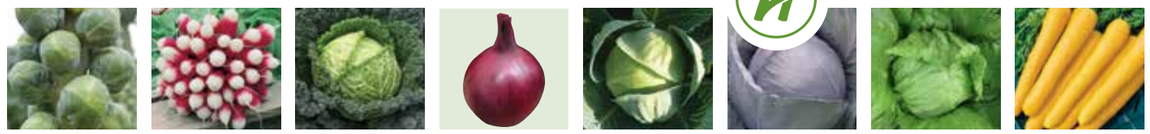


Vegetable Seeds
2022 // 2023

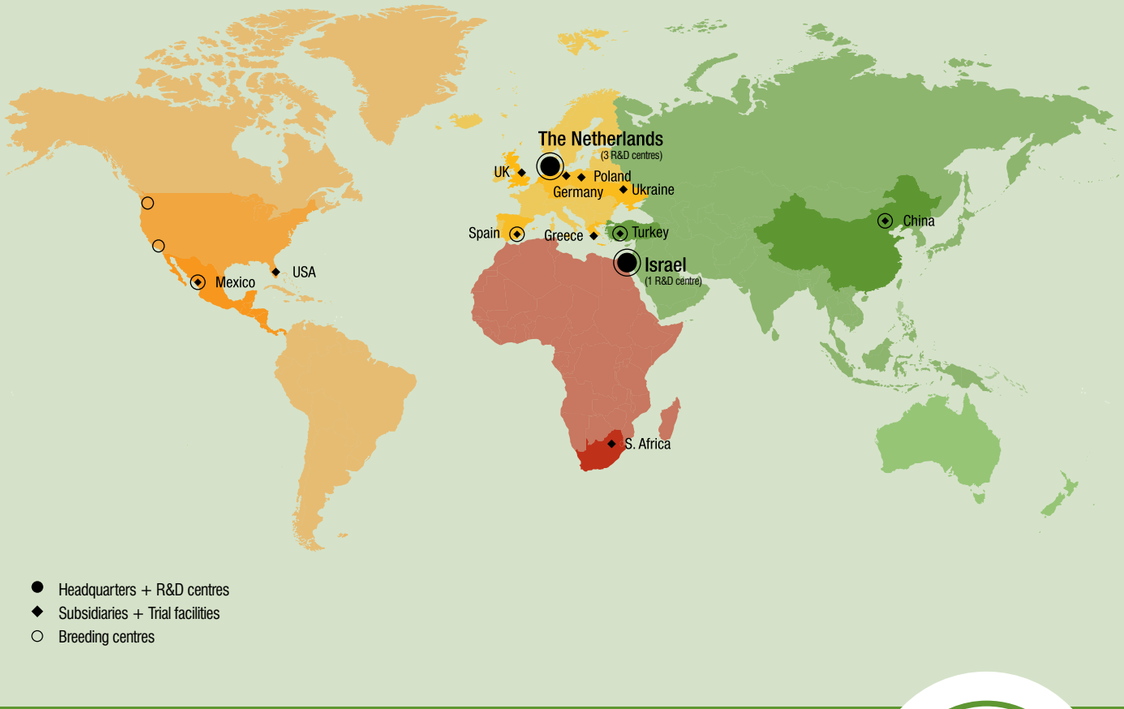
Hazera in the UK:

Hazera Seeds UK Ltd, J.N.R.C, Rothwell, Market Rasen,
Lincolnshire, UK. LN7 6DT

+44 (0) 1472 371531 +44 (0) 1472 371547

www.hazera.uk.com info@hazera.uk.com

Hazera
Seeds of Growth



Seeds of Growth

As global leader in the seed industry, Hazera brings you expertise, commitment and support founded on the legacies of Hazera Genetics and Nickerson Zwaan. Combining decades of experience with state-of-the-art technology, we breed, develop, produce and market varieties and seeds in a wide range of vegetable crops around the world.

• • •

Worldwide Presence

Hazera's headquarters are situated in The Netherlands and in Israel, with subsidiaries in eleven countries and an extensive distribution network providing services in over a hundred additional markets. This worldwide presence enables us to be close to our customers. It allows us to offer technical support and to anticipate and respond to local needs by creating varieties that fit specific climates, growing conditions and market requirements.

Committed to Innovation

Our ethos is to cultivate progress through dedicated research. Continuously innovating, we combine modern science with traditional breeding methods to create top quality and high yielding varieties. Hazera works directly with leading international research institutions, applying the latest science to generate better solutions for customers worldwide. Our processes and laboratories are certified in accordance with the highest quality standards, including ISO and NAL.

• • •

Focus on the Grower

Customers are at the heart of everything we do. Our experts actively engage with them to evaluate their needs, assisting with variety selection and providing guidance and support throughout the entire crop cycle. This hands-on approach adds extra value, helping our customers to maximise crop potentials with minimum inputs, leading to longer term prosperity.

Vilmorin

Vilmorin is one of the top European vegetable seed breeding companies and has a heritage of innovation and varietial improvement spanning over 250 years.

They are based at La Ménitré near Angers in the Loire Valley, but also have other research centres including southern France, Spain, Italy, Brazil and the USA. In addition to being market leaders in cauliflower, carrot and lettuce, Vilmorin also specialise in babyleaf, asparagus, aubergine, pepper, radish, tomato, chicory witloof, red beet, peas and beans.

To complement their highly advanced breeding work, Vilmorin are also one of the major centres for vegetable seed technology within the Limagrain Group, producing new methods of seed enhancement and coating to further improve seed quality and performance.

Limagrain

Hazera is part of the Limagrain Group, an international agri-business based in France. Being a farmers' cooperative, the Limagrain Group understands the needs of its customers and has grown to become the largest seed company in Europe, specialising in vegetables, field crops and cereal products. Limagrain's vegetable seed division is the largest company in the industry.

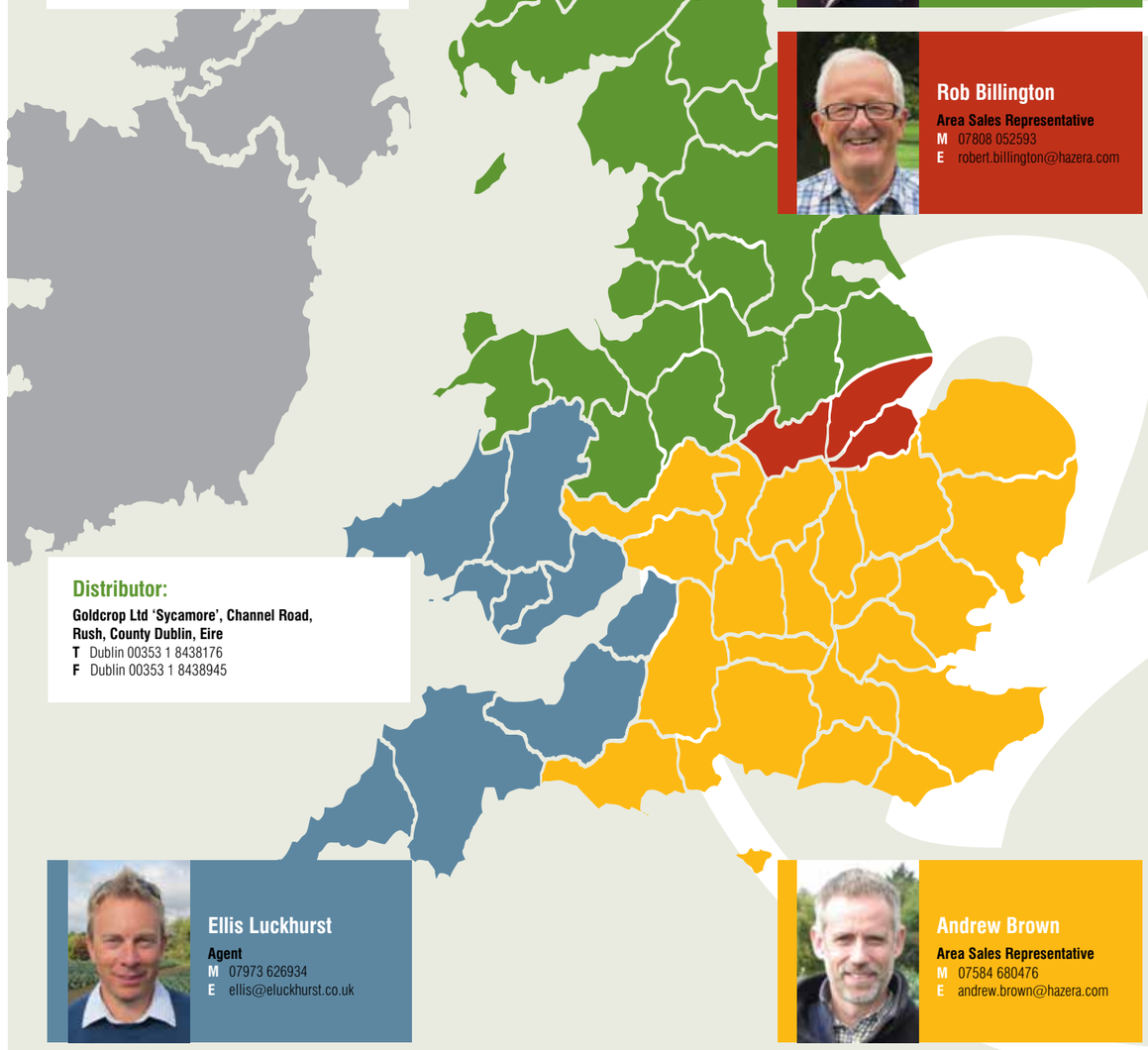
Hazera

Hazera Seeds UK Ltd

Distributors:

Burkes Agri Supplies Ltd
81 Mullantine Road, Portadown, County Armagh BT62 4EJ
T 0283 8841155 **F** 0283 8841655 **M** 07850 310322

Trevor Gabbie
15 Ballymaleddy Road, Comber, County Down BT23 5PH
T 02891 872077 **F** 02891 870469



Distributor:

Goldcrop Ltd 'Sycamore', Channel Road, Rush, County Dublin, Eire
T Dublin 00353 1 8438176
F Dublin 00353 1 8438945

Our team:

J.N.R.C, Rothwell, Market Rasen, Lincolnshire, UK. LN7 6DT

01472 371531
01472 371547
info@hazera.uk.com
www.hazera.uk.com

Sean Leather
Area Sales Representative
M 07860 233205
E sean.leather@hazera.com

Rob Billington
Area Sales Representative
M 07808 052593
E robert.billington@hazera.com

Andrew Brown
Area Sales Representative
M 07584 680476
E andrew.brown@hazera.com

Mark Sutherland
General Manager
T 01472 371531
M 07860 286605
E mark.sutherland@hazera.com

Nick Bolton
Market Development Manager - Brassicas
M 07720 037983
E nick.bolton@hazera.com

John De Soyza
Market Development Manager - Roots and Field Salads
M 07860 227227
E john.desoyza@hazera.com

Lorraine Shaw
Leafy Crop Specialist
M 07595 217099
E lorraine.shaw@hazera.com

Kym Smith
Product Development Specialist - Roots and Field Salads
M 07584 680475
E kym.smith@hazera.com

Tanya Kayes
Product Development Specialist - Brassicas
M 07860 233210
E tanya.kayes@hazera.com

Leanne Hunt
Communications Manager

Julie Cormack
Customer Service and Relations Manager

Marian Sanderson
Bookkeeper

Dawn Smith
Finance and Admin Manager

Holly Unwin
Customer Service Administrator

Phil Pywell
Seed Distribution

Chris Bratley
Seed Distribution

Harry Gray
General Assistant

Hazera

NEW

NEW Varieties: **Brassicas**

19

17-1733 F1
Late season, 143-day white cabbage.

20

Campbell F1 (17-1494)
Large heading, 145-day white cabbage.

32

Tostakis F1 (VT 4040) Vilmorin
Late April maturing, 263-day cauliflower.

33

VT 4068 F1 Vilmorin
Early May maturing, 270-day cauliflower.

38

Purple Rain F1
Wholehead purple broccoli.

NEW

NEW Varieties: **Roots**

40

Subito F1 Vilmorin
Early season carrot.

44

37-219 F1
Very early maturing red onion.

NEW

NEW Varieties: **Salads and Miscellaneous**

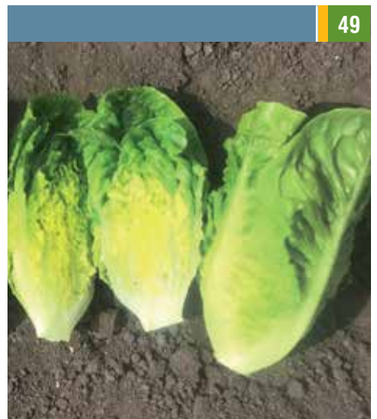
47

Patrobas (ICE17790) Vilmorin
Medium to large head iceberg lettuce.

48

Savoogna (ICE40138) Vilmorin
Larger heading iceberg lettuce.

49



Holidei (ROLG19805) Vilmorin
All season Little Gem.

51

Bandito F1 (34-277)
Outdoor round red radish.

52

Purpella F1
Indoor and outdoor round purple radish.

52

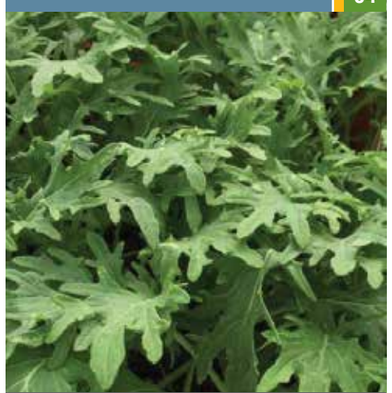
Fortunella F1 (34-352) F1
Indoor round red radish.

52

Laurella F1 (34-330)
Indoor round red radish.

54

KX-1 Vilmorin
Attractive, dark red kale for babyleaf.



54

KX-2 Vilmorin
Attractive, dark green kale for babyleaf.

54

Bulls Blood - Amarena Vilmorin
Intensely coloured Bulls Blood type.

Brassicas

Brussels Sprouts

Brest F1

Mid-season variety maturing from late October to late November, approximately 190 days.

- Tall variety with large number of medium-sized sprouts per stem
- Round buttons with a small butt, easy to machine harvest
- Good resistance to leaf and button diseases

Brodie F1

Christmas variety maturing from late November to late January, 215 days.

- Selected for its exceptionally mild, non-bitter taste
- Produces widely spaced, medium to large, round buttons with very good holding ability and disease resistance
- Suitable for sprout stalk production with good shelf-life

Brechin F1

Christmas variety maturing from mid-December to late February, approximately 225 days.

- High yielding, producing many uniform-sized, smooth, deep-green buttons per stem
- Good resistance to light leaf-spot
- Small tops and very good holding ability

Brenden F1

Late season variety maturing from mid-December to late January, 220-260 days.

