Organic Farm Walk

with Padraig Fahy & Úna Ní Bhroin
Beechlawn Organic Farm
Ballinasloe, Co. Galway

Teagasc
Agriculture and Food Development Authority

Welcome to Beechlawn Organic Farm for this organic farm walk organised by Teagasc. Thank you for taking the time to attend. A special thanks to Padraig, Úna and everyone at Beechlawn Organic Farm for hosting the farm walk.

Topics for discussion

- Welcome and overview of Beechlawn Organic Farm
- Growing organic module transplants from seed: techniques, varieties and management
- Polytunnel and field-scale organic vegetable production
- Machinery and equipment

Beechlawn Organic Farm producers of organic vegetable crops. Field cultivation, bed forming, transplanting and crops growing.

Contents

Beechlawn Organic Farm overview

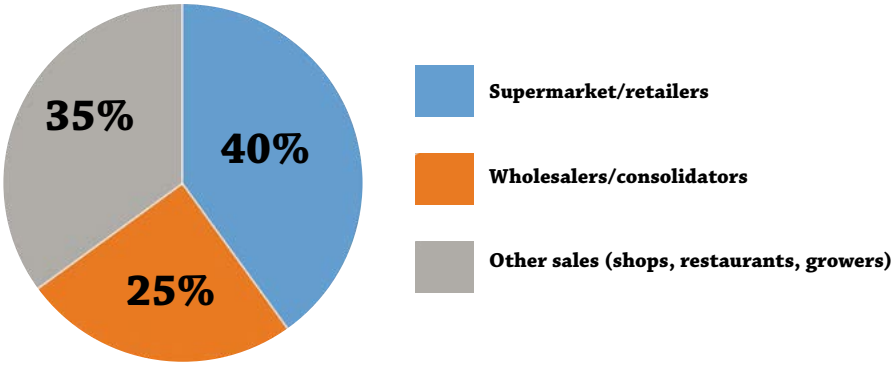
Background to present day

Established in 2002 by Padraig Fahy and Úna Ní Bhroin, Beechlawn Organic Farm are producers and distributors of Irish grown and imported organic fruit and vegetables. Certified by the Irish Organic Association and Bord Bia Sustainable Horticulture Assurance Scheme, the farm comprises both field-scale and protected production of organic horticultural crops including leaf and root Brassicas, Alliums, beetroot, spinach, celery, root vegetables, tomatoes, cucumbers and a range of salad leaves.

A range of seasonal organic vegetables produced by Beechlawn Organic Farm.

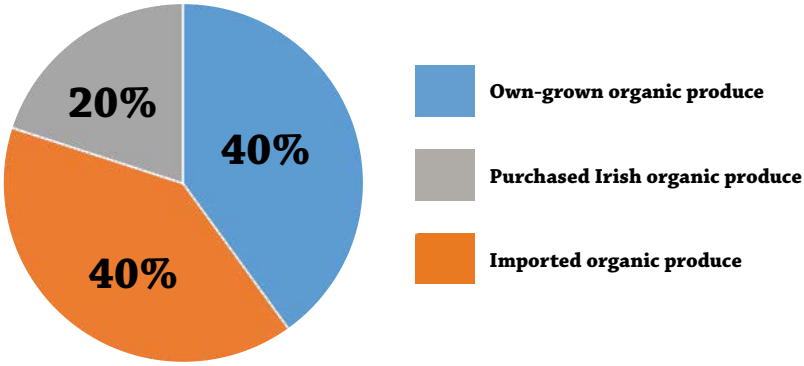
During the first few years in business Beechlawn Organic Farm sold their organic produce through a box scheme, later selling at farmers markets, to now where the award winning enterprise has grown and sells produce to supermarkets, wholesalers/consolidators and other outlets (shops, restaurants, growers). They employ 20 people full time as part of their field, packhouse, delivery, office and sales teams. Widely known as one of the leading organic enterprises in Ireland, Beechlawn Organic Farm have previously been a Teagasc/DAFM Organic Demonstration Farm and key Operational Group member of the Maximising Organic Production Systems (MOPS) EIP-AGRI project 2018-2021. They have successfully participated in the Food Academy programme delivered by SuperValu, Bord Bia and Local Enterprise Office Network, and are an ongoing Organic Growers of Ireland (OGI) placement host farm.

