



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

National Strategy for **Horticulture** **2023-2027**

Draft for consultation

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About this strategy

FoodVision 2030 called for a new National Strategy for Horticulture to leverage its potential for growth and contribution to climate change mitigation. Building on the independent report commissioned by Minister Hackett and produced by KPMG on *Opportunities for the Irish horticulture Sector*, and KPMG's subsequent *Prioritisation analysis*, this strategy addresses the cross-cutting factors faced by the horticulture industry in order to grow a more profitable, value-added sector, driven by sustainability and innovation. The strategy's approach is driven by the belief that the source of increased sustainable output can only be market-led and as a result of increased collaboration, with growers and related businesses, ably supported and assisted by government and state agencies. This new national horticulture strategy is closely aligned with the over-arching agri-food industry strategy - Food Vision 2030.

The collective vision:

"To grow a more profitable value-added sector driven by sustainability and innovation."

Three distinct areas of sustainability underpin that vision: environmental, economic and social. Horticulture can have a positive environmental impact by expanding environmentally sound practices and adapting developing technologies. Economic viability is crucial due to tight profit margins and increasing input costs – for the horticulture industry to be enduring, it must be financially viable. Finally, the sector's social benefits include employing workers in local communities, producing healthy food, and positively impacting wellbeing through the positive mental and health benefits of gardening.

Eight cross-cutting Key Strategic Actions will drive change and growth across all the horticulture industry's sub sectors and lead to that environmental, economic and social sustainability. These eight Actions have been distilled from the 80 plus actions KPMG initially identified in their report *Opportunities for the Irish Horticulture Sector*.

This distillation, and subsequent ranking in order of effectiveness and cost, is a result of extensive public and stakeholder consultation (July-December 2022) and a multi criteria analysis by KPMG.

The development of the National Strategy



These eight Key Strategic Actions contain steps that sector stakeholders can take together, to stabilise the industry where needed, and develop new synergies, diversifications and opportunities where identified.

8 Key Strategic Actions

1. Strengthen the position of the grower in the marketplace
2. Develop a written charter between growers, consolidators and retailers and increase consumer understanding of sector
3. Establish the framework for a permanent non-EEA seasonal workers' scheme
4. Modernise the horticulture curriculum and training to attract new entrants
5. Research and Development for the industry
6. Better data and information for better insights
7. Integrate Horticulture back into AKIS
8. Support innovation and diversification

For each action the key players, timelines and outcomes required have been identified. By addressing the key cross cutting factors the entire industry faces, these actions will also grow each sub-sector of the industry. Where sub sector priorities are not explicitly addressed in the Key Strategic Actions, commodity groups will lead on the implementation of the sub sector actions (see Appendix).

The strategy addresses the need for collaboration, policy changes and emphasizes the importance of innovation, research, and development in the sustainable long-term growth of the sector. Sustainable and circular bioeconomy approaches are essential to the strategy's success, with a focus on credible evidence that food and food ingredients are produced in a sustainable way. The strategy further explains how existing levers and tools should be realigned and points to new resources required to fulfil the industry and each sub-sector's potential.

KPMG's *Opportunities for the Irish Horticulture Sector* report laid out three possible scenarios for the industry: a sustainable future, status quo and a declining industry. If all the actions are carried out the future for horticulture in Ireland is positive with anticipated growth of 6% to €800m annual farmgate value by 2030.

To ensure the strategy remains on track to deliver the industry's shared vision, there will be a mid-term review in 2025. To hold all stakeholders accountable, each year the Department of Agriculture, Food and the Marine will collate and publish progress on each Key Strategic Action, report back to the Horticulture Industry Forum and other industry stakeholders.

Horticulture in Ireland

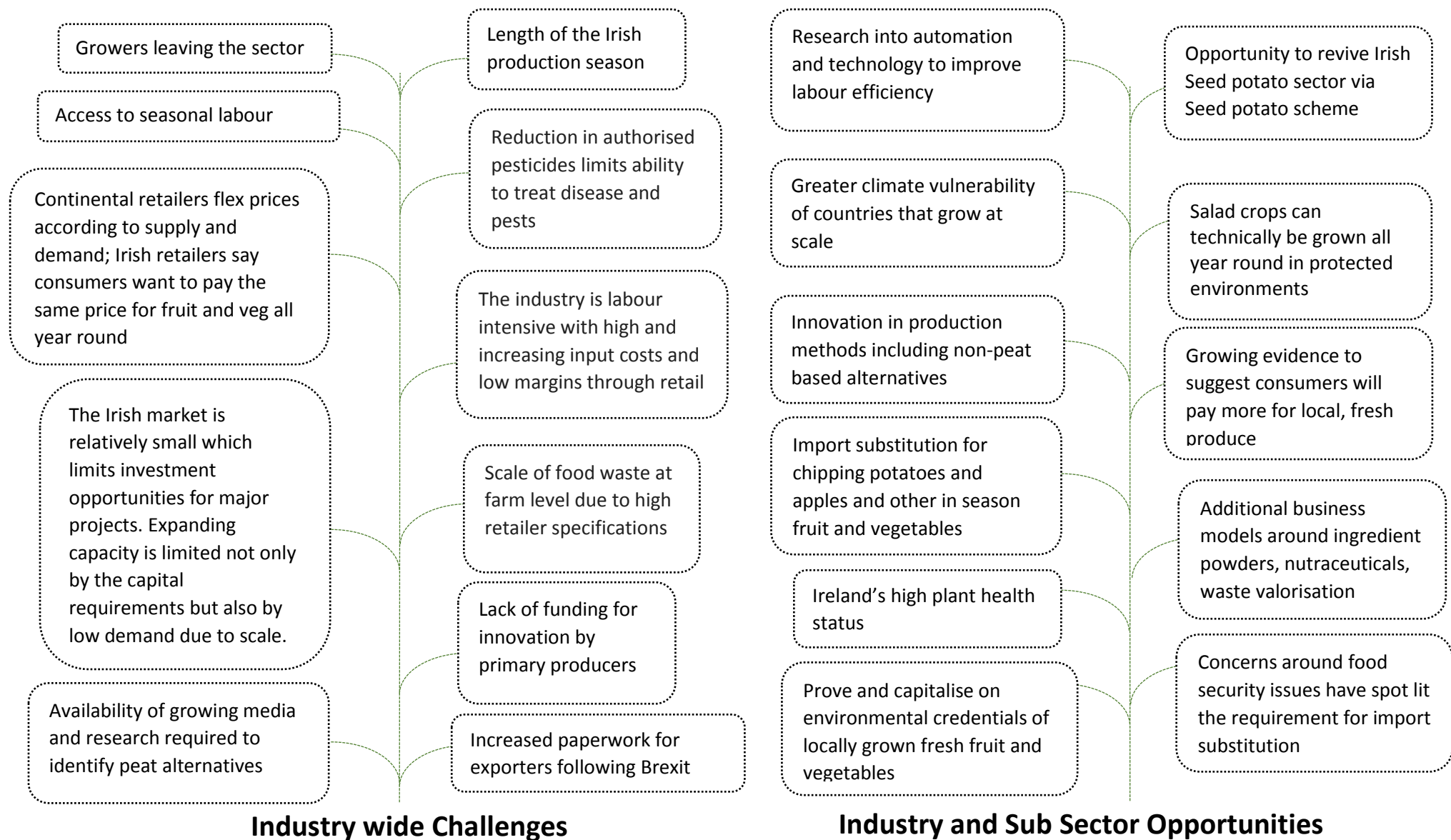
The horticulture industry is diverse and covers plant and food horticulture. Horticulture food includes mushrooms, potatoes, field vegetables, soft fruit, protected crops and outdoor fruit. Amenity horticulture includes nursery stock, protected crops, cut foliage, and outdoor flowers and bulbs.

While covering less than two percent of agricultural land, the Irish horticulture sector accounts for approximately eleven percent of total agri-food jobs (direct and downstream) and therefore it is a vital component of rural economies. This sector is responsible for providing employment directly to more than seven thousand people involved in primary production and a further eleven thousand involved downstream.