- Produces a large number of small to medium sized, smooth, dense buttons per stem
- Ideal for 25-30mm pre-pack size grade, or baby sprouts
- Long holding ability with a high level of resistance to light leaf spot and a wide range of leaf diseases

Sowing and Harvesting Periods

	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Maturity days from transplanting to harvest	Plant Height 9 = Tall	Lodging Resistance 9 = Good	Size 9 = Large	Spacing on Stem 9 = Wide	Smoothness 9 = Smooth
Brilliant F1													135	6	7	8	7	5
Brest F1													190	8	8	6	7	8
Brel F1													190	9	8	6	7	8
Brodie F1													215	8	5	8	8	4
Brechin F1													225	7	9	4	3	8
Brenden F1													220-260	7	7	3	4	8

Sow Plant Harvest Possible extension of sowing or harvest period (at own risk)

Pointed Cabbage

Monarchy F1

Pointed cabbage for UK season extension into the late autumn.

- Slower growing when planted in mid-to-late July in Lincolnshire and no later than 15th August in Cornwall for a November to December harvest
- At least two weeks slower than Regency F1 and can further extend the UK season by short-term storage
- Improved holding ability and retains leaf colour. Intermediate resistance to *Xanthomonas*

Regency F1

Compact 500g variety used mainly for pre-pack sweetheart cabbage. Also suitable for use as greens when young.

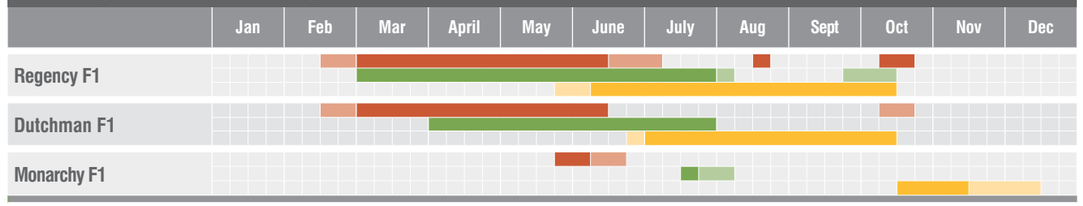
- Attractive colour and taste with excellent shelf-life
- Good field-holding ability and resistance to basal yellowing
- Can be over-wintered (at own risk) for an early June harvest if sown not before 12th-15th August and planted no earlier than 25th September in Lincolnshire, or 15th October in Cornwall. *Risk of blindness if spring sown before the beginning of March*

Dutchman F1

Regency F1 type with an exceptionally mild, sweet flavour.

- Slightly taller and later than Regency F1 with improved uniformity of plant shape giving an exceptionally high marketable yield
- It has a narrow base making it well-adapted to baby pointed cabbage production
- Good shelf-life, and tolerance to leaf diseases. Excellent for use as a shredded product for mixed salad packs

Sowing and Harvesting Periods



NB: Some growing areas of the UK overwinter Regency F1 outside, and some sow early spring before the beginning of March, but there is a risk of bolting and blindness, so the company cannot recommend this use for the variety.

Spring Greens

Summerjewel F1

Hybrid variety for summer and autumn production in the same calendar year.

- Very compact 250g heads for bagging
- Suitable for shredding as it remains leafy and is slow to heart
- Smooth dark green leaves, a very neat non–stalky base, with exceptional uniformity giving very high marketable yields

Antelope F1

Hybrid greens variety, giving a large number of usable leaves per head.

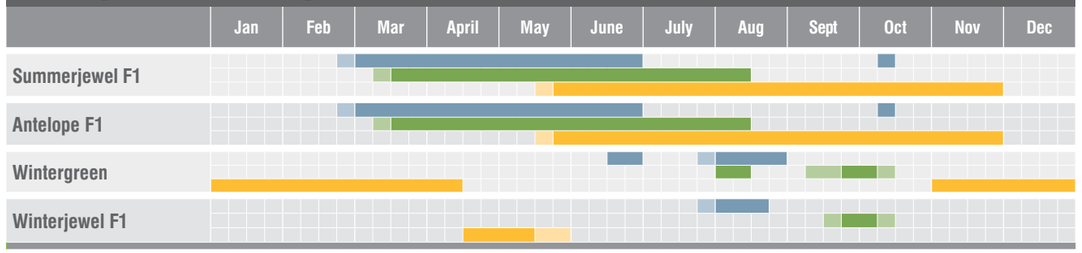
- Slightly more compact inner leaves, marginally quicker to heart and lower bolting tolerance than Winterjewel F1
- Continuous greens throughout the season and with good frost tolerance for winter production
- Can be used through the summer and autumn on less fertile soils

Winterjewel F1

Over-winter production of greens, giving a high yield of usable leaves per head.

- Very compact and slow to heart with full 30cm leaf length for bagging 250g heads, especially for April to June harvest
- Ideal for successive sowings throughout the year giving a large number of evenly sized, smooth, dark green leaves appropriate for processing
- High tolerance to bolting and stem extension. Exceptional uniformity, with excellent basal quality giving fewer stalks and a neater presentation in the bag

Sowing and Harvesting Periods



NB: Antelope F1 and Winterjewel F1 may also be used for pre-pack use in certain regions during the summer and autumn seasons.

Summer, Autumn and Winter Green Cabbage

Vivaldi F1

Extremely versatile 85-day variety for early Dutch white and primo production from October sowing and continuity from February sowing.

- Slightly earlier than Mozart F1 with pale, smooth, dense 1kg heads that are whiter internally
- Vigorous and reliable over a range of conditions with excellent holding ability and size uniformity
- By using a range of cell sizes, it is suited to high density planting for baby-sized to 1kg heads when the availability of Dutch storage cabbage ends

Mozart F1

Summer and autumn, 85-95 day primo for fresh market. Can be October sown for maturity in early July or February sown onwards for late summer harvest. High density baby-sized to 1kg head production.

- Very versatile, suitable for use as either green or white cabbage
- Vigorous and reliable over a range of climatic conditions and suitable for early production when covered, using a range of cell sizes
- Excellent holding ability and size uniformity

Magnus Cresco F1

First early, 60-day, round, green summer cabbage for harvest in late May from an early spring sowing and planting.

- Early variety producing dense, compact heads
- Attractive smooth green leaf structure with good holding ability
- Tolerant to bolting from early spring planting

Tundra F1

Late maturing, 165-day cabbage for harvest from October to mid-April. Performs well at high density, 18-22,000/acre.

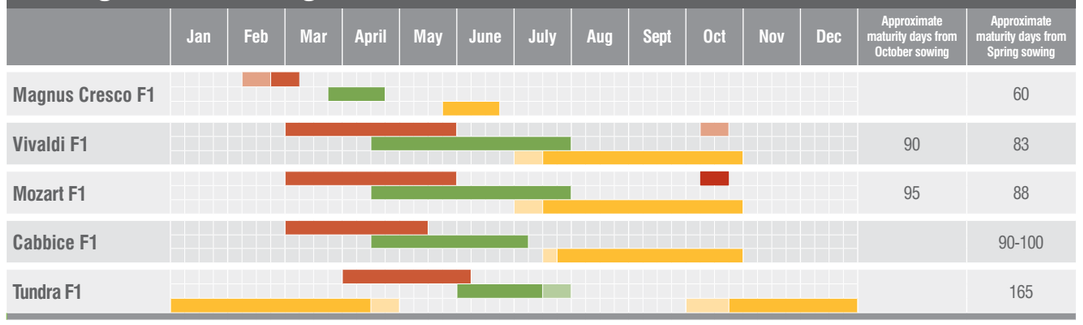
- Exceptional quality from October to mid-April
- Very good winter hardiness with good colour retention throughout the winter
- Good level of resistance to bolting, holding until mid-April

Cabbice F1

Mid-early variety, maturing around 90-100 days.

- Round, pale green, 2-3kg primo type with a very mild, sweet taste
- Thick, crunchy leaves make it ideal for shredding and eating raw in salads
- Good alternative to shredded iceberg lettuce

Sowing and Harvesting Periods



White and Red Cabbage

Attraction F1

Ideal for beginning the storage season from September to March, 115-days, for fresh market and medium-term storage. Can also be October sown (at own risk) for harvest in late July/early August fresh market only.

- Excellent internal structure for 1kg heads, coleslaw production or slicing for prepared meals
- Uniform head size with excellent taste, reaching up to 3kg when sown early. Risk of blindness when sown in early spring
- Very vigorous, withstanding late planting on a range of soil types with low susceptibility to early winter frost

Gilson F1

Mid-season 135-day storage type for small 1kg head pre-pack market. Combines early maturity with long-term storage potential.

- Vigorous for use on a wide range of soil types, particularly on less fertile soils
- Good internal colour and field holding ability
- Outer leaves can be easily removed after storage

Ramenos F1

Mid-season 135-day, long storage type for small 1kg to medium sized heads.

- Combines early maturity with long-term storage potential
- Good plant vigour for use on less fertile soils and can be used for 1.5-2.0kg heads at lower plant densities
- Good resistance to thrips/oedema and excellent internal colour after storage

NEW

17-1733 F1

Late-season 143-day, long storage type for 1kg heads.

- Very compact small heading variety for 1kg pre-pack production
- Tall stem for potential mechanical harvest
- Vigorous plants for use on less fertile soils, and good resistance to thrips/oedema

Bison F1

Late season, 143-day early October maturity, for small 1kg head pre-pack market.

- Slow growing variety performing best when planted by early May
- Suitable for very long-term storage with good levels of resistance to leaf diseases
- Maintains good colour and outer leaves are easily removed after storage

Processing Varieties

Zoltan F1

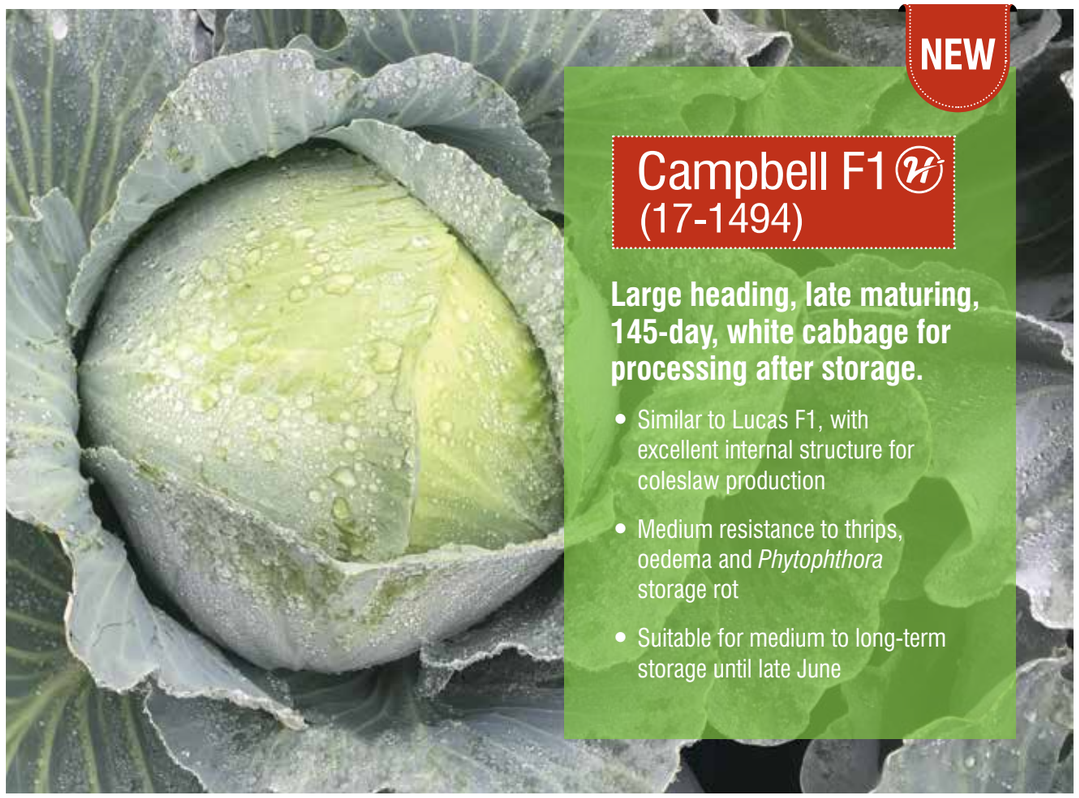
Large heading, late maturing, 135-day, white cabbage for processing after storage.

- Earlier Lion F1 type giving a very high yield and excellent internal structure for coleslaw production
- Medium resistance to thrips and oedema
- Suitable for medium-term storage to early May

Lucas F1

Large heading, late maturing, 145-day, white cabbage for processing after storage.

- Similar to Zoltan F1, giving a very high yield and excellent internal structure for coleslaw production
- Medium resistance to thrips and oedema
- Suitable for medium to long-term storage until late June



NEW

Campbell F1 (17-1494)

Large heading, late maturing, 145-day, white cabbage for processing after storage.

- Similar to Lucas F1, with excellent internal structure for coleslaw production
- Medium resistance to thrips, oedema and *Phytophthora* storage rot
- Suitable for medium to long-term storage until late June

Lion F1

Late season, 143-day, large heading white cabbage, suitable for processing from long-term storage.

- Very uniform, medium to large, round, pale green heads
- Performs best when planted from late April to early May
- Good colour after storage with excellent internal structure and mild, sweet flavour

Sowing and Harvesting Periods

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Approximate maturity days from planting to 50% cut
Attraction F1													115
Satie F1													120
Gilson F1													135
Ramenos F1													135
17-1733 F1													**143**
Bison F1													143
Zoltan F1													135
Lucas F1													135
Campbell F1 (17-1494)													**145**
Forza F1													135
Sting F1													135
Lion F1													143

Sow Plant Harvest Possible extension of sowing or harvest period (at own risk)

Red Cabbage

Romanov F1

Early season, 80-90 day, small-to-medium-sized red cabbage for fresh market use.

- Harvest from mid-July through the summer and early autumn period
- Highly suited to baby red cabbage production
- Very dense, round, deep red heads even when small, with good tolerance to tipburn

Rovite F1

Mid-season, 120-day, large heading red cabbage for fresh market processing and short-term storage to the end of February.

- Makes dense early heads and is ideal for harvesting in mid-to-late August, with good field holding until late September
- Very versatile so can be used at high density for 1kg heads with late July maturity or low density for 3-4kg processing use in late August
- Vigorous habit for less fertile soils and difficult dry conditions, with field holding ability and resistance to tipburn.

Rozera F1

Late maturing, 140-day, red cabbage.

- Large heading variety
- Improved storage
- Very good internal structure with deep red colour

Sowing and Harvesting Periods

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Approximate maturity days from planting to 50% cut
Romanov F1			Sow		Plant		Harvest			Possible extension of sowing or harvest period (at own risk)			80-90
Rovite F1			Sow	Sow	Plant			Harvest	Harvest	Possible extension of sowing or harvest period (at own risk)			120
Rococo F1			Sow		Plant					Harvest			140
Rozera F1			Sow		Plant					Harvest			140

Savoy Cabbage

Serpentine F1

Early 90-110-day variety suitable for harvest from the end of July to the end of September. Can also be October sown to mature from the end of June to early July from a polythene-covered crop.

