



Hydroponic



Lettuce Endive Herbs

The benefits of hydroponic

The demand for hydroponically grown products is increasing fast. All over the world growers and consumers are more and more interested in this way of growing vegetables and the consumption of them, especially leafy products and herbs. Enza Zaden is closely involved in the development of varieties that are suitable for this innovative, environmentally friendly method.

Benefits

There are many reasons why it is beneficial to grow products hydroponically. First, considerably less water, fertilizer and crop protection is used. Moreover, less pollution or leaking to the environment occurs. Hydroponics also means that soil born diseases and field conditions no longer influence production. For these reasons, hydroponic growing systems ensure a more controlled and uniform growth, resulting in a higher yielding product.

Consumers prefer hydroponically grown vegetables because it is a cleaner product and, if sold with roots, it has a better shelf-life.

Closed Controlled Environment

Growing vegetables in a closed controlled environment (C.C.E) is a recent development within leafy and herb production. In this system, plants grow hydroponically under only artificial lighting and in a complete controlled atmosphere. Because of the different layers used in these systems, it's also called Vertical Farming. This way of growing takes less space than the traditional way of growing. That's why C.C.E. production is often located close to or in big cities.

Enza Zaden product range

In this brochure you'll find our wide range of lettuce, endive and herbs varieties suited for hydroponic growing systems and/or C.C.E. If you have any special requirements or look for information about our products, please contact one of our sales representatives. Together we can create value for you and the future consumer in getting safe, nutritious and delicious leafy vegetables.

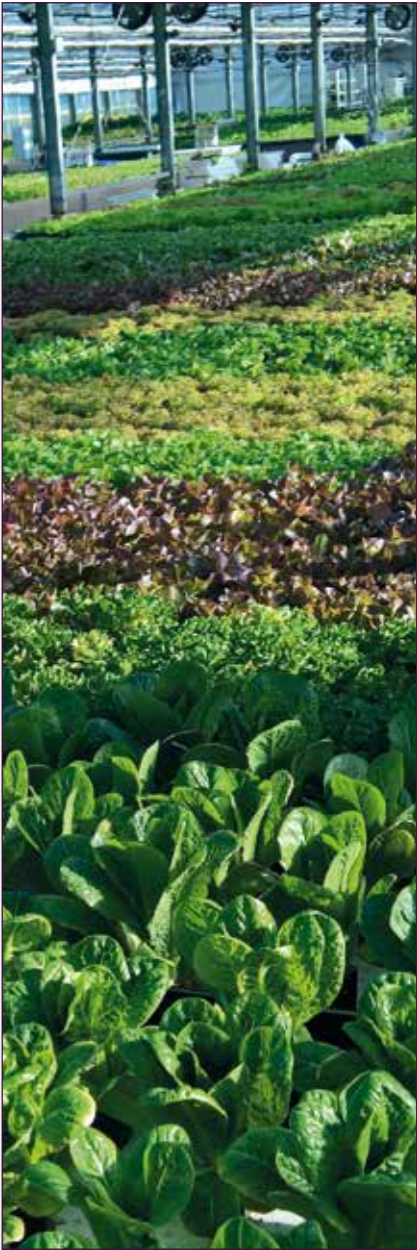
The Enza Zaden hydroponic lettuce team



Jan van Kuijk
Senior Product Specialist
Leafy Vegetable Breeding

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Batavia



Caipira



Bonaly

Belabela

Belabela is a large, voluminous Batavia lettuce with a medium to dark green colour. It is fast growing and strong against yellow leaf edges.

Biritiba

Light green colour Grand Rapids type, good curliness, good number of leaves, and large cutting surface. It is about 3,5 cm when ready to be harvested with at least 500 gram.

Bonaly

Fresh green Batavia, that stays compact in the summer and offering an attractive quality. High tolerance to internal tipburn.

Caipira

Fresh green Batavia that stays compact in the summer and offering an attractive quality. High tolerance to internal tipburn and a very reliable variety.

Cardiga

Cardiga does have a balanced growth, even under low temperature conditions. It has a very strong root system.

EZ5574

EZ5574 is a voluminous Batavia lettuce with a very light green colour. It is very curled and fast growing.

Fanela

Fanela is an open heading type. The leaves are fresh looking and bright green in colour. It is a very reliable variety and can be produced successfully throughout a large range of sowing dates.

Kiloma

Kiloma has a fast and balanced growth. Strong against tipburn. Good roots, easy power of renewal roots.

Kismy

Fast growing variety with voluminous heavy heads. Dark green thick leaves. Very strong to tipburn.

Malice

Light green Batavia, for summer production. Compact plant with waved leaves. Resistant to tipburn in hot conditions.

Maritima

An upright growth habit combined with a shiny green leaf colour.

Nazare

Nazare grows fast, even under low temperature conditions. Tolerant to LBVV (lettuce big vein virus). Good performances under low light conditions.

Grand Rapids Pearl Gem

High speed of growth and good volume. Light green frilled leaf type.

Vaidosa

Vaidosa is a fast, slightly large Batavia. Good roots, easy power of renewal roots when damaged by extreme conditions.