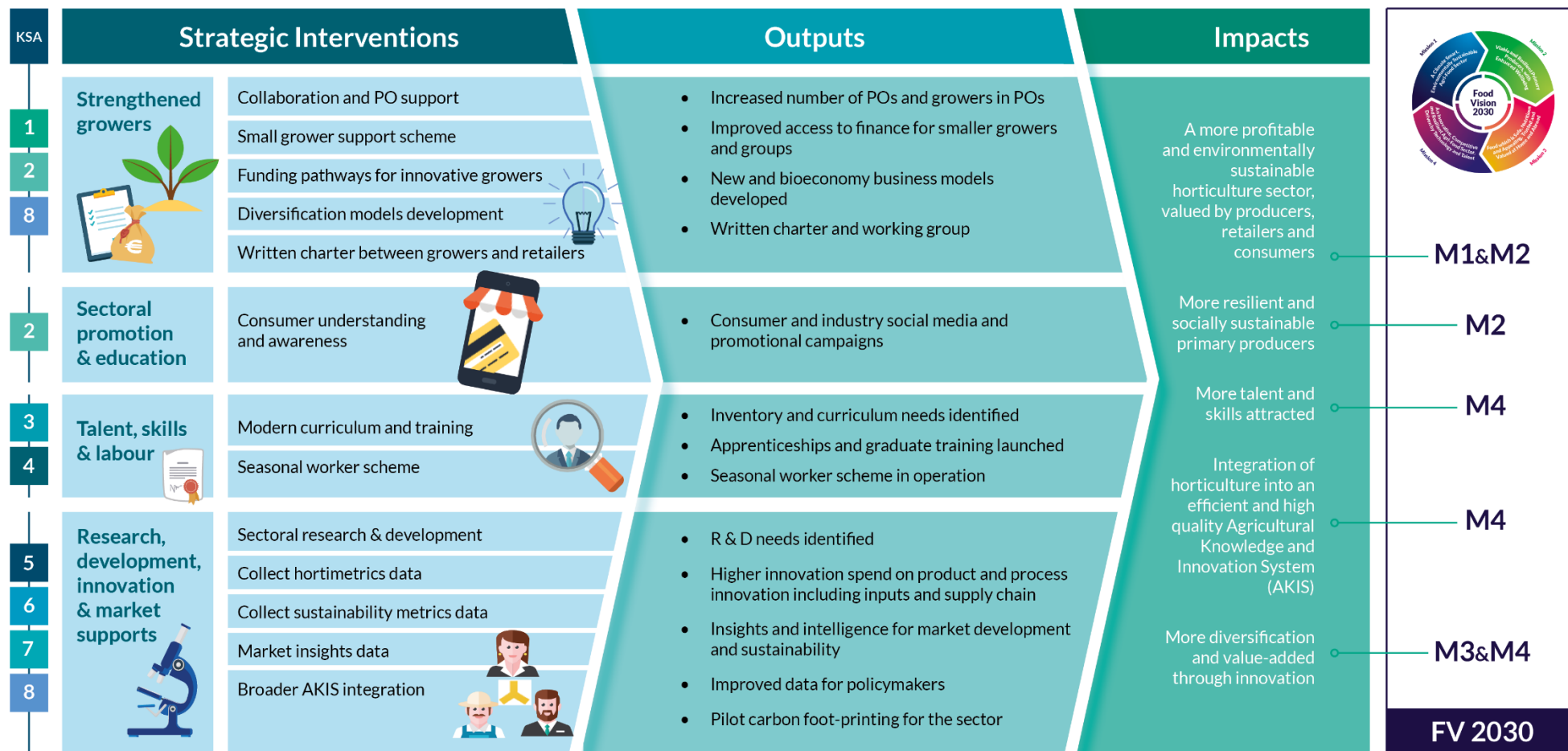
The horticulture industry makes a valuable contribution to the Irish economy: in 2022 the total estimated value of the sector was €521 million with €423 million for edible horticulture and €98 million for amenity and other non-edible products. Mushrooms and potatoes account for forty-four percent of the total farmgate value. Although the number of growers in these areas has reduced over the last twenty years, the level of production has remained somewhat constant. For edible horticulture most of what is produced in Ireland is consumed domestically, apart from mushrooms where approximately eight-five percent are exported to the United Kingdom. Amenity growers in Ireland service both the domestic and export market. The fresh produce retail market was valued at approximately €1.63 billion in 2022, where fruit accounted for €810 million, vegetables €593 million and potatoes €231 million.

Given Ireland's geographical position on the periphery of Europe, only high volume, high value or unique Irish grown produce is suitable for export. Imports will always be an important part of supply due to our relatively short growing season and consumer desire for a large variety of out of season produce but there are some real opportunities for import substitution which should be pursued.

Horticulture is considered a low environmental impact method of production, and recent developments and advancements have helped facilitate a further reduction. There has been a widespread adoption of Integrated Pest Management practices, innovative technology to reduce energy use and adoption of precision farming methods. Horticulture is a labour-intensive industry with high input costs. The industry's particularly low margins make re-investment to meet further sustainability demands difficult to achieve.



Visualisation of Strategy



Levers: Promotion | Statutory Levy | Investment Aid | Commodity Groups | Producer Organisations | Working Groups

Key Strategic Action 1 Strengthen the position of the grower in the marketplace

Key Strategic Action 1.1 Strengthen the position of the grower in the marketplace through collaboration		Cross cutting factors covered: Collaboration, Price, Margin
Maximise collaboration among growers, especially through the Producer Organisation scheme		
The challenge: Many producers operate independently and on a relatively small scale. For larger growers there are no alternatives to selling to consolidators and supermarkets. There is historic reluctance to work together but in the long term, only collaboration between growers can mitigate the impacts of ever greater market consolidation by retailers.		
Lead: DAFM	Stakeholders: Growers, Producer Organisations, Teagasc	Levers: Commodity groups, Producer Organisation Scheme
Actions		Outcomes
<ul style="list-style-type: none"> As a first step to collaboration and/or being recognised as a Producer Organisation, Teagasc to provide simple guidance on approaches to forming producer groups, disseminated through AKIS¹ 		Information on forming producer groups produced by Teagasc and disseminated through AKIS
<ul style="list-style-type: none"> DAFM to change perceptions of and increase participation in Producer Organisations (POs) through clearer information and advice. <ul style="list-style-type: none"> growers to join one of Ireland's five existing fruit and vegetable POs, start new POs in amenity and potato sectors using Early Stage Producer Organisation Support Scheme or form new POs in fruit and vegetables sectors DAFM to facilitate talks by existing Irish PO members and trips to continental POs. DAFM to encourage ongoing mentoring between continental and Irish POs. DAFM to seek to streamline administrative burden on POs including seeking clarification from Commission. 		<p>Producer Organisation benefits awareness and information campaign run Q3 2023</p> <p>At least one overseas PO trip organised</p> <p>Structured regular exchanges between Irish and continental POs</p> <p>POs understand opportunities and limitations of PO scheme</p> <p>20 new growers joined existing POs</p> <p>5 new POs in the amenity, potato, soft fruit, top fruit, mushroom, field veg, protected crops sectors formed by 2027</p>
See also: KSA 8 Supporting Innovative Growers, KSA 6 AKIS Provide a resource and platform		

¹ AKIS – Agriculture Knowledge and Innovation System. See also KSA 6

As a sector, Irish horticulture growers are typically characterised by a fragmented approach to distribution with many producers operating independently and relatively small scale. For larger growers there are no alternatives to selling to consolidators and supermarkets. In the long term, only collaboration between growers can mitigate the impacts of ever greater market consolidation by retailers.

Collaboration is a mindset which can have financial benefits. The EU co-funded Fruit and Vegetable Producer Organisation (PO) Scheme (now also supported by the Early-Stage Support for Producer Organisations scheme which includes the potato and amenity sector) offers a practical and legitimate route to concentrating supply and achieving better bargaining power over prices for produce.

Producer groups are informal buying groups which do not receive financial aid. They can be a first step to collaboration and/or being recognised as a Producer Organisation but do not benefit from exemption from competition rules. They can be a means to jointly fund activities by the members, share and learn from common experience and reduce costs, working together and benefiting the sector as a result.

Key Strategic Action 1.2 Strengthen the position of the smaller grower in the marketplace through direct marketing to consumers		Cross cutting factors covered: Collaboration, Price, Margin, Organic production
Provide options that support smaller growers to sell direct		
The challenge: Smaller and/or organic growers often wish to market direct to consumer but need more supports to do so. Smaller and/or organic growers do not see the Producer Organisation scheme as suitable for their needs.		
Lead: DAFM	Stakeholders: Bord Bia, Organic and smaller growers	Levers: Commodity Groups, Producer Organisation Scheme, Scheme of Investment Aid for the Development of the Commercial Horticulture Sector
Actions		Outcomes
<ol style="list-style-type: none"> 1. DAFM and Bord Bia to identify supports for smaller growers to collaboratively market direct to consumers 2. DAFM to review Producer Organisation scheme from the perspective of smaller growers 		Smaller growers are eligible for existing and future schemes from DAFM and business support available from Bord Bia
See also: KSA 4.1 and 4.2 Develop a written charter between growers and retailers and increase consumer understanding of sector needs		

There is a need to examine collaborative options for alternative distribution channels including support for smaller and/or organic growers who wish to market direct to consumer.

Key Strategic Action 2 Develop a written charter between growers and retailers, and increase consumer understanding of the sector

Key Strategic Action 2.1 Develop a written charter between growers, consolidators and retailers to support the long term production of local, in season, fresh, quality fruit and vegetables (including organic) as part of a framework to develop better partnerships and understanding of the sector by consolidators, retailers and consumers		Cross cutting factors covered: Collaboration, Price, Margin, Promotion
Realising a sustainable price for growers and ensuring profitability and growth of the sector is a key consideration for this strategy		
The challenge: Historically, promotional activity by retailers on fresh produce has focused on price, ultimately reducing returns from the market place for the grower. In addition, this has led to an undervaluing of fresh produce in consumers' minds and an expectation of low prices.		
Lead: IFA	Stakeholders: Growers, IFA, Bord Bia, Teagasc, Retailers, Consolidators	Levers: Promotion, Commodity Groups
Actions		Outcomes
<ul style="list-style-type: none"> Set up a working group with appropriate expertise to compile the charter Review/research existing charters and monitoring mechanisms that are considered best practise and take learnings Engage with stakeholders that the charter will impact and seek input Consider a similar charter for the Food Services sector – especially around State funded institutions' procurement requirements 		Robust communication channel between retailers, consolidators and fruit and vegetable growers established Retailers can develop a Unique Selling Point around the charter Recognition for retailers who excel in charter implementation Irish grown produce is valued as a premium product Growers receive a fair price in order to allow them to remain in business, and to plan and invest in their operations going forward
See also: KSA 1.1 Strengthen the position of the grower in the marketplace through collaboration		

More than ninety percent of all Irish produce at retail is sold by a mix of Irish and internationally owned branded retail chains. Out of an estimated one-thousand growers in commercial operation (which includes growers who sell direct to consumer), it is estimated that two hundred producers supply eighty-five percent of the industry's output, these two hundred and fifty growers sell directly to consolidators and Central Distribution Centres (CDCs).