- Short leaved type with a good, flat-round head for ease of bagging or overwrapping
- Improved level of resistance to *Xanthomonas*
- Produces attractive, bright green, medium to large heads

Jaspis F1

Mid-season, 120-130-day savoy, suitable for harvest from late October to the end of December.

- Specifically developed for improved resistance to *Xanthomonas*
- Short leaved type with good, flat-round head shape for ease of bagging or overwrapping
- Very attractive, dark green, deeply savoyed leaves

Wyberton F1

Mid to late season, 140-160-day variety maturing from the beginning of December to the end of February.

- Very uniform, deeply savoyed, dark green, compact heads
- Good tolerance to frost and cold weather damage
- Medium resistance to *Xanthomonas*

Supervoy F1

Very late season, 180-day variety, suitable for harvest from the beginning of December to early April.

- Very vigorous late heading leafy type, giving high quality medium sized heads towards the end of the UK season from March to early April
- Remains attractively dark green throughout the winter, with excellent hardiness and holding ability
- Can produce good crops from late planting and performs well in less fertile conditions

Langrick F1

Mid to late season savoy with 160-day maturity for harvest from late December to end of February.

- Compact, dark green, deeply savoyed heads
- Very good tolerance to frost and cold weather leaf damage
- Excellent colour retention through the winter

Sowing and Harvesting Periods

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Maturity Days
Serpentine F1													90-110
Jaspis F1													120-130
Wyberton F1 (14-684)													140-160
Langrick F1 (14-634)													160
Tourmaline F1													160-180
Spinel F1													170-180
Supervoy F1													180

Sow · Plant · Harvest · Possible extension of sowing or harvest period (at own risk)

Tourmaline F1

Late season, 150-180-day variety maturing from the beginning of December to the end of March.

- Uniform and compact, with attractive dark green deeply savoyed heads, maintaining colour until the end of the season
- Tolerant of cold conditions, and a medium to high level of resistance to *Xanthomonas*
- Good resistance to bolting, performs best when planted mid-June to early July

Spinel F1

Late season, 170-day variety, suitable for harvest from the beginning of December to late March.

- Vigorous late heading leafy type, giving high quality small to medium sized heads towards the end of the UK season
- Remains attractively dark green throughout the winter, showing excellent hardiness and holding ability
- Very healthy variety with high tolerance to frost and bolting.

Summer and Autumn Cauliflower

Shakaris F1 Vilmorin

Early summer cauliflower with 100-day maturity for harvest in late June to early July from October sowing.

- Marginally later than Barcelona F1 for a covered crop
- Produces dense white curds, with good tolerance to hairiness
- Very good vigour and cover with dark foliage giving an attractive presentation

Seoul F1

Summer and autumn, 80-85-day type producing exceptionally dense curds.

- Healthy variety producing very white curds, slightly earlier than Boris F1
- Excellent for use in processing or face-packs owing to the density of the curds, especially in mid-June from October sowing in large cells
- Each curd produces a high yield of compact heavy florets with short petioles, ideal for fresh market use in mixed vegetable packs

Juventa F1

Early summer cauliflower with 95-day maturity for harvest in late June from October sowing.

- Similar timing to Barcelona F1 with good vigour for use in a range of module cell sizes
- Improved foliage cover, giving dense white curds
- Good tolerance to curd hairiness, splitting and bacterial breakdown during rapid growth conditions

Boris F1 Vilmorin

Summer and early autumn cauliflower, 85-90 days. Can also be sown in October to link with spring sown varieties, 95-105 days.

- Excellent plant vigour enables flexibility for a range of soil types
- Erect leaves give good face-pack presentation with very compact base making it easy to bag
- Versatile variety for production throughout the summer and autumn, with good holding ability

Barcelona F1

Early, 90-100-day variety ideally suited to October sowing, maturing from late June to mid-July. Can also be spring sown to provide continuity of harvest in the difficult early summer period, maturing from early to late July, 70-80 days.

- Versatile and can be propagated in large to small cell sizes to obtain a spread of maturity dates
- Produces exceptionally high quality white curds in the early summer
- High percentage of Class 1 heads if produced within the recommended spring sowing period

Bodilis F1 Vilmorin

Autumn variety, 90-110 days, maturing in mid-to-late October.

- Outstanding curd colour and firmness for late September and October
- Vigorous plant producing deep and heavy curds with good cover, ensuring protection from early frosts
- Excellent strong-leaved variety with high resistance to leaf diseases

Kamis F1 Vilmorin

Mid-to-late autumn 110-120-day variety, maturing from late October to late November.

- Maturing ahead of Cendis F1 producing exceptionally deep, heavy, white curds ideal for face packs or fresh florets
- Produces a vigorous strong frame with excellent uniformity
- Short cutting period, performing best when planted from early to mid-July

Sowing and Harvesting Periods

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Maturity days from planting to 50% cut from October sowing	Maturity days from planting to 50% cut from Spring sowing	Vigour 9 = Strong 1 = Weak
Juventa F1 (10-411)													90-95		8
Barcelona F1													90-100	70-80	7
Shakaris F1													95-100	70-80	8
Tirza F1													90-100	75-80	5
Seoul F1													90-100	80-90	6
Solida F1 (10-817)													90-100	80-90	6
Boris F1													95-105	85-90	8
Raoul F1													95-105	90-95	8
Bodilis F1														90-110	7
Kamis F1														110-120 (in Lincolnshire)	7

Sow Plant Harvest Possible extension of planting and harvest period (by using large cells and crop covers to give early maturity)

Winter Cauliflower

Cendis F1 Vilmorin

Late autumn variety maturing in late November to early December in Cornwall, 135-150 days, and late December to early January in Lincolnshire, 160-180 days. Performs best from early planting, late June to early July in Lincolnshire, and at low density, approximately 10,000 plants per acre.

- Consistently high percentage Class 1 heads
- Produces deep, dense curds which are easy to cut
- Very healthy base and good resistance to hollow stem

Lecatis F1 Vilmorin

Early winter, 150-170-day variety, maturing in mid-December to early January in Lincolnshire.

- Follows Cendis F1 with good vigour and tolerance to frost
- Produces well-covered, dense white curds
- Good resistance to ringspot

Altadis F1 Vilmorin

Early February harvest in Cornwall, 200-210 days, and late February to early March in Lincolnshire, 220-230 days.

- Matures ahead of Trevaskis F1 with very good uniformity and low sib levels, leading to high percentage Class 1 heads
- Vigorous plants with very healthy foliage
- Frost-tolerant leaves provide good curd cover

Trevaskis F1 Vilmorin

Early to mid-February harvest in Cornwall, 210 days, and early to mid-March in Lincolnshire, 230 days.

- Very vigorous plant with excellent curd cover
- Good uniformity leading to high marketable yields
- Healthy variety, suitable for short-term cold storage

Trevignis F1 Vilmorin

Early to mid-February harvest in Cornwall, 205 days, and early to mid-March in Lincolnshire, 235 days.

- Slightly earlier than Trevaskis F1, with a longer cutting period
- Vigorous plant with good leaf protection and frame, best when planted in early July in Lincolnshire
- Heavy, dense curds give high floret yields for processing and facepacks

Dionis F1 Vilmorin

Mid-February harvest period in Cornwall, 210-220 days or mid-March in Lincolnshire, 235 days.

- Slightly later than Trevaskis F1, producing high percentage Class 1 curds
- High level of resistance to a range of leaf diseases giving exceptional plant health
- Good vigour, producing dense curds and consistent maturity, best when planted in early July in Lincolnshire

Parotis F1 Vilmorin

Roscoff type, with Coldis F1 maturity for late March to early April in Lincolnshire, 250-270 days.

- Very uniform, producing well-covered, deep, dense curds
- Good tolerance to splitting and looseness, even when planted late
- Suitable for either six or eight per tray

Stromness F1 (FT 2038) Vilmorin

Similar timing to Parotis F1 for late March to early April in Lincolnshire, 250-270 days.

- Very uniform, producing deep, round, white curds
- High percentage, well-covered Class 1 heads
- Suitable for six or eight per tray

Vedis F1 Vilmorin

Winter Roscoff type, maturing in late March to early April in Cornwall, 250-260 days, and early to mid-April in Kent and Lincolnshire, 260-285 days.

- Very dense heads giving high percentage Class 1 results
- Good resistance to hollow curd, hairiness and looseness in April
- Excellent foliage cover, with good performance even from a late planting

Carbis F1 (AK 2706) Vilmorin

Winter Roscoff type, maturing in late March to early April in Cornwall, 250-260 days, and early to mid-April in Kent and Lincolnshire, 260-285 days.

- Vedis F1 timing with good regrowth in the spring
- Good plant vigour and attractive dark leaf
- Very healthy foliage; ringspot-resistant gene present

Late Winter Cauliflower

Mumbles F1 (FT 3062) Vilmorin

Late April to early May maturity in Lincolnshire from an early August planting, 268 days.

- Uniform variety with late April maturity
- Capable of producing large heads
- Deep, round, slightly creamy curds

Arletis F1 Vilmorin

Early May maturity in Lincolnshire, 268 days, from an early August planting.

- Uniform, vigorous Roscoff type with good stem frost tolerance
- Maintains curd cover for large sized heads
- Deep, dense, cream curds

NEW

Tostakis F1 (VT 4040) Vilmorin

Late April maturity in Lincolnshire from an early August planting, 263 days.

- Uniform variety with late April maturity
- Potential to produce large heads
- Deep, round, well-covered dense curds

NEW

VT 4068 F1 Vilmorin

Early May maturity in Lincolnshire from an early August planting, 270 days.

- Uniform variety with good vigour and curd cover
- Capable of producing large heads
- Deep, round, well covered dense curds

Wrangle F1 (FT 3007) Vilmorin

Early to mid-May maturity in Lincolnshire, 275 days, from an early August planting

- Less uniform giving a longer cutting period
- Very vigorous plant
- Produces round, medium density, cream curds

Reis F1 Vilmorin

Mid-May maturity in Lincolnshire, 285 days, from an early August planting.

- Dark leaf, with excellent cover
- Deep, dense curds, with very good tolerance to hairiness in hot conditions
- Low levels of curd looseness even at six-per-tray size

Longships F1 (FT 3008) Vilmorin

Mid-to-late May maturity in Lincolnshire, 284 days, from an early August planting.

- Less uniform giving a longer cutting period
- Good curd cover to prevent discoloration
- Produces dense, cream, well-tucked curds

Gunfleet F1 (FT 3052) Vilmorin

Mid-to-late May maturity in Lincolnshire, 284 days, from an early August planting.

- Uniform giving a shorter cutting period
- Very good plant vigour, upright habit and curd-cover
- Produces dense, cream, large curds

Alpionis F1 Vilmorin

Late May maturity in Lincolnshire, 289 days from an early August planting.

- Same timing as Skerryvore F1, producing very dense curds, highly suited to either facepack or processing
- Performs best when planted on more fertile soils and top-dressed to encourage spring regrowth
- Dark leaf with excellent curd cover and good frost tolerance

Skerryvore F1 (FT 3059) Vilmorin

Late May maturity in Lincolnshire, 289 days from an early August planting.

- Same timing as Alpionis F1
- Very vigorous variety
- Less uniform than Alpionis F1, giving a longer cutting period

Aiglonis F1 Vilmorin

Very late winter variety maturing in early June in Lincolnshire, 300 days, from an early August planting.

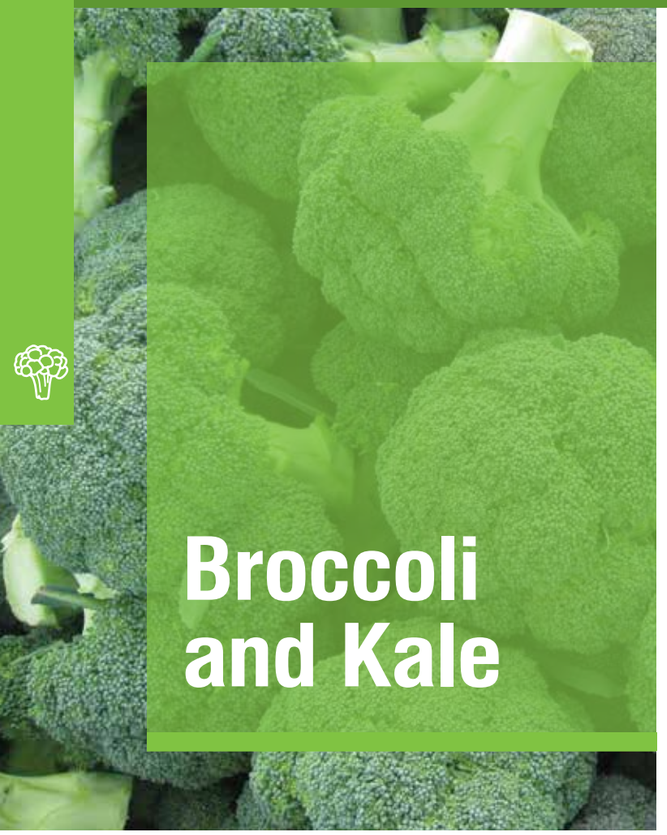
- Uniform with excellent spring regrowth.
- Produces much denser curds than early summer varieties and therefore highly suited to either facepack or processing
- Tall, vigorous, dark green frilly-leaved plant

Sowing and Harvesting Periods

		November	December	January	February	March	April	May	June	Maturity days from planting to 50% cut	50% Cut Date	Length of cutting period (days)	Strong Points
Cendis F1		2	26							141 167	2 Dec 28 Dec	23 30	Resistant to hollow stem
Lecatis F1		10	28							148 176	10 Dec 26 Dec	21 31	Curd Density
Altadis F1				1	26					201 223	1 Feb 26 Feb	19 19	Vigour
Trevignis F1				6	7					206 232	6 Feb 7 Mar	18 12	Curd Density
Trevaskis F1				1	7					201 232	1 Feb 7 Mar	19 7	Vigour
Dionis F1				10	10					209 233	10 Feb 10 Mar	22 11	Plant Health
Stromness F1	FT 2038				7	1				230 254	7 Mar 1 Apr	16 14	Round Curds
Parotis F1					7	1				230 254	7 Mar 1 Apr	16 14	Curd Cover
Vedis F1						29	12			259 265	29 Mar 12 Apr	13 10	Curd Density
Carbis F1	AK 2706					29	12			259 265	29 Mar 12 Apr	13 10	Plant Health
Tostakis F1	**VT 4040**					15	25			**253** **263**	**15 Apr** **25 Apr**	**10** **13**	**Earliness**
Mumbles F1	FT 3062					22	3			258 268	22 Apr 3 May	13 13	Earliness
Arletis F1	VT 4901					23	3			259 268	23 Apr 3 May	7 7	Large Curds
VT 4068 F1						24	5			**260** **270**	**24 Apr** **5 May**	**7** **7**	**Vigour**
Wrangle F1	FT 3007					3	10			267 275	3 May 10 May	12 11	Vigour
Reis F1	VT 3004					9	16			274 281	9 May 16 May	12 7	Curd Cover
Longships F1	FT 3008					13	19			277 284	13 May 19 May	13 13	Curd Density
Gunfleet F1	FT 3052					13	19			277 284	13 May 19 May	7 7	Large Curds
Alpionis F1	VT 3001					17	24			282 289	17 May 24 May	 9	Curd Density
Skerryvore F1	FT 3059					17	24			282 289	17 May 24 May	12 12	Vigour
Aiglonis F1	VT 3005					24	31			289 296	24 May 31 May	7 7	Late Timing

Cornwall Lincolnshire

Maturity dates may vary depending on climatic conditions and production region.
50% cut dates are shown within the harvest period.