Grand Rapids Pearl Gem



“Reliability is the outstanding feature of the hydroponic varieties of Enza Zaden”

Origem do Campo
Paulo Matias & João Matias, owners
Portugal

Origem do Campo in Portugal grows in total 14ha of several crops, like lettuce, squash and eggplant. 0,5ha of this area is a hydroponic greenhouse with exclusively Batavia lettuce. “This year we worked in different seasons with the varieties Vaidosa, Bonaly and Nazare,” says João Matias, co-owner together with Paulo Matias at Origem do Campo.

“We chose Vaidosa because of its vigor and speed. Bonaly stands out in tolerance to internal tipburn and bolting. It also has a good root system and can react fast to root heat damages. Nazare has a very good speed and performs well under cold and low light conditions.”

Reliability
“In short, we have chosen all these varieties because of their reliability. Besides that, compactness and homogeneity in different climate conditions is very important for growing in hydroponic systems. These Enza Zaden varieties have these characteristics.”

Batavia

Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Belabela	BI:16-28,30-32EU/1-8US/ Nr:0/TBSV	LMV:1	x	x		Year round		x	x					
Biritiba	BI:16-24,27,28,30-32EU/ 1-8US/Nr:0	LMV:1			x	Year round		x	x	x				
Bonaly	BI:16-28,30-32EU/1-8US/ Nr:0/TBSV	LMV:1	x	x	x	Year round	x	x	x	x				
Caipira	BI:16-26,28,32EU/1-8US/ Nr:0/TBSV	LMV:1	x	x	x	Year round	x	x	x	x				
Cardiga	BI:16-32EU/1-8US			x	x	Winter - spring	x							
EZ5574	BI:16-27,29,32EU/1-8US	LMV:1			x	Year round		x	x	x				
Fanela	BI:16-28,30-32EU/1-8US/ Nr:0/TBSV	LMV:1		x		Year round	x	x	x					
Kiloma	BI:16-28,30-32EU/1-8US/ Nr:0/TBSV	LMV:1			x	Spring - summer - autumn		x	x	x				
Kismy	BI:16-26,28,31,32EU/1-8US				x	Autumn - winter - spring	x	x						
Malice	BI:16,18-24,27,28,30-32EU/ 1-8US	LMV:1		x		Autumn - winter - spring- summer	x	x						
Maritima	BI:16-28,30-32EU/1-8US/ Nr:0/TBSV	LMV:1		x		Year round		x	x					
Nazare	BI:16-32EU/1-8US			x		Winter - spring	x							
Grand Rapids Pearl Gem				x		Autumn - winter - spring	x	x						
Vaidosa	BI:16-32EU/1-8US/Nr:0/ TBSV	LMV:1/Fol:1		x	x	Year round	x	x	x	x				
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
Growing system: = Indoor = Indoor with light = Open field = C.C.E. (Closed Controlled Environment)														
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Butterhead



Alega



Brighton

Alega

A medium sized Butterhead for winter season, delivering a good winter growth with a clean base and easy to harvest.

Amica

Amica offers an excellent performance in hydroponic crops. Amica is strong against tipburn and makes a good weight. Amica is very easy to clean.

Barilla

Barilla is a medium-to-dark green, thick leaved variety with a strong base and good volume. It is strong against internal tipburn.

Brighton

A fresh green variety with a fast filling head. It is very strong against tipburn and already for many years a reliable variety.

Espirando

Espirando is a larger Amica type. Fresh green with a reliable performance, strong on tipping and yellow leaf edge. Makes good weight.

Fairly

Fairly is our new medium-large sized Butterhead variety. Remarkable is the reliable performance under different conditions. A very healthy plant with a fresh green colour. Very high tolerance to internal tipburn.

Lobela

Shiny dark coloured heads with good harvest window and easy to harvest. Well-shaped for pre-packing. Strong on bolting and against tipburn.

Temira




























Temira is a slow bolting medium framed variety. It has a flat base and is easy to harvest. Ideally for one-head packaging and good for processing.

Volare

Volare produces well-closed heads and is strong against bolting and tipburn. It works well for the fresh market and processing.



Volare

Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Alega	Bl:16-33EU/1-8US			x		Winter	x	x						
Amica	Bl:16-26,28-33EU/1-8US/ Nr:0		x			Spring - summer - autumn		x	x					
Barilla 	Bl:16-27,29,32EU/1-8US/ Nr:0/TBSV	LMV:1		x	x	Spring - summer - autumn		x	x					
Brighton 	Bl:16-33EU/1-8US			x	x	Winter	x	x	x					
Espirando 	Bl:16-26,28-33EU/1-8US/ Nr:0		x	x		Spring - summer - autumn		x	x					
Fairly 	Bl:16-33EU/1-8US/Nr:0		x	x	x	Year round		x	x					
Lobela	Bl:16-28,30-32EU/1-8US/ Nr:0/Pb	LMV:1		x	x	Year round		x	x	x				
Temira	Bl:16-26,28-33EU/1-8US		x	x		Year round		x	x	x				
Volare	Bl:16-27,29,31,32EU/1-8US/ TBSV			x	x	Year round				x				
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
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The 1ha farm of Salajoe started their production in January 2015 with mainly tricolor, Lollo Rossa and Lollo Bionda. “We have tried Enza Zaden varieties and found that the Enza Zaden Eazyleaf® red varieties are very promising varieties. These varieties are very strong against bolting. Therefore, this will be further trialed in 2017,” says Jochen Haubner, owner of Salajoe.