Unlike the continental retail market where price is set by both contracts and weekly spot prices (which flex according to supply and demand and can better reflect increased input prices), Irish growers are often locked into annual contracts which do not always reflect increases in input prices. Long term retailer-

grower preferred supplier partnerships with concrete, planned crop programmes which reflect the true costs of production / storage and transport / packaging would be ideal.

There is also a need to change consumer's mindset to understand the impact of their choices and help them to make informed purchases for edible and non-edible horticultural produce. Some of the key considerations should be the benefits of freshness – food miles, seasonality, support for local communities and health and wellbeing benefits.

There is evidence that consumer appetite to pay more to local producers is growing. The cooperative brand C'est Qui Le Patron? (CLQP)², which enables consumers to collaboratively set fair-to-producer prices for commodity foods, is now established in seven European countries. In France, where the brand was initiated, over 30 products, supporting over 3,000 producers, are available from the majority of retailers³. The Dutch CLQP cooperative recently introduced their "Honest" potatoes.

The Agricultural and Food Supply Chain Bill 2022 when enacted, will establish the new independent statutory Authority, An Rialálaí Agraibhia (The Agri-Food Regulator) and define its functions covering the areas of price and market analysis and reporting, the prohibition of unfair trading practices in business-to-business relationships, and the promotion of fairness and transparency in the agricultural and food supply chain. In light of its planned powers there may be a role for the new Regulator in the education of consumers on the cost of producing food.

A Charter should be agreed between retailers and growers to create transparency around retailer commitment to supporting fresh, local, quality, in-season, fruit and vegetables. This charter could be backed by a social media consumer campaign, similar to CLQP's approach, encouraging consumers to pledge to buy fresh, local, in season fruit and vegetables.

² [« C'est qui le Patron ?! » - La Marque du Consommateur \(cestquilepatron.com\)](https://cestquilepatron.com/)

³ [Où trouver les produits dans les magasins ? - « C'est qui le Patron ?! » \(cestquilepatron.com\)](https://cestquilepatron.com/)

Key Strategic Action 2.2 Increase consumer understanding of the horticulture sector		Cross cutting factors covered: Price, Promotion
Consumer appetite for and understanding of the sector is critical to its growth		
The challenge: Consumers require educating to understand pack labelling, the facts of growing horticultural produce in Ireland and the costs involved. It is only when the consumer is suitably informed can they make the best decisions in terms of the produce they buy. The planned new Agri-Food Regulator may have a role to play in this educational outreach.		
Lead: HIF sub committee	Stakeholders: Growers, IFA, Bord Bia, Teagasc, DAFM, Agri-Food Regulator	Levers: Promotion, Commodity Groups
Actions		Outcomes
<ul style="list-style-type: none"> Explore the options around running a social media campaign asking consumers to pledge to buy fresh, local, in season, fruit and vegetables to demonstrate their support to protect production by local Irish farming families <ul style="list-style-type: none"> Campaign would highlight benefits of and need for paying a sustainable price to Irish growers Highlight and recognise retailers who actively and positively participate in the charter and who prioritise and promote locally grown fresh produce within the Irish season Once it is established, engage with Agri Food Regulator to explore options for supporting educational consumer campaign and retail charter 		<p>Consumers understand the effort and costs to grow fresh fruit and vegetables</p> <p>Consumer educational campaigns include a horticulture focus</p>
See also: KSA 1.1 Strengthen the position of the grower in the marketplace through collaboration; KSA 2.1 Develop a retail charter between grower and retailer		

Key Strategic Action 2.3 Increase consumer appetite for local, fresh fruit and vegetables and Irish plants		Cross cutting factors covered: Promotion, Organic Production
Educate consumers of all ages on the benefits of eating more and local fresh fruit and vegetables and the benefits of using Irish plants		
The challenge: Irish consumption of fresh fruit and vegetables is below the EU target. There is a lack of knowledge of how to cook using fruit and vegetables across certain demographics.		
Lead: Bord Bia	Stakeholders: Growers, IFA, Bord Bia, Teagasc, DAFM, Agri-Food Regulator, Department of Education, Department of Health	Levers: Promotion, Commodity Groups
Actions		Outcomes
<ul style="list-style-type: none"> Engage with Department of Education and Department of Health to coordinate activities emphasising health benefits of eating more fruit and vegetables Continue to run Food Dudes campaign Continue to run EU funded fruit and vegetable promotional campaign targeted at millennials 		Consumers' consumption of fresh fruit and vegetables increases
See also: KSA 1.1 Strengthen the position of the grower in the marketplace through collaboration; KSA 2.1 Develop a retail charter between grower and retailer		

Key Strategic Action 3 Establish the framework for a permanent non-EEA seasonal workers’ scheme for the horticulture industry.		Cross cutting factor covered: Labour
Ensure reliable supply of skilled seasonal workers for the horticulture sector in Ireland in the short to medium term while innovation and research into automation is intensified		
The challenge: Horticulture is a particularly labour-intensive agricultural enterprise which requires a range of skills sets. The sector is experiencing a shortage of skilled and non-skilled labour across Europe. Attracting and retaining employees is a significant challenge. Given the nature of some roles in agri-food, and the career and work preferences of people today, innovation and research into automation will need to be intensified to help alleviate labour shortages in the medium-long term.		
Lead: DETE	Stakeholders: Growers, IFA, DAFM	Levers: Commodity groups
Actions		Outcomes
<ul style="list-style-type: none">• DAFM to continue consultation with DETE on the Employment Permits Bill 2022 to ensure that sufficient safeguards are included in the Bill to allay fears of worker exploitation and to ensure a provision for seasonal employment permits for workers is included when the Bill is approved• DAFM continue consultation with growers/stakeholders regarding needs of the sectors and any further evidence required to support Bill		<p>Enacted Employment Permits Bill 2022 includes provision for seasonal employment permits for horticulture workers</p> <p>DETE operated pilot scheme in operation</p>
See also: KSA 3 Education, KSA 5 R&D, KSA 7 Better insights		

Apart from the mechanised potato sector, the horticulture industry is dependent on skilled seasonal labour (fruit, many field crops, protected crops) and skilled all-year-round labour (mushrooms) for picking produce. The amenity sector requires both seasonal and all-year-round skilled labour to grow and manage their produce. The reality is that without reliable access to labour, many growers cannot harvest their produce.

High national employment is a driving demand for additional labour across the horticulture industry and thus making it difficult to source suitable labour within Ireland and via other Member States. 53% of growers consulted cited labour and skills as the number one priority for the sector.

The need for non-EEA seasonal workers, particularly in the horticulture and dairy sectors is understood by the State, and DETE, through DAFM, consulted with growers and stakeholders to obtain evidence in support of the need for a non-EEA seasonal workers permit system for horticulture.

In October 2022, the Employment Permits Bill 2022, sponsored by DETE, began its process of approval through the Oireachtas. Its purpose is to consolidate the current legislative framework, to improve its clarity and to retain the core focus of a vacancy-led employment permits system oriented to meeting the

skills and labour needs of the State. This new Bill will also see the introduction of a seasonal employment permit. This will allow for non-EEA workers in certain sectors to be permitted to work in Ireland. This Bill is currently at stage 3 in Dáil Éireann and it is anticipated that a pilot seasonal workers scheme for horticulture will be introduced in 2024.

The pilot for the existing quota-based scheme for permanent non-EEA horticultural workers was introduced in 2018 and applications are now processed within 2-4 weeks. As of mid-February 2023, 1,426 permits have been issued to the horticulture sector.

The immediate critical need is to ensure that there are adequate numbers of skilled seasonal workers for the horticulture sector in Ireland. Employers also need to engage on continuously improving working conditions, including provisions for the professional treatment of workers, ensuring compliance with any National or EU standards and requirement on workers' rights or other relevant standards or governing legislation. There must be clear career progression prospects to retain a skilled workforce.