Broccoli and Kale

NEW

Purple Rain F1

Wholehead purple broccoli suitable for floret production.

- Long-branched, flat heads for tips or short spears
- Reduced harvest costs
- Primary heads can be used as florets for processing

Stromboli F1

Early maturing variety for harvest in early June from autumn sowing.

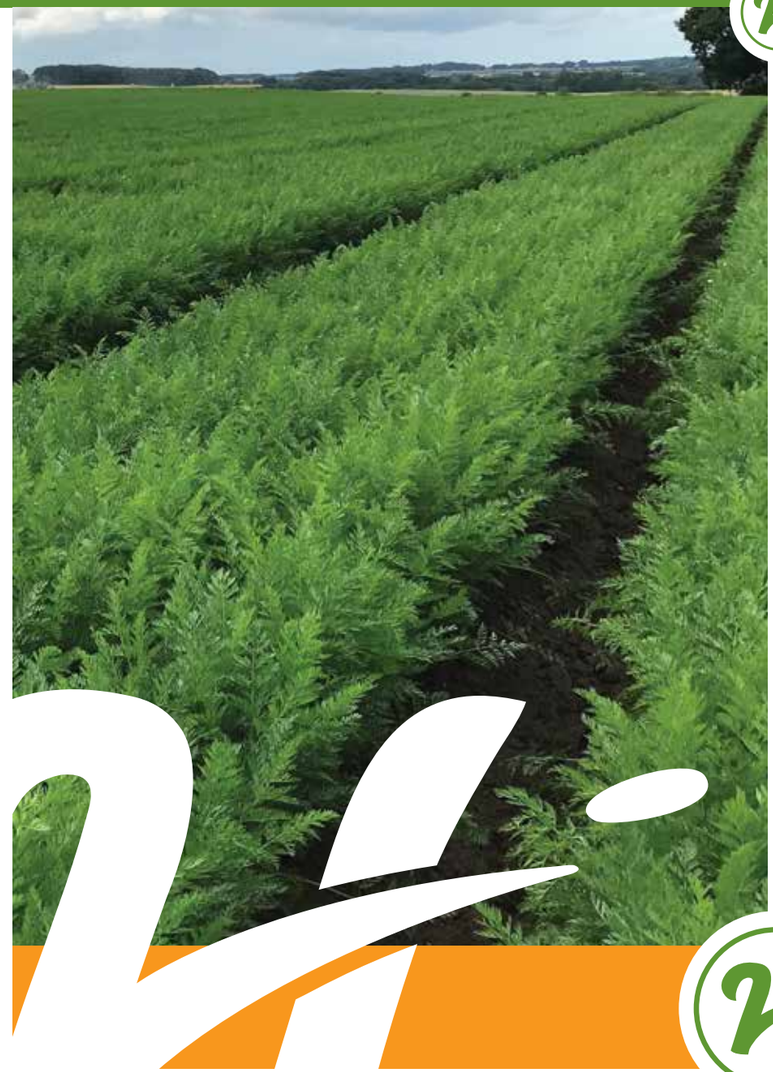
- Good colour and resistance to blindness
- Vigorous, medium-beaded variety with long-branched florets for whole head or processing
- Performs best from a late September sown covered crop using a large cell size

Kale

Yurok F1 Vilmorin

Hybrid Cavolo Nero Italian black cabbage, maturity approximately 70 days.

- Compact plant with short, highly blistered leaves
- Very uniform, dark green leaves for use in the summer, autumn and early winter
- Exceptional uniformity, giving a very high marketable yield



Roots

Carrots

Maestro F1 (Vilmorin)

Maincrop Nantes type performing best on black soils or sandy loams.

- Attractive cylindrical roots with very smooth skins and good resistance to silvering
- High resistance to *Alternaria* and intermediate resistance to cavity spot. Especially suited to low-input and organic systems
- Good flavour and ideal for early maincrop top-lifting or late maincrop harvest

Gold Nugget F1 (Vilmorin)

Late maincrop variety with sweet, juicy, yellow roots and crunchy texture.

- Attractive internal and external presentation
- Uniform, long roots with reduced crown greening
- Good results in processing and freezing assessments

Subito F1 (Vilmorin)

Early season carrot variety for first and second early sowing under polythene cover.

- Very high yield compared to industry reference varieties
- Long, uniform roots which finish early
- Improved root strength with high bolting tolerance

Volcano F1 (Vilmorin)

Late maincrop variety, producing very long, smooth skinned roots, ideal on black soils for both pre-pack and processing.

- High resistance to cavity spot, crown disease and late season re-growth
- Very strong, tapered roots, with exceptional resistance to breakage and splitting
- Vigorous foliage for late top-lifting

Melodio F1 (Vilmorin)

Early maincrop to maincrop maturity.

- Uniform, smooth roots
- Suitable for black land or processing
- Very high yield of long, strong roots

Eskimo F1 (Vilmorin)

Late maincrop variety with excellent flavour.

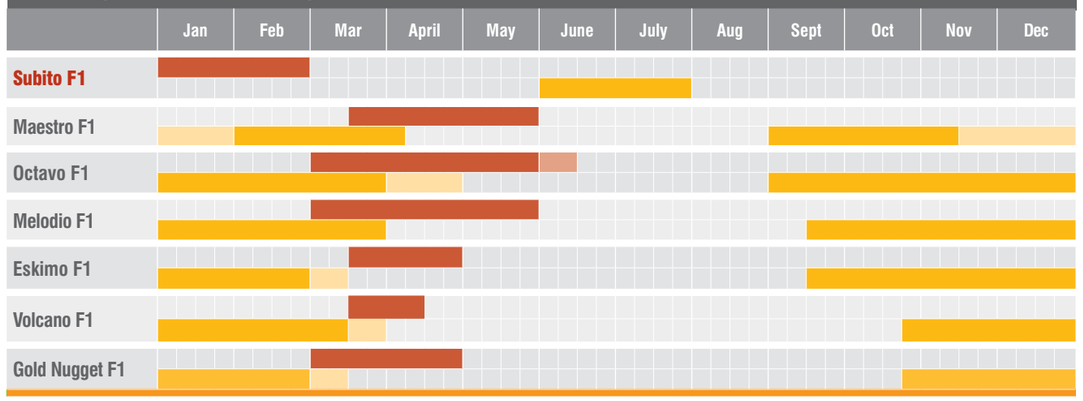
- Very strong roots, with exceptional resistance to both breakage and splitting
- Vigorous strong tops for late top lifting and above average tolerance to cavity spot
- Very good frost tolerance, reducing the need to cover with straw in late autumn

Octavo F1 (Vilmorin)

Very high-yielding early maincrop with excellent internal and external colour.

- Very strong roots producing high gross and marketable yields
- Identified as high resistance to virus and cavity spot in independent industry trials
- Suitable for sandy soils and all-season production

Sowing and Harvesting Periods



Leeks

Autora F1 Ⓗ

Autumn/early winter variety, suitable for all production regions.

- High yield with low waste
- Bulb-free and easy to peel
- Very uniform and consistent performance

Triton F1 Ⓗ

Late winter type.

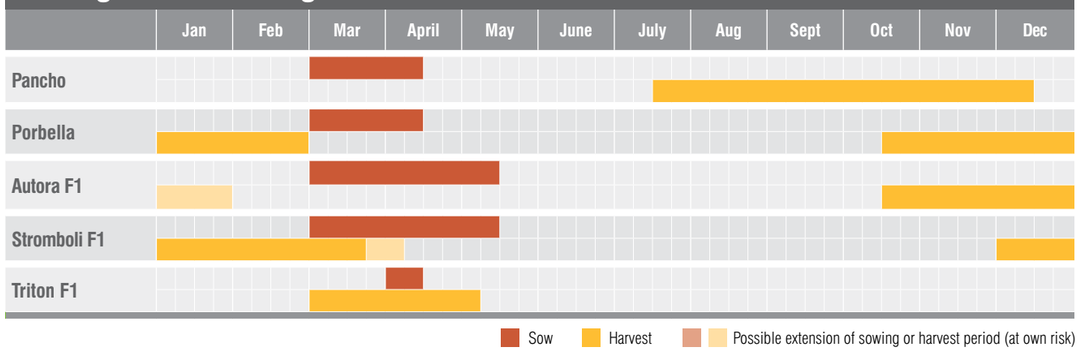
- Long standing ability and good bolting tolerance
- Dark green foliage
- Good yield and flexibility

Stromboli F1 Ⓗ

Early to late winter variety suitable for all production regions.

- Consistent performance on all soils
- Good cold tolerance
- Flexible leaves and easy to peel

Sowing and Harvesting Periods



Onions

Spring Sown Bulb Onions

Fasto F1 Ⓗ

Very early maturing variety with long-term storage.

- Very high dormancy level for sprouting and root re-growth
- Second early maturity
- Very high yield and exceptional bulb quality

Centro F1 Ⓗ

Early maincrop variety producing very high yields.

- Very firm globe-shaped bulbs, with good skin retention
- Produces a very high proportion of large, 60-80mm bulbs
- Good early vigour

NEW

37-219 F1

Very early maturing red onion with long-term storability.

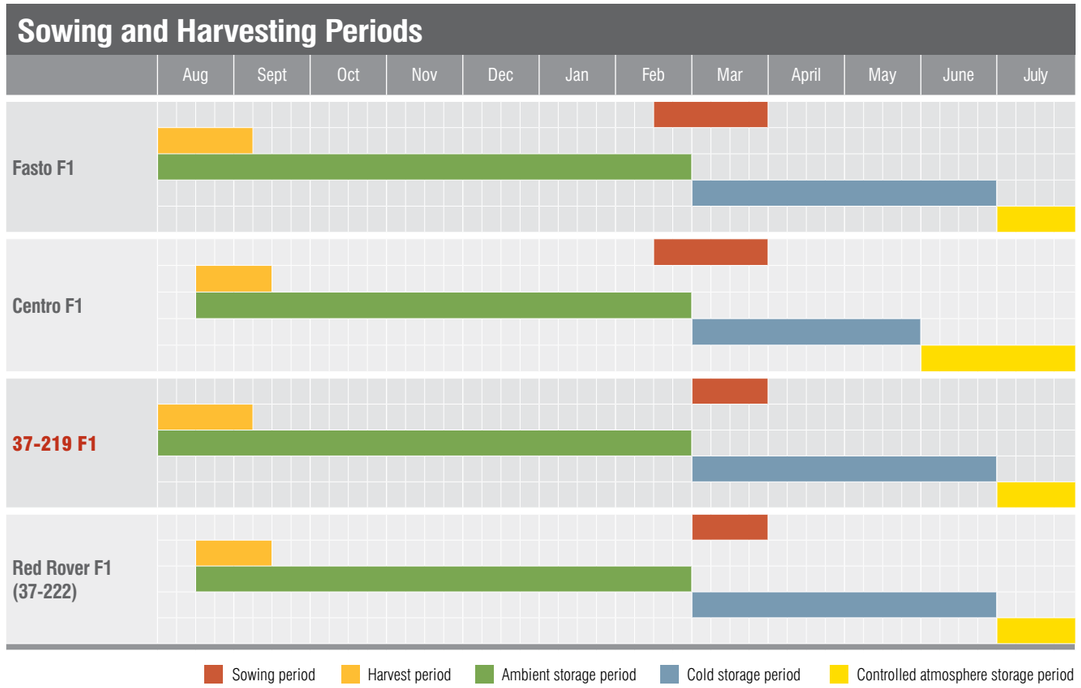
- Very high yield potential
- Globe shape and good uniformity
- Excellent long-term storage performance giving flexibility of use

Red Rover F1 (37-222)

Early maturing red onion with long-term storability.

- Uniform size and shape
- Dark red colour
- High sprouting tolerance and exceptional performance in store

Sowing and Harvesting Periods



Salads and Miscellaneous

Iceberg Lettuce

Soleison

Medium sized, semi-compact variety for wholehead production.

- Relatively fast growing, with high tolerance to internal tipburn
- Good basal quality and non-ribby
- HR:Bl:16-23, 25, HR:Nr0

Robinson

Consistent and reliable medium sized iceberg for early and maincrop production. Ideal for pre-pack and can be used for processing.

- Vigorous root system giving reliable performance in difficult growing conditions and on a wide range of soil types
- High level of bolting resistance
- HR:Bl:17

Pursuit

Large, very uniform, medium to slow growing variety.

- Suitable for early season use, or where larger heads are required such as processing
- Long holding ability, good internal structure, high tipburn and dehydration tolerance
- HR:Bl:16-37EU, HR:Nr :0

Antartica

Medium to large, slow growing iceberg. Ideal for harvest from mid-June to end of July.

- Very slow filling, giving a wide harvest period for both processing and pre-pack use
- High tolerance to tipburn
- HR:Bl:16-28, 30-32EU, IR:LMV, IR :FOl1

Glassica

Very reliable variety for all conditions and soil types.

- Excellent tolerance to tipburn
- Very consistent performance and high marketable yield
- HR:Bl:16-37EU, IR:LMV1, HR:Nr0

NEW

Patrobas (ICE17790)

Medium to large head, for dual-purpose use from June to August.

- Medium growing variety
- Tidy head and robust leaf provides ease of handling
- HR:Bl:16-37EU, HR:Nr0 IR:LMV1

Savoogna (ICE40138) Vilmorin

Large variety for early and late wholehead production or all season use for processing.

- Slower filling with good internal structure
- Makes good head size on heavier soils
- HR:BI:16-37EU, HR:Nr0

Excalibur Vilmorin

Medium to large iceberg.

