Teagasc Plan for the Development of the Irish Cut Foliage Sector to 2020

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Contents   Page

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This report has been compiled by the Teagasc Cut Foliage Specialist with the support the main stakeholders (Foliage Ireland Group)* and sets out a plan for the continued development of the sector to 2020.

Purpose of the plan:

- Identify priorities that are vital to continue the planned expansion.
- Identify structural requirements that will facilitate development of the sector.

Key Recommendations

- The value of this new ornamental sector which is set to double in value to €7m within the next 3 years has delivered on jobs and exports to date and must continue to be supported by main state agencies so that the enterprise delivers its full potential to benefit the rural economy - €20m+ with 400 jobs by 2020.
- The 2020 foliage industry development programme continue to be managed and monitored via the Foliage Ireland Group which consists of representatives from the main state agencies including Teagasc, Bord Bia, DAFM, Enterprise Ireland, third level institutes and industry partners.
- The Teagasc Cut Foliage Specialist, supported by other specialist services in training and research continue to lead the technical development of the industry.
- That cutting edge technologies be applied at research, development and marketing stages with appropriate support in terms of resources & co-funding by the relevant agencies to:
    - Develop IPM systems that conform to E.U. regulations.
    - Develop protocols for species under protection.
    - Develop new processing systems that will add value.
    - Expand production via technically trialed new species.
    - Investigate mechanization systems in aspects of crop production.
    - Continue to develop better crop management systems.
    - Develop brand awareness & a green image of Ireland.
    - Align Irish production to conform to internationally recognized accreditation systems e.g. Global gap
    - Develop Dutch based distribution system.

Summary

The foliage industry in southern Ireland has grown significantly since its inception a few years ago. There are now 222 ha planted amongst 20 growers which should deliver over 25 million stems at full production within 5 years worth over €7m which will see a doubling of the current output. Given a continuation in expansion with new species emerging from trials in Teagasc Kildalton, there is potential for up to 400 jobs in production & added value processing by 2020 and an industry worth over €20m in export sales. It is a non-food crop that has no production quota limits.

The export market has grown substantially in recent years. Irish foliage is recognized as a very high quality product, and the market for cut foliage is expected to continue to grow (Burke 2012 Bord Bia). The market for foliage is an all year round business with massive uplift in demand during peak periods. Foliage processors need to restructure so that a lot more production is being directly supplied from growers own premises. An efficient logistics and foliage distribution centre needs to be developed in Holland to support the ongoing development of the industry.

Research & Knowledge transfer is provided primarily by Teagasc and the cut foliage specialist under a programme of work involving Teagasc Ashtown, Teagasc Kildalton and extension trials with host growers in Wexford & Kerry. The demand for woodland species continues to grow and evaluation of 'newer' species and developing management systems to produce uniform, blemish free foliages in large volume per unit area will continue to be the focus of research work. Other key areas of research that should be adequately supported and fast tracked so that Ireland continues to lead and dominate this market led fashion like business include: Integrated pest management, protected production, mechanization, new treatment technologies in processing for adding value, packing & distribution systems.

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1.0 Introduction

Foliage is the greenery used as a filler in flower arrangements. Foliage is also used for decorative purposes in events such as weddings, exhibitions etc. It is found either in forests or can be cultivated in temperate or tropical climates. The main temperate sources for the European market are Ireland, Italy, France, Portugal, Israel and recently Sri Lanka. The production of foliage from many tree and shrub species represents a new emerging industry which ideally suits the Irish climate. Substantial developments have been taking place in the south of Ireland in the growing and processing of cut foliage over the past number of years. Foliage is traded either by weight or by graded stem.

Specialist foliage producers trade in high volume/ low value product when compared to the flower component of bouquets. They need to continually improve their efficiency in production, product quality and product value. They also need to work closely with processors, wholesalers and retailers in collaborating on design, form and novel materials and combinations. This is necessary because the retail product is an ‘impulse buy’ and must appeal to the consumer instantly. The consumer finds the greatest attraction for foliage containing products which have the images of ‘freshness’, ‘naturalness’ and ‘green’ (in regard to its production location and values). It must also be ‘value for money’ in its vase life after it is purchased. These qualities place high demands on producers, handlers, wholesalers and retailers.