“The advantages of hydroponic lettuce are the hygiene, shelf-life and less chemical residues. Also it is nicer to eat because you have more delicate consistence compared to outdoor lettuce.”

“The Enza Zaden varieties in our trial are very promising because of their strength against bolting”

Salajoe
Jochen and Eva Haubner, owners
Germany

Lollo

Lollo Rossa | Red Coral

Lea

Lea is a big sized triple red round Lollo with a good leaf retention and an upright base. Strong against tipburn. Slow bolting with good uniformity. Suited for both leaf and whole head production.

Liv

A beautiful shiny, cherry red coloured Lollo Rossa. Strong and flexible leaves for easy packing.

Rasta

Double red coloured variety. It has a good speed and size.

Tuska

Appreciated variety offering medium sized dark red heads. It is strong on bolting, so the shelf-life is good on the field.



Liv



Tuska



Dabi



Jokary

Lollo Bionda | Green Coral

Azory

Azory is a fast growing variety, well-curved with an excellent weight. It has bright light green leaves.

Dabi

New productive and well-filled Bionda with fine curled leaves. Strong against tipping. It can be used in trios. High uniformity and total yield.

Ilema

Very nice, well-filled Lollo Verde type. Reliable variety, strong green colour and good leaf texture. It has a high yield and good eating quality.





























Jokary

Jokary is a quick growing variety with flexible leaves. The plant is compact and easy to pack, with an excellent presentation. Jokary will fit well in trios.

Vili

Vili is a medium mid green round Lollo with a nice curl, very good leaf retention and an upright base.



Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Lea 	Bl:16-33EU/1-8US/Nr:0	Fol:1		x		Year round	x	x	x	x				
Liv	Bl:16-33EU/1-8US/Nr:0	Fol:1	x	x		Year round	x	x						
Rasta	Bl:16-27,29,32EU/1-8US/Nr:0		x	x	x	Year round		x	x	x				
Tuska	Bl:16-26,28,32EU/1-8US/Nr:0		x	x		Year round		x	x					
Azory	Bl:16-33EU/1-8US/Nr:0			x	x	Year round	x	x	x	x				
Dabi 	Bl:16-33EU/1-8US/Nr:0	LMV:1/Fol:1		x	x	Year round	x	x	x	x				
Ilema 	Bl:16-33EU/1-8US/Nr:0/Pb/TBSV	LMV:1/Fol:1		x	x	Year round	x	x	x	x				
Jokary 	Bl:16-33EU/1-8US/Nr:0			x	x	Spring - summer - autumn	x	x	x					
Vili	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1/Fol:1	x	x		Spring - summer - autumn	x	x	x					
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
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“The good thing about Enza Zaden is that they have suitable varieties for each type”

Hydrofresh Garden
Chanin Sommaneeewan, owner
Thailand

Hydrofresh Garden in Thailand grows in total 1,600m² of hydroponic lettuce. “Since customers are asking for a full lettuce range, we produce nine types of lettuces, e.g. Oakleaf, Cos, Iceberg and Butterhead, but also herbs and wild rocket. Because Enza Zaden offers a full range of varieties in each type, we can use all our seeds from Enza Zaden only. Currently, the following varieties are used at our farm: Vizir, Lunix, Ortigia, Coventry, Moonred, Rasta, Dabi, Volare and Cristabel,” says Chanin Sommaneeewan, owner at Hydrofresh Garden.

Important characteristics
“Heat tolerance is one of the most important characteristics for lettuce varieties in Thailand, especially in the summer months. The varieties of Enza Zaden perform well under hot circumstances. They are strong against leaf spot in the rainy season and tipburn in the dry season,” says Sommaneeewan. “Besides heat tolerance, we are also looking for uniform varieties. Every head lettuce we harvest should look the same, year round. We choose the Enza Zaden varieties because of their uniformity and attractive look.”

Oakleaf

Green

Ardeor (E01L.30328)

A compact upright plant habit combined with a light green leaf colour. Excellent resistance on tipburn, easy to harvest and nice presentation.

Avenir

A voluminous green Oakleaf type with shiny colour. The shape is nice rounded and the base well-closed.

Bakero

Voluminous, round, compact and very well-balanced variety. Beautiful presentation and nice colour. Performs well in hot and cold conditions.

Fortero

Voluminous, but very well-balanced variety. It has a nice attractive colour. Good behaviour in various conditions. Excellent weight.

Malro

Voluminous, heavy and very well-balanced variety. Nice attractive colour. Good behaviour in various conditions.

Pagero

Voluminous, heavy and very well-balanced variety with shiny colour. Good performance in different conditions.

Palmir

Well-filled heart with a clean healthy base. Its colour maintains well, even under high light intensities. Slow bolting.



Oakleaf



Verdetrix

Green

Plezir 



























Plezir has a nice round shape. Flexible for various growing conditions.

Verdetrix

Compact green Oakleaf. Excellent shape and leaf structure, attractive shiny dark green colour. Very easy to pack.

Vizir

Very uniform mid-green Oakleaf with healthy leaves, strong bottom and nice shape.

Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Ardeor (E01L.30328)	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1	x	x	x	Autumn - winter - spring	x	x	x					
Avenir 	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1		x	x	Year round		x						
Bakero	Bl:16-27,29,32EU/1-8US/Nr:0	LMV:1	x	x		Year round		x	x	x				
Fortero	Bl:16-32EU/1-8US		x	x		Winter	x	x						
Malro 	Bl:16-31EU/Nr:0		x	x		Autumn - winter - spring	x	x	x					
Pagero	Bl:16-27,29,32EU/1-8US		x	x		Autumn - winter - spring	x	x	x					
Palmir	Bl:16-21,23-26,28-33EU/1-8US/Nr:0	LMV:1		x	x	Year round		x	x	x				
Plezir 	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1		x		Year round		x						
Verdetrix	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1	x	x		Year round		x	x	x				
Vizir	Bl:16-28,30-32EU/1-8US/Nr:0/TBSV	LMV:1			x	Year round				x				
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
Growing system:  = Indoor  = Indoor with light  = Open field  = C.C.E. (Closed Controlled Environment)														
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Red

Buckley 

Glossy dark red Oakleaf used for leaf cut.

Kaftan 

Tripple red Oakleaf. Voluminous plant with good heart filling. Well-closed healthy bottom with fine ribs.

Lunix

Intense red, large, upright growing Oakleaf. Strong against bolting, very reliable.

Magellan 

















Ideal combination of intense red colour, weight and speed.

Mathix 

Dark red Oakleaf with intense colour and crispy texture. Fast and upright growth offering good size. Stays compact even under hot conditions with good harvest window.



Mathix

Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Buckley 	Bl:16-33EU/1-8US/Nr:0/TBSV			x		Year round		x						
Kaftan 	Bl:16-32EU/1-8US/Nr:0/TBSV		x	x		Year round	x	x	x	x				
Lunix	Bl:16-27,29,32EU/1-8US/Nr:0		x	x	x	Year round		x	x	x				
Magellan 	Bl:16-32EU/1-8US/Nr:0/TBSV		x	x	x	Year round	x	x	x	x				
Mathix 	Bl:16-33EU/1-8US/Nr:0/Pb/TBSV	LMV:1	x	x		Year round		x	x	x				
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
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Romaine



Coventry



Tregoney

Little Gem

Aldea 

Fresh green Little Gem. Very good shape with excellent taste.

Almadraba (E01G.10374)

Albara type, more bulk with better colour. Good shape and very nice closing top.

Coventry

A sweet tasting very short smooth leaved Little Gem. Lighter green colour. Excellent tipburn tolerance.

Duende

Duende is quite big, producing well-formed and tight attractive hearts. Duende grows well under different conditions giving a consistent product.

Hampole

Dark green with good size and attractive yellow heart. Hampole has a slim shape, so it is easy to trim and pack for nice display. Strong against tipburn.

Skye

Skye is a medium green coloured Little Gem. Produces very uniform size and shape with beautiful fill.
























Tregoney 

A compact Little Gem with very nice shape and dark green colour.

Westham

Slightly savoyed dark green and shiny leaves. Strong against tipburn. Excellent yellow heart.



Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Aldea 	BI:16-32EU/1-8US/Nr:0		x			Year round		x						
Almadraba (E01G.10374)	BI:16-33EU/1-8US/Fol:1	LMV:1	x			Year round		x						
Coventry	BI:16-21,23-26,28-33EU/1-8US/Pb	LMV:1	x	x		Year round				x				
Duende	BI:16,17,21,23,32EU/1-6US/TBSV	LMV:1	x	x		Year round				x				
Hampole	BI:16-33EU/1-8US/Fol:1/Nr:0	LMV:1	x			Year round				x				
Skye	BI:16-33EU/1-8US/Nr:0/TBSV	LMV:1	x			Autumn - winter - spring	x	x						
Tregoney 	BI:16-33EU/1-8US/Nr:0/TBSV		x			Autumn - winter - spring	x	x						
Westham	BI:16-27,29,32EU/1-8US/Fol:1/Nr:0	LMV:1	x			Year round		x	x					
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“The good shape, one-cut and shelf-life made us decide to use these Enza Zaden varieties”

Mount Carmel Farms

Yossi Kahlon, owner
South Africa



Yossi Kahlon of Mount Carmel Farms is a hydroponic grower in South Africa. He grows year round 6ha under plastic and is expanding his hydroponic system with an additional 10ha under a net.

Kahlon grows several types of lettuce. “Butterhead, Eazyleaf®, Green and Red Oakleaf, Little Gem and Romaine. In all these segments we have several Enza Zaden varieties, like Ezatrix, Temira and Volare. We have chosen these varieties mainly because of their good shape, one-cut and shelf-life. We always look for the varieties that work best in our systems such as Skye and Hampole. They are the best heading varieties with best resistance to dry tipburn.”

Water-efficient growing system

“We believe that the use of hydroponic systems will definitely grow a lot in South Africa since water is a very scarce resource. And with the change in climate we experience longer periods of drought. As a result, growers need to change to water-efficient growing systems, like hydroponics.”

Romaine

Mini-Romaine Green

Chabi

High yielding dark green variety.

Xamena

A dark green fresh coloured Mini-Romaine. Beautiful yellowish fill and inner quality.

Xanadu

Xanadu is the variety for quality and taste. Slightly savoyed dark green and shiny leaves. Excellent yellow heart.

Xantos

Dark green rather compact type with excellent weight.

Xaroma

The standard Mini-Romaine. Slightly savoyed dark green and shiny leaves. The Xanadu quality combined with resistances.