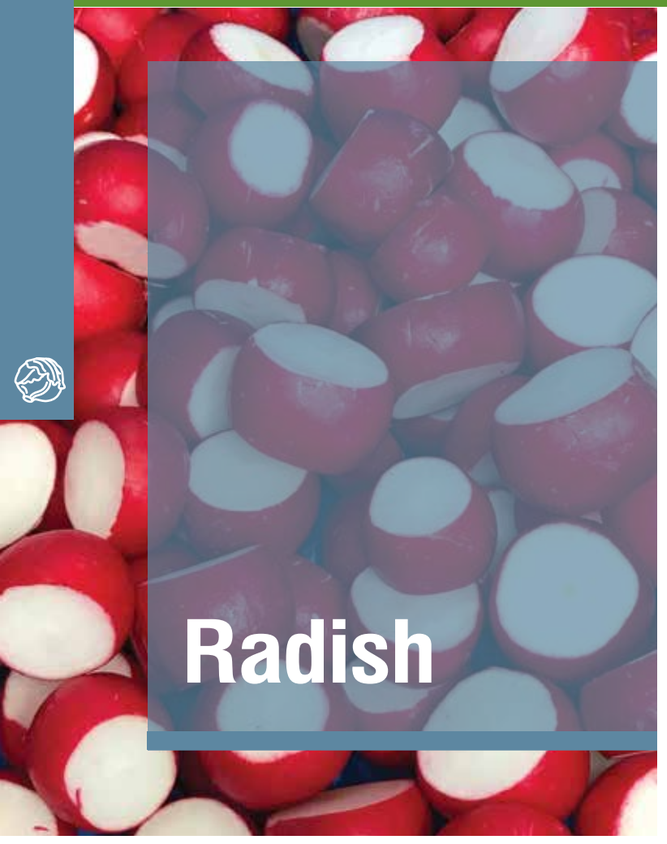
- Late May to early August harvest
- Good reliability and field-holding with high tolerance to tipburn
- HR:BI:5-7US

Little Gem

Holidei Vilmorin (ROLG19805)

All-season Little Gem ideal for 150g hearts.

- Superior shape, and ease of harvest
- Mid-fast speed but still with long field-holding ability
- BI16-30/32-36 HR: Nr:0 IR: LMV1 HR: Fol1



Radish

French Breakfast Types

Logo F1 Vilmorin

Early and main-season variety, with improved quality.

- Very uniform
- Good, blunted shape
- Slightly earlier to finish

Expo F1 Vilmorin

Main season long day variety suitable for harvest from mid-May until early October.

- Very uniform root size and colour with 30% white
- Very flexible and can be sown throughout the main production period
- Strong leaf attachment for bunching and medium resistance to downy mildew

Kocto F1 Vilmorin

Quick maturing radish for early and late use: sow mid-September to mid-October for harvest November to December, and sow late February to mid-March for harvest mid to end of April.

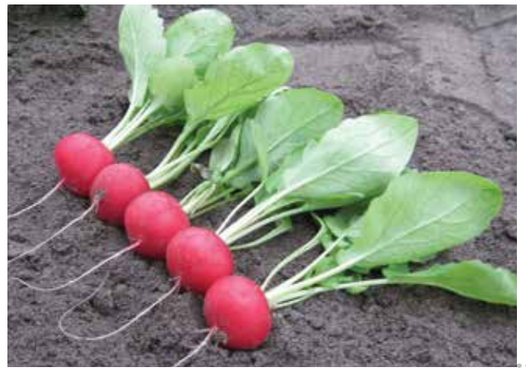
- Fast growing
- Uniform
- Good colour separation and shape

Round Red Types

Florella F1 Hazera

Indoor variety for main season production.

- Suitable for bunching or pre-pack
- Uniform bulb with excellent red colour and internal quality
- Long shelf life



Autella F1 Hazera

Indoor type for late season and winter production from late autumn to the following spring.

- Suitable for bunching or pre-pack
- Uniform bulb with excellent red colour and internal quality
- Resistant to white rust *(Albugo candida)*

NEW

Bandito F1 Hazera (34-277)

Outdoor round red radish suitable for all season production.

- Uniform round shape and thick skin
- Small leaf attachment and fine tap root
- High tolerance to cracking

Donato F1

Outdoor round red radish suitable for all season processing.

- Very uniform round shape
- Superb internal quality even at large sizes 40-50mm for slicing
- Good colour and thicker skin

Purpella F1

Indoor and outdoor round purple hybrid suitable for production from May to October for prepack or bunching.

- Deep purple roots
- Very uniform round shape
- Good colour retention post-washing

Fortunella F1 (34-352)

Indoor round red hybrid for autumn bunching or prepack production.

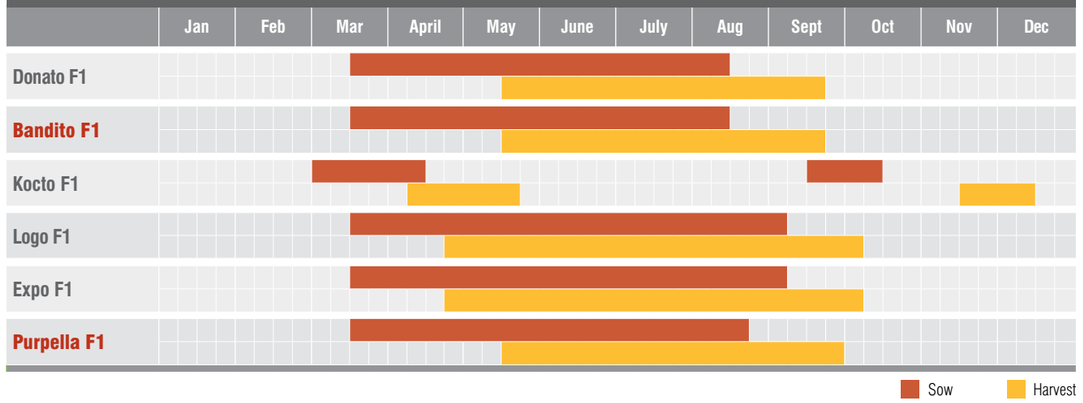
- Good shape and colour
- Short tops
- Improved uniformity and tolerance to growth splits

Laurella F1 (34-330)

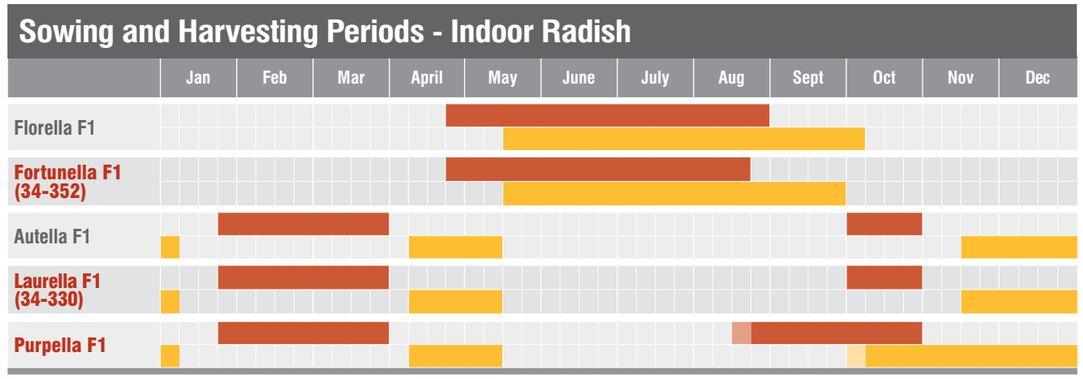
Indoor round red variety for autumn and winter bunching or prepack production.

- Good shape and uniformity
- Improved tolerance to growth cracking
- Superior internal and external quality

Sowing and Harvesting Periods - Outdoor Radish



Sowing and Harvesting Periods - Indoor Radish



Babyleaf

NEW

Kale - KX-1 Vilmorin

Red kale with novel 3-dimensional shape for all season babyleaf production.

- Attractive, dark red serrated leaves
- Excellent processability
- Strong against mildew with good yield

Kale - KX-2 Vilmorin

Green kale with novel 3-dimensional shape, for all-season babyleaf production.

- Attractive, dark green version of KX-1
- Mild flavour
- Strong against mildew with good yield

NEW

NEW

Bulls Blood - Amarena Vilmorin

Intensely coloured Bulls Blood type which retains colour even in hot conditions.

- Smooth, dark burgundy leaves
- Narrow, oval shape
- Good processing qualities

Miscellaneous Crops

Celery

Greensleeves F1 Hazera

Green variety for full season production.

- Very high yielding with vigorous root system
- Good bolting tolerance in early crops, with holding ability and later cold tolerance
- Bright green, less stringy stick with excellent flavour

Chinese Leaf

Vitimo F1 Hazera

Fast growing compact type, 55-65 days.

- Dark leaf
- Bright yellow internal colour
- Can be stored if harvested while leaves are young

Courgette

El Greco F1

High yielding early variety.

- Erect open habit for ease of harvest
- Gives a high proportion of Class 1 fruits
- Produces attractive mid-green cylindrical fruits with a glossy finish and small flower attachment scar

Climbing French Beans

Kwintus

Mid-early, medium vigour flat type Helda bean with improved stress tolerance. Pod length 24-27cm, width 21-24mm and light to mid-green in colour.

- Very straight pods
- Improved resistance to stress-induced brown striping
- Suited to both indoor and outdoor production

Red Beet

Darko

Maincrop variety (Detroit 2) for May to June sowing.

- Very smooth skin
- Deep red internal colour
- Outstanding variety for processing

Salad Onions

Carel

***Fistulosum* type for summer and autumn harvest.**

- Very erect, waxy dark green leaves
- Vigorous
- Good resistance to leaf tipping

Choho

***Fistulosum* type for summer and autumn harvest.**

- Very uniform
- Bulb free
- Easy to peel

Guides

Cropping Guides

Crop	Natural Seed Count per g	Seed size range mm	Required natural seed drilled a	drilled ha	planted a	planted ha	Target population plants per a	Target population plants per ha	Comment	Sowing period	Planting period	Harvest period
Borecole	200 - 400	1.25-2.25	21,000	50,000			8,000	20,000		May - June	June - July	Oct - Mar
Sprouting Broccoli	200 - 400	1.25-2.25			80g	200g	12,000	30,000		April - May	June - July	Feb - Mar
Calabrese Broccoli	200 - 400	1.25-2.25	29,000 40,000	72,000 100,000			14,000 40,000	36,000 100,000	large heads small heads	Feb - Aug	Mar - July	May - Nov
Brussels Sprouts	180 - 350	1.25-3.0	28,000	70,000	14,000	35,000	14,000	35,000		March	May	Sept - Mar
Pointed Cabbage	200 - 350	1.25-2.25	38,000	95,000	35,000	87,500	35,000	87,500		Feb - Jun	Mar - Aug	Jun - Oct
Spring Cabbage (Greens)	170 - 400	1.25-2.75	250g 400g	600g 1kg	350g 500g	860g 1.2kg	25-35,000 54,000	61,000 135,000	hearted greens	end July-early Aug Mar - July	Aug-Sept Apr - Aug	Mar-May May - Apr
Summer Cabbage	200 - 350	1.25-2.75	42,000	100,000	25,000	60,000	25,000	60,000		Feb - Apr	Mar - May	Jul - Aug
Autumn Cabbage	200 - 350	1.25-2.75	42,000	100,000	25,000	60,000	25,000	60,000		Feb - May	Apr - Jun	Aug - Oct
Storage Cabbage	200 - 350	1.25-2.75			22-24,000 10-11,000	60,000 27,500	22-25,000 10-11,000	60,000 27,500	small heads large heads	Mar - Apr	Apr - Jun	Oct
Savoy Cabbage	200 - 350	1.25-2.75			18-20,000	45-50,000	15-20,000	45-50,000	early varieties main crop	Mar - Apr Apr - Jun	Apr - May May - Mid Jul	Jul - Sept Oct - Apr
Winter Cabbage	200 - 350	1.25-2.75			18-20,000	45-50,000	16-20,000	45-50,000		Apr - Jun	May - Mid Jul	Oct - Mar
Summer & Autumn Cauliflower	250 - 450	1.25-2.75			12-14,500	30-36,000	12-14,500	30-36,000		Oct Feb - May	Mar - Jul	Jun - Oct
Autumn & Winter Cauliflower	250 - 450	1.25-2.75			9-12,000	22-30,000	9-12,000	22-30,000		May - Jun	July	Nov - May
Beetroot	40 - 90	2.25-6.50	4kg 5kg	10kg 13kg			0.28 million 0.8 million	0.7 million 2 million	maincrop baby beet	Mar - Jun		Jul - Nov
Carrot	600 - 1200	1.00-2.5	400-900,000	1.0-2.2 million			360-810,000	900,000-2.0 million	early to maincrop	Jan - Jun		Jun - May
Leek	325 - 450	1.25-3.00	130-180,000	325-450,000			120,000-160,000	300,000-400,000		Mar - May		Sept - Apr
Onion	200 - 350	1.50-3.00	220,000 250,000	500,000 650,000			200,000 225,000	550,000 590,000	spring sown over-wintered	Feb - Mar Aug		Jul - Sep
Parsnip	200 - 300	2.25-5.50	120-200,000	300-500,000			110-180,000	270-450,000	early to maincrop	Feb - Apr		Jul - Apr
Swede	240 - 260	1.25-2.75	240g	0.6kg			90,000	220,000		Apr - Jun		Sept - Mar
Turnip	370 - 520	1.00-2.50	800g	2kg			140,000	350,000		Mar - Aug		Jun - Nov
Aubergine	150 - 250	2.25-3.25					14,000	35,000	glasshouse	January+	April+	July+
Pepper	110 - 190	2.50-4.00					10,600	26,000	glasshouse	October+	Nov+	Jan - Oct
Celery	1,600 - 3,000				50g 80g	150g 250g	55,000 36,000	130,000 90,000	glasshouse outdoor	Nov - Mar Mar - May	Apr - May Apr - Jul	Jun Jul - Oct
Chinese Cabbage	300 - 400	1.25-2.75					44,000	110,000		Jan - Jun	Mar - Aug	Jun - Nov