Market outlet breakdown



Beechlawn Organic Farm market outlet breakdown: supermarkets/retailers (40%); wholesalers/consolidators (25%); other sales including shops, restaurants, growers (35%).

Total sales turnover breakdown



Beechlawn Organic Farm total sales turnover breakdown: own-grown produce (40%); purchased Irish organic produce (20%); imported organic produce (40%).

Organic plant raising

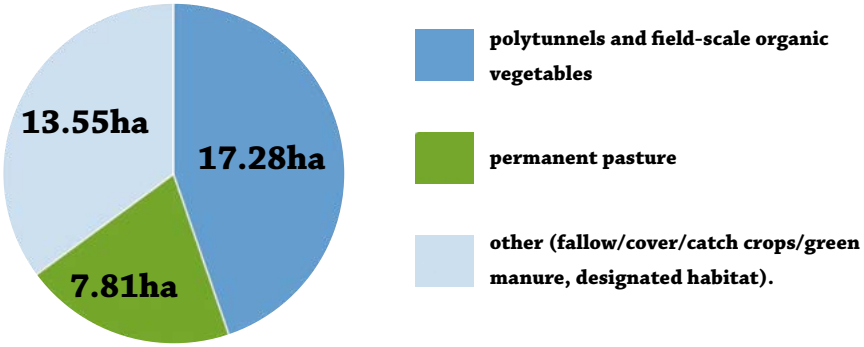
Beechlawn Organic Farm have in recent years advanced their plant raising operation to sell organic vegetable plants to other organic growers, particularly Brassicas, spinach and chard.

Organic plant propagation from seed in modules at Beechlawn Organic Farm.

In the coming few years, a significant portion of their organic field vegetable production will be moved to newly leased land that is currently in organic conversion.

Polytunnel and field-scale organic vegetable production

Farm land area (owned and leased)



Beechlawn Organic Farm land area:
17.28 ha polytunnels and field-scale organic vegetables; 7.81 ha permanent pasture; 13.55 ha other (fallow/cover/catch crops/green manure, designated habitat).

Crops and varieties

Organic production rules require the use of organic plant reproductive material whenever it is available (see OrganicXseeds Ireland). Growers may apply to their Organic Control Body (OCB) for a derogation to use non-organic, non-chemically dressed plant reproductive material if the required variety is not available as organic.

Polytunnel crops	Variety	Spacing (cm)	Sowing/Planting
Celery	Victoria	30 × 25	Apr-May
Celery	Jive	30 × 25	Apr-May
Celery	Green Sleeves	30 × 25	Apr-May
Cucumber	Kalunga	45 × 45	Mid May-mid Jun
Lettuce	Barlach	20 × 20/30 × 30	Late Apr-early Sep/late Sep-mid Oct
Lettuce	Olana	20 × 20/30 × 30	Late Apr-early Sep/late Sep-mid Oct
Mizuna		20 × 20/30 × 30	Late Apr-early Sep/late Sep-mid Oct
Mustard	Red Frills	20 × 20/30 × 30	Late Apr-early Sep/late Sep-mid Oct
Spinach (perpetual)	Everglade	40 × 20	Early Apr-mid Sep
Tomato	Sakura	45 × 45	Mid May

Polytunnel production of organic celery, tomatoes, cucumbers and salads at Beechlawn Organic Farm.