Xisca (E01G.10479)

A shiny dark green Mini-Cos with smooth leaves. Very strong tolerance against tipburn.

Xolani (E01G.10514)

A new smaller and shorter Mini-Cos, with a good field keepability and taste, nice closed top heart, dark green and reliable.



Chabi



Xaroma



Xanadu

Romaine



E01G.10723



Moonred



Corbana

Mini-Romaine Red

E01G.10723

A triple red coloured variety with a beautiful heart fill and size. It has a strong tolerance to bolting.

Moonred

Triple shiny dark red colour in good contrast to the fresh green heart. Upright growth and good shape. Good for processing and whole heads.

Ovired

Deep red colour at the top of the leaves in good contrast to the green part. Nice yellow heart.

Large Romaine

Arroyo

Excellent production. For loose leaf harvesting.

Bacio

Big head, shiny leaves, dark green colour. Resistance to tipburn and bolting. Uniform plants and perfect taste. For whole year production.

Corbana

Flexible, fast growing variety. Resistant to tipburn and bolting. Stable growth in hot conditions.

Ortigia

For loose leaf harvests. Very high yielding.

Romaine

Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Mini-Romaine Green														
Chabi	Bl:16-27,29,32EU/1-8US	LMV:1/Ss		x		Year round		x	x					
Xamena	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1/Ss		x		Year round		x	x					
Xanadu	Bl:16,21,23,32EU/1-6US	LMV:1/Ss		x	x	Year round				x				
Xantos	Bl:16-27,29,32EU/1-8US/Nr:0	LMV:1/Ss		x		Year round		x	x					
Xaroma	Bl:16-27,29,32EU/1-8US/Nr:0/TBSV	LMV:1/Ss		x	x	Year round				x				
Xisca (E01G.10479)	Bl:16-33EU/1-8US/Fol:1/Nr:0/TBSV	LMV:1		x		Autumn - winter - spring		x	x					
Xolani (E01G.10514)	Bl:16-33EU/1-8US/Fol:1/Nr:0/TBSV	LMV:1	x	x		Autumn - spring	x	x						
Mini-Romaine Red														
E01G.10723	Bl:16-33EU/1-8US/Fol:1/Nr:0/TBSV	LMV:1	x	x		Year round		x	x	x				
Moonred	Bl:16-26,28-33EU/1-8US/TBSV	LMV:1	x	x		Year round		x	x	x				
Ovired	Bl:16-21,23-26,28-33EU/1-8US		x	x		Year round		x	x					
Large Romaine														
Arroyo	Bl:16-27,29,32EU/1-8US	Ss			x	Year round				x				
Bacio	Bl:16,17,21,23,32EU/1-6US	LMV:1/Ss			x	Autumn - winter - spring	x	x						
Corbana	Bl:16-27,29,32EU/1-8US/Nr:0/TBSV	LMV:1			x	Autumn - winter - spring	x	x						
Ortigia	Bl:16-25,27,28,30-32EU/1-8US	LMV:1/Ss			x	Year round				x				
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
Growing system: = Indoor = Indoor with light = Open field = C.C.E. (Closed Controlled Environment)														
HR: High Resistance IR: Intermediate Resistance For explanation of the codes of resistances, see the table on page 43 of this brochure. Current information concerning the resistances is available on www.enzazaden.com .														

“Enza Zaden is a reliable breeding company and its hydroponic varieties are strong and tolerant against disease and bolting”

Manna Cea
Tae-Byong, Jeon,
CEO Marketing and Customer Services
Korea



Farm Manna Cea in Korea grows in total 5,000m² of hydroponic lettuce. They grow several Enza Zaden varieties in Eazyleaf® (Ezmina, Ezabel, Ezatrix), Butterhead (Temira), Batavia (Caipira) and Oakleaf (Pagero). The harvest takes place 35 days to 45 days after planting.

Reliable breeding company

“We did some trials with these varieties in our greenhouses and have also done fully research about Enza Zaden. From this we have concluded that it is a reliable breeding company. Besides, the key outstanding features of these varieties are in general that they are strong and tolerant against disease and bolting,” says Tae-Byong, Jeon, CEO Marketing and Customer Services at Manna Cea.



Crispy Lettuce

Azirka (E01L.30190) 

Triple red crunchy Lollo type. It has a very thick, crunchy and tasty leaf. The leaf is round shaped with a very good 3D-structure. It works well in trios.

Crispinet

A light green coloured, frilled ice lettuce with excellent sweet and crispy taste. Very strong against tipburn.

Cristabel (E01C.10216)

Frilled ice lettuce leaf type with dark green colour, very strong and thick leaf. Short core, more upright growth. High yielding. Reliable variety in various conditions.



Azirka (E01L.30190)



Crispinet



Cristabel (E01C.10216)

Iceberg



Alcala



Ludmila



Saula

Alcala

A fast growing variety with a good cold tolerance. It has a very nice shape.

Botiola

Botiola is a large sized variety which gives a very high percentage of marketable heads consistently over a long period. The heads are firm and solid and pack well for several markets, it is easy to handle.

Contessa

Excellent performing variety for processing.

Glendana

Good frame, strong against tipburn. Fast heading. Great quality with minimal ribbing. Good uniformity and good tolerance in hot conditions. Disease tolerant.