It is highly desirable and feasible that a greater proportion of foliage used in Europe is produced here rather than incurring the transport and environmental costs associated with long distance air journeys from Asia and other continents.

This plan considers the cut foliage industry under three headings – market, production & research & development. Finally, recommendations for development of the sector are outlined.

2.0 Market

The EU flower market is worth €14.5 billion of which foliage is €1.3 billion (Burke Bord Bia 2012) The British Flower Industry was worth an estimated €2 billion in 2009.
The foliage sector is estimated at between 10 and 15% of this or €100million. (Pearson pers comm, Burke, Bord Bia 2012) The European foliage market is very difficult to quantify as many big processors now buy foliage direct from large producers.
The market is currently growing at 5%/annum. The main supply comes from Italy, France, Israel, Sri Lanka, and Central America. European based production is extremely fragmented with many of the smaller foliage producers (1 to 4 ha) are leaving the industry.

2.1 The cut foliage market:

- Currently traded as a commodity and most lines are very price sensitive.
- Characterised by peaks – Valentines Day, Mothers Day, Easter and Christmas. The ability and scale to supply at these peaks is essential
- Most of the growth is via retailers - wholesale trade (florists) is under severe price pressure from constantly improving offers in supermarkets.
- Fair-trade, environment, freshness, quality, traceability, sustainability and low carbon footprint are becoming major drivers in the industry.
- Signing up and adherence to recognised production assurance programmes like Global Gap etc are vital for large scale growth.

There are two foliage marketing companies operating in Ireland Forest Produce Ltd in Tralee, Co. Kerry and O'Sullivan Foliage Ltd in Lismore, Co. Waterford.
Forest Produce Ltd are the biggest and have been key players in developing the cut foliage sector to date. They have cornered a substantial share of the quality U.K market and have given valuable leadership to the sector in Ireland. Currently, they source a range of foliages from Eastern & mainland Europe including Poland, Portugal, Italy & Holland. The current volume being produced on Irish plantations stands at 5 million stems annually. This is set to quadruple with 3-4 years as recent & new plantings begin to mature.

2.2 Market features & strengths:

- Fixing prices up to 1 year in advance of sales
- Thorough understanding of the market requirements
- Control of production means long term commitments on volumes
- Well trained workers for harvesting & processing
- Stream of new products coming to the market
- Short lead in times
- Good customer focus
- Investment in glittering and scenting facilities giving complete control over NPD work and development of new scents and finishes.

Customer feedback would suggest that there is significant potential for developing innovative products in tandem with commodities. Innovation at all levels from production to end product presented to the consumer is crucial to the economic success of this fashionable consumer dependent market.

Areas where more focus will be needed in the future include:

- Luxury foliages - Wholesale/Retail markets - longer stem lengths
- Part made Bouquets – demanded by European supermarkets utilising shorter stem length
- Added Value – glittering/scenting at Christmas, Red at Valentines, berries for Autumn etc
- Finished Products - Herb/Scented Bouquets, basket arrangements etc.

  During Christmas 2013, Kerry company Forest Produce Ltd successfully produced and delivered finished bouquets and candle arrangements direct to both ASDA and Morrison's in the UK.

2.3 Innovation & Product development

New treatment technologies to enhance the value of foliages and render them more important as components in new products need to be pursued.

Current investment in scenting/snowing/glittering foliages has captured the market's attention and requires more work in developing new finishes, new materials, etc. The frequent introduction of new species for use in innovative bouquet designs and new products will give Irish foliage a strong competitive advantage.

These new species will emerge from the current species screening work which is ongoing. Some foliage grown in trials in plastic tunnels and other protected structures have shown great potential. These need to be substantially ramped up as there is substantial potential to expand the production base by more exotic and market demanded species. This work needs to be fully resourced and fast tracked so that Ireland can really dominate what is in effect a fashion business.

2.4 Woodland / Wild Foliages

Despite predictions, demand for wild/woodland species continues to grow at a fast rate - especially at peaks - pine, noble fir, birch based products always in short supply at Christmas. Important tasks in accessing supply of this foliage would involve resolving issues such as ownership & tracability following the conduction of an inventory.
There needs to be some research work done on the possibility of cultivating some of the popular wild foliage species such as birch & bog myrtle.

