

# Professional Horticulture

Product Guide

UK  
Edition

**Levington<sup>®</sup>**  
**Advance**  
**Osmocote<sup>®</sup>**  
**Peters<sup>®</sup>**  
**Universol<sup>®</sup>**  
**H<sub>2</sub>Gro<sup>®</sup>**

**AICL**



**Osmocote®  
Exact**

# Perfect timing, perfect growth

**Guaranteed nutrient  
release matching plant  
demand**

**Maximise your  
return on investment**

**Have you got it in  
your growing media?**

## Ensure perfect timing of nutrient release with Osmocote Exact.

Growing the 'perfect plant' is all about timing of nutrient release. Only Osmocote Exact provides you with that guaranteed release to match the nutritional needs of plants at different growth stages. Giving plants exactly what they need, from rooting to finishing.

### The Key to Perfect Plant Nutrition

Osmocote Exact is the only CRF with coloured indicator granules, so you can tell at a glance that you have the key to perfect plant nutrition within your growing media.



**3-4  
Months**



**5-6  
Months**



**8-9  
Months**



**12-14  
Months**



**16-18  
Months**

**Levington® Advance  
Solutions**

*Guarantees Osmocote Exact  
CRF in your growing media*

Find out more at [www.osmocote.co.uk](http://www.osmocote.co.uk) or [www.osmocote.ie](http://www.osmocote.ie)

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**ICL** Professional  
Horticulture

# Everything you need with brands you can trust

ICLs brands have been leading the way in horticulture for 50 years, from *Levington* professional growing media, to our patented controlled release fertilizer *Osmocote*. Use our products and you will be safe in the knowledge your plants are getting what they need for maximum quality and return on investment.

As well as the best quality UK & Irish peat resource at our state-of-the-art production facility, we also use some of the best substrates as standard, to make sure that your growing media performs to its maximum capacity when it is delivered to your door.

The ICL group has industry leading research and development facilities to help continuously improve its market leading products, keeping them at the cutting edge of horticultural technologies. With brands such as *Osmocote*, *Universol* and *Peters* you can trust that when you need to provide the best care for your plants, our products are guaranteed to perform.

Plant protection is key to maximising your crop yield and plant quality. We have the products to protect your plants safely throughout the growing cycle. With brands such as *Seeka* and *Pitcher*, your crops are in safe hands.

## Grow

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# Grow

**Levington - With over 50 years experience of producing consistent high quality professional growing media**

*Levington* has been the go to supplier for growing media for decades, not only because people trust the product to provide them with the best results, but also because of the constant research and development that goes into making sure Levington remains on top of its game.





# The quality is in the ingredients

As well as the best quality UK & Irish refined peat at our state-of-the-art Scottish production facility, we also use the most advanced and responsibly resourced substrates as standard to make sure that your growing media performs to its maximum capacity when it is delivered to your nursery.

## Levington® Advance

Within *Levington Advance* growing media the finest ingredients, which have been developed and tested over time to provide mediums which your plants will just love to grow in.

### Product advantages

- Screened to optimise particle size then blended to provide the ultimate mix for your crop
- Weed free
- Managed by experts at our UK factory
- Over 50 years of research and development in every bag
- No green waste - we only manufacture professional grade growing media

## Fibagro® Advance

*Fibagro* is a perfect base for peat free growing media as well as complementing peat for peat-reduced plant production.

Wood fibres are created using a thermo-mechanical patented process (defibration) which consists of crushing coniferous sapwood chips from sawmills. During this process temperatures of up to 150°C occur allowing unwanted substances to escape as gas ensuring that *Fibagro* is sterile.

### Product Advantages

- 100% natural and biodegradable
- Healthy and reliable: the defibration process ensures a safe, constant quality with structural stability
- Ecological and economic, peat alternative
- Increases the aeration of substrates due to increased air capacity and drainage
- Promotes root growth
- *Fibagro* is naturally hydrophilic enabling easy and fast rewetting
- *Fibagro* stabilises growing media structure.
- Added nitrogen for better release and stability

## Start&Gro®

*Start&Gro* is the starter fertilizer for potted, bedding and all container nursery plants. *Start&Gro* is designed to be premixed into the growing media, providing nutrition for the first weeks of cultivation.

### Product advantages

- High potassium ratio for good colour
- Free flowing
- Good mixability
- 100% water soluble
- No dust
- High chelated trace element level

## H2Gro®

The latest generation surfactant, it combines a wetting agent with a penetrating agent, ensuring the water tracts to all areas of the growing media. *H2Gro* also contains a re-wetting agent, promoting excellent initial and long term wetting of growing media, it performs equally well through wetting and drying cycles.