Ludmila

Large frame, forming big heads. Slightly slower maturing than Glendana. Dark green. Disease resistant, heat tolerant and resistant to tipburn. Ludmilla combines a strong frame with a well-balanced, large headsize.

Rubola

Good cold tolerance and high yielding variety. Rubola has quite crispy leaves.

Saula

Very tolerant to tipburn, broad harvest window. Stays green, even with high light intensities. Dense and solid heads.

Tesela

Perfect shape and a good size, useable during a long period. High harvest index.

Waltz

Excellent shape and size, strong against cold conditions.



Variety name	Resistances		Size			Season	Climate zone				Growing system				
	HR	IR	S	M	L		C	T	W	Tr					
Crispy Lettuce															
Azirka (E01L.30190)		Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1		x	x	Year round		x	x	x				
Crispinet		Bl:16-29,32EU/1-8US	LMV:1	x	x	x	Year round	x	x	x	x				
Cristabel (E01C.10216)		Nr:0/TBSV	LMV:1	x	x	x	Year round	x	x	x	x				
Iceberg															
Alcala		Bl:16-27,29,32EU/1-8US		x			Winter	x	x						
Botiola		Bl:16-27,29,32EU/1-8US				x	Winter	x							
Contessa		Bl:16-27,29,32EU/1-8US/Nr:0			x		Winter	x	x						
Glendana		Bl:16-33EU/1-8US				x	Summer			x	x				
Ludmila		Bl:16-33EU/1-8US				x	Summer			x	x				
Rubola		Bl:16-27,29,32EU/1-8US	LMV:1		x		Winter	x	x						
Saula		Bl:16,21,23,32EU/1-6US	Fol:1			x	Year round				x				
Tesela		Bl:16-27,29,32EU/1-8US	LMV:1		x		Autumn		x	x					
Waltz		Bl:16-27,29,32EU/1-8US/Nr:0	LMV:1		x		Winter	x	x						
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical															
Growing system:  = Indoor  = Indoor with light  = Open field  = C.C.E. (Closed Controlled Environment)															
HR: High Resistance IR: Intermediate Resistance For explanation of the codes of resistances, see the table on page 43 of this brochure. Current information concerning the resistances is available on www.enzazaden.com .															



Eazyleaf®



Eazyleaf®

Green

Ezabel

Bulky and voluminous variety, blond green colour with Lollo Bionda leaf texture. Very serrated leaves and excellent bag filler. Works well in duos.

Ezatrix

Atractive shiny dark green Oakleaf. Fast and upright growth with thick well-serrated leaves.

Ezfrill

Fine curled, dark green and shiny thick spicky leaves offering good weight and shelf-life. Well-serrated leaves and crispy taste. Strong against tipburn.

Ezrilla

Large, bright green incised Eazyleaf®. Fast and upright growing with a nice shape and good fill. Very good taste.

Ezthana (E01L.30182)

Dark green incised Eazyleaf® with crispy texture. Uniform and strong leaves with a nice 3D-shape and good in processing.

Eztron (E01L.30174)

Fine serrated green Eazyleaf® with a narrow leaf attachment. It combines upright growing with compact plant habit. Shiny, attractive colour, easy to process.

Skilton (E01L.30419)

A fast growing spicky leaved Eazyleaf® with an upright growth and pliable leaves. Very strong against tipburn.



Ezabel



Ezfrill



Ezthana (E01L.30182)



Ezmina



Ezra

Red

Buckley

Glossy dark red Oakleaf used for leaf cut.

Ezbruke

Ezbruke has good strength against tipping. Good and attractive colour and glossy, crunchy leaves with excellent colour penetration.

Ezmina

Shiny red colour with incised leaves and a nice leaf structure which results in good volume per head.

Ezra

Triple red colour, high percentage of leaf coloration, deeply incised compact leaves, good taste. Works well in duos or trios.

Spoonbill (E01L.30287)

Unique variety with open plant type, high leaf uniformity with deeply penetrating, attractive red. True one-cut, very good bolting tolerance. Leaves are smooth and have a butter texture.

Stanford (E01L.30286)

A triple red open round leaved variety. The leaves are smooth and do have a firm texture.

Variety name	Resistances		Size			Season	Climate zone				Growing system			
	HR	IR	S	M	L		C	T	W	Tr				
Ezabel	Bl:16-27,29,32EU/1-8US/Nr:0		x	x	x	Year round	x	x	x	x				
Ezatrix	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1	x	x	x	Year round		x	x	x				
Ezfrill	Bl:16-33EU/1-8US/Nr:0/TBSV		x	x		Year round	x	x	x	x				
Ezrilla	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1		x	x	Year round		x	x	x				
Ezthana (E01L.30182)	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1	x	x		Year round		x	x	x				
Eztron (E01L.30174)	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1		x	x	Year round		x	x	x				
Skilton (E01L.30419)	Bl:16-33EU/1-8US/Nr:0	LMV:1	x	x	x	Year round		x	x	x				
Buckley	Bl:16-33EU/1-8US/Nr:0/TBSV			x		Year round		x						
Ezbruke	Bl:16-33EU/1-8US/Nr:0/TBSV	LMV:1		x		Spring - summer - autumn		x	x					
Ezmina	Bl:16-26,28,32EU/1-8US/Nr:0		x	x	x	Year round		x	x	x				
Ezra	Bl:16-27,29,32EU/1-8US/TBSV		x	x		Year round		x	x	x				
Spoonbill (E01L.30287)	Bl:16-33EU/1-8US/Nr:0/TBSV			x		Year round		x	x	x				
Stanford (E01L.30286)	Bl:16-33EU/1-8US/Nr:0/TBSV			x		Year round		x	x	x				
Size: S=Small M=Medium L=Large Climate zone: C=Cool T=Temperate W=Warm Tr=Tropical														
Growing system: = Indoor = Indoor with light = Open field = C.C.E. (Closed Controlled Environment)														
HR: High Resistance IR: Intermediate Resistance For explanation of the codes of resistances, see the table on page 43 of this brochure. Current information concerning the resistances is available on www.enzazaden.com .														