Crop	Natural Seed Count per g	Seed size range mm	Required natural seed drilled a	drilled ha	planted a	planted ha	Target population plants per a	Target population plants per ha	Comment	Sowing period	Planting period	Harvest period
Coriander	90		7kg	17kg			63,000	156,000	leaf crop	Apr - Sept		Jun - Oct
Corn Salad	600 - 900	1.50-3.50	4.5kg	12kg			4.8 million	12 million	under covers	Mar - Oct		Apr - Jan
Cucumber	32						6,000	15,000	long season second crop	Dec+ Apr+	Jan+ May+	Mar+ Jun+
Endive	700 - 800	1.00-2.00					42,000	100,000	outdoor	Apr - Jul	May - Aug	Jul - Oct
Fennel	200 - 300		500g	1200g	200g	490g	42,000	100,000	glasshouse outdoor	Feb - Mar Apr+	Mar - Apr May+	May - Jun Jul+
Lettuce, Indoor Butterhead	650 - 1100	0.75-2.00					70-90,000	175-225,000	winter varieties summer varieties	Aug - Mar Feb - Jul	Sept - Apr Apr - Aug	Oct - May May - Oct
Lettuce, Outdoor	650 - 1100	0.75-2.00			40,000 30,000	100,000 75,000	40,000 30,000	100,000 75,000	butterhead/ cos iceberg crisp	Jan - Jul	Mar - Aug	May - Oct
Marrow	4 - 8				1kg	2.5kg	6,000	15,000		Mar+	May+	Jul+
Parsley	400 - 700	1.00-2.50	2kg	5kg			78,000	193,000		Feb - Jul Sept		Jun - Nov Apr - Jun
Pumpkin	4 - 6				1kg	2.4kg	5,000	12,400		Mar+	May+	Jul+
Radish, Indoor	80 - 180	1.50-3.50	6kg	16kg			1 million	2.5 million		Feb - Oct		Apr - Dec
Radish, Outdoor	80 - 180	1.50-3.50	80,000	2 million			0.6 - 0.8 million	1.5 - 2 million	beds	Mar - Aug		Apr - Nov
Salad Onion - Allium cepa	250 - 350	1.50-3.00	5 - 7kg 8 - 9kg	15kg 20kg			1.5 million 2.5 million	3.5 million 6.2 million	summer over winter	Feb - May Jul - Aug		Jul - Aug Mar - May
Salad Onion - A.fistulosum	400 - 500	1.50-3.00	3 - 4kg	8kg			1.5 million	3.5 million		Feb - Aug		Jul - Nov
Spinach	80 - 160	1.75-4.50	1 million	2.5 million			1 million	2.5 million	bed system for baby leaf	Feb - Aug		Apr - Oct
Sweetcorn	4 - 7	7-12.5	4kg	10kg			17-20,000	42-50,000		Apr - Jun		Jul - Oct
Tomato	250 - 350	1.50-4.00					8-12,000	22-30,000		Oct - Feb	Jan - May	Mar - Oct
Asparagus	40 - 60				250g	600g	7,200	18,000		Mar	Apr - May	May - Jun
	per kg											
Broad Bean	1 - 2,000	15 - 25	60kg	150kg			48,000	120,000		Nov Feb - May		Jun Jun - Sept
Climbing Fr. Bean	2 - 4,000	5 - 10			12kg	30kg	33,000	80,000		Feb - May	Feb - Jun	May - Oct
Dwarf Fr. Bean	4 - 6,500	5 - 20	20kg	50kg			100,000	247,000	row system	May - Jun		Aug - Oct
Runner Bean - stick	800 -1,200	10 - 25	16kg 40kg	40kg 100kg			16,000 45,000	40,000 110,000	2 plants per station	Mar - Jun		Jun - Oct
Pea (hand picking)	4 - 8,000	6 - 9	80kg	200kg			310,000	770,000		Autumn Feb - June		Jun Jun - Sept
Sugar Snap Pea (hand picking)	4 - 6,000	6 - 8	40kg	100kg			210,000	520,000	tall types at lower density	Feb - May		Jul - Sept
Petit Pois Peas	5 - 10,000	5 - 7	50kg	125kg			380,000	950,000		Mar - May		Jun - Jul

Product Specification

These product specifications for germination of precision seeds, varietal purity of precision seeds and seed health requirements are based upon ESA recommended standards.

Product and Quality Specifications and Terminology

Technical disclaimer

This Hazera catalogue has been constructed with the utmost care. Hazera B.V. and/or its representatives give no guarantee that the information provided, including, but not limited to, variety descriptions and technical advice, is complete and accurate and suitable for all purposes the user may choose.

Technical data and recommendations are based on Hazera trials and general experience. A considerable part of the information given is based on Northern hemisphere or Northwest-European circumstances.

All information is only supplied to assist professional growers and users who should always take account of their local conditions or specific situations which may be different.

Hence, these recommendations do not provide a guarantee of a successful crop. Hazera, therefore, accepts no responsibility or liability whatsoever for any damage or loss of profits resulting from the information.

ESA Product Specifications for Vegetable Precision Seeds

These product specifications for germination of precision seeds, varietal purity of precision seeds and seed health requirements are based upon ESA recommended standards.

These product specifications are not meant to be absolute minimum standards for delivery. If the quality tests of Hazera indicate a lower quality-level than given in these specifications, Hazera will inform prospective seed users. This communication is aimed at informing professional seed users about the quality they can expect, so they can make their own assessment and decide if these seeds meet their requirements.

ESA Vegetable Seed Product Specifications

Vegetable growing has become a highly specialised and intensive activity. As a result of the ever-increasing demand for better quality, vegetable growers and plant raisers require an improved quality of the basic material.

The demand for specific seed forms and more information about seed quality has strongly increased to better influence emergence and required number of plants.

Seed is a natural product. The often-varying environmental conditions, thus, influence final results. It is, therefore, often not possible to give detailed information about emergence and other physical seed characteristics. To meet the wishes of clients as much as possible Hazera has made up quality standards for the various seed categories.

The germination percentages mentioned are Hazera minimum required figures and made up according to ISTA methods and tolerances.

ESA Product Specifications for Precision and Pellets, Germination and Variety Purity

Crop	Purity %	Gradation mm	Germination %		Crop	Purity %	Gradation mm	Germination %	
			Precision	Pellets				Precision	Pellets
Asparagus	-	-	85	-	Fennel	-	0.2/0.5	90	90
Brassica	93	0.2/0.25	90	-	Leek OP	-	0.2/0.25	90	90
Cauliflower	90	0.2/0.25	90	-	Leek F1	-	0.2/0.25	85	85
Dwarf Bean	-	-	85	-	Lettuce	98	-	93	95
Broad Bean	-	-	85	-	Melon Charentais	98	-	95	-
Climbing Bean	-	-	95	-	Melon Other	98	-	90	-
Beetroot Monogerm	-	0.5	80	-	Onion	-	-	90	-
Beetroot Multigerm	-	0.5	90	-	Parsley	-	0.2/0.25	87	-
Carrot	-	0.2/0.25	85	-	Pea	-	-	85-88	-
Celery/Celeriac	-	-	90	90	Radicchio	-	-	88	88
Chicory Witloof	-	0.2/0.25	85	85	Radish	-	0.2/0.25	92	-
Corn Salad	-	0.2/0.25	85	-	Spinach	-	0.75	85	-
Cucumber Indoor	99	-	92	-	Sweetcorn	-	-	85	-
Cucumber Outdoor	98	-	92	-	Sweet/Hot Pepper	97	-	90	-
Eggplant	98	-	90	-	Squash	97	-	92	-
Endive	-	-	90	92	Tomato (Fresh)	98	-	92	-

General Definitions

Normal seed

In general, normal seed has not been subjected to special processes. It is sold by weight and/or by count, depending on the product. Normal seed complies with EC standards.

Precision seed

Precision seed has been subjected to additional processes. It has a uniform size and high germination. Precision seed is sold by count.

Priming

Priming is defined as an activation of the germination process with the purpose to obtain faster or more uniform emergence after sowing. Primed seed is sold by count.

Pelleting

Pelleting is defined as the process of changing the seed form by covering it with a material, the main purpose being to improve uniformity of size and shape resulting in improved sowing ability. Also additional ingredients may be added. Pelleted seed is sold by count.

Filmcoating

Film coating is a full covering, usually pigmented layer, around the seed. The original seed form remains intact. Additional ingredients may be added. Film coating treatments that contain insecticides are normally identifiable by colour coding. Film coated seed is sold by count.

Gluecoating

Glue coating is a process which fixes the applied crop protection products in an almost dust free manner to the seed. A pigment may be added.

Germination

Germination figures relate to ISTA procedures and are valid at the time of despatch.

Varietal purity

Varietal purity rate is defined as: the percentage of plants from a seed lot that meets the variety description.

ESA Recommendation on Seed Health Requirements

In order to supply sufficiently healthy vegetable seeds and in order to meet the requirements of EU Council Directive 2002/55/EC, Hazera uses various disease risk management strategies to prevent and control seed transmitted diseases. These may include and are not limited to seed health testing programs, protected seed production, field inspections, seed treatments and other effective seed disinfection methods.

ISHI-VEG has developed the Manual of Seed Health Testing Methods, which includes state of the art seed health testing protocols. Hazera follows the ISHI-VEG recommended minimum sizes of a representative sample for seed health testing.

Information regarding the ISHI-VEG seed health test protocols and recommended minimum sample sizes can be found at:
www.worldseed.org/isf/ishi_vegetable.html

Seed Quality and Seed Health

Hazera complies, at least, with all the statutory requirements arising from legislation regarding the marketing and sales of standard seed of vegetable crops.

To supply the highest possible level of seed quality and service, Hazera works according to a number of quality systems designed to manage and inspect its activities. The execution of the Hazera quality assurance systems is under the control of the official Dutch inspection service for horticulture, Naktuinbouw.

Hazera's laboratories situated in Made (NL) have been accredited according to the NAL (Naktuinbouw Accredited Laboratory) standard, to conduct routine tests for germination, genetical and physical purity and specific (seed borne) diseases.

Furthermore, Hazera is permitted by Skal, the inspection body for organic production in the Netherlands, to market organically produced seeds under the EKO quality label. The quality systems are audited on a regular basis both internally and externally.

Hazera devotes the utmost care to the production of seeds. We can, however, not guarantee that these seeds will always match the set expectations and/or are wholly free of seed borne diseases. Any liability and namely liability relating to such diseases (but not limited to these) is therefore rejected. Moreover, any damage that arises from the use of these seeds is limited to the purchase price of these seeds and the user of the seeds cannot lodge any claim with Hazera or its distributor(s) for any other (consequential) damage.

Much research at Hazera is aimed at resistances against pests and diseases. The resistance coding applied by Hazera is based on the guidelines for resistance coding established by the International Seed Federation. It is important, in general, to emphasise that the specificity of pests or pathogens may vary from time to time and from place to place, that it is dependent on environmental factors and that new biotypes of pests or new pathogenic races able to overcome resistance may emerge.

...continued

Product Specification (continued)

The Reaction of Plants to Pests or Pathogens

Differing degrees of specificity exist in the relations between plants and pests or pathogens. Identification of such specificity generally requires the use of highly elaborate analytical methods. Recognizing whether a plant is subject to a pest or pathogen or not may depend on the analytical method employed.

It is important, in general, to stress that the specificity of pests or pathogens may vary over time and space, depends on environmental factors, and that new pest biotypes or new pathogen races capable of overcoming resistance may emerge.

Definitions

Immunity

Not subject to attack or infection by a specified pest or pathogen.

Resistance

The ability of a plant variety to restrict the growth and development of a specified pest or pathogen and/or the damage they cause when compared to susceptible plant varieties under similar environmental conditions and pest or pathogen pressure. Resistant varieties may exhibit some disease symptoms or damage under heavy pest or pathogen pressure.

Two levels of resistance are defined.

High/standard resistance (HR*): plant varieties that highly restrict the growth and development of the specified pest or pathogen under normal pest or pathogen pressure when compared to susceptible varieties. These plant varieties may, however, exhibit some symptoms or damage under heavy pest or pathogen pressure.

Moderate/intermediate resistance (IR*): plant varieties that restrict the growth and development of the specified pest or pathogen, but may exhibit a greater range of symptoms or damage compared to resistant varieties. Moderately/intermediately resistant plant varieties will still show less severe symptoms or damage than susceptible plant varieties when grown under similar environmental conditions and/or pest or pathogen pressure.

Susceptibility

The inability of a plant variety to restrict the growth and development of a specified pest or pathogen.

Tolerance

The ability of a plant variety to endure abiotic stress without serious consequences for growth, appearance and yield.

Genetically Modified Organisms

We are not offering for sale or trialling any genetically modified material. When in due course varieties are produced in this way they will be clearly labelled and identified in line with public requirements.

Plant Stations

Plant Stations Per Acre Calculator In '000 Stations

	Distance between plant stations (inches)																	
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14	15
4	784	627	523	448	392	348	314	285	261	224	196	174	157	143	131	121	112	105
5	627	502	418	358	314	279	251	228	209	179	157	139	125	114	105	97	90	84
6	523	418	348	299	261	232	209	190	174	149	131	116	105	95	87	80	75	70
7	448	358	299	256	224	199	179	163	149	128	112	100	90	81	75	69	64	60
8	392	314	261	224	196	174	157	143	131	112	98	87	78	71	65	60	56	52
9	348	279	232	199	174	155	139	127	116	100	87	77	70	63	58	54	50	46
10	314	251	209	179	157	139	125	114	105	90	78	70	63	57	52	48	45	42
11	285	228	190	163	143	127	114	104	95	81	71	63	57	52	48	44	41	38
12	261	209	174	149	131	116	105	95	87	75	65	58	52	48	44	40	37	35
13	241	193	161	138	121	107	97	88	80	69	60	54	48	44	40	37	34	32
14	224	179	149	128	112	100	90	81	75	64	56	50	45	41	37	34	32	30
15	209	167	139	119	105	93	84	76	70	60	52	46	42	38	35	32	30	28
16	196	157	131	112	98	87	78	71	65	56	49	44	39	36	33	30	28	26
17	184	148	123	105	92	82	74	67	61	53	46	41	37	34	31	28	26	25
18	174	139	116	100	87	77	70	63	58	50	44	39	35	32	29	27	25	23
19	165	132	110	94	83	73	66	60	55	47	41	37	33	30	28	25	24	22
20	157	125	105	90	78	70	63	57	52	45	39	35	31	29	26	24	22	21
21	149	119	100	85	75	66	60	54	50	43	37	33	30	27	25	23	21	20
22	143	114	95	81	71	63	57	52	48	41	36	32	29	26	24	22	20	19
23	136	109	91	78	68	61	55	50	45	39	34	30	27	25	23	21	19	18
24	131	105	87	75	65	58	52	48	44	37	33	29	26	24	22	20	19	17
25	125	100	84	72	63	56	50	46	42	36	31	28	25	23	21	19	18	17
26	121	97	80	69	60	54	48	44	40	34	30	27	24	22	20	19	17	16
27	116	93	77	66	58	52	46	42	39	33	29	26	23	21	19	18	17	15
28	112	90	75	64	56	50	45	41	37	32	28	25	22	20	19	17	16	15
29	108	87	72	62	54	48	43	39	36	31	27	24	22	20	18	17	15	14
30	105	84	70	60	52	46	42	38	35	30	26	23	21	19	17	16	15	14

Sowing Guide Example

A row width of 20 inches and a distance between stations within the row of 15 inches will give a density of seed or plants of 21,000 per acre (not allowing for wheelings)

Length of drilling per acre			
in rows = 43,560 ft 12	in rows = 29,040 ft 18	in rows = 22,728 ft 23	in rows = 19,354 ft 27
in rows = 40,212 ft 13	in rows = 27,513 ft 19	in rows = 21,780 ft 24	in rows = 18,765 ft 28
in rows = 37,530 ft 14	in rows = 26,136 ft 20	in rows = 20,910 ft 25	in rows = 17,424 ft 30
in rows = 34,848 ft 15	in rows = 24,891 ft 21	in rows = 20,106 ft 26	in rows = 14,520 ft 36
in rows = 32,670 ft 16	in rows = 23,760 ft 22		

Length of drilling per acre							
Seed Grade	(Size (mm	Seed Grade	(Size (mm	Seed Grade	(Size (mm	Seed Grade	(Size (mm
A	to 0.25 0.00	G	to 1.75 1.50	N	to 3.25 3.00	U	to 4.75 4.50
B	to 0.50 0.25	H	to 2.00 1.75	P	to 3.50 3.25	V	to 5.00 4.75
C	to 0.75 0.50	J	to 2.25 2.00	Q	to 3.75 3.50	W	to 5.25 5.00
D	to 1.00 0.75	K	to 2.50 2.25	R	to 4.00 3.75	X	to 5.50 5.25
E	to 1.25 1.00	L	to 2.75 2.50	S	to 4.25 4.00	Y	to 5.75 5.50
F	to 1.50 1.25	M	to 3.00 2.75	T	to 4.50 4.25	Z	to 6.00 5.75

Terms and Conditions

General Terms and Conditions of Sale and Delivery of Hazera Seeds UK Ltd., of the United Kingdom.

