Argentina, are moving beyond just producing beef they are

crafting compelling narratives that resonate with consumers. These countries are shifting their image toward sustainability, quality, and ethical farming. Meanwhile, the U.S. has been slower to adapt, often relying on traditional marketing strategies. This case study explores how major beef producing nations are evolving their storytelling strategies and why Ireland must take note to remain competitive.

Brazil's Shift Toward a Sustainable Narrative

Brazil, long criticised for deforestation and environmental concerns, is now making strides in reshaping its image. On my visits to Brazilian beef farms, I observed firsthand the efforts being made to present a greener, more sustainable face to the world. The country's beef producers are increasingly showcasing their pasture-based systems, where 85% of cattle graze on grass rather than being finished in feedlots. Farmers are highlighting their commitment to reducing deforestation, maintaining buffer zones near watercourses, and implementing reforestation projects.

One such farmer, operating in the Amazon region, described his journey from clearing land in the 1970s to now actively working to preserve it. The industry is pushing the narrative that Brazilian beef can be both high quality and sustainable, a powerful message for consumers who are becoming more conscious of their food sources. This storytelling approach is already helping Brazil maintain and expand its market presence, particularly in Asia.

Uruguay and Argentina: Masters of Beef Branding

Uruguay has long been a leader in beef traceability, an advantage it effectively communicates to consumers worldwide. During my research, it became evident that Uruguay's mandatory traceability system is a key marketing tool. Every piece of beef can be traced back to its farm of origin, giving consumers confidence in its quality and ethical sourcing. This commitment to transparency has allowed Uruguay to position itself as a premium beef exporter, commanding higher prices in European and Asian markets.

Similarly, Argentina has capitalised on its world-famous beef reputation. During my travels, I encountered numerous Argentine producers who emphasised their grass-fed beef and traditional gaucho culture. This romanticised narrative of steaks cooked over open flames on the Pampas creates an emotional connection with consumers, making Argentine beef synonymous with quality and tradition. The country has effectively blended its rich culinary heritage with modern sustainability efforts, reinforcing its brand on the global stage.

The U.S.: Lagging in the branding game

In contrast, the U.S. beef industry has been slower to embrace storytelling. While American beef is marketed based on quantity and price, branding around sustainability and ethical production is less developed. Labels such as “Angus Beef” or “No Hormones” do exist, but they often serve more as technical differentiators than compelling consumer narratives. During my time in Nebraska and Texas, it was clear that many U.S. producers still see marketing as secondary to production. However, some innovative ranchers are beginning to tell their stories, particularly around regenerative agriculture and grass-fed beef.

Key Takeaway: Ireland Must Embrace Storytelling to Compete

The lesson for Ireland is clear: as global beef producers improve their branding and storytelling; Ireland must do the same. Ireland is globally renowned for its rich storytelling tradition, and we must harness this strength to effectively promote Irish beef, engaging consumers and enhancing its market appeal. Ireland has a strong foundation with its grass-fed, high-welfare, and traceable beef production. However, simply having these advantages is no longer enough we must communicate them effectively to consumers.

Brazil, Uruguay, and Argentina learning fast about our style of marketing, and they are following suit. Consumers don't just buy beef; they buy the story behind it. Ireland must remain ahead of the game on this and ensure its voice is heard in this evolving landscape, leveraging its sustainability credentials, family farm traditions, and premium quality to carve out a stronger global presence.

Preserving Ireland's Social License in Beef Farming: A Case for Active Maintenance



Figure 5 Graphic portraying succession issues on EU farms, resulting in the loss of our social license.

Unlike several other European nations that have witnessed a deterioration in the relationship between farmers and the general public, Ireland has largely maintained a strong social license for its agriculture sector, including beef farming. This positive standing, however, should not be taken for granted and requires proactive efforts to preserve in the face of evolving societal expectations and environmental concerns.

While countries like the UK, the Netherlands, and New Zealand grapple with issues such as environmental impact, animal welfare criticisms, and climate change backlash, Irish farmers, including beef producers, currently benefit from a relatively positive public perception. This goodwill is partly attributed to the historical connection many Irish citizens still have with agriculture, with a significant portion of the population being only two to four generations removed from the farm gate. The success of initiatives like the National Ploughing Association (NPA) events and popular television shows such as "Big Week on The Farm" further illustrate this connection.