Endive



Domari

Atleta

Curled vigorous variety. High yield with high percentage of white.

Cuartana

Cuartana is an upright growing endive, easy to pack, very reliable to grow because of good tolerance to bolting and tipburn.

Domari

Domari is a curled endive type; vigorous and well filled with attractive dark colour. Combines high yield with outstanding quality.

Myrna

Myrna is a coarser frilled and well-filled with attractive dark colour. A reliable standard offering high yield. It shows a good shelf-life at the field.

Zidane

An attractive, fast growing Tres Fine Maraichere type. The leaves are thin, fine and very curly. Is adaptable to a wide range of growing conditions.

Variety name	Size			Season	Climate zone				Growing system			
	S	M	L		C	T	W	Tr				
Atleta			x	Winter - summer	x	x	x	x			☼	
Cuartana			x	Year round		x	x	x			☼	
Domari		x		Spring - autumn		x	x		🏠			🏠
Myrna		x	x	Year round			x	x	🏠			
Zidane		x		Year round		x	x	x		💡		🏠
Size: S=Small M=Medium L=Large Cllimate zone: C=Cool T=Temperate W=Warm Tr=Tropical Growing system: 🏠= Indoor 🏠💡= Indoor with light ☼= Open field												

Rucola

Grazia

Very dark green colour, high uniformity and compact plant construction. Fine serrated leaves with a good strength, suitable for bundle and bowl, late bolting. Good performance under artificial light.

Letizia



Good taste, very good shelf-life after processing. Intermediate resistance against Downey Mildew.

Prudenzia F1



Our first Rucola Selvatica hybrid with intermediate resistance against Downey Mildew. Very fast growth and long shelf-life.

Rucola coltivata

Quick growing, high yielding, oval-leaved type.

Tricia

Our fastest variety, high uniformity and very upright. Strong against Downey Mildew and late in bolting.



Grazia



Letizia



Prudenzia F1



Tricia

Variety name		Cultivation			Growing system			
		Fresh Cut	Processing	Pot Plant				
Grazia		X	x		🏠	💡	☼	🏠
Letizia	🌿	x	x		🏠	💡	☼	🏠
Prudenzia F1	🌿	x		x	🏠	💡	☼	🏠
Rucola coltivata	🌿	x	x	x	🏠	💡	☼	🏠
Tricia		x	x		🏠	💡	☼	🏠
Growing system: 🏠= Indoor 🏠💡= Indoor with light ☼= Open field 🏠= C.C.E. (Closed Controlled Environment)								



Herbs

Herbs

Parsley

Fidelio 

New Gigante d'Italia type with intermediate resistance against Downey Mildew. Ideal for fresh market.

Orfeo 

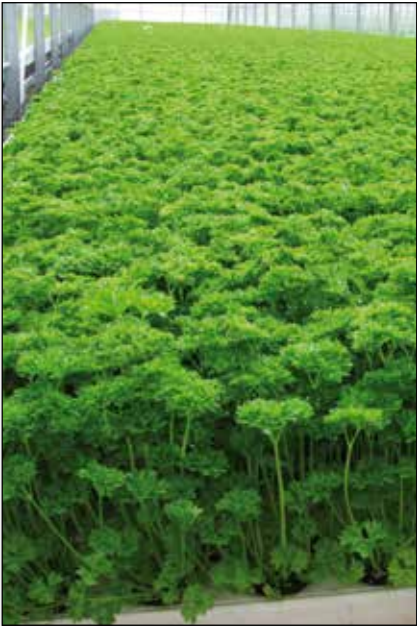
Dark green, paramount type, very homogenic growth, ideal for export and longer storage.
























Peione 

Dark green Gigante type with high homogeneity and high yield, intermediate resistance to Downey Mildew.

Wega

Novelty in type Moss curled, with dark upright leaves and of perfect homogeneity. Very good shelf-life.



Variety name		Cultivation		Growing system			
		Fresh Cut	Pot Plant				
Fidelio		x	x				
Orfeo		x	x				
Peione		x	x				
Wega		x	x				
Growing system:  = Indoor  = Indoor with light  = Open field  = C.C.E. (Closed Controlled Environment)							

Herbs



Emily



Marian



Rosie

Basil

Dolly

A very uniform basil, large leaved and fast growing with high yield. Good performing under artificial lightning.

Edwina

Shiny dark leaves under low light conditions. High yield.

Emily

Compact pot basil, very suitable for artificial lighting. High yield and elongated shelf-life.