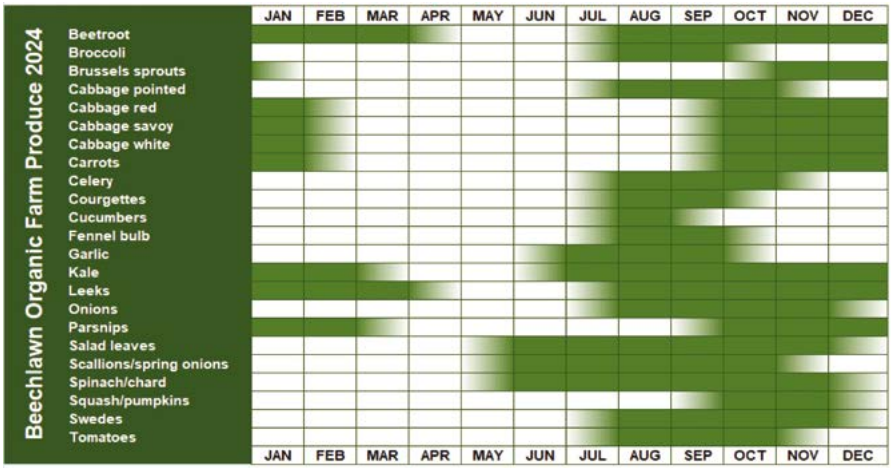
Field crops	Variety	Spacing (cm)	Sowing/Planting
Artichoke	Jerusalem	75 × 40	Mid Apr
Beetroot	Boldor	40 × 2.5	Early Apr-early Jun
Beetroot	Boro	40 × 2.5	Early Apr-early Jun
Broccoli	Parthenon	75 × 35	Early Apr-mid Jul
Brussels sprout	Neptuno	75 × 40	Mid-late May
Brussels sprout	Petrus	75 × 40	Mid-late May
Cabbage pointed	Caraflex	75 × 30	Early Apr-early Aug
Cabbage red	Klimaro	75 × 30	Mid Apr-mid May
Cabbage savoy	Paresa	75 × 40	Early Jul
Cabbage savoy	Cantasa	75 × 40	Early Jul
Cabbage white	Kaluga	75 × 30	Early May
Cabbage white	Impala	75 × 30	Early May
Carrot	Miami	75 × 1.5	Early May
Carrot	Napoli	75 × 1.5	Early May
Carrot	Nairobi	75 × 1.5	Early May
Carrot	Rodelika	75 × 1.5	Early May
Celery	Victoria	30 × 25	Jun-early-Aug
Celery	Jive	30 × 25	Jun-early-Aug
Celery	Green Sleeves	30 × 25	Jun-early-Aug
Chard	Bright Lights	40 × 20	Early Apr-mid Sep
Courgette	Tosca	100 × 100	Early-late May
Fennel	Rondo	30 × 20	Mid Apr-mid Jul
Garlic		20 × 20	Oct-Nov
Kale	Black Magic	75 × 35	Early Apr
Kale	Uncle John's	75 × 35	Mid Jul
Kale	Oldenbor	75 × 35	Early Apr-mid Jul
Leek	Krypton	75 × 10	Mid Apr-Jun
Leek	Pluston	75 × 10	Jun-mid Jul
Leek	Laston	75 × 10	Jun-late Jul
Lettuce	Analora	20 × 20	Late Apr-early Sep
Lettuce	Admir	20 × 20	Late Apr-early Sep
Lettuce	Barlach	20 × 20	Late Apr-early Sep
Lettuce	Olana	20 × 20	Late Apr-early Sep
Mizuna		20 × 20/30 × 30	Late Apr-early Sep
Mustard	Red Frills	20 × 20/30 × 30	Late Apr-early Sep
Onion	Hylander	40 × 15	Mid Apr
Onion	Red Baron	40 × 3/40 × 15	Early-mid Apr
Parsnip	Javelin	75 × 2.5	Early Apr-mid May
Pumpkin	Knuckle Head	100 × 100	Mid May
Pumpkin	Goosebumps	100 × 100	Mid May
Scallion/spring onion	Parade	25 × 15	Early Apr-mid Jul
Spinach (perpetual)	Everglade	40 × 20	Early Apr-mid Sep
Squash	Uchiki Kuri	100 × 100	Mid May
Swede	Helenor	75 × 15	Early Apr-late May
Sweet corn		75 × 40	Early-mid Jun






Field production of organic Brassicas, salads, Alliums and beetroot at Beechlawn Organic Farm.