However, the landscape is shifting. Increased public awareness of climate change and environmental issues, coupled with the intensification of agricultural practices, present potential risks to this social license. The expansion of Ireland's primary sector, driven by the end of EU milk quotas and strategies like Food Wise 2025, brings with it environmental, climate, and animal welfare considerations that could strain the public's trust in farmers. Incidents of water pollution, such as the fish kill in the Ballygowan River, serve as stark reminders of how quickly negative perceptions can form.

Drawing on the experiences of other nations, where intensive agriculture has led to environmental damage and animal welfare concerns, it becomes clear that Irish beef farmers must remain vigilant and proactive. For instance, the case of New Zealand's Manawatu River, once deemed highly polluted due to agricultural runoff, demonstrates the potential for environmental issues to severely damage the reputation of farmers. Similarly, the UK dairy industry's "dirty secret" of early bull calf disposal and the contentious badger culling program highlights how animal welfare practices can become major points of public contention.

Protecting Irelands social license

Ireland has the opportunity to learn from these international examples and proactively address potential challenges in beef farming. A Nuffield report by Lorcan Allen, 2017 showcases positive examples within Ireland that demonstrate how agriculture can maintain its social license. The Burren Programme, where farmers work in collaboration with ecologists and government agencies to preserve a unique landscape, illustrates the potential for environmental stewardship to enhance public trust. Similarly, the work being done at Dowth farm in county Meath to measure and manage carbon emissions showcases a forward-thinking approach to addressing climate change within a productive farming system.

These examples, and indeed the work being done on individual farms across Ireland, need to be better communicated to the wider public. It is recommended that initiatives such as teaching the carbon cycle in schools, informing young school children where our food comes from, promoting Agri tourism and developing food and farming trails can help bridge the gap between urban consumers and farmers, fostering a better understanding of modern agriculture and the efforts being made towards sustainability and animal welfare.

Case study: A survey on Irelands Agricultural social license

A survey was carried out among staff at Carlow Institute to explore public perceptions of Ireland's agricultural social license. The results revealed a strong level of trust and respect for farmers, with 91% expressing clear support for the work of farmers and the remaining 9% indicating a neutral stance ("maybe").

A significant factor influencing this positive perception appears to be personal or familial connections to farming. An overwhelming 74% of respondents reported having some form of relationship with a farmer, while only 26% had no such connection.

Interestingly, 65% of participants currently live in rural areas, while 35% reside in towns or cities. This suggests that appreciation and support for farming are not confined to rural communities; urban populations also maintain ties to agriculture, often through family or cultural heritage.

Conclusions:

The findings suggest that Ireland's agricultural sector continues to enjoy a strong social license, particularly due to deep-rooted family connections and cultural familiarity with farming. This widespread trust and respect, even among urban dwellers, indicates a resilient public approval that policymakers and stakeholders should continue to nurture. However, as rural demographics shift and fewer people have direct ties to farms, maintaining this level of trust may require proactive engagement and transparency from the agricultural sector.

Preserving Ireland's social license in beef farming requires a conscious and ongoing effort. This includes embracing sustainable farming practices, maintaining high standards of animal welfare, actively engaging with the public to showcase the positive contributions of beef farmers, and demonstrating a commitment to environmental stewardship and addressing climate change. By proactively addressing these areas, Irish beef farmers can ensure the continued trust and support of Irish society, a valuable asset that sets them apart from their counterparts in many other European nations.