Drawn up by Hazera Seeds UK Ltd., J.N.R.C. Rothwell, Market Rasen, Lincs, LN7 6DT, UK

ARTICLE 1. APPLICATION OF THESE GENERAL TERMS AND CONDITIONS

1. These general terms and conditions shall apply to and are hereby incorporated into Order Confirmations, Agreements and Offers from Hazera Seeds UK Ltd., hereinafter to be called "Hazera", to the Buyer, relating to Products unless expressly provided otherwise in writing.
2. The application of any terms and conditions of the Buyer is expressly rejected and explicitly excluded from these general terms and conditions, as well as any terms which are implied by trade, custom, practice or course of dealing.

ARTICLE 2. DEFINITIONS

1. **"Buyer"** shall mean the natural person or legal entity entering into a contract of sale with Hazera for the purchase of Products.
2. **"Hazera"** shall mean Hazera Seeds UK Ltd., a private company limited by shares incorporated and registered in England and Wales with company number 3189023, whose registered office is at Joseph Nickerson Research Centre, Rothwell, Market Rasen, Lincolnshire, LN7 6DT.
3. **"Hazera"** and **"Buyer"** are hereinafter together referred to as the **"Parties"** and individually as a **"Party"**.
4. **"Incoterms"** shall mean the Incoterms published by the International Chamber of Commerce in Paris (ICC) and most recently published in use.
5. **"Intellectual Property Rights"** shall mean all current and future registered and unregistered intellectual property rights, including but not limited to plant breeder's rights, utility patent rights, patent rights, design rights, copyrights, trade secrets, trademarks and service marks and/or any other rights, throughout the world.
6. **"Naktuinbouw"** shall mean the Netherlands Inspection Service for Horticulture having its registered office at Sotaweg 22,Postbus 40, 2370 AA Roelofarendsveen, The Netherlands.
7. **"Order Confirmation"** shall mean the written confirmation of acceptance by Hazera of the Purchase Order, by means of letter, fax, email or packing note.
8. **"Offer"** shall mean particular terms applicable to a specific sale proposed by Hazera to the Buyer.
9. **"Plant Material"** shall mean all plants, parts of plants and crops, produced or cultivated out of the Products, and destined for human (and animal) consumption.
10. **"Products"** shall mean seeds and/or planting material and/ or services delivered by Hazera to the Buyer.
11. **"Processing"** shall mean the treatment of the Product including but not limited to the treatment for the improvement of the sowability, germination, plant quality and the prevention of pest and or diseases and/or diseases.
12. **"Price List"** shall mean an overview of the selling prices of Products that Hazera publishes and/or distributes from time to time.
13. **"Purchase Order"** shall mean an instruction for the purchase of Products placed by Buyer.
14. **"Resistance Terminology"** shall mean the information and terminology provided in Article 12.
15. **"Product Specifications"** shall mean the so called information published on the Hazera websites, pages and pricelists.

ARTICLE 3. OFFERS AND ACCEPTANCE

1. All Offers made by Hazera are without engagement and can be withdrawn at any time. The prices specified in an offer are exclusive of VAT.
2. Offers can only be accepted by the Buyer in writing; Hazera nevertheless reserves the right to treat a verbal acceptance as if it were given in writing.
3. If the Buyer accepts an Offer, Hazera nevertheless reserves the right to withdraw the offer within 3 working days after receipt of acceptance (either verbally or in writing), in which case no agreement is concluded between the parties.
4. Verbal Offers automatically expire if the Buyer does not accept them in writing within 3 days, if not specifically indicated differently
5. Written Offers automatically expire if not accepted by the Buyer in writing within 30 days, if not specifically indicated differently.
6. An Offer to the Buyer or a purchase agreement between Hazera and the Buyer does not imply, and may not in any way be interpreted as a silent licence (agreement) to the Buyer with regard to any Intellectual Property Rights attaching to the offered or sold Products.
7. Hazera shall use its reasonable endeavours to perform according to the Purchase Order. Nevertheless, Hazera shall be entitled to deviate from the Purchase Order placed by the Buyer with respect to size, packaging, quantity or weight without breaching such reasonable endeavours obligations.
8. When placing a Purchase Order, the Buyer shall report which information, specifications and documents are required under the rules and regulations of the country of delivery. The Buyer shall be responsible for informing Hazera of any formalities that must be complied with to enable import. The Buyer shall also provide Hazera with information on any required certificates, phytosanitary matters, import documents or invoices.
9. Hazera is not liable for delays or non-handling of a Purchase Order resulting from or in connection with the Buyer's failure to comply with any of its obligations under Article 3. The Buyer shall be liable for any loss or damage directly or indirectly incurred by Hazera resulting from or in connection with such failure.

ARTICLE 4. CROP AND PROCESSING RESERVATION

1. All deliveries are subject to the customary crop and processing reservation. If Hazera invokes the crop and processing reservation, Hazera is not obliged to supply. Hazera will, if possible, attempt to deliver part of the quantity ordered and/or the nearest alternative.
2. The Buyer is not entitled to compensation if Hazera invokes this reservation.

ARTICLE 5. ORDERING AND DELIVERY

1. If the quantity ordered in any order differs from the standard quantity applied by Hazera or a multiple thereof, Hazera will deliver the next highest quantity.
2. Hazera reserves the right to charge an additional fee on orders with a value of less than £200.
3. Hazera will use its reasonable endeavours to fulfill its delivery obligations.
4. Hazera's delivery obligations are fulfilled if the delivery is made with a minor difference in size, packaging, number or weight from the Products ordered.
5. Hazera is permitted to make part shipments of the Products sold. If the Products are delivered in part shipments, Hazera has the right to invoice each shipment separately.
6. Carriage takes place ex works (EXW) of Hazera in accordance with the Incoterms. Hazera undertakes to deliver within a reasonable period, in accordance with the sowing season or planting season, following the conclusion of the purchase agreement.
7. An agreed delivery period will not be binding. In the event of late delivery, the Buyer must give Hazera notice of default in writing and grant a reasonable period in which Hazera may fulfil the agreement.

ARTICLE 6. RETENTION OF TITLE

1. The Products delivered by Hazera and/or the Products derived from the Products delivered will remain the property of Hazera until the Buyer has paid the full purchase price. This retention of title also applies to any claims that Hazera may acquire against the Buyer due to the Buyer's failure to fulfil one of its obligations towards Hazera.
2. Products delivered by Hazera to which the retention of title pursuant to Paragraph 1 applies, may be resold or used only in the normal course of business. If they are resold, the Buyer is obliged to demand retention of title from its own buyers, and Article 16 of these general terms and conditions will continue to apply.
3. The Products delivered by Hazera, which are subject to retention of title pursuant to Paragraph 1, will at all times be stored and/or used in such a way that the quality will remain guaranteed and that the Products can easily be identified.
4. The Buyer is not permitted to pledge or otherwise encumber the Products. In the event that the laws of the country where the Products are delivered provide for farther-reaching possibilities to reserve title other than those contained in this Article, such possibilities shall be deemed to have been agreed by the Parties because the Buyer will be aware from these General Terms and Conditions of Sale that Hazera reservation of title in the Products and/or Plant Material is a condition precedent to entering into an agreement with the Buyer.

ARTICLE 7. PRICES AND PAYMENT

1. All prices stated by Hazera in its pricelist and/or in an Offer are in Pounds Sterling, exclusive of additional charge and costs, including but not limited to handling fees, transport and insurance costs, (quality) certificate costs, value added tax and charges for which Hazera reserves its rights to invoice Buyer when applicable) .
2. All stated prices in the Price List are subject to adjustment by Hazera. Hazera reserves the right to unilaterally change the prices. Any new prices will take effect upon communication to the Buyer by Hazera and will substitute earlier listed and/or offered pricing.
3. For distinctive vegetable seed varieties, sold and purchased under specific conditions, an additional price - per square meter or any other quantitative unit - can be charged and included in the agreement. This additional price will be valid for one single commercial production or cultivation of Plant Material, unless otherwise agreed upon between the Parties.
4. Hazera must receive payment within 30 days of the invoice date, unless stated and agreed differently. At the end of that period, the Buyer will be in default, in which case the Buyer will owe interest at a rate of 4 (four) % per annum above the base rate of the Bank of England for the time being on the outstanding amount as from the date of default. Such interest shall accrue on a daily basis from the due date until actual payment of the overdue amount, whether before or after judgment. The Buyer shall pay the interest together with the overdue amount.
5. If the Buyer is liquidated, declared bankrupt or granted a suspension of payment, the Buyer's payment obligations will fall due immediately and Hazera will be entitled to suspend the further performance of the agreement or to terminate the agreement, all of this without prejudice to Hazera's right to claim compensation.
6. If payment in instalments has been agreed, the entire remaining amount will fall due immediately without notice of default being required in the event of late payment of an instalment. The provisions of the last sentence of Paragraph 4 of this Article 7 apply accordingly.
7. Without the prior written permission of Hazera, the Buyer has under no circumstances the right to postpone payments or to set these off against invoice amounts to be paid by Hazera, irrespective of whether the Buyer sets off its claims due to assumed defects in the shipment or for any other reason.
8. The Buyer shall be automatically in default without any notice being required in the event of any overdue installment and the remaining installments shall become immediately due.
9. Hazera reserves the right to suspend performance under any agreement with the Buyer, including but not limited to withholding all deliveries, until such time as all and any outstanding payments owed by the Buyer to Hazera under any agreement have been made.

ARTICLE 8. SUSPENSION AND SECURITY

1. If the Buyer fails to fulfil one or more of its obligations or to do so correctly and/or in time:
   - Hazera's obligations will automatically and immediately be suspended until the Buyer has fulfilled all its obligations (in case of a payment obligation, including payment of any extrajudicial costs);
   - Hazera may demand full payment and/or sufficient security from the Buyer, for instance in the form of a bank guarantee to be issued by a reputable banking institution, with regard to the performance by the Buyer.
2. Hazera is entitled to demand full payment and/or sufficient security for payment by the Buyer before performing, if Hazera reasonably considers that the Buyer will not (or cannot) fulfil its obligations correctly and/or in time.

ARTICLE 9. COLLECTION COSTS

If the Buyer is in default or fails to perform one or more of its payment obligations, all the collection costs both in and out of court will be for the Buyer's account.

ARTICLE 10. USE AND GUARANTEE

1. Hazera will use its reasonable endeavours to ensure the product delivered will comply with the relevant product specifications. However, the product specifications will not apply as a guarantee. Hazera furthermore does not guarantee that the product will comply with any purposes notified to them by the Buyer.
2. All information on quality provided by Hazera will be based exclusively on reproducible tests. The supplied quality information merely indicates the result as achieved by Hazera at the time when the test was performed, subject to the conditions under which such test was performed. No direct relationship may be assumed between the information provided and the results achieved by the Buyer. The results achieved by the Buyer depend, among other factors, on the location, climatic conditions and cultural practices.
3. Any and all of Hazera's reasonable endeavours obligations will lapse if the Buyer processes the Products or has them processed, repackages the Products or has them repackaged, or uses the Products incorrectly.

ARTICLE 11. DEFECTS AND COMPLAINT TERMS

1. The Buyer must inspect the Products purchased upon delivery, or as soon as possible after delivery. In doing so the Buyer must check whether the Products delivered comply with the agreement, i.e.:
   - whether the correct Products have been delivered;
   - whether the quantity of the delivered Products corresponds with the agreement;
   - whether the delivered Products meet the agreed quality requirements or - if none were agreed - the requirements that may be stipulated for normal use and/or trading purposes.
2. If visible defects or deficiencies are established, the Buyer must inform Hazera accordingly in writing within 3 working days after delivery, specifying the lot number, packing list and/or invoice details as well as any supporting evidence (photos, expert statements etc.).
3. The Buyer must report any non-visible defects to Hazera in writing within 3 working days after delivery, specifying the lot number, packing list and/or invoice details.
4. Complaints must be described in such a manner that Hazera or a third Party can verify them. For that purpose the Buyer must also keep records with regard to the use of the Products and, in the event of resale of the Products, with regard to its buyers. If the Buyer does not file a complaint within the aforesaid period, the complaint will not be dealt with and its rights will expire.
5. In the event of a continuing dispute between the parties regarding the germination, trueness to type, varietal purity, technical purity and health, an inspection will be performed, at the request of either Party, by Naktuinbouw (Netherlands Inspection Service for Horticulture), whose registered office is in Roelofarendsveen, the Netherlands. The costs of such inspection shall be borne by the Party to be found most at fault. This request must be submitted within 6 months after the first written report of the problem to the other Party. The inspection will be carried out on the basis of a sample taken and retained by Hazera prior to sale. The result of this inspection will be binding for both parties, without prejudice to the parties' right to submit disputes on the consequences of this result to the institutes referred to in Article 21.

ARTICLE 12. PROVISION OF INFORMATION

1. Information provided by Hazera in any form whatsoever is provided without any warranties as to its accuracy. Descriptions, recommendations and illustrations in promotional publications such as websites, catalogues and brochures are based as closely as possible on experiences in tests and in practice and are intended for general information purposes only and not as an indication and/ or guarantee of quality or fitness for purpose. Hazera in no event accepts any liability, on the basis of, the Buyer's use of such information if different results are obtained in the cultivated product. The Buyer must determine whether the Products are suitable for the intended horticultural crop and/or can be used under local conditions.
2. In the information provided by Hazera, the following meaning is given to the terms below:
   - **'Susceptibility'**: the inability of a plant variety to restrict the growth and development of a specified pest and or disease.
   - **'Resistance'**: the ability of a plant variety to restrict the growth and development of a specified pest and/or disease the damage they cause when compared to susceptible plant varieties under similar environmental conditions and pest and/or disease and/or disease pressure. Resistant varieties may exhibit some disease symptoms or damage under heavy pest and/or disease and/or disease pressure.