Organic produce season



Beechlawn Organic Farm organic produce season guide for 2024.

Rotation

Field production

For organic land under field vegetable production, Beechlawn Organic Farm typically use a one/two year fertility building period (green manure) for every three years of cropping. The cropping sequence for the major crops is Brassicas/Alliums/root crops/Brassicas and back to green manure. This rotation is supplemented with permitted soil amendments/nutrients as indicated by soil test results and crop requirements. For the land currently in conversion there is greater opportunity for a longer fertility building phase. The majority of this land is under two years of grass/clover followed by three years of cropping.

Polytunnel production

Soil fertility for all year round polytunnel crop production (salad leaves, celery tomatoes/cucumbers/scallions/spinach) with more intensive cropping periods is managed by rotation, which can include short term green manures, and permitted soil amendments/nutrients.

Soil and nutrient management summary

The majority of Beechlawn Organic Farm soils are described as typical calcareous brown earths, coarse loamy over calcareous gravels. A smaller area of the lower land at the home farm comprises peat with higher organic matter levels (>20%). The soil pH ranges from 7.5 to 7.8 for the polytunnel soils and pH 5.6 to 7.6 for field soils. The naturally high soil pH levels above 7.0 for a large proportion of the soils is in the main due to the underlying parent material which is limestone. Nutrients occur in a form most readily available to crop plants when the soil pH is between 6.2 and 7.0, and the optimum use of organic fertilisers containing nitrogen (N), phosphorus (P) and potassium (K) is obtained at this soil pH. Availability of some nutrients, for example P, manganese (Mn) and boron (B), is decreased when pH increases beyond 7.0.

Overall, Beechlawn Organic Farm soils are predominantly medium to high P and K Index (3 or 4) with the exception of a number of areas e.g. K Index 1 in the new polytunnel where K will be increased to target Index levels. The main sources of soil N supply to meet crop needs, especially for Brassicas and celery with higher N requirements, are nitrogen fixing plants in the rotations (clover/green manures), imported poultry manure base dressing and pelleted poultry manure top dressing. K is also needed in large quantities by Brassicas, which is supplied in poultry manure and potassium sulphate when indicated by soil tests. Magnesium (Mg) levels are medium to high and soils have available calcium (Ca), which is important for crops like Brussels sprouts, lettuce and celery that are susceptible to Ca deficiency. Mn deficiency occurs where soil pH and organic matter levels are high and peaty soils where pH is >6.0. Mn deficiency in the polytunnel crops is controlled by foliar applications to susceptible crops during the season. Beechlawn Organic Farm grow a range of crops that are prone to B deficiency including Brassicas, celery, carrots and beetroot. Solubility of B is pH dependent and B deficiency is more frequent on alkaline soils, particularly at pH 7.0 and above. B levels in soil are increased/maintained in the base dressing and through foliar applications during the season.