Declining European Beef Production: Case study in France

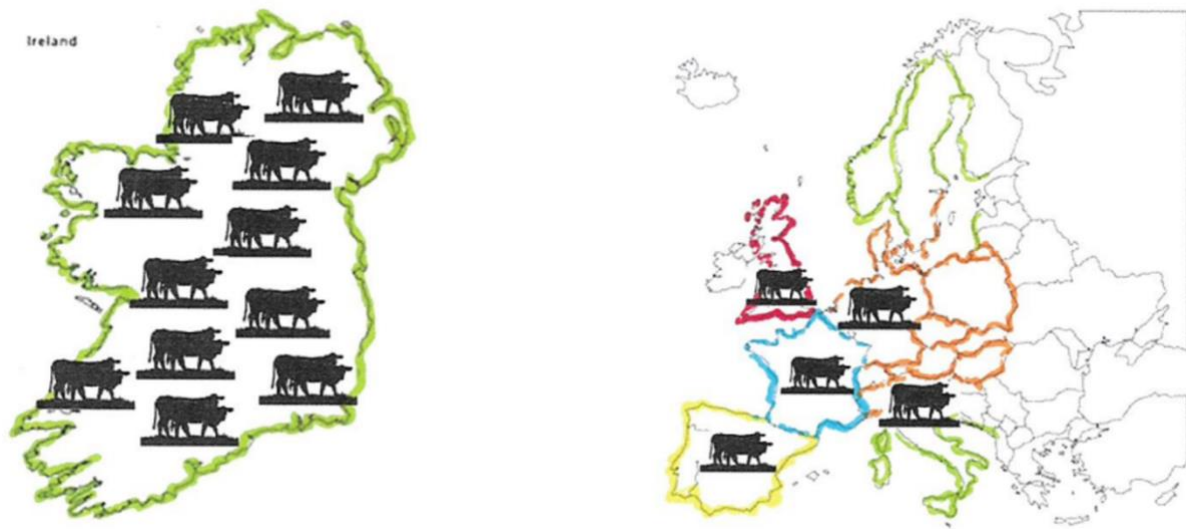


Figure 6 Graphic portraying Irelands large cattle herd versus small and reduced herd numbers in the EU.

France, long renowned for its rich culinary traditions and strong agricultural sector, is facing a significant decline in beef production. Despite being a historical powerhouse in the European meat industry, a combination of economic, social, and environmental factors has placed immense pressure on the sector, leading to a substantial decrease in production and farm viability.

During a recent visit to beef farms in northern France, particularly in Normandy, I witnessed firsthand the struggles of local farmers. One farmer, visibly concerned, described the situation as "serious." His family had been raising cattle for generations, but he was unsure whether the farm would continue beyond his tenure. His son, like many young people in France, showed little interest in continuing the trade, preferring career opportunities in urban areas. This trend reflects a broader vocational crisis in the sector, as the workforce continues to age without sufficient new entrants to replace retiring farmers.

Statistics corroborate these concerns. According to IDDRI's business-as-usual projections, by 2035 France is expected to lose 34% of its farms, 31% of agricultural jobs, and 20% of its slaughtering and cutting facilities, underscoring a severe structural shift in the meat sector (IDDRI, 2024). The beef industry in France has been in decline for decades, with total beef consumption falling by 4.5% by 2035, according to recent projections (IDDRI, 2024). These job losses not only threaten rural communities but also signal a significant structural shift in the industry.

Economic pressures exacerbate the problem. Another farmer I met lamented that the price per kilogram of beef was no longer enough to cover his production costs. This financial strain is not unique to him; in fact, beef farmers in France have struggled with negative financial results for over 15 years. In 2021, the net hourly income for specialised beef farmers was just 0.94 times the French minimum wages. Despite government support amounting to €2.8 billion in 2020 many farmers find it increasingly difficult to make ends meet.

The market dynamics are also shifting against French beef producers. Consumers are moving towards lower cost meats, particularly poultry, which is expected to see a 10% increase in consumption by 2035, while beef continues its decline. Furthermore, the beef industry faces fierce competition from imported meat, particularly from other European countries where production costs are lower. French slaughterhouses have also halved in numbers over the last 40 years due to industry consolidation, which has further weakened small and medium sized producers (IDDRI, 2024).

Beyond economic and demographic concerns, environmental factors are playing a role in the decline of beef farming. Grassland areas, crucial for sustainable cattle farming, are shrinking as fewer ruminants are raised, reducing biodiversity and increasing water pollution. Meanwhile, despite national greenhouse gas emissions falling, imported emissions remain high due to reliance on foreign meat and feed products such as soy.

The future of the French beef industry remains uncertain. Without significant intervention such as stronger financial incentives, vocational training programs, and better price stabilisation mechanisms this decline is likely to continue. The "business-as-usual" scenario outlined in recent reports paints a bleak picture of diminishing supply, economic losses, and weakened rural communities.

Ireland is well positioned to capitalise on the decline in French beef production, leveraging its strong agricultural output, access to the European market, and reputation for high quality beef. As one of Europe's leading beef exporters, Ireland produces significantly more beef than its domestic market requires, with approximately 90% of production destined for export. The European Union's single market ensures seamless trade between Ireland and France, eliminating tariffs and reducing trade barriers. This gives Irish beef producers a competitive advantage as they can easily fill the supply gap left by declining French production. Additionally, Irish beef is highly regarded for its quality, with a strong emphasis on grass fed, sustainable farming practices that align with growing consumer demand for ethically produced meat. With France continuing to rely

on imports to meet domestic beef demand, Ireland has a clear opportunity to increase its market share and reinforce its position as a key beef supplier within Europe.