Key Strategic Action 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities		Cross cutting factors covered: Education and training, Succession Planning, Labour, Insight and Intelligence, Circular Bioeconomy
A modern horticulture curriculum and training programme will encourage new entrants and ensure succession planning		
The challenge: Growers are leaving the industry and there is a decrease in the number of new entrants. A modern curriculum will excite and demonstrate the industry's potential and enable existing growers and new entrants to adapt to and mitigate the challenges posed by climate change, maximising opportunities and delivering growth.		
Lead: DAFM	Stakeholders: DAFM, Teagasc, Agricultural Colleges, growers	Levers: Commodity groups
Actions		Outcomes
<p> Establish a working group of stakeholders to consult with Department for Education, Agricultural Colleges, Teagasc, Irish and international universities, Department for Further and Higher Education, Research, Innovation and Science to identify best methods to attract, develop and retain talent in the sector and provide appropriate educational and training services with progression opportunities. </p> <p>The working group will</p> <ul style="list-style-type: none"> lead the development and modernisation of the horticulture training, CPD and education offering (with a focus on bioeconomy, circularity and sustainability principles, innovative practice and food safety) and input into currently-in-development apprenticeships including organics by <ul style="list-style-type: none"> looking to international experience commissioning a consultant to advise on modernising the horticultural curriculum be the voice for horticulture to encourage awareness of horticulture (and its role in healthy eating) in schools 		<p>Working group established by Q3 2023</p> <p>An inventory of all public and private educational courses in horticulture (and related) in Ireland from L4 up</p> <p>Consultant led report identifying future curriculum and sector needs including a study to see what proportion of trainees enter the sector and which sub sectors are served by current educational offerings</p> <p>Curriculum changes implemented by Agriculture Colleges</p> <p>Horticulture apprenticeships launched, Graduate training schemes developed</p> <p>New entrants are attracted to the sector</p>
See also KSA 5 R&D, KSA 8 Innovation		

Key Strategic Action 5 Research and Development for the horticulture industry		Cross cutting factors covered: New Product Development, Research & Development, Sustainability (including growing media), Smart / Precision Agriculture, Plastic and Packaging, Labour, Circular Bioeconomy, Organic production
Research needs are identified, adequately resourced and actioned by state and industry, culminating in KT of results in the form of actionable advice to drive innovation		
The challenge: Industry and publicly-funded R&D for the horticulture sector needs to be supported to a much higher level, this is vital to increase productivity and enhance competitiveness, improve environmental credentials and foster new product innovation. Research and development into labour-saving devices is essential to create long term competitiveness. The industry requires both knowledge of “what’s out there” and access to funding for R&D.		
Lead: DAFM	Stakeholders: Teagasc, Irish Universities and research institutes, Growers, IFA, Bord Bia	Levers: Working groups
Actions		Outcomes
<ul style="list-style-type: none"> Establish a working group to respond to research needs identified by the sector and consumer insights and communicate what’s out there <ul style="list-style-type: none"> DAFM recruit working group members by Q3 2023 Human capital needs identified in Q3 2023 Working group publish map of knowledge and research gaps by Q2 2024 Identify opportunities to collaborate with UK on shared challenges Working group communicate knowledge and research gaps to research sector by Q3 2024 Work with DAFM AKIS group to establish how research can be disseminated Identify measures that the industry could pursue to enhance its climate action and environment credentials – growing sustainably Identify methods towards labour use efficiency and smart horticulture (technology adoption) Analyse the challenges that exist, that public and industry funded research could address, to enable the industry in its current state to pursue the opportunities identified 		<p>Working group established and supporting the horticulture industry’s needs</p> <p>Research needs across the industry are identified and appropriate funding opportunities are targeted</p> <p>Horticulture is represented in wider research calls on wider topical issues including around digitisation, data gathering and modelling</p> <p>Relationships with Irish, UK and international research institutes encouraging a focus on horticulture are developed</p> <p>New knowledge creation from Irish and international research on relevant topics including, suitable varieties, plant protection products, sustainable packaging, artificial intelligence, labour saving devices, reduction in waste, growing innovation, climate adaptation, organic and integrated production, bioeconomy and circular economy is leveraged into opportunities</p> <p>Increased access to crop protection products, IPM and access to optimised growing practices, which are environmentally positive</p>

<ul style="list-style-type: none"> • Recommend supports and investment plan to help meet the needs identified 	Potential for more controlled environment horticulture (glasshouse crops) using circularity in terms of energy source and fertiliser use is understood
See also: KSA 6 AKIS KSA 8 Innovation and NPD	

R&D is a key enabler to support innovation and growth.

The learnings from international research should be made easily available to industry stakeholders through the AKIS.

A particular research focus for the industry is alternative production systems that do not use peat as a growing media and automation to reduce reliance on harvesting labour. In addition to several Producer Organisation co-funded research projects, €1.69 million in state funding has been allocated to researching alternatives to peat.

To date, much of the research in horticulture has been industry led. There is a definite need to increase support for horticultural research in Ireland and apply this new found knowledge to develop innovative growing practices, labour-saving technology and New Product Development (NPD).

Success in R&D is dependent on additional resources including human capital to develop proposals to secure future funding, and strong relationships with Irish and international research institutes to ensure research projects are demand driven.

Key Strategic Action 6 Better data and information for better insights

Key Strategic Action 6.1 Better data for better insights: Collect hortimetrics* data along the supply chain, from production data to sales data to identify growth opportunities		Cross cutting factors covered: Insight & intelligence, New Product Development (NPD) & Innovation
Accurate data sets are available to inform policy and opportunities for growth		
The challenge: The diversity of Irish horticulture produce has historically limited growers and agencies' ability to collect and share data.		
Lead: DAFM	Stakeholders: Teagasc, Growers, IFA, Bord Bia	Levers: Commodity Groups, Producer Organisations
Actions		Outcomes
<ul style="list-style-type: none"> DAFM, Bord Bia and Teagasc to map out the minimum baseline of accurate Irish production data required to identify opportunities for growth IFA to measure and monitor the level of employment and labour requirement of the sector DAFM to understand the dedicated human capital required to gather and maintain granular level data on the industry 		The development and maintenance of accurate datasets to allow for informed policy decisions
See also: KSA 7 AKIS, KSA 8 Support innovation and diversification and KSA 5 Increase R&D		

Data is the foundation of evidence informed policy making and insights derived from data will point to more opportunities for growth. Accurate data is needed to persuade growers, banks, potential investors and other agencies of the market possibilities of new opportunities. There is a granular level of market data required to assess the potential opportunities for Irish horticulture, analyse import substitution and export potential, and explore diversification opportunities. Significant gaps exist in horticulture datasets, specifically economic/production data within sectors and more generally the exact nature of import volumes, pack types, market destinations and supply chain dynamics. This must be addressed.

*The Irish horticultural sector needs access to detailed **hortimetrics** data including:

- Grower numbers, crops, volume, value, location and other relevant census type data
- Grower profiles, age, profitability, investment readiness level across all sectors

Like dairy systems and grassland production, Irish horticulture requires a similar level of national attention and fundamental research in digitisation, data and modelling in sustainability research. This will be important to prepare and predict future threats from climate change, and to align with the objectives of Ireland's national climate action strategy and Food Vision 2030.

Key Strategic Action 6.2 Collect sustainability metrics (Horti-enviro-metrics) to evidence industry environmental credentials		Cross cutting factors covered: Food Waste, Sustainability
Establish a system to measure, understand and communicate the sector's environmental impact		
The challenge: There is market pressure from retailers and consumers to evidence the Horticulture sub-sectors' environmental footprints but no such data currently exists.		
Lead: Bord Bia and Teagasc	Stakeholders: DAFM, Growers, IFA	Levers: Commodity Groups
Actions		Outcomes
<ul style="list-style-type: none"> Pilot carbon foot printing data capture options in 2023 to establish the appropriate platform for carbon accounting across the sub sectors, taking account of inputs, processes and outputs 		<p>The development of a system to measure, understand and communicate the sector's environmental impact</p> <p>Qualification of what the environmental footprint is of Irish production compared to imported product</p>
See also: KSA 7 AKIS, KSA 8 Support innovation and diversification and KSA 5 Increase R&D		

In line with Ireland's Climate Action Plan and given the commercial pressure, **hortimetrics** will therefore include a sustainability metric: horti-enviro-metrics. It will focus on testing and establishing a platform for carbon foot-printing initially, which is regarded as the most pressing and important metric in food systems at the current time. Growers are facing increased market pressure from customers to capture data and report on their carbon footprints. It will focus on carbon foot-printing initially, with energy, water, biodiversity and food waste metrics to follow.

Key Strategic Action 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development		Insight & intelligence, New Product Development (NPD) & innovation, Brexit, Plastic and Packaging
Better market insight and intelligence, communicated effectively can drive growth		
The challenge: Ireland's horticulture sector operates in a European and global context.		
Lead: Bord Bia	Stakeholders: Growers, IFA, Teagasc	Levers: Commodity Groups, Producer Organisations
Actions		Outcomes
<ul style="list-style-type: none"> • DAFM and Bord Bia, with commodity groups, map out topics to monitor for insight and market intelligence and market research (including route to market, packaging innovation and climate adaptation) • Bord Bia to continue and build its horticulture market insight research to measure the domestic fresh produce and amenity markets, identify evolving consumer trends and arising opportunities and disseminating this to the industry across multiple engagement touchpoints including on a 1-1 and group/sector basis • Bord Bia to facilitate client companies in the horticulture sector using its suite of capability services to <ul style="list-style-type: none"> ○ foster innovation/NPD in the sector ○ support exporters post Brexit including a review of post-Brexit market opportunities • Bord Bia to capture pricing and supply information in key EU countries including Netherlands and Spain, and UK • Bord Bia, Teagasc and DAFM to capture and share through AKIS networks, Irish and international market information including the impact of continental weather conditions on supply 		<p>The total value and timing of the import of key crops into Ireland is quantified</p> <p>Optimised production and value chain innovation</p> <p>AKIS includes meaningful market insights leveraged from government and agencies' worldwide network</p> <p>Growers understand competitive landscape from imports</p>
See also: KSA(no.) AKIS KSA(no.) Innovation and NPD		

Much of Ireland's horticulture sector is supply chain (commodity) based, which does not maximise competitive advantages to secure premium pricing in market. Better data can help to inform the sector of strategic market opportunities. Insight requires easy industry access to commercial domestic and international consumer and trade market research. Market and consumer insight needs to drive all commercial innovation and New Product Development. (New Process Development is driven by knowledge of science and technology.)