Polytunnel production soil analysis results

Polytunnels soil fertility summary	Index	New polytunnel (2024) soil fertility	Index
P	4	P	4
K	4	K	1
B	2-4	B	3
Cu	4	Cu	4
Mn	1	Mn	1
Zn	4	Zn	4
Mg	4	Mg	4
OM %	31.2-35.7	OM %	25.6
pH	7.7-7.8	pH	7.5

Field production soil analysis results

Organic land soil fertility summary	Index	In-conversion land soil fertility summary	Index
P	1-4	P	3-4
K	1-4	K	2-3
B	2-3	B	2
Cu	3-4	Cu	4
Mn	2-3	Mn	3
Zn	3-4	Zn	3
Mg	3-4	Mg	3
OM %	7.6-11.2	OM %	5.1-6.4
pH	5.6-7.6	pH	6.4-7.0

Authorised fertilisers, soil conditioners and nutrients used by Beechlawn Organic Farm	Application
Composted poultry manure	Soil
Poultry manure pellets	Soil
Soft ground rock phosphate	Soil
Limestone (calcium carbonate/calcium magnesium carbonate)	Soil
Sulphate of potash (potassium sulphate)	Soil
Sulphur	Foliar
Manganese	Foliar
Copper	Foliar
Boron	Foliar
N, P, K and trace elements	Foliar

Use of poultry manure as an organic fertiliser (S.I. No. 113 of 2022)

Amount of nutrients contained in 1 tonne of poultry manure	Total N (kg)	Total P (kg)
Broilers/deep litter	28.0	6.0
Layers 55% dry matter	23.0	5.5

S.I. No. 113 of 2022

Available nutrients	N	P Soil Index 1 & 2	P Soil Index 3 & 4
Poultry manure	50%	50%	100%

S.I. No. 113 of 2022

Nutrient availability and example application rate poultry manure

Poultry manure	Available N (kg/ha)	Available P (kg/ha) Soil Index 1 or 2	Available P (kg/ha) Soil Index 3 or 4	Available K (kg/ha) Soil Index 1 or 2	Available K (kg/ha) Soil Index 3 or 4
Layers (55% dry matter)	11.5	2.8	5.5	11.0	12.0

Application rate peoultry manure layers (55% dry matter)	Available N (kg/ha)	Available P (kg/ha) Soil Index 1 or 2	Available P (kg/ha) Soil Index 3 or 4	Available K (kg/ha) Soil Index 1 or 2	Available K (kg/ha) Soil Index 3 or 4
7 t/ha	80.5	19.6	38.5	77.0	84.0

Poultry manure, similar to all organic manures, has a variability in nutrient content. Take a representative sample from the manure to determine actual nutrient values prior to application. The total amount of livestock manure used for in conversion and organic production shall not exceed 170 kg of nitrogen per year/ha.

Note compliance requirements:

- Organic Food and Farming Standards of Ireland
- Statutory Instrument S.I. No. 113 of 2022 [European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022]
- Code of Good Practice for End-Users of Poultry Litter Department of Agriculture, Food and the Marine (DAFM)

Weed, pest and disease management summary

Carrots, parsnips, beetroot and swedes

Cultivations and bed preparation early for stale seed bed and thermal weed control with brush weeder and inter-row cultivations for weed management. Hand weeding within rows where needed. Sowing date and protective crop netting for carrot fly. Crop mesh to protect swedes against cabbage root fly and flea beetle.

Leeks, onions and scallions

Continuous grubbing to manage weeds in leeks reduces manual weeding and increases the length of blanch. Wide drills for leeks improves air movement in the crop and reduces disease pressure. Rust incidence can be higher in some growing seasons. Onions and scallions planted through biofilm. Good air movement reduces risk of downy mildew.

Brassicas

Cultivations before planting for weed control. Subsequent inter-row mechanical weeding reduces the need for hand weeding. Wider 75 cm spacing between rows makes weed management easier. Growing crops in fields with good air movement decreases leaf disease incidence during the wetter months and winter. The wider row spacing also improves air movement in crops to reduce disease risk. Earlier harvesting of kale, for example, by picking the bottom three to four leaves improves air movement around the plants, which reduces disease pressure. Soil pH >7.0 for much of the land reduces clubroot risk. Aphid control by natural enemies and permitted bioinsecticide only if required. Working with entomopathogenic nematodes as biocontrol for cabbage root fly in transplants. Biological insecticide used for biocontrol of cabbage white butterfly and diamond back moth caterpillars if needed. Approved slug pellets used for slug management in crops like Brussels sprouts.