Integration of Dairy and Beef Production. Case study around Ireland



Figure 7 Graphic portraying a Limousine bull looking for more continental stock and less dairy breeds.

After visiting countless farms, across Ireland. A clear picture has emerged of the intricate relationship between dairy and beef production. It's striking just how much the beef industry is intertwined with the dairy sector. Conversations with farmers, from the lush pastures of Leinster and Munster to the rolling hills of Ulster, and rugged landscape in Connacht consistently underscore the fact that a significant portion of the beef on Irish tables, and indeed destined for export, has its origins in dairy herds.

This deep integration presents both opportunities and challenges. For generations, surplus calves from dairy farms have entered the beef supply chain, often seen as a secondary product. However, with the increasing focus on efficiency and profitability, many dairy farmers are now keenly aware of the potential to enhance the value of these calves. There's a palpable shift in thinking, moving beyond simply managing milk production to strategically considering the beef merit of their animals.

One key area of focus I've observed is the growing interest in breeding decisions. Farmers are increasingly looking at the beef characteristics of sires when choosing who to mate with their dairy cows, particularly those not destined to become replacement dairy heifers. This isn't a uniform approach, however. Some are prioritising ease of calving and shorter gestation lengths,

especially when using beef bulls on their highest performing dairy cows to avoid any impact on milk production. Others, particularly those in lower yielding herds or those strategically aiming for a higher value beef calf, are selecting bulls with superior growth and carcass traits.

The rise of specialised beef on dairy breeding indices is also becoming evident. Farmers are starting to utilise tools that help them rank beef bulls based on their suitability for mating with dairy females, taking into account factors like calving performance and the meat production potential of the resulting offspring. This marks a departure from solely focusing on traits relevant to dairy production. In Ireland, Angus and Hereford sires accounted for a significant majority (53% and 32% respectively) of beef matings to Holstein Friesian females (Berry and Ring, 2020).

I've also noticed a diversification in how these dairy beef animals are managed post weaning. Some farms are equipped to rear these calves themselves, often alongside their dairy youngstock, until they are sold as stores or finished for slaughter. Others are engaging in contract rearing arrangements, where calves are moved to specialised farms for rearing before returning as in calf heifers or being sold for beef production. This allows dairy farms to focus on milk production while still benefiting from the beef potential of their calves.

The economic realities are a significant driver of these changes. The value of a beef sired calf from a dairy cow is generally higher than that of a dairy sired male, providing a direct financial incentive. Research indicates that calves from dairy herds sired by beef breeds, particularly late maturing ones, generally have heavier carcasses than those sired by dairy bulls. Furthermore, carcass conformation in beef × dairy young animals is almost always superior to that of pure dairy animals. In one Irish study, beef × dairy calves had a 3% heavier mean carcass weight compared to their dairy counterparts when beef bulls were selected using a total merit index (Berry, 2021).

Furthermore, with evolving consumer preferences and environmental considerations, there's a growing awareness of the need to produce high quality beef efficiently and sustainably.

However, challenges remain. Ensuring accurate parentage recording for beef sired calves in dairy herds is crucial for effective breeding programs and genetic evaluations, and this is an area that requires further attention. Moreover, the performance and carcass characteristics of beef dairy crosses can vary depending on the breeds involved, and optimising production systems for these animals is an ongoing learning process.

Despite these challenges, the trend is clear. Irish dairy farming is increasingly embracing its role in beef production. By adopting more strategic breeding practices, optimising rearing systems, and utilising available decision support tools, dairy farmers are well positioned to produce higher

quality beef, contributing to both the profitability of their own enterprises and the overall strength of the Irish agri food sector. The journey across Ireland has shown me that this integration is not just a necessity but an evolving opportunity being actively shaped by the dedication and ingenuity of Irish farmers.

The Impact of Subsidies on Beef Farming



Figure 8 Graphic portraying the conditions S.American beef animals often face versus Irelands cattle, experiencing a high level of animal welfare due to CAP subsidy.

Government subsidies play a crucial role in maintaining high standards of animal welfare, environmental sustainability, and economic viability in beef production. Comparing subsidised systems in Ireland and the United States to the largely unsubsidised beef industry in Brazil highlights the pivotal role financial supports play in shaping production methods and sustainability efforts. This case study draws from farm visits and interactions with producers across these regions to examine how subsidies impact beef farming.