2.5 Future marketing strategies:

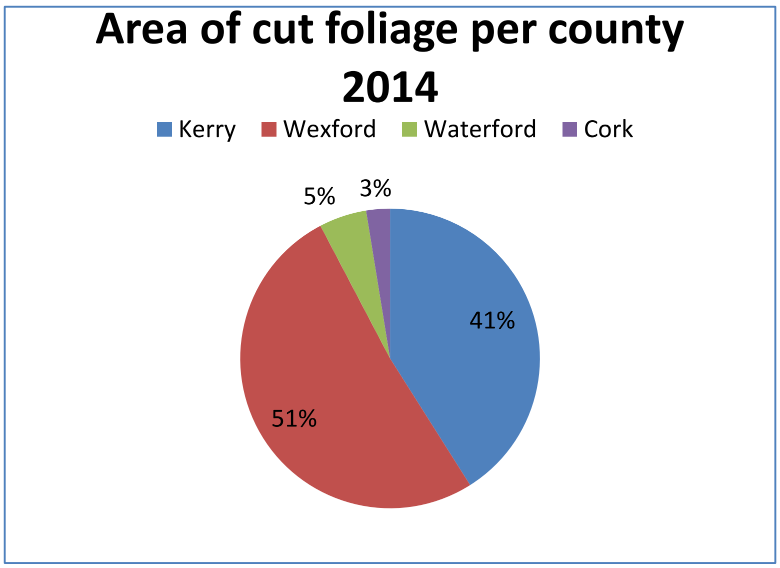
- The continued development of value added sales markets and improving the awareness of quality Irish foliage in the market.
- A study on the supermarket sector on the interest/uses of high quality innovative new foliages including 'exotics' in offerings in the high value product ranges especially at peak periods like Mother's Day, Christmas and Valentines.
- The collation of valued market data on value and consumption of floral products is necessary on an annual basis and should be a core objective of a marketing strategy.
- Efficient logistics will be crucial to growth.
  Research is needed on new packaging materials and packing systems that will have the twin objective of driving down costs and protecting product.
- New Irish foliage Distribution in Holland.
  It is vital that Irish foliage is freely available to the European market. This will mean the establishment of a centre in Holland that can meet European customer needs 6 days/week.

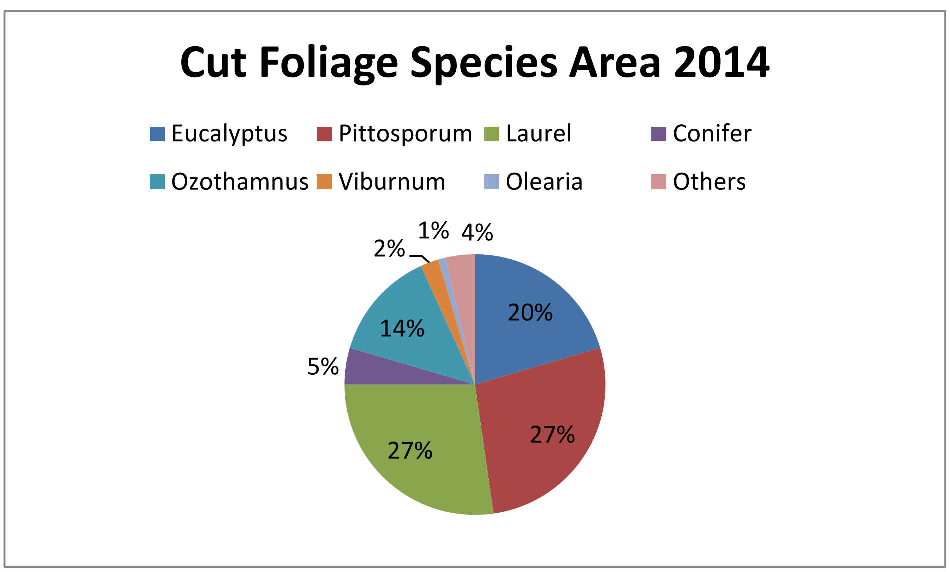
It is important that appropriate support & funding from the relevant state agency be forthcoming to help achieve the above strategies.