Salads

Weed management in salads achieved by planting into a freshly made bed, by the stale seedbed technique or planting through biofilm followed by some hoeing and/or hand weeding where needed. For indoor salad crops, managing humidity, air movement and irrigation avoiding wet leaves lessens the risk of leaf diseases e.g. downy mildew. Crop mesh to protect mustards against flea beetle if required.

Protected cucumbers and tomatoes

Protected crops can be susceptible to spider mite. Good hygiene practices are important along with monitoring and early, repeat applications of biocontrol agents or approved bioinsecticide if required.

Celery and fennel

For celery, beds are prepared in advance using the stale seedbed technique. Mechanical weeding after planting celery is very challenging due to the close distances between plants. Celery also planted through biofilm. Celery spot (Septoria) can be challenging, and aphids. Fennel crops are planted through biofilm for managing weeds, which otherwise can be very difficult to manage due to the close spacing.

Courgette, pumpkins and squash

Weed control in courgette, pumpkin and squash crops achieved by covering the beds with a biofilm, which reduces hand weeding. Powdery mildew can be a challenge, particularly late in the season, and slugs.

Note compliance requirements:

- Organic Food and Farming Standards of Ireland
- Regulations, registers and guidance for Plant Protection Products. See DAFM Pesticide Registration and Control Divisions.

Certification, farm schemes and grants

Beechlawn Organic Farm certification

- Irish Organic Association
  - Organic production/production during the conversion period
  - Processing (preparation, distribution/placing on the market, storing)
- Bord Bia Sustainable Horticulture Assurance Scheme (SHAS)

Farm schemes and grants

Beechlawn Organic Farm key schemes and grants applied for through the Department of Agriculture, Food and the Marine (DAFM).

- BISS
- CRISS
- ANC
- ECO-SCHEME
- Organic schemes
- ACRES
- Scheme of Investment Aid for the Development of the Commercial Horticulture Sector

Further information

Converting to organic horticulture step by step guide

- Contact OCB to request application pack or complete online (application form, conversion plan, ORG1 form).
- Certification fees payable on application based on hectares being certified
- A holding may be split into organic, in-conversion & non-organic
- OCB review application & proceed to initial inspection
- An in-conversion organic licence number is granted to successful applicant
- Horticulture 2 year conversion period
- Once 2 year conversion complete, produce classified as fully organic

Organic conversion	Timeline
Conversion start date	1st January 2024
Produce eligible for in-conversion status harvested	1st January 2025
Organic status awarded for land	1st January 2026
Organic status for crops sown after	1st January 2026

- Perennial crops e.g. fruit trees must undergo 3 year conversion period
- Reduced conversion period under specific conditions (contact OCB)
- Licence renewal beginning of each calendar year
- Annual Renewal Form
- Annual fee
- Licence reissued
- Annual inspection & unannounced inspection and/or produce sampling

Competent Authority: Department of Agriculture, Food and the Marine (DAFM)

Organic Control Body (OCB): Irish Organic Association

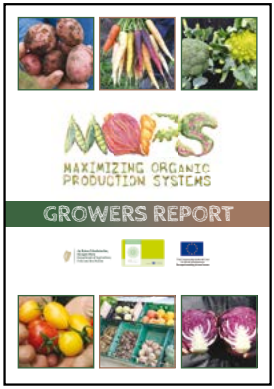
Organic Control Body (OCB): Organic Trust