The Struggles of Unsubsidised South American Producers

Brazil is the world's largest beef exporter, yet its farmers operate without the financial support systems that many European and North American producers rely on. My travels across Brazil included visits to 20 different farms and discussions with numerous farmers, revealing a stark reality—Brazilian beef producers are left to navigate environmental regulations, fluctuating input costs, and market volatility without government aid.

One striking example was my visit to a farm in the Amazon region. The farmer, who had cleared rainforest land decades ago under government encouragement, now faces stringent environmental restrictions without any financial assistance to offset the costs of compliance. Unlike in Ireland or the U.S., where subsidies help farmers invest in sustainable practices such as afforestation or watercourse protection, Brazilian farmers must bear these costs alone. Despite producing high quality beef with largely grass fed systems, they struggle to compete with subsidised competitors in the global market.

Subsidies in the U.S.: Balancing Production and Sustainability

In contrast, U.S. beef farmers receive substantial government support. My visit to Nebraska highlighted the benefits of these subsidies, where ranchers can access payments for implementing grazing rotation plans, planting trees, and monitoring herd conditions. According to one Nebraska rancher, he receives around \$40,000 annually in various subsidies, which enables him to adopt more sustainable farming practices without compromising profitability.

Additionally, U.S. cattle farmers benefit from indirect support mechanisms, such as subsidised feed crops. The government provides financial assistance to maize and soy producers, which in turn lowers feed costs for cattle farmers. This level of support allows American beef producers to maintain high levels of production efficiency and environmental compliance while still turning a profit.

Ireland: A Model of Subsidised Sustainable Farming

Ireland's beef industry is highly reliant on subsidies, with government supports making up approximately 44% of farm incomes. The Common Agricultural Policy (CAP) provides direct payments to farmers, ensuring high welfare standards, environmental protections, and traceability. Unlike the U.S., where marketing plays a significant role in establishing quality perception, Ireland's beef industry benefits from Bord Bia's Quality Assurance Scheme, which guarantees stringent production standards.

During my visits to Irish farms, I saw firsthand how these subsidies enable farmers to maintain environmentally sustainable systems. Payments for maintaining hedgerows, soil health programs, and biodiversity initiatives contribute to Ireland's reputation as a producer of high quality, grass fed beef. Without these supports, many Irish farms would struggle to remain viable in a competitive global market.

Conclusion: The Critical Role of Subsidies in the Beef Industry

The differences between these regions underscore a key finding: government subsidies are essential for maintaining high standards in animal welfare, environmental protection, and economic sustainability. While Brazil's beef industry thrives on scale, its farmers face immense challenges due to the lack of financial support. In contrast, the U.S. and Ireland leverage government assistance to enhance both productivity and sustainability.

For Ireland to remain competitive, continued investment in sustainable beef farming through subsidies is essential. As global trade pressures mount, the ability to support farmers financially

will determine the future of beef production and ensure that high standards of welfare and environmental management remain at the forefront of the industry.

Consumer Demand vs. Price Sensitivity in Sustainable Beef Markets



Figure 9 Graphic portraying a consumer weighing up if sustainable quality beef is worth the extra price.

Sustainability in beef production has become a key topic in the food industry, with consumers frequently expressing a strong preference for environmentally responsible and ethically sourced meat. However, despite this apparent demand, research and field observations indicate a substantial gap between consumer sentiment and actual purchasing behaviour. This case study explores this disconnect based on research data and firsthand insights from consumer interactions, supermarket owners, and industry experts like Jason Weller, the Global Sustainability Lead for JBS Foods in the U.S.

Consumer Preferences vs. Purchasing Behaviour

Two key research studies provide a foundation for analysing the issue of consumer price sensitivity in sustainable beef markets. A study published in *Applied Economic Perspectives and Policy 2024* conducted an experimental auction to measure consumer willingness to pay for sustainable meat products. The findings indicated that while consumers recognise the environmental and health benefits of sustainable beef, their demand remains inelastic when it comes to paying premium prices. Even when provided with informational interventions, purchasing behaviours remained largely unchanged, indicating that awareness alone is not enough to drive a market shift toward sustainability.

Another study analysing Thai consumers' willingness to pay for certified and safe beef found that, on average, consumers were willing to pay only a 12% premium over conventional market prices. This percentage, while indicative of some level of commitment to sustainability, often does not cover the additional costs associated with sustainable beef production. These findings reinforce

the notion that despite vocal support for sustainability, price remains the primary deciding factor at the point of purchase (Wongprawmas & Canavari, 2017).