Key Strategic Action 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)		Cross cutting factors covered: Knowledge Transfer, Insight and Intelligence, Organic Production, Brexit, Research & Development
“When knowledge is co-created, used efficiently, and shared widely, this will further support the development and scaling up of innovative solutions that work in practice.”⁴		
The challenge: Horticulture needs to be integrated back into the broader Agriculture Knowledge and Innovation System (AKIS) to create a knowledge sharing system to support growth, focusing on the business knowledge, sustainable growing principles, climate change mitigation and technical knowledge required for horticulture growing including organic production.		
Lead: DAFM	Stakeholders: Teagasc, research institutes, advisory services, organics associations	Levers: Commodity groups
Actions		Outcomes
<ul style="list-style-type: none"> • Understand DAFM AKIS roadmap and its elements Q2 2023 • Check what other resources might be required to integrate horticulture into the AKIS • Use the AKIS network to work with growers on Brexit supports, access to loans, funding opportunities • Human capital requirements identified by Q3 2023 • Align and communicate AKIS opportunities through commodity groups Q3 onwards 		<p>Horticulture is embedded in DAFM’s AKIS network and supported under the Cap Strategic Plan</p> <p>Evidence based options for new products, technologies, processes are highlighted for priority adoption in an Irish context</p> <p>AKIS is used to communicate regularly with horticulture stakeholders</p> <p>Benefits of embedding are communicated to ensure continued AKIS integration</p> <p>Case studies, collaborative links and integration with horticulture centred AKIS in other jurisdictions</p> <p>Understanding the best systems approach for Ireland in terms of developing the horticultural element of AKIS</p> <p>Creating the innovation pathways for the sector including provision of wrap around services and funding.</p>
See also: KSA 5 R&D, KSA 8 Innovation, KSA 6 Market Intelligence		

⁴ <https://agris.fao.org/agris-search/search.do?recordID=FR2021061434>

“When knowledge is co-created, used efficiently and shared widely, this will further support the development and scaling up of innovative solutions that work in practice.”⁵ This is the means of sharing and engaging with the data collected under KSA insight and market intelligence and KSA research and development.

Horticulture is a very diverse industry with at least seven sub-sectors. Given the range of crops and plants grown and variety of production methods now in use, there is an ever increasing need to develop resources for Knowledge Transfer to ensure invaluable expertise is available for growers.

The success of integrating horticulture into AKIS is dependent on additional resource requirements (subject to political process) of further State funded technical advisors (including for organics) to enhance knowledge transfer among growers.

Key Strategic Action 8 Support innovation and diversification

Key Strategic Action 8.1 Support innovative growers who are adding value		Cross cutting factors covered: New Product (and Process) Development, Innovation and value-added products, Smart / Precision Agriculture, Research & Development, Plastic and Packaging, Circular Bioeconomy
Ensure clear pathway to funding for innovation by primary producers		
The challenge: With the limitations imposed by the Industrial Act of 1986 (which does not allow primary producers to benefit from Enterprise Ireland funding) innovative primary producers have struggled to access existing funding platforms. There needs to be a clear pathway for funding for existing innovative primary producers. There is no scarcity of bright ideas but due diligence is required to determine which ideas to support and scale.		
Lead: DAFM, with DETE	Stakeholders: DETE, DAFM, Teagasc, growers	Levers: Align Scheme of Investment Aid for the Development of the Commercial Horticulture Sector with National Strategy objectives, Commodity groups
Actions		Outcomes
<ol style="list-style-type: none"> 1. DAFM to map out the investment pathways for New Product and Process (both technical and value chain/business model) development for new and existing horticulture growers and businesses 2. DAFM to ask DETE to review the Industrial Act 1986 3. DAFM to prepare for State aid approval for realignment of Scheme of Investment Aid for the Development of the Commercial Horticulture Sector to include innovation funds and value chain/business model development for new and existing businesses. 		Clarity on pathway to funding for primary horticultural producers
See also: KSA 7 AKIS		

Key Strategic Action 8.2 Develop diversification models for new and existing and growers		Cross cutting factors covered: New Product (and Process) Development, Innovation and value-added products, Smart / precision agriculture, Research & Development, Plastic and Packaging, Circular Bioeconomy
Building on the results of research and development and market intelligence and insight, investing in innovation and the development of value-added products can unlock latent opportunities for the sector in addition to current business models		
The challenge: Larger growers are reliant on the retail sector for distribution. The industry needs to investigate the circular bioeconomy model from a zero-waste/sustainability/innovation outlook to identify new business models. There are opportunities to work collaboratively at a regional level, linking to renewable energy sources, and looking at different growing systems from land to other (indoor, vertical etc) and examining higher value-added opportunities alongside full crop/current approaches as well as high-value powders and other biobased products. MAPs (Medicinal and Aromatic Plants) are to be considered alongside this approach.		
Lead: DAFM	Stakeholders: DETE, DAFM, Bord Bia, Teagasc, growers	Levers: Working groups, Commodity groups, Align Scheme of Investment Aid for the Development of the Commercial Horticulture Sector scheme with National Strategy objectives,
Actions		Outcomes
<ul style="list-style-type: none"> • DAFM to set up a dedicated innovation working group focused on bioeconomy opportunities to <ul style="list-style-type: none"> ○ Identify and benchmark new product formats and value-added business models against international best practice ○ Showcase existing innovation and diversification successes ○ Identify and develop opportunities for cross sector collaboration which leverages regional funding models ○ Explore further opportunities around Food Works programme for primary producers to develop new ideas in a controlled and supported environment ○ Engage with Shannon ABC, Bioconnect Centre Monaghan, NorthWest Bioeconomy Hub • Innovation working group will work with commodity groups to identify, develop and promote economically and environmentally sustainable profitability blueprints for <ul style="list-style-type: none"> ○ crops ○ plant-based ingredients (powders etc) ○ biobased products ○ Medicinal, Aromatic Plants (MAP) 		<p>Economically and environmentally sustainable business opportunities available as alternative production models</p> <p>Economically modelling and appraising potential options for horticultural production in Ireland</p> <p>Quantifying the scale needed to grow fresh produce for Ireland and certain export markets considering age demographics, recommended dietary intake and population growth</p> <p>Horticulture integrated into Food Works programme where possible</p> <p>Horticulture integrated into bioeconomy stakeholder network</p> <p>Profitability blueprints available for existing crops as well as new types of product</p> <p>Potential for MAP sector fully understood</p>
See also: KSA 7 AKIS		

Levers and enablers

<p>Promotion</p> <p>Bord Bia promotes the consumption of horticulture produce and the purchase of plants for gardening to consumers. Bord Bia also engages with school children to educate them on the role fresh produce plays in a healthy diet and its origin. Bord Bia Bloom is the annual consumer showcase and major promotional platform for the horticulture industry. The horticulture industry has an array of benefits to publicise and promote. These benefits include health benefits from eating fruit, vegetables and potatoes that are locally grown but also the wellbeing benefits that are attributed to growing your own plants and activities such as gardening.</p> <p>Use <i>Buy fresh, local and in-season / organic</i> as the key message of all state and EU funded campaigns to consumers.</p> <p>Amplify the impact of campaigns by pre-informing stakeholders through commodity groups and providing campaign assets for stakeholders to share.</p>	<p>Statutory levy</p> <p>Legislation exists to introduce a statutory levy across horticulture (including growers and consolidators) to provide a source of funding for additional promotion, research and development and gathering data and insight. When industries make direct contributions to the promotion and development of their sector this ensures that participants have a direct involvement in the future plans of the industry. Certain EU campaign funds require industry contribution.</p> <p>Consider a Bord Bia collected levy vs a statutory levy at the next Horticulture Industry Forum meeting</p>
<p>Policy alignment</p> <p>Make horticulture part of wider policy conversations across DAFM and other relevant departments on issues including health, innovation, education, sustainability, housing and transport.</p>	<p>Producer Organisation Scheme in the Fruit and Vegetable Sector</p> <p>Producer Organisations in the Fruit and Vegetable sector (not potatoes) are eligible for EU funding of 50% of costs (excluding production) and up to 80% aid for approved environmental sustainability actions and research if more than 20% of their actions are spent on these areas. Since 2018 Irish Producer Organisations have received nearly €25 million in EU co-funding for their Operational Programmes.</p> <p>Where new Producer Organisations are formed in mushroom, soft fruit, top fruit, field vegetable and high wire sectors, the PO can claim back 60% EU funding for all eligible approved costs, excluding production, on its first Operational Programme.</p>