3.0 Production

3.1 Current state of play

Outdoor cut foliage production is concentrated the south of Ireland and presently there is a total of 220 hectares in the counties of Wexford (47%), Kerry (37%), Cork (10%) and Waterford (6%). Some smaller areas occur in Counties Kilkenny & Wicklow. There are 25 growers with plantation sizes from the smallest at 2 ha to the largest at 40ha. Figure 1 & 2.show the current state of play.





An expansion programme was embarked on following the devastating frosts of 2009 & 2010 which has seen over 150 ha of new plantings. This programme has taken place with the support of grant aid for establishment where plant materials and other capital items such as rabbit proof fencing, spraying equipment etc. have been supported via the programme of Investment in Aid for support of the Commercial Horticulture Sector operated by the Department of Agriculture, Fisheries and the Marine. The targeted expansion of 40 ha/annum has been met each year. Species grown under this expansion programme have emerged from the trials programme. It is imperative that support will be maintained for continued production expansion of species as they emerge from trials.

The current stem volume from established plantations stands at 6 million stems. The area planted should deliver in excess of 20 million stems at full production 3 years after planting. Under the previous development plan, it was suggested that up to 400 ha should be established by 2020 giving over 50 million stems for sale.

The plan outlined in 2010 suggested that growers would be set up around a lead grower in particular areas. This has occurred in Wexford with good success. Examples where this is working well are in Enniscorthy and Kilmore in Co. Wexford. Here 2-3 growers have come together and worked closely with one another to develop plantations and practices best suited to land type and location. One grower has become an extension host grower for trialing of newer species & management systems suitable for expansion going forward. This structure should be encouraged and promoted going forward.

Recent research results now suggests that some species should be established at higher densities (up to 4000 plants/ha) which results in better yield and quality.

Cultivation/management systems need to change following this new information. The focus should continue to be on producing uniform, blemish free foliages in large numbers/unit area.

Growers have adapted well to changes in methods of foliage cultivation. However, there remain some major difficulties in regards to the most suitable production model and management practice which are being addressed.

Training of growers in the skills of maintenance (spraying techniques etc) and best practice continues to be required and should be prioritised going forward.

3.2 Species selection

Species for scaling up have been selected following market feedback and is generally organised via the main processers. Species vary in terms of production inputs and management difficulty. For example, Eucalyptus & Pittosporum are relatively trouble free in terms of pest & disease control while other eg Prunus spp. are more challenging. Costs of production & management vary as a result. The market requires all species and the processors/buyers recognise this and the

importance of fair play in regards to payments to growers. A contract system is currently being developed to satisfy all interested parties.

3.3 Returns from foliage

Foliage is generally marketed to flower packers which in turn makes its way to the supermarkets who now account for 80% of sales. Within this trade, foliage is generally worth between 7 & 12 cts/stem. Returns to the grower after production, & processing costs are removed is normally 2-4 ct/stem. The achievement of high yield and quality are essential for good returns in foliage. Average returns per hectare are in the order of €2000. Foliage crops are deemed eligible under the Single Payment Scheme.

3.4 Production plan to 2020

The development plan 2010-2013 suggested that the foliage area should be in the order of 400 ha by 2020 given the demands from the market. This target remains but given the suggested changes to higher density planting with some species, the volume of stems can be achieved in a reduced area.

The structure of having a lead grower which commenced in Wexford should continue. This 'lead grower' will be supported to demonstrate best practice in production & processing of foliage. The lead growers should be given preferential treatment in terms of advisory support and grant aid. Grant aid should be targeted at establishment and maintenance for the first 3 year.

3.5 Training of growers & workers

A number of key horticultural skills are critical to success in foliage growing eg. crop spraying, pruning, pest & disease recognition, harvesting & grading, etc. It is important that the necessary training in the skill set required be put in place for growers and new entrants as required.

3.5 Funding

The scheme for investment aid in Commercial Horticulture must continue to be available for the continued development and expansion of the industry. Support for training of growers & workers must be provided as necessary.

4.0 Research & Development

Research & Knowledge transfer is provided primarily by Teagasc and the cut foliage specialist under a programme of work involving Teagasc Ashtown, Teagasc Kildalton and extension trials with host growers in Wexford & Kerry based processers Forest Produce Ltd.. Evaluation of new species, providing production & management blueprints for core & new species forms the basis of much of the current work programme. The continuation & expansion of this and other relevant experimental work is vital in underpinning & supporting the continual development of the industry.