Field Observations Across Multiple Markets

My personal research across eight countries—the USA, UK, France, Ireland, Brazil, Chile, Argentina, and Uruguay—echoes the conclusions drawn from these academic studies. During visits with consumers and supermarket owners, a recurring theme emerged: consumers consistently claim to value sustainability and express a willingness to pay more for sustainably produced beef. However, when faced with actual purchasing decisions at supermarket shelves, they overwhelmingly choose the more affordable alternative.

Supermarket owners confirmed this trend, noting that while sustainably labelled beef generates interest, it often fails to translate into sales. In many cases, retailers reported having to discount sustainable beef to move inventory, undermining its economic viability. Conversations with Jason Weller from JBS Foods further underscored the challenge; he pointed out that while consumer surveys frequently indicate an appetite for sustainability, real world purchasing decisions are driven largely by price.

Implications for the Beef Industry

The findings suggest that the sustainable beef industry faces a critical challenge: bridging the gap between consumer intent and action. Strategies that merely inform consumers about sustainability may not be enough; price incentives, subsidies, or government interventions might be required to make sustainable beef a more attractive option. Retailers and producers may need to explore innovative marketing strategies, such as loyalty programs or bundled discounts, to encourage more consistent purchases of sustainable options.

Conclusion

This case study confirms that while consumers globally express strong support for sustainable beef, their purchasing behaviour tells a different story. The studies analysed, coupled with direct field observations, reveal a clear trend: sustainability preferences often take a back seat to cost considerations when consumers make their final purchasing decisions. To drive meaningful change, stakeholders in the beef industry must find ways to align pricing structures with sustainability goals without solely relying on consumer willingness to pay higher premiums.

Conclusion

The sustainability and competitiveness of Irish beef in a globalised marketplace hinge not on replicating the scale of South American giants, but on reinforcing what sets Irish beef apart—its traceability, its quality, its story, and most importantly, its people. This report has examined the global landscape of beef production, and in doing so, has illuminated both the challenges Ireland faces and the unique opportunities it possesses.

Ireland's beef industry is intricately woven into the fabric of its rural society, operating not simply as an economic engine, but as a cultural and environmental cornerstone. Unlike the feedlot driven models of Brazil or the hyper industrialised operations in the United States, Ireland has maintained a predominately pasture based system rooted in family farms. These farms foster biodiversity, steward the land, and sustain rural economies—elements that are increasingly valued in a food system under scrutiny from environmentally conscious consumers.

However, the forces of globalisation are relentless. Countries like Brazil, Argentina, and Uruguay, once dismissed for unsustainable practices, are evolving. They are adopting improved traceability systems, refining their branding, and actively reshaping their sustainability narratives. In this shifting landscape, Ireland cannot afford to rest on its laurels. The Mercosur trade deal and other liberalised trade agreements foreshadow an influx of cheaper beef into European markets, posing a direct threat to Irish producers who cannot compete on price or volume.

But herein lies Ireland's competitive edge: a well-earned reputation for quality, safety, and sustainability. Irish beef is not the cheapest, nor the most abundant, but it is among the most trusted. Capitalising on this reputation requires more than passive branding. It demands a dynamic and cohesive narrative that reconnects consumers with the provenance of their food and the values embedded in its production. This includes promoting the family farm model, highlighting pasture-based systems, and transparently communicating environmental progress.

To sustain this competitive edge, Irish producers must embrace innovation in both practice and perception. Key to this is the integration of the dairy and beef sectors, a relationship that, while long standing, requires urgent recalibration. With over two thirds of Irish beef now coming from dairy herds, the quality of these animals must be addressed through improved genetics, better calf rearing, and targeted breeding strategies. The sector's future viability hinges on shifting from a system of surplus calves to one of intentional, high value beef production.

Equally critical is the preservation of Ireland's social license to farm. As climate change, water quality, and animal welfare rise to the forefront of public discourse, farmers must engage with

society transparently and proactively. The goodwill that currently supports Irish agriculture is not immutable. It must be nurtured through continued education, Agri-tourism, school engagement, and meaningful environmental stewardship. Programs like the Burren Project and carbon accounting initiatives in Dowth provide blueprints for how farming and environmentalism can coexist—these stories must be amplified.