<p>Align Scheme of Investment Aid for the Development of the Commercial Horticulture Sector with National Strategy objectives</p> <p>For over ten years The Scheme of Investment Aid for the Development of the Commercial Horticulture Sector (horticulture grant scheme) has provided targeted support to the sector by providing grant aid towards funding capital investments.</p> <p>In the last 4 years, 5% of the €25 million funds have been granted to innovation and technology adoption, 2% to climate change mitigation, 2% to reducing pesticides and 4% to packaging equipment. For 2024 onwards this scheme could be realigned to include support for R & D, bioeconomy investments and new product development by the primary producer.</p> <p>This scheme is operated with funds provided by the Exchequer and must be approved by the European Commission under State Aid rules.</p>	<p>Set up working groups</p> <p>Working groups are an important tool when progressing strategic objectives, they have the power to combine the expertise and knowledge to provide focused, targeted, objectives and recommendations. A number of working groups will be required to enable progress of the National Strategy for Horticulture 2023-2027.</p> <p>The working groups proposed are</p> <ol style="list-style-type: none"> 1. Retail charter 2. Education/training 3. Research and development 4. Innovation and new product development 5. AKIS
<p>Commodity groups</p> <p>To ensure that the implementation of the Key Strategic Actions is effective at a sub sector level and that sector specific actions are addressed, sub sector leads will need to be involved. This function can be performed by existing and new commodity groups and/or Horticulture Industry Forum/IFA sub sector leads/committees. It is proposed that the existing Potato Development Group, Apple Development Group and Irish Hardy Nursery Stock Association, for example, alongside newly formed Vegetable and Berries Development Groups/sub sector leads assume this role.</p>	

Appendix



The **Opportunities for the Irish Horticulture Sector Report** identified 88 cross cutting and sub-sector specific actions to address challenges and maximise opportunities.

Due to resource constraints, it is not feasible to implement all of the actions identified. Therefore, cross cutting actions were prioritised to identify those considered to have the highest impacts compared to resource inputs. These 8 Key Strategic Actions are described in detail on pages 8 to 25.

The table in this Appendix shows the link between the 8 cross-cutting Key Strategic Actions and the sub sector actions. These sub sector specific actions will need to be championed by commodity groups as part of the implementation of the National Strategy. The successful implementation of the strategy will require collaboration between and commitment from the sector's key players.

Mushrooms	Strategic Ambition: To become the most sustainable global leader in primary and value-added mushroom products, driven by increasing demand for plant-based solutions		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Environmental footprint	Understand the environmental impact of mushroom production	Develop "Horti-enviro-metrics" as a common measure to understand and communicate the sector's environmental impact	KSA 6.2 Collect sustainability metrics
		Benchmark against international competitors and best practice examples	KSA 6.2 Collect sustainability metrics

	Improve and reduce the sector's environmental footprint	Invest in research and knowledge transfer to optimise the sector's environmental footprint	KSA 5 Research and Development
	Understand consumer sentiment toward the sector's environmental impact	Conduct consumer research to generate insight	KSA 6.3 Gather and share market insight and intelligence
		Refine communication with consumers accordingly	KSA 2.2 Increase consumer understanding of the horticulture sector
		Similarly communicate to the broader trade sector	KSA 2.2 Increase consumer understanding of the horticulture sector
	Find alternatives to peat production systems	Conduct research and provide research funding for knowledge creation and dissemination	KSA 5 Research and Development
		Adopt a multi-disciplinary approach to resource the research challenge	KSA 5 Research and Development
Production system evolution and Research, Development and Innovations (RDI)	Increase labour use efficiency	Provide training in lean management, agronomy best practice and labour retention strategies	KSA 3 Seasonal workers scheme KSA 7 AKIS
		Invest in R&D, for example, labour-saving technology	KSA 5 Research and Development
		Develop and implement an enhanced permit system and provide support for access to accommodation	KSA 3 Establish the framework for a permanent non-EEA seasonal workers' scheme

	Review and monitor labour needs	Establish and maintain a bi-annual labour survey. Allocate the required funding and resources	KSA 6.1 Collect hortimetrics data
	Adapt existing technologies into the Irish system	Allocate resources and support for R&D	KSA 5 Research and Development
		Facilitate international collaboration	KSA 5 Research and Development
		Develop the required competencies by investing in local skills	KSA 4 Modern horticulture curriculum
	Create bespoke systems for the Irish marketplace	Invest in R&D to develop bespoke systems that can enhance labour efficiency whilst lowering the overall labour requirement	KSA 5 Research and Development
		Facilitate international collaboration to develop and foster domestic competencies	KSA 5 Research and Development
Production system evolution and Research, Development and Innovations (RDI) (cont.)	Increase compost use efficiency	Invest in R&D activities that support a focus on increasing efficiency for growers	KSA 5 Research and Development
	Foster innovation across the total production system by challenging existing assumption on how mushrooms are grown	Focus R&D on developing the next evolution for the mushroom sector, a “Mushroom sector 3.0”	KSA 5 Research and Development
	Packaging innovation	Learn from and adopt international best practice	KSA 5 Research and Development
		Monitor global packaging trends	KSA 6.3 Gather and share market

		Identify solutions that minimise food waste	insight
	New food product development, based on health and nutrition benefits	Develop consumer trend insight	KSA 6.3 Gather and share market insight
		Develop bespoke approach based on the local context while learning from international best practice	KSA 8.2 Develop diversification models for new and existing growers
Production system evolution and Research, Development and Innovations (RDI) (cont.)	Develop an innovation pathway for the sector in terms of new food products and bio-based materials	New food products: develop market insight and invest in the required research capacity	KSA 8.1 Support innovative growers who are adding value
		Bio-based materials: Embed the mushroom sector in the circular economy and circular economy practices	KSA 8.2 Develop diversification models for new and existing growers
	Increase product shelf-life	Invest in R&D to enhance product shelf-life	KSA 5 Research and Development KSA 5 Research and Development
		Develop bespoke approach based on the local context while learning from international best practice	
	New product development (NPD), including exotic mushrooms	Follow international best practice, consider key learnings from the Dutch and New Zealand sector experience	KSA 8.2 Develop diversification models for new and existing growers

Amenity	Strategic Ambition: Make Irish grown plants the first choice of buyers at home and abroad, driven by Ireland's high plant-health status and sustainability credentials		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Identification of export and B2B market opportunities	Identify opportunities for exporting existing products	Engage with existing key exporters	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Identify additional research that is required to inform growers of export opportunities	KSA 5 Research and Development for the horticulture industry
		Engage with export markets and develop networks for market intelligence	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
	Identify and build networks with key purchasers of Irish products at both retail and commercial scale	Identify who they are	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Understand their needs and wants	
		Develop a network with the Irish supply base	
		Facilitate engagement	

	Import substitution	Develop a network of market intelligence to inform import substitution efforts	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Increase the domestic share of plants we grow and import	N/A (Outcome)
		Conduct commercial feasibility studies	KSA 8.2 Develop diversification models for new and existing and growers
Identification of export and B2B market opportunities (cont.)	Enable the sector to build capacity and enhance capabilities	Invest in R&D and knowledge transfer	KSA 5 Research and Development for the horticulture industry
		Develop training and education offering	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities
		Secure the required funding	KSA 5 Research and Development for the horticulture industry KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the

			educational platforms which can attract talent and realise opportunities
Develop Horti-enviro-metrics	Measure the environmental footprint of amenity production	Develop an environmental balancing statement across crop models	KSA 6.2 Collect sustainability metrics (Horti-enviro-metrics) to evidence industry environmental credentials
		Benchmark against international best practice	
		Conduct a LCA (life cycle assessment of environmental impacts)	
	Improve and reduce environmental footprint	Invest in research and knowledge transfer	KSA 5 Research and Development for the horticulture industry for the horticulture industry KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Reduce the use of plastics, conduct R&D to inform this	KSA 5 Research and Development for the horticulture industry for the horticulture industry
		Fill the knowledge gap on Integrated Pest Management (IPM)	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Follow best practice for sustainable production	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)