### Product advantages

- Remains in the media to allow water to re-wet the substrate particles
- Excellent initial wetting
- Excellent long term wetting
- Excellent through wetting/drying cycles
- Safe to beneficial microbes
- Economical low use rate

## Levington® Bark

The bark used in *Levington Advance* growing media is environmental friendly sourced with **Forest Stewardship Council®** certification. It is predominantly pine and comes in three grades 0-3mm, 0-8mm and 5-12mm. Additional nitrogen is added to ensure any bacterial breakdown action is stabilized.



### Product advantages

- Opens up structure to give better drainage
- Fertilizer buffering similar to peat
- FSC® certified so environmentally friendly
- 3 grades to match pot size
- Uniform particles aid flow into pots

## Levington® Coir

Using *Levington Coir* within growing media provides a host of benefits which are helping evolve the current *Levington* product range. Made from the pith of coconut husks, coir can be manufactured into growing media either on its own, or by blending it with other raw materials such as peat.

### Product advantages

- Uniform particle size helps growing media consistency
- Lightweight helping lower delivery costs.
- Absorbs water readily, even when very dry
- Absorbs and holds nutrients within the growing media
- Flows into pots and cells readily
- Optimum pH level for plant growth

## Micromax® Premium

Available in all *Levington Advance* standard growing media.

*Micromax Premium* ensures that the plant receives all the trace elements including magnesium it needs to thrive. Its unique formula also increases the efficiency of the major elements.

### Product Advantages

- Contains 12% MgO: 25% direct and 75% slowly available
- Balanced combination of trace elements and magnesium
- Contains 15% Iron and a balanced combination of other trace elements
- Up to 18 months supply of trace elements
- Stimulates good rooting for strong and healthy crops
- Perfect startup effect and good plant colour
- Even distribution in growing media
- Superior product for outdoor, containerised crops
- Dust-free and prevents toxicity symptoms
- Environmentally friendly, very low leaching of nutrient

Grow

## Fibagro<sup>®</sup> Advance

*Fibagro Advance* is a perfect base for peat free growing media as well as complementing peat for peat-reduced plant production.

Manufactured from FSC raw materials *Fibagro Advance* is created from wood chips which are thermo-mechanical processed. During this process the wood chips are put through extremely high temperatures allowing unwanted substances to escape as gas, ensuring that *Fibagro Advance* is free of any kind of chemical or physical additive and is more sterile.

**100% natural and biodegradable:** *Fibagro Advance* degrades after use, without any residues.

**Healthy and reliable:** the defibration process ensures a safe, constant quality with structural stability.

**Ecological and economic:** *Fibagro Advance* is a fully renewable raw material which utilises a by-product of the timber industry sourced from sustainable forests. Moreover, *Fibagro Advance* is compressible and due to its low bulk density, transport costs are optimised.

### Advantages of using Fibagro Advance

- Reduced leaching
- High Air Filled Porosity for good rooting and drainage
- Improved Water Holding Capacity making it easier to manage plants throughout
- Great structure that doesn't allow the mixes to 'slump' in the pots
- Manufactured on UK site for professional horticulture market and has stable nitrogen profile
- Fully sterilised - heat treated
- Manufactured from UK FSC certified and sustainable raw materials
- Combined with the strong nutrition packages of ICL, *Fibagro Advance* can be used in high percentages in mixes providing a robust and cost efficient diluent of peat\*

### Did you know?

ICL has the perfect nutrition packages with its *Osmocote* CRF range as well as starter fertilizers such as *Osmoform*. Contact your Technical Area Sales Manager for further details of how these can be applied.

**Exclusive  
new product  
from ICL  
Professional  
Horticulture**



70% peat 0-10mm 30% advanced fibagro



Tailor your growing media requirements for optimum performance with new...

# Levington® Advance Solutions



At ICL we know that grower requirements vary geographically and from crop to crop, therefore we offer a complete solutions package designed to produce growing media for our customers' individual needs.

To optimise crop value and performance you can add:

<b>Csmocote® Exact</b>	Maximise the efficiency of your feed regime (see pages 24-29)
<b>Micromax® Premium</b>	Enhance the performance of your trace element package (see page 36)
<b>Seeka®</b>	A beneficial nematode providing control of black vine weevil larvae (see page 48-52)
<b>Pitcher GR</b>	A biorational pesticide for the suppression of black vine weevil eggs (see pages 47)
<b>PRESTOP®</b>	A multi use biological fungicide for protection against damping off and root rot diseases (see pages 53)
<b>Triatum® G</b>	For increased vigour and plant health (see page 57)
<b>H2Gro®</b>	Increase the water efficiency of your growing media (see pages 60-61)



Our **Technical Area Sales Managers** (see page 65) will be pleased to discuss the effect and benefits of all the different materials available and suggest the best mixes for growing the crops on your nursery.



This symbol indicates that you can incorporate this product as part of your Levington Advance Solution growing media.

## Delivery Methods

How growers handle growing media depends on their equipment and of course personal preferences. With this in mind we offer a full range of options and delivery methods.