Research required to support the continuing development of the cut foliage sector include:

1. Continuation of the programme of screening of a range of plant material to identify ‘newer’ & innovative types to continuously excite an expanding market.
2. Trials of selected species in protected structures to improve quality and yield.
3. Agronomy trials to improve efficiency in terms of yield & quality of selected lines.
4. The investigation of Integrated Pest Management (IPM) practices in the production of core foliage species.
5. Investigation into the mechanization of pruning & harvesting techniques for core cut foliage species eg. Prunus
6. Investigations into the cultivation of wild/woodland species such as birch & bog myrtle.
7. Foliage improvement technology to provide technological solutions to reproduce masses of plants from selected trees/plants which have high quality and can give large volumes of foliage among selected species.
   Eg. Eucalyptus
8. Trials in the processing and added value of foliage to be accelerated given the installation of glittering & painting facilities in the main processing plant in Kerry.

4.1 Species selection

The species screening programme which commenced in 2011 has delivered a number of new species into the expansion programme eg Viburnum

This worked whereby observation or small trials plots of a wide range of foliages and some flowers species were planted and their performance monitored both from physical and market perspectives.

The primary objective is to take instruction from the market and develop a blue print for the production of new consumer demanded products. It is vital the support is forthcoming to take selected species from trials at Kildalton College to pilot stage to ascertain consumer reaction - ideally in a planned fashion with an existing customer.
Once the pilot has been successfully completed, all information is available to any interested parties to take to full commercial stage.
This work is vital in the maintenance and increase in market share and will continue to be priotrised. All information will be in the public domain and transmitted to the industry via Teagasc in the form of field days and newsletters.

4.2 Protected Cropping

As the cut foliage enterprise develops, it is clear that market demands are now requiring totally blemish free and very exacting quality standards/specifications in terms of stem length which can only be met through some form of protected production be it full or partial. Quality improvements will also result from cultivation under full or semi-shade
. The evaluation of species for suitability under protection should now come centre stage and a part of a wider programme over the next number of years.
Indications and feedback from the market suggest that the quality and specification attained when grown under protection can command a higher price.
From small scale work in the area in 2012 - 2013, production blueprints for at least 2 ‘new’ foliage fillers have been developed eg. Solidago & Ornamental Brassicas.
It is now planned to scale these species up into commercial size units.

4.3 Integrated Pest Monitoring

Given the impact of new EU legislation with the introduction of the Sustainable Use Directive (SUD) in Jan 2014, growers are now obliged to implement programmes for pest & disease control incorporating integrated pest management techniques. Pests & diseases are still the major cause of quality defects.
Given the relative infancy of the cut foliage enterprise, little if any IPM programmes have been developed for such crops. Some pest monitoring commenced in 2013 and this work needs to be accelerated in 2014 and beyond.
The identification of pest & diseases in conjunction with monitoring using pheromone trapping technology is paramount to this process with the eventual development of economic programmes for P & D. This area of work is a priority going forward and must be funded appropriately.

4.4 Mechanisation for pruning & harvesting

Foliage pruning & harvesting/extraction is currently done manually, with little or no usage of modern pruning technology. Current manual pruning and harvesting extraction is physically difficult, costly and reduces output/worker.
There is an urgent need to investigate potential to mechanise pruning and extraction/harvesting.

4.5 Funding

Teagasc have continued to fund the species & agronomy trials under a Research programme from the core funding budget. This should continue through 2014 and 2015. It will incorporate the work on protected crop screening. Given the importance of adopting Integrated Pest Management (IPM) production systems under current legislation, there is an urgent need for appropriate support in evaluation of the economics of appropriate IPM systems.

5.0 Recommendations

- The value of this fledgling ornamental sector which is set to double in value to €7m within the next 3 years has delivered on jobs and exports to date and must continue to be supported by main state agencies so that the enterprise delivers its full potential to benefit the rural economy.
- The 2020 foliage industry development programme continue to be managed and monitored via the Foliage Ireland Group which consists of representatives from the main state agencies including Teagasc, Bord Bia, DAFM, Enterprise Ireland, third level institutes and industry partners.
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    - Develop Dutch based Distribution system.

References

1. Cut Foliage Market Report – Burke R, Bord Bia 2012