   Two levels of resistance are defined:

   i. **high resistance (HR)**: plant varieties that highly restrict the growth and development of the specified pest and/or disease under normal pest and/or disease and/or disease pressure when compared to susceptible varieties. These plant varieties may, however, exhibit some symptoms or damage under heavy pest and/or disease and/ or disease pressure.

   ii. **intermediate resistance (IR)**: plant varieties that restrict the growth and development of the specified pest and/or disease, but may exhibit a greater range of symptoms or damage compared to high resistant varieties. Intermediate resistant plant varieties will still show less severe symptoms or damage than susceptible plant varieties when grown under similar environmental conditions and/or pest and/or disease pressure.

   It is to be noted that if a resistance is claimed in a plant variety it is limited to the specified biotypes, pathotypes, races or strains of the pest and/or disease. If no biotypes, pathotypes, races or strains are specified in the resistance claim for the variety, it is because no generally accepted classification of the cited pest and or disease by biotype, pathotypes, race or strain exists. New biotypes, pathotypes, races or strains that may emerge are not covered by the original resistance claim.

   - **'Immunity'**: a plant variety is not subject to attack or infection by a specified pest and or disease.
3. Hazera may at all times assume that the information and details provided by the Buyer to Hazera in the framework of the conclusion and performance of the agreement are correct and complete.
4. Resistances in varieties of our crops will be coded (see coding list at www.hazera.nl), unless indicated otherwise. In case a variety is resistant to more than one pathogen, the individual resistance codes will be separated by the symbol '/ '. If in a resistance code of a certain variety reference is made to certain strains for which the resistance is claimed this means that no resistance is claimed to other strains of the same pathogen. If, in a resistance code, no reference is made to strains of the pathogen for which the resistance is claimed, resistance is claimed only to certain not further specified isolates and we hereby disclaim any (implied) warranty that the variety will not be infected by the said pathogen.

ARTICLE 13. FORCE MAJEURE

1. In the event of force majeure and without judicial intervention being required, Hazera shall be able to wholly or partially suspend execution of the agreement or, if the event of force majeure persists, to wholly or partially terminate it. In no event shall Hazera be liable or required to pay any compensation to the Buyer in relation to such suspension or termination.
2. Force majeure means any circumstances that could not be reasonably foreseen and/or influenced by Hazera and as a result of which delivery of all or any of these Products is not reasonably possible or cannot reasonably be required. Force majeure includes but is not limited to: extreme weather conditions, natural disasters, measures by or regulations of any government, war or civil riot, destruction of the production facilities or materials due to fire, epidemic, failure of public facilities or transport, strikes in companies other than Hazera's, unofficial or political strikes in Hazera's group of companies, complete or partial lack of raw materials and other goods and services required to deliver the agreed Products, unforeseen delays at suppliers or other third parties that Hazera depends on, and transport difficulties.
3. Force majeure also means any circumstance that gives reason to rely on the harvesting and processing reservations usual in the seed industry. Such circumstances entitle Hazera to deliver to the Buyer a pro rata volume of the order, without prejudice to any other rights of Hazera under this Article.
4. Hazera will inform the Buyer as soon as possible if it is unable to deliver or to deliver in time due to force majeure.
5. If the force majeure lasts longer than 2 months, both parties will be entitled to dissolve the agreement in writing.

ARTICLE 14. USE (LICENCE) OF THE PRODUCTS AND PRODUCT INFORMATION

1. Hazera grants the Buyer a non-exclusive, non-transferable and limited licence for the duration of the agreement to use the Products for the sole purpose of a single commercial production or cultivation and sale of Plant Material.
2. The Buyer must not use or cause or permit the use of the Products or Plant Material for any research, breeding, molecular or genetic analysis, crop, seed (re)production, propagation and/or multiplication or for any other purpose other than commercial production or cultivation of Plant Material in accordance with this Article.
3. The Buyer is –except with prior written consent and subject to any conditions imposed by Hazera- not permitted to supply any Product to any other person or entity for production or cultivation nor distribute, sell, transfer, sublicense, encumber, mortgage, pledge, offer as security any Product to and/or on behalf of any (legal) person or entity.
4. In the event that the Buyer who after receiving written consent from Hazera, sells and transfers Products to a third Party, the Buyer shall expressly impose the obligations of Article 11, paragraph 1, 2 and 3 on that third Party and provide in its agreement with such third Party that these clauses are also included for the benefit of Hazera, which may rely on them in legal proceedings under the Contracts (Rights of Third Parties) Act 1999 in case of violation thereof by the third Party.
5. The Buyer shall not employ subcontractors for the execution of any of its rights and obligations under these General Terms and Conditions of Sale without the prior written consent of Hazera. Such consent will normally be given by Hazera upon prior written request from Buyer for the cultivation of Plant Material by a third Party for the sole benefit of the Buyer, subject to any conditions that Hazera may require the Buyer to include in its agreement with such third Party.
6. All illustrations, catalogues, documents and statements provided by or on behalf of Hazera about quality, composition, weight, measurement, treatment in the broadest sense, applications and properties of the Products are based as closely as possible on Hazera's results and practical experience, however without giving any guarantee, representation or warranty regarding the Products' purpose or performance.
7. The Buyer acknowledges that any information provided by Hazera in relation to the quality (such as germination, mechanical or genetic purity, seed health) and performance of the Products applies only to the tests done by Hazera, to the specific seed sample used and to the specific conditions under which the tests were done. The Buyer agrees that the above mentioned information does not constitute an express or implied warranty about the quality and performance of the Products, or otherwise.

8. The Buyer acknowledges that the results obtained by the Buyer with the Products depend on such factors as the place of cultivation, the conditions prior to and during cultivation, including but not limited to storage of Products, the climate, the soil and crop protection methods used by the Buyer. The Buyer shall be solely responsible for determining the suitability and appropriateness of the use of the Products in the different conditions and/or for the different purposes.

9. Hazera provides product information to assist the Buyer and under no circumstances shall Hazera be liable to the Buyer for results deviating from that information. Hazera shall not be held liable for the accuracies of any information provided in relation to Resistances as defined in Schedule 1, Resistances to diseases indicated per Product, nor the Product Specifications as published on the Hazera websites and pages.

10. Any and all warranties shall lapse and Hazera shall not be liable for any Product that has been repacked, treated, conditioned and/or manipulated in any way by the Buyer or by Hazera or by a third Party on the Buyer's request.

11. The Buyer acknowledges that Products delivered by Hazera are not fit for human or animal consumption.

ARTICLE 15. LIABILITY

1. Hazera shall in no event be liable to the Buyer (or any third Party affected under the agreement) for any special, punitive, incidental or consequential damage, including but not limited to loss of profits, yield, goodwill, revenue, production, contracts or opportunity.

2. In any event and to the greatest extent permitted by law, Hazera liability shall be limited to the amount (excluding VAT) invoiced in respect of the subject Products, and shall, at Hazera's election, be limited to either replacement of the Products for no further fee or an amount equal to the price of the Products.

3. Any potential claim for liability or compensation shall expire in the event that no such claim has been brought forth within 12 months of the delivery of the Products.

3. The Buyer is required to limit as much as possible the damage with regard to the Products delivered about which a complaint is filed against Hazera.

4. Hazera does not accept any liability for damage caused by seed and/or planting material that has not been multiplied and/or reproduced by or on behalf of Hazera.

5. Hazera does not accept any liability for damages caused by incorrect use or ignorance of the safe use instructions.

6. The Buyer hereby explicitly understands and agrees to these limitations upon Hazera's liability.

ARTICLE 16. INDEMNIFICATION

The Buyer shall indemnify, hold harmless and defend Hazera and its affiliates (current and former), directors and employees against any and all third Party claims, actions, proceedings, and suits and related liabilities, damages, settlements, penalties, fines, costs and expenses (including, without limitation reasonable legal and professional fees) incurred by Hazera arising out of or relating to the Buyer's violation or breach of any term of the agreement, use or misuse of the Products, and/or the fault, negligence or willful intent of the Buyer.

ARTICLE 17. REPRODUCTION AND/OR MULTIPLICATION RESERVATION

1. The Buyer is not entitled to use the supplied Products and/or derived components and/or derived plant material for further multiplication and/or reproduction of parent material. Nor is the Buyer permitted, without the explicit permission of Hazera, with respect to the (multiplied) Products and/or components and/or derived plant material:

   I) to treat and/or use these for multiplication,

   II) to offer them for sale,

   III) to sell them,

   IV) to import or export them and/or

   V) to keep them in stock for any of these or similar purposes.

   This includes all varieties essentially derived from a variety supplied by Hazera.

2. In the case of the resale of the supplied Products, the Buyer shall impose the above clause on its own buyers, under penalty of a fine for each infringement. The amount of the fine will not be less than the quantifiable benefit obtained by the Buyer and the costs of legal action to enforce these provisions.

3. The Buyer shall grant the holder of plant breeders' rights, or a Party acting on its behalf, direct access to its business, including in particular the greenhouses, to enable Hazera to carry out (or have carried out) an inspection. Business in this sense also includes all activities performed by third parties on behalf of the growers. The Buyer shall at Hazera's request grant immediate access to all administrative records with regard to the relevant parent material. The Buyer shall also impose the aforesaid obligations on its own buyers.

ARTICLE 18. INTELLECTUAL PROPERTY RIGHTS

1. The Buyer agrees and acknowledges that, subject to the licence provided under Article 14, paragraph 1, the exclusive right, title to and interest in all Intellectual Property Rights relating to the Products, Plant Material or any mutations, varieties or (biological) material obtained therefrom or included therein, including but not limited to genetics, traits, technology and/or all its (phenotypical) characteristics, as well as in Hazera trademarks shall at all times be and remain absolutely vested in Hazera or in any of its affiliates.

2. If and to the extent that the Buyer under the applicable law could establish any Intellectual Property Right in the Products, Plant Material or any mutations, varieties or (biological) material obtained therefrom or included therein, including but not limited to genetics, traits, technology and/or all its (phenotypical) characteristics, the Buyer agrees that the Buyer will not do so but rather transfer without undue delay such Intellectual Property Rights to Hazera, which accepts such transfer. The Buyer hereby authorizes Hazera to register and otherwise effect or complete such transfer under the applicable law and shall at Hazera's request assist in and carry out all actions deemed necessary by Hazera to register, effect and complete such transfer.

3. The Buyer agrees neither to use nor register any trademark, trade \ name, company name, domain name, symbols or variety designation which is identical or confusingly similar to the trademarks, trade name, company name, domain name, or symbols or variety designation owned by Hazera or any of its affiliate.

4. The Buyer may not use Hazera's trademarks, trade name and/or trade dress for any purpose unless otherwise approved in writing by Hazera.

5. In the event that the Buyer finds, observes or discovers a derived variety, including but not limited to any mutation in the production and cultivation of the Plant Material, the Buyer shall immediately notify Hazera thereof by registered letter.

6. At the written request of Hazera, the Buyer shall immediately provide Hazera with sufficient material from the derived variety (e.g. mutant), for testing purposes.

7. In the case of a derived variety (e.g. mutant) Buyer shall require the prior authorization of Hazera for the following acts in respect of constituents of the mutation or harvested material of the mutation: (a) production or reproduction, (b) conditioning for the purpose of propagation, (c) offering for sale, (d) selling or other marketing, (e) importing to and/or exporting; (f) stocking for any of the purposes mentioned above.

8. New mutations derived from the mutations shall also be regarded as a derived variety of the (protected) varieties of Hazera and paragraphs 5 to 7 of this Article 13 shall apply accordingly.

9. The Buyer agrees to allow and fully cooperate with any inspection by Hazera for the purpose to verify any possible infringement of Hazera's rights or violation of the agreement. The Buyer shall allow Hazera or a person or company appointed by Hazera to have direct access to the Buyer's premises including, but not limited to, its greenhouses, administrative and farming activities. The term 'activities' shall be understood to include activities carried out by third parties on behalf of the Buyer.

10. **Important Notice:** all Intellectual Property Rights reserved. Illegal reproduction and or exploitation is forbidden. Violation of these rights may constitute a serious offence that is prosecutable by Law. For further information see:www.AIB-seeds.com.

11. The Buyer shall fully cooperate with Hazera to defend its rights against infringement.

ARTICLE 19. NO GENETICALLY MODIFIED ORGANISMS (GMO)

Unless the Products are specifically indicated as GMO, the seeds of the varieties delivered to the Buyer were obtained without making use of techniques of genetic modification that lead to genetically modified organisms to which Directive 2001/18 of the European Parliament and the Council of the European Communities dated 12 March 2001 on the deliberate release into the environment of genetically modified organisms applies. Since it cannot be ruled out that approved GM plants are also cultivated by third parties in the seed production areas, it is not possible to prevent the accidental presence of GM materials completely and to guarantee that the seed lots delivered are free from any traces of GM plants.

ARTICLE 20. CONVERSION

1. If any provision of these general terms and conditions is invalidated, that provision will automatically (by operation of law) be replaced by a valid provision that corresponds as closely as possible to the purport of the invalidated provision. The parties must, if necessary, enter into reasonable consultations on the text of that new provision.

2. In that case the other provisions of these general terms and conditions will remain fully valid in so far as possible.

ARTICLE 21. SETTLEMENT OF DISPUTES

1. In case of a dispute howsoever arising out of or in connection with the General Terms and Conditions of Sale and/or the agreement, the Parties shall, if the dispute cannot be resolved amicably, first refer the dispute toproceedings under the ICC Mediation Rules. If the dispute has not been settled pursuant to the said Rules within 45 days following the filing of a Request for Mediation or within such other period as the parties may agree in writing, such dispute shall thereafter be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules of Arbitration.

2. The place of mediation and of arbitration shall be London, United Kingdom.

3. Hazera shall however be entitled to summon the Buyer at any time to appear before the competent court in the district in which the Buyer has its registered office.

4. In the event that court proceedings arise that are ancillary to ICC Mediation and/or ICC Arbitration the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim or issue arising out of or in connection with the agreement or connected legal proceedings.

ARTICLE 22. APPLICABLE LAW AND OTHER APPLICABLE CONDITIONS

Each Party irrevocably agrees that the Agreement, and any dispute or claim howsoever arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims), shall be governed by, and construed in accordance with the law of England and Wales. The applicability of the Vienna Sales Convention is expressly excluded.

ARTICLE 23. FINAL PROVISIONS

1. These General Terms and Conditions of Sale replace, exclude, and supersede earlier versions thereof and apply to all agreements concluded after the date on which they have been published on the Hazera website with the address www.hazera.uk.com

2. The Buyer shall not assign its rights and obligations under the agreement to third parties without Hazera's prior written consent.

3. The Buyer agrees that Hazera shall be permitted at all times to assign its rights and obligations under the agreement to third parties.

4. The agreement may only be amended by means of a written document signed by both Parties.

Variety Index

Brassicas
Pages 10-38

Roots
Pages 39-44

Salads & Misc
Pages 45-56

Organic seeds

It is our policy to help with the advance of low input systems, and we are researching organic seed production for a range of species.

At present we cannot offer organic seed but we can offer seed of carefully selected varieties, with no dressing, for organic production systems.

Our recommended varieties are indicated in the price list and in the index.

All our organic varieties are licensed by the Soil Association.

✓ **Varieties best suited to perform in organic systems.**