In parallel, policymakers must recognise that sustainability without profitability is unsustainable in itself. Small-scale farmers who underpin Ireland's rural communities and environmental landscape cannot be expected to shoulder the burden of climate targets without adequate financial support. A beef finishing bonus, as recommended, would not only reduce the carbon footprint associated with long haul transport and feedlot systems but would also provide rural producers with a viable livelihood. Structural supports such as these are essential if Ireland is to retain its mosaic of diverse, environmentally sensitive farms.

At the consumer end, the biggest paradox remains unresolved: the majority demand sustainable beef, but most are unwilling to pay for it. This disconnect has profound implications for the viability of sustainable farming systems. The solution lies in more than just awareness it lies in engagement. Irish beef marketing must evolve from simply stating facts to telling stories. It must invite consumers to value not just what beef is, but how it is produced and by whom. Whether through interactive packaging, digital storytelling, or immersive on farm experiences, Ireland must reforge the emotional link between food and place.

In conclusion, Ireland stands at a crossroads. On one side lies the temptation to emulate high volume, low-margin models of beef production. On the other is a path defined by values sustainability, quality, heritage, and community. This research makes clear that Ireland's greatest strength lies not in competing with Brazil on hectares or head of cattle, but in competing with authenticity, transparency, and a commitment to excellence. With the right strategies investment in small farms, integrated beef-dairy systems, innovative consumer engagement, and strong policy supports Ireland can chart a bold, sustainable course for its beef sector. A course that not only withstands the pressures of globalisation but thrives within them.

Recommendations:

Beef Finishing Bonus:

The long-term viability of Ireland's beef sector depends on supporting small and medium-scale producers who form the foundation of rural communities and uphold Ireland's pasture-based agricultural identity. At present, an estimated 21% of national beef output originates from feedlots, a model that centralises production, weakens local farm incomes, and has been shown internationally (e.g., in New Zealand and the United States) to erode public confidence in agriculture (Galloway, 2018). To safeguard both economic resilience and social license to farm, it is necessary to redirect value back to primary producers through targeted supports.

A proposed policy intervention is the introduction of a Beef Finishing Bonus. This scheme would provide a €100/head payment to farmers finishing fewer than 50 cattle annually, contingent on compliance with strict feeding requirements. Specifically, finishing rations must be composed of 100% Irish-grown grains, with no imported feed ingredients permitted. This dual condition ensures that the measure supports two interconnected priorities: (i) increasing on-farm profitability for small-scale beef producers, thereby reducing reliance on feedlots, and (ii) strengthening the tillage sector by creating a secure domestic market and enhancing the value of Irish grain.

Practical Implementation

The scheme could be administered through existing structures within the Department of Agriculture, Food and the Marine (DAFM), using the following mechanisms:

1. **Eligibility Verification** – Applicants would declare eligible cattle numbers through their annual BISS application, with cross-checks against AIM (Animal Identification and Movement) data to confirm slaughter volumes below the 50-head threshold.
2. **Feed Compliance** – Farmers would be required to submit invoices or feed declarations demonstrating that all finishing concentrates purchased were sourced from certified Irish grain suppliers. Spot inspections and random audits could be conducted to ensure compliance.
3. **Payment Delivery** – Once eligibility and feed compliance are verified, payments would be processed through existing DAFM direct payment systems to minimise administrative overhead.

4. Annual Review – The scheme should include an annual review of uptake, costs, and impacts on both the beef and tillage sectors, allowing for adjustments in payment levels or eligibility criteria.

By embedding the payment within existing administrative frameworks and linking it explicitly to Irish grain use, the Beef Finishing Bonus offers a practical, enforceable, and targeted means of enhancing farm-level resilience while promoting greater integration between the beef and tillage sectors. In doing so, it addresses economic, environmental, and social objectives simultaneously, and reinforces Ireland's position as a producer of sustainable, community-based beef.

Reconnecting Consumers with Irish Beef: Educating for a Sustainable Food Future

Develop a refreshed communication strategy to reconnect with consumers and encourage them to prioritise Irish beef. Inform and engage with consumers on sustainable food production.

The consumer plays a pivotal role in shaping the future of sustainable beef production. Their preferences ultimately influence the type of products farmers produce and, consequently, the prices farmers receive. In an era dominated by convenience foods and ready-made meals, particularly across developed nations, there is a growing detachment from the origin and quality of food especially meat. This disconnect makes it all the more important for organisations like Bord Bia, which promote Irish food and drink, to actively engage with consumers and highlight the exceptional standards underpinning Irish beef production.