		Provide relevant education to consumers and the trade sector	KSA 2.2 Increase consumer understanding of the horticulture sector
Develop Horti-enviro- metrics (cont.)	Drive the purchase of Irish grown plants	Identify the key messages to use for promoting Irish grown plants, based on the benefits for consumers and B2B buyers	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Develop a toolkit to communicate the story and benefits that can help to add a premium for plants of Irish origin	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
	Find alternatives to peat production systems	Conduct research and provide research funding for knowledge creation and dissemination	KSA 5 Research and Development for the horticulture industry for the horticulture industry
		Adopt a multi-disciplinary approach to resource the research challenge	KSA 5 Research and Development for the horticulture industry for the horticulture industry
Lack of specialist plant production and commercial feasibility knowledge	Develop education and plant production methodologies	Augment the curriculum in horticulture to reflect these methodologies	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities
		Include modern / commercial production techniques	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the

			educational platforms which can attract talent and realise opportunities
	Identify the skills deficit in plant production	Develop a knowledge transfer programme to meet the current deficit through continuous professional development (CPD)	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Develop a masters programme linked to European colleges / institutions	Identify sources of funding	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities
		Short-list candidate universities	
		Set-up placement programmes	
Lack of specialist plant production and commercial feasibility knowledge (cont.)	Integrate horticulture into AKIS and develop the required policies	DAFM team to spearhead this initiative	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Review the current structure and understand the path to integration	
	Innovation and new knowledge creation	Invest in applied R&D	KSA 5 Research and Development for the horticulture industry
		Adopt international best practice	KSA 5 Research and Development for the horticulture industry
		Leverage grower collaboration and knowledge sharing	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Facilitate the role of growers as new knowledge	KSA 7 Integrate horticulture back into

		creators	the broader Agriculture Knowledge and Innovation System (AKIS)
Policy alignment	Make horticulture part of policy conversations across DAFM and other departments such as transport, environment and education	Spearhead by DAFM	Levers
		Share information on key policy timelines	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Support sector's understanding of policy development	Communication and understanding of policy developments and changes, and call out opportunities	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Local authority and town council education at the government department and local level	Communicate benefits of using Irish grown trees and plants	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Encourage the uptake of Irish grown trees and plants	
		Support Green Cities Initiative	
Health and wellbeing	Identify the health and wellbeing credentials of amenity horticulture	Invest in R&D on the physical, mental, environmental and societal benefits. Communicate this to consumers and B2B buyers	<p>KSA 5 Research and Development for the horticulture industry for the horticulture industry</p> <p>KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants</p>

	Communication of health and wellbeing credentials to consumers	Develop the sector's key messages and a toolkit to communicate them	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
	Capture the economic value of wellbeing benefits	Conduct a CBA to better understand this value	
	Commercial greening	Build the sector story and educate the B2B audience, planners, landscapers and architects	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Conduct a CBA to better understand this value	

Potatoes	Strategic Ambition: To sustainably grow the potato sector by increasing the penetration of Irish potatoes in key channels, adding value through new product development, and building new routes to market enabled by a sustainable supply of quality seed		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Identify value-added opportunities	Develop innovation pathways for new food and drink products, including bio-based materials	Develop market insight and resources to support the research	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Consider international developments	KSA 5 Research and Development for the horticulture industry
		For bio-based materials: the potato sector should be embedded in the circular economy	KSA 8.2 Develop diversification models for new and existing and growers
	Identify different product format opportunities	Determine the size of the prize considering end use, competitors, feasibility and the options in the frozen market	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development

	Promote locally grown produce	Continue to support and build a strong communication and promotional platform, based around the local sustainable supply and nutritional benefits messaging	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
	Develop packaging innovation	Learn from best practice	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Monitor global trends	
		Identify solutions that minimize waste	
Maximise marketable yield (inside farm gate)	Grower adoption of best practice and technology	Invest in R&D and consider international best practice	KSA 5 Research and Development for the horticulture industry for the horticulture industry
		Education and knowledge transfer on best practice	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Improve storage and reduce waste during storage	R&D into how different varieties behave when stored	KSA 5 Research and Development for the horticulture industry for the horticulture industry

	Adoption of IPM* practices and disease control strategies	Invest in R&D to support the adoption of best practice for IPM and disease control. Facilitate knowledge transfer of research to the sector	KSA 5 Research and Development for the horticulture industry for the horticulture industry KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Variety development for import substitution	Invest in R&D for varieties that can support import substitution and meet consumer preferences	KSA 5 Research and Development for the horticulture industry for the horticulture industry
	Renewable energy adoption	Facilitate knowledge transfer and funding support	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS) Levers
Reduce and replace imports	Prioritise chipping potatoes for import substitution	Develop a model business case for market entry, including market intelligence and support for growers	KSA 8.2 Develop diversification models for new and existing and growers
	Increase storage capacity (on farms and / or centrally)	Explore financial supports	Levers
	Trade education (B2B trade)	Promote local chipping potatoes to trade sector, of equal value to import alternatives	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Tie trade sector back to growers	

Reduce and replace imports (cont.)	Consumer education	To support and build a strong communication platform based around the local sustainable supply message	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Promote different ways of cooking to appeal to younger markets	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
	Reduce and replace imports	Capitalise on pilot growing completed to date	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Identify the size of the prize by channel	
		Develop market segmentation insight	
Priority area: Develop the Irish seed potato sector (use experts)	Establish the opportunity	Consider: land availability, cost of production, incentives and business case models	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Understand the market structure	
	Supports to develop capacity in the sector	Explore funding options to help seed potato sector invest in specialist facilities and equipment	8.2 Develop diversification models for new and existing growers Levers

		Invest in education of growers	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities
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Field vegetables	Strategic Ambition: Halt the decline and rebuild a viable sector based on principles of fair trade, sustainability and innovation to protect local production by Irish farming families		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Supply chain engagement	Develop a factual basis for retailer and consolidator engagement	Conduct a supply chain analysis	KSA 6.1 Better data for better insights: Collect hortimetrics data along the supply chain, from production data to sales data to identify growth opportunities
		Understand the share of retail price across product lines and what does the primary producer receive	
		Identify and define key engagement platforms across the supply chain, encouraging constructive engagement by the main parties and to ensure alignment of messaging and inputs	KSA 2.1 Develop a written charter between growers, consolidators and retailers to support the long term production of local, in season, fresh, quality fruit and vegetables (including organic) as part of a framework to develop better partnerships and understanding of the sector by consolidators, retailers and consumers
	Develop a fair trade mechanism	Define and develop a fair trade concept for the horticulture sector	KSA 2.1 Develop a written charter between growers, consolidators and retailers to support the long term production of local, in season, fresh, quality fruit and vegetables (including organic) as part of a
		Ensure alignment with UTP Regulations (national context) and UTP Directive (EU context)	
		Incorporate a broader Retail charter and	

		promote to retailers and consumers	framework to develop better partnerships and understanding of the sector by consolidators, retailers and consumers
	Drive consumer demand for fair trade	Improve consumer and retail perceptions of the fair trade concept, focussing on the Ireland context	KSA 2.2 Increase consumer understanding of the horticulture sector
		Based on market insights to support and build a strong communication platform for retailers and consumers based around local sustainable supply with positive environmental and health benefits credentials	
Financial feasibility (costs and returns)	Identify current variable costs	Identify the state of play in the horticulture sector	KSA 6.1 Better data for better insights: Collect hortimetrics data along the supply chain, from production data to sales data to identify growth opportunities
		Establish a dashboard for horticulture input costs, track this over time, support knowledge transfer and advisory services, develop sustainable agronomy support services (Teagasc)	
	Enable more one-to-one advisory with growers	Develop research programmes and support greater resourcing for advisory services on vegetable production	KSA 5 Research and Development for the horticulture industry for the horticulture industry KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
Policy change	Establish possible options to sustain the sector	DAFM horticulture team to spearhead	Levers

	Establish what policy changes are needed and engage with the Agri Food Regulator	IFA to spearhead engagement with key stakeholders and policy makers	KSA 2.1 Develop a written charter between growers, consolidators and retailers to support the long term production of local, in season, fresh, quality fruit and vegetables (including organic) as part of a framework to develop better partnerships and understanding of the sector by consolidators, retailers and consumers
	Develop POs to increase collaboration among growers	Maximise the opportunities under CAP to support POs	KSA 1.1 Strengthen the position of the grower in the marketplace through collaboration
Route to market	Increase domestic market share in the food services sector	Develop insight to understand the sector's needs, the supply chain players and network	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
	Develop alternative routes to market	Assess and analyse opportunities for alternative routes to market	KSA 1.2 Strengthen the position of the smaller grower in the marketplace through direct marketing to consumers Levers

Innovation and New Product Development (NPD)	Frozen products opportunity	Develop insights to understand the potential market opportunity in this category and the feasibility of supplying it in both the retail and food service sector	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Where viable opportunity identified scope out plan to activate	
	Chilled products opportunity	Develop insights to understand the potential market opportunity in this category and the feasibility of supplying it in both the retail and food service sector	KSA 8.2 Develop diversification models for new and existing and growers
		Where viable opportunity identified scope out plan to activate	
	Secure funding	Engage with Enterprise Ireland and the Department of Trade, Enterprise and Industry (DETE)	KSA 8.1 Support innovative growers who are adding value
	Farm level innovation	Facilitate adoption of labour-saving technologies	Levers
		Evolve production systems to take account of IPM practices	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Propagation / Plant material	Adopt best practice and build capacity	

Strawberries	Strategic Ambition: To profitably and sustainably grow and promote Irish strawberries, by modernising production systems that maximise in-season output		
Sub Sector Needs	Priority area	Actions to be taken	Covered by longlist (Y/N)
Select varieties and growing programs suitable for Irish producers	Develop a framework for smart variety screening and planting programmes	Conduct a sensory evaluation including propagation and supply chain engagement for strawberry varieties. Identify production protocols which optimise the programme of varieties available across a longer season of production while maximising agronomic performance	KSA 5 Research and Development for the horticulture industry for the horticulture industry
	Research, advisory and training	Invest in the appropriate R&D on strawberry and other potential soft fruit including blueberry, raspberry and blackberries	KSA 5 Research and Development for the horticulture industry
		Invest in developing appropriate competencies in soft fruit research and advisory	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Follow international best practice and identify modern production techniques, including for all soft fruit	
		Support knowledge transfer	
		Develop knowledge networks	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can
		Develop horticulture college education offering	

			attract talent and realise opportunities
Maximise grower margins	Achieve efficiency gains at the farm level	Adoption of lean principles	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Adopt and promote more glasshouse production	Levers
	Safeguard growers return at the retail level	Understand costs for all pack sizes	KSA 6.1 Better data for better insights: Collect hortimetrics* data along the supply chain, from production data to sales data to identify growth opportunities
		Develop promotion around the local value proposition	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
	Innovation and NPD	Invest in R&D to identify and develop innovation pathways	KSA 5 Research and Development for the horticulture industry
Promote and drive consumer demand	Education on the value of in-season strawberries across the retail and food services sectors	Based on market insights, to support and build a strong communication platform for buyers and consumers based around the local sustainable supply with positive environmental and health benefit credentials	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants

		Use marketing tools to drive awareness	
Growing media	Find alternatives for growing media	Invest in R&D in terms of availability, functionality and affordability	KSA 5 Research and Development for the horticulture industry for the horticulture industry

Apples	Strategic Ambition: To profitably increase the volume share of fresh Irish eating apples to 25% in ten years, while maximising the opportunities for cooking and cider apples through the development of value- added products		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Develop an overarching research programme prioritising selected varieties and growing systems suitable to the Irish growing environment	Develop a framework for smart variety screening and planting systems	Conduct a sensory evaluation including propagation and supply chain engagement	KSA 5 Research and Development for the horticulture industry for the horticulture industry
		Assess varieties with potential market acceptance and agronomic characteristics for Irish conditions	KSA 5 Research and Development for the horticulture industry for the horticulture industry
	Research advisory and training requirements	Invest in the appropriate R&D, including variety trialling and testing	KSA 5 Research and Development for the horticulture industry
		Follow international best practice	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Support knowledge transfer	
		Develop knowledge networks	
		Develop horticulture college education offering	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities

Develop more orchards and attract more growers	Invest in agronomic intelligence	Conduct feasibility studies	KSA 8.2 Develop diversification models for new and existing and growers
		Develop detailed cost analysis	
	Develop a business case for expansion and / or market entry	Conduct a CBA for the sector	KSA 8.2 Develop diversification models for new and existing and growers
		Conduct feasibility studies	
		Communicate the available funding to growers	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
	Fill the knowledge deficit	Make potential prioritised funding available	Levers
		Develop education and training programs	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities
		Learn from international best practice	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Explore different business models	KSA 8.2 Develop diversification models for new and existing and growers

	Finance package availability	Align supports, grants and other supports, for example, accelerated capital allowances, seed capital scheme or equivalent	Levers
		Alignment of policies	Levers
	Development of POs	Encourage growers to join POs	KSA 1.1 Strengthen the position of the grower in the marketplace through collaboration
		Create accelerated training programmes for market access and knowledge acquisition	
Develop value-added, New Product Development (NPD) and waste valorisation opportunities	Develop innovation pathways for NDP and bio-based products	Develop market insight and secure sufficient resources to conduct research	KSA 8.1 Support innovative growers who are adding value Levers
	Increase penetration of traditional Irish craft cider in the Irish market (alcohol and non- alcoholic)	Incentivise craft cider by lowering the customs and excise barrier	Levers
		Set standards that specify Irish apple usage by volume in Irish branded products	Levers
		Engage with distributors and identify the size of the market price for non-alcoholic cider	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
Develop value-added, New	Develop different product formats, for	Research the size of the prize based on end use	KSA 6.3 Better data for better insights: Gather and share Irish and

Product Development (NPD) and waste valorisation opportunities (cont.)	example, apple flour for baked goods	Review the competition for these opportunities	international market insight and intelligence to drive commercial innovation and new product development KSA 8.2 Develop diversification models for new and existing and growers
		Conduct feasibility studies	
	Grow the sale of locally made juice	Package and promote the locally produced product story	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants

Glasshouse crops	Strategic Ambition: To stabilise and enable the building of capability in the protected crops sector, adding value through premiumisation and increasing the domestic market share underpinned by sustainability and innovation		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Expand volumes from existing producers to grow more	Make the sector more appealing	Create incentives through increased funding for the sector	Levers
	Premiumisation in retail	NPD and innovation programmes for value-added products	KSA 8.2 Develop diversification models for new and existing and growers
		Develop market segmentation	
		Increase promotion of the benefits of Irish grown crops. Establish the value around an 'Irish Tomato' and expand that to other crops such as cucumbers and salad leaves etc.	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
	Innovation and R&D	Identify alternative uses to find alternative buyers and routes to market	KSA 8.2 Develop diversification models for new and existing and growers
		Consider trends in crop types in the Netherlands and the rest of Europe	KSA 6.3 Better data for better insights: Gather and share Irish and international market insight and intelligence to drive commercial innovation and new product development
		Evaluate international trends in snack pack offerings and varieties across the salad crop market	

Horti-enviro-metrics and Life Cycle Assessment	Establish Horti-enviro-metrics	Develop “Horti-enviro-metrics” as a common measure to understand and communicate the sector’s environmental impact, conduct an LCA	KSA 6.2 Collect sustainability metrics (Horti-enviro-metrics) to evidence industry environmental credentials
		Develop research competency in overall sustainability of CEA (Controlled Environment Agriculture)	KSA 5 Research and Development for the horticulture industry for the horticulture industry
	Use findings to improve sustainability credentials	Communication and knowledge transfer	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Inform growers of funding support available to improve their sustainability	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Establish the merits of producing more food under this system	KSA 5 Research and Development for the horticulture industry for the horticulture industry
	Explore ways to improve the sector’s Horti-enviro- metrics	Look at existing innovation and international best practice	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
Energy	Develop the business case for	Discuss the R&D findings with key departments and government agencies, such as the Department of	Levers

	carbon credits	Finance	
	Identify alternative renewable energy sources	Assess the merits of emerging technologies	Levers KSA 5 Research and Development for the horticulture industry for the horticulture industry
		Identify the potential best solutions for the sector	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Provide funding support	Levers
Promote and drive consumer demand	Education on the value of in-season produce across the retail and food services sectors	Based on market insights, support and build a strong communication platform for buyers and consumers based around the local sustainable supply with positive environmental and health benefit credentials	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Use marketing tools to drive awareness	

Salad Crops	Strategic Ambition: To profitably increase salad crop production through modernising production systems that can maximise output while enhancing the sector' environmental sustainability		
Sub Sector Needs	Priority area	Actions from Opportunities for the Irish Horticulture Sector Report	Link to Key Strategic Action(s)/Levers
Modernise production systems to be more sustainable	Automate growing and harvesting	Invest in R&D, with a greater emphasis on food safety and irrigation water quality	KSA 5 Research and Development for the horticulture industry for the horticulture industry
		Identify the optimal technologies for local conditions	
		Knowledge transfer: communicate options to growers	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Provide funding to drive investment	Levers
	Develop the business case	Undertake a market analysis	KSA 8.2 Develop diversification models for new and existing and growers
		Establish market appetite for changes to production systems	
Select varieties and growing programs suitable for Irish producers	Develop a framework for smart variety screening and planting programmes	Facilitate a trial site in Ireland and invite seed companies to submit varieties. Provide additional resources through which Teagasc could facilitate such a trial site	KSA 5 Research and Development for the horticulture industry for the horticulture industry

	Research, advisory and training	There is currently no research or advisory capacity and limited expertise to describe in detail what the market opportunity in the glasshouse and salad crops sector could be and what the strategy should be. More detailed work needs to be conducted to assess the opportunity for CEA from both a market and technical perspective	KSA 5 Research and Development for the horticulture industry KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
Priority area: Select varieties and growing programs suitable for Irish producers (cont.)	Research, advisory and training (cont.)	Invest in the appropriate R&D	KSA 5 Research and Development for the horticulture industry
		Follow international best practice	KSA 7 Integrate horticulture back into the broader Agriculture Knowledge and Innovation System (AKIS)
		Support knowledge transfer, develop knowledge networks	
		Develop horticulture college education offering	KSA 4 Review horticulture course availability and suitability for a modern dynamic sector, enabling the educational platforms which can attract talent and realise opportunities
Promote and drive consumer demand	Education on the value of in-season produce across the retail and food services sectors	Based on market insights, support and build a strong communication platform for buyers and consumers based around the local sustainable supply with positive environmental and health benefit credentials	KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants
		Use marketing tools to drive awareness	

	Education and consumer awareness on the benefits of local produce	Emphasise the carbon footprint of locally produced crops versus the importation of a crop that is 90% water. Conduct LCA on Irish produced salad crops with complimentary marketing approach	<p>KSA 6.2 Collect sustainability metrics (Horti-enviro-metrics) to evidence industry environmental credentials</p> <p>KSA 2.3 Increase consumer appetite for local, fresh fruit and vegetables and amenity plants</p>
	Collaboration with retailers and facilitators	Develop grower's collaboration with retailers and facilitators to help better meet the needs of consumers	<p>KSA 2.1 Develop a written charter between growers, consolidators and retailers to support the long term production of local, in season, fresh, quality fruit and vegetables (including organic) as part of a framework to develop better partnerships and understanding of the sector by consolidators, retailers and consumers</p>
		Develop viable and sustainable business supply models with Irish growers	