Eowyn

Very strong and compact basil variety for pot cultivation. Genoveser type. Brilliant dark green colour. Improved shelf-life.

Marian

Very dark green colour and medium sized leaves. Strong against tipburn and leaf damages in the packing phase. Improved cold tolerance.





































Piccolino

Selection of Greek basil, small leaves, strong aroma.

Rosie

Red variety with intensive dark red colour with compact and upright growth on robust stems.



Variety name	Cultivation		Growing system			
	Fresh Cut	Pot Plant				
Dolly 	x	x				
Edwina 		x				
Emily 	x	x				
Eowyn	x	x				
Marian		x				
Piccolino		x				
Rosie 	x	x				
Growing system:  = Indoor  = Indoor with light  = Open field  = C.C.E. (Closed Controlled Environment)						

Herbs



Ella

Dill

Ella

Dark blue-green plants with a lot of leaf tips. Due to extra short hypocotyl this dill provides compact and very stable plants for pot production. It is also suited to harvest fresh bundles.

Green sleeves

A very stable, dark green dill of the leafy type for production of fresh bundles. Strong against bolting.



Chive

Naomy

Very rapid growth, strong root system, strong against yellow tips, very suitable as a bundle product for the fresh market and for the processing industry, elongated shelf-life.

Chervil

Massa

Uniform selection in the smooth leaf type with high yield and dark leaves.

Coriander

Marino

Reliable selection with thickly feathered, fine stalked leaves. Improved bolting tolerance, high yielding and very aromatic.

Lemon Balm

Citrina

Improved standard selection, very aromatic.

Purslane

Winter

Fast variety.

Watercress

Avona

Standard type. Very aromatic.



Naomy







































Marino



Citrina

Herbs

Variety name		Cultivation		Growing system			
		Fresh Cut	Pot Plant				
Dill							
Ella			x				
Green sleeves		x					
Chive							
Naomy		x	x				
Chervil							
Massa		x	x				
Coriander							
Marino		x	x				
Lemon Balm							
Citrina		x	x				
Purslane							
Winter		x	x				
Watercress							
Avona		x	x				



Hydroponic lettuce guidelines

We have put our varieties in an overview in order for you to make an easy selection for what best suits your growing conditions. In this brochure the hydroponic lettuce varieties are divided in the different segments like Batavia, Butterhead, Iceberg etc. The performance of the varieties is dependent on the climatic conditions of the area, growing conditions, season of the year and the head weight at harvest time.

A brief explanation:





Size

- Small harvested head weight < 150 gram
- Medium harvested head weight 150 – 300 gram
- Large harvested head weight > 300 gram

Climate zone

- Cool average day temperature lower than 10 °C
- Temperate average day temperature between 10 °C - 20 °C
- Warm average day temperature between 20 °C - 30 °C
- Tropical average day temperature above 30 °C

Growing system *

-  Indoor
a tunnel or glasshouse
-  Indoor + light
a glasshouse with use of artificial lighting
-  Open field
can be with or without sun cover
-  C.C.E.
Closed Controlled Environment

Varieties marked as  are also available as organic seed from “Vitalis - Organic Seeds.” 



RMTD: new generation of herb varieties with excellent resistance or other specific added values like shelf-life or cold tolerance.

We hope that you are able to make a selection out of our lettuce program, following the given guidelines. If any further information is required, please contact your local Enza Zaden representative, or alternatively one of the persons listed on the back of this brochure.

* This indicates in which environment the variety is grown hydroponically.



Per Crillesen and Peter Conijn

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Resistances

Resistances in varieties of our crops will be coded (see for explanation our coding list at www.enzazaden.com.), 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 this means that resistance is claimed only to certain not further specified strains of the pathogen and herewith disclaiming any guarantee that the variety will not be infected by the said pathogen.

High 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.

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 highly resistant plant 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 or pathogen pressure.

Tolerance (T) - the ability of a plant variety to endure abiotic stress without serious consequences for growth, appearance and yield.

Disclaimer

Descriptions, recommendations and illustrations in brochures and leaflets shall correspond as closely as possible to tests and practical experience and are subject to typographical and/or printing errors. This information shall be provided to assist professional growers and users, whereby variable local conditions must be taken into account. Under no circumstances shall Enza Zaden accept liability based on such information for deviating results in the cultivated product. Current information concerning the resistances is available on www.enzazaden.com.

Explanation of used abbreviations

Lettuce	Code	English name	Scientific name pathogen ISF	Races/Strains	Level of resistance
Viruses	LMV	Lettuce mosaic	<i>Lettuce mosaic virus</i>	1	IR
	TBSV	Lettuce die-back	<i>Tomato bushy stunt virus</i>		HR
Bacteria	Ss	Corky root	<i>Sphingomonas suberifaciens (ex Rhizomonas suberifaciens)</i>		IR
Fungi	Bl	Downy mildew	<i>Bremia lactucae</i>	16-33EU/1-8US	HR
	Fol	Fusarium wilt	<i>Fusarium oxysporum f.sp. lactucae</i>	1,2	IR
Insects	Nr	Lettuce leaf aphid	<i>Nasonovia ribisnigri</i>	0	HR
	Me	Potato aphid	<i>Macrosiphum euphorbiae</i>		IR
	Pb	Lettuce root aphid	<i>Pemphigus bursarius</i>		HR



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