Teagasc

Teagasc Organics

Teagasc Horticulture Development Department

Publications



Maximising Organic Production Systems (MOPS) EIP-AGRI project 2018-2021

Review of organic food sector and strategy for its development 2019-2025

National Strategy for Horticulture 2023-2027

Notes

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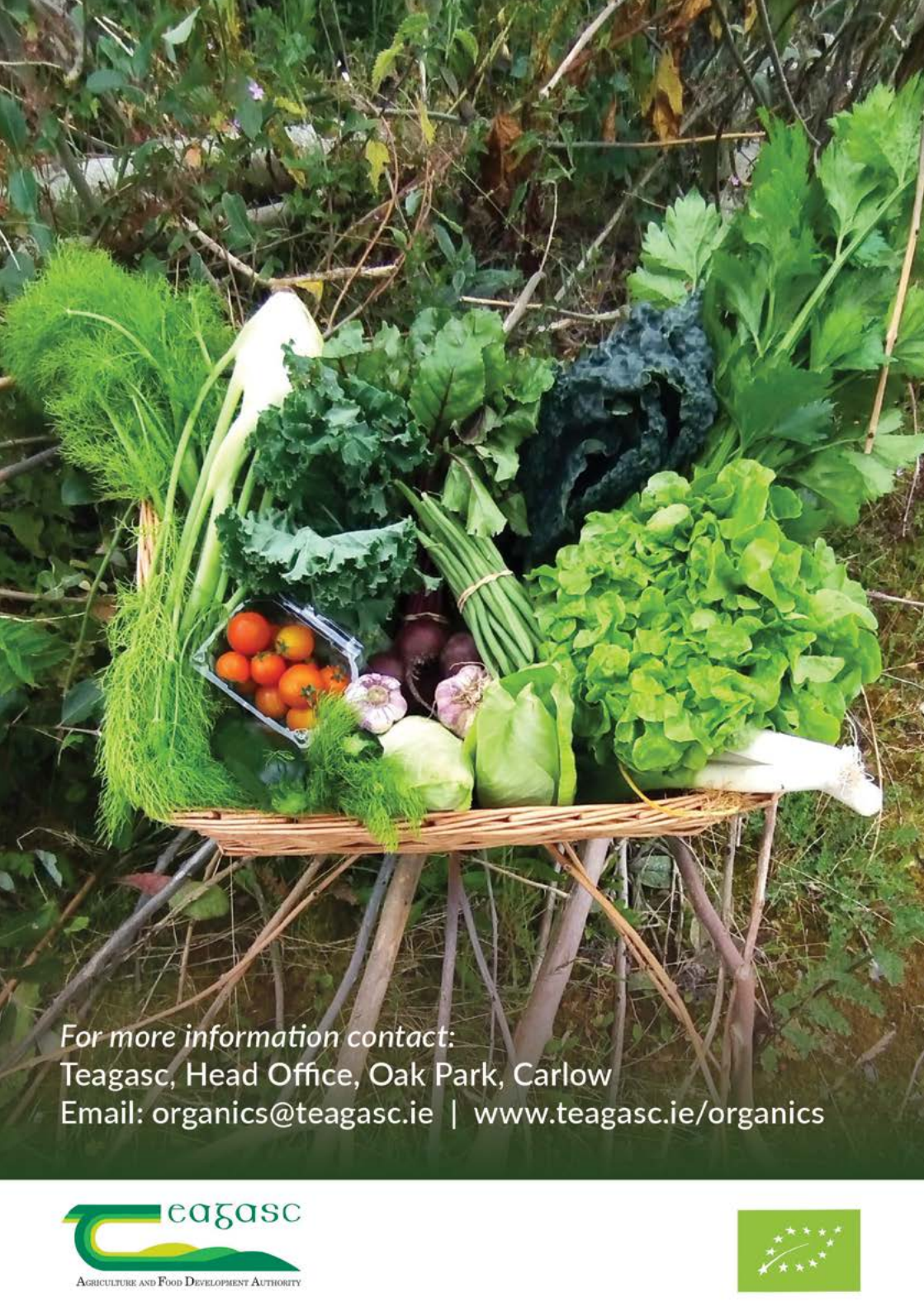

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