However, it is no longer enough to simply market quality. We must go further specifically by targeting the next generation of consumers. Children and adolescents often play a surprisingly influential role in household food choices, shaping what goes into the shopping trolley and ultimately onto the dinner plate. Engaging with this demographic offers a unique opportunity to instil an early appreciation for quality, sustainability, and the farm-to-fork journey.

To that end, I recommend a national rollout of “Farm to Fork” workshops across all primary schools. These interactive programs would educate students on where their food comes from, what distinguishes Irish beef production, and why it matters. Through direct engagement with farming practices, children can gain a clearer understanding of the values embedded in our food system values like animal welfare, environmental stewardship, and community resilience. By fostering this connection early on, we can build a generation of informed, conscientious

consumers who value quality food and understand the importance of supporting sustainable Irish agriculture.

Future-Proofing Irish Dairy-Beef: From Calf to Carcass

To reduce reliance on live exports and improve the quality and marketability of dairy-origin beef calves, Ireland must enhance its engagement with dairy farmers by equipping them with the knowledge, tools, and incentives necessary to produce high-quality beef animals.

Recent years have seen commendable progress in this area, supported by Teagasc-led advisory services, targeted Department of Agriculture, Food and the Marine (DAFM) schemes, and the development of genetic evaluation tools such as the Commercial Beef Value (CBV) index. The CBV offers a standardized method for assessing dairy-beef calves based on their predicted beef performance, making it a cornerstone of future herd improvement strategies. Continued adoption and refinement of such tools are essential to enhance genetic merit and the commercial value of calves originating from the dairy sector.

However, the system must now prepare for structural change, particularly in light of mounting pressure on the live export trade, which currently acts as a vital outlet for surplus calves. Should this outlet diminish or cease altogether, the domestic beef sector will need to absorb significantly more dairy-origin animals. This shift requires a robust, scalable, and sustainable approach that includes:

- Mandatory genotyping of all calves at birth, across both dairy and suckler sectors, to provide full traceability and support selective breeding.
- Expanded use of sexed semen and 5-star terminal sires, incentivised through targeted DAFM subsidies, to optimise calf quality outcomes.
- Increased accountability from milk processors, including co-ops such as Tirlán, Dairygold, Kerry Group, and Ornua, who must co-invest in improving the quality of the dairy beef by-product, recognizing its impact on the reputation and sustainability of Irish dairy exports.

Novel Recommendation Dairy-Beef Quality Assurance Label (DBQA): To further enhance market appeal and consumer confidence, Ireland could introduce a dedicated Dairy-Beef Quality Assurance (DBQA) label, modelled on existing quality schemes but

tailored specifically to calves bred through this integrated system. This would certify animals that meet high welfare, genetic, and environmental criteria from birth to slaughter, distinguishing premium Irish dairy-beef from undifferentiated imports and positioning it as a sustainable and traceable alternative to South American beef. The label could be supported by blockchain-based certification, offering buyers full visibility of the calf's origin, breeding, and environmental credentials.

Seizing the EU Beef Gap: Ireland's Sustainable Path to Market Leadership

Leverage the decline in European beef production to position Ireland as a leader in sustainable and efficient beef production within the EU.

Ireland should strategically position itself as a leading producer of sustainable and efficient beef within the European Union, capitalising on the forecasted decline in EU beef production. Projections by Interbev, the French agricultural advisory and research organisation, indicate a 30% decrease in French cattle production between 2023 and 2035. This will reduce France's self-sufficiency in beef from 90% to just 67%, creating a significant supply gap in one of Europe's largest beef markets. Ireland is well-placed to respond to this emerging demand by increasing its output of high-quality, finished beef. This opportunity will require proactive engagement by Bord Bia in market development and lobbying efforts, alongside sustained investment in maintaining price competitiveness while reinforcing Ireland's reputation for premium, sustainably produced beef.

To further strengthen its competitive edge particularly against lower-cost South American imports Ireland should also pioneer the use of smart carbon labelling and blockchain-based provenance tracking. By embedding QR codes on packaging that allow consumers and retailers to trace beef back to the individual farm, complete with verified sustainability data (e.g., carbon footprint, pasture-fed systems, animal welfare standards), Irish beef can deliver unmatched transparency and authenticity. This tech-enabled storytelling turns traceability and environmental responsibility into tangible selling points, appealing to increasingly climate-conscious European markets and positioning Ireland as the most transparent and ethically driven beef producer in the EU.

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