**Why not ask about our Moffett Mounty options for delivery, at a small additional cost, providing you with peace of mind on delivery when placing your order.**



- 75 litre bags
- Bulk bags in various sizes from 1.5m<sup>3</sup> to 2.7m<sup>3</sup>
- Pro-bales containing up to 4.5m<sup>3</sup>
- Loose bulk up to 100m<sup>3</sup>
  - Walking floor and artic tippers available



# Grow

## Levington® Advance Sustain

Safe, reliable and renewable  
peat free Growing Media from  
the brand you can trust.

High quality  
**peat free**  
growing  
media from  
ICL

**Born from years of research, development and experienced gained from years of working within the ornamental industry, ICL's Levington Advance Sustain provides growers with the ultimate in sustainable growing media. Carefully produced for the professional growing industry ICL have a range of products that can be used as standard or as part of the Levington Advance Solutions programme.**

### Tailor Made Solutions

Our team of highly qualified advisers provide you with specific recommendations regarding the correct nutrition for your crops and which inputs can be added to customise your growing media mix. This is all the more essential when growing in a non-peat based growing media. Our advisers are there not only at the outset but advice continues throughout the growing season making sure that you maximise your crops quality and profitability.

Our team of **Technical Area Sales Managers** (see page 55) are always on hand to provide advice on adjusting the specification to suit your crops, whether it is providing a coarser material or different pH.

Grow

Levington® Advance  
Sustain 

Nurture

Protect

The non-peat based growing media providing great base nutrition and essential trace elements to your crops

**Csmocote®**

Controlled release fertilizers which guarantee quality of release and performance (see pages 22-35)

**Micromax®**

Essential trace element package provided as standard (see page 36)

**PRESTOP®**

A multi use biological fungicide for protection against damping off and root rot diseases (see page 53)





## LEVINGTON ADVANCE SUSTAIN MIXES

Grow

### Pot & Bedding SM1

*Levington Advance Sustain* is designed to be used from 3cm pots up to 9cm pots and allows for growth of even the most sensitive of plants

- Suitable for growing the most sensitive of bedding plants.
- Encourages rooting and allows for control of growth with follow up water soluble feeding
- Cell packs and small pots up to 9cm
- Includes *H2Gro* wetting agent for great water management and improved rooting
- Essential trace element package included as standard
- pH range 5.5 - 6.2

**Particle Blend\***  
50%Coir/25% Fibagro/25% 0-8mm Bark

**Conductivity**  
341-417µS

**Nutrients Added** 149N 60P 199K

### Pot Plant SMCP

*Levington Advance Sustain* for Pot Plants is specifically designed to provide an open structure for optimum drainage. It allows for good rooting and with low base fertilizer allowing for more controlled growth utilizing Osmocote Exact technology.

- Blend of materials for open structure providing improved drainage
- For indoor and outdoor crops
- For 9-14cm pots, tubs and baskets
- Includes *H2Gro* wetting agent for great water management and improved rooting
- Essential trace element package included as standard
- pH range 5.5 - 6.2

**Particle Blend\***  
40%Coir/25% Fibagro/25% 0-8mm Bark/10% 5-12mm Bark

**Conductivity**  
362-442µS

**Nutrients Added**  
173N 73P 239K

### Container Nursery Stock SCNS General

*Levington Advance Sustain* for container nursery stock is formulated to flow in to even small pots whilst retaining a good open structure for drainage.

- Includes *H2Gro* wetting agent for great water management and improved rooting
- Essential trace element package included as standard.
- Low level of starter fertilizer
- For use in pots and liners from 9cm to 2 litres
- pH range 5.5 - 6.2

**Particle Blend\***  
40%Coir/30% Fibagro/30% 0-8mm Bark

**Conductivity**  
330-404µS

**Nutrients Added**  
149N 60P 199K

\*Product specification is subject to change dependent on raw material availability and moisture content in order to maintain consistency, quality and high level of performance. Due to its inherent inconsistency and potential contamination problems we do not allow green waste on our site. speak to your local ICL Technical Area Sales Manager for further information regarding this. All products within the *Levington Advance Sustain* range are subject to a minimum 4 pallet order.



Grow

# Levington<sup>®</sup> Advance Bloom

*Levington Advance Bloom* is a product that takes growing media to the next level for the bedding and pot plant market, combining Levington, the high quality professional growing media, with the go to brand in controlled release fertilizers - **Osmocote<sup>®</sup>**. This combination has proven, over time, to be a winning formula for growers. It's the must have growing media.

## Levington Advance Bloom M

- Medium grade particle size ideal for packs.
- pH range 5.3 - 5.8

Particle size 0-10mm

Conductivity 148-230µS

## Levington Advance Bloom MC

- Medium coarse grades for small pots and where additional drainage is required such as outdoor or autumn crops
- pH range 5.3 - 5.8

Blended particle size 80% 0-10mm / 20% 6-12mm

Conductivity 148-230µS

## Nutrient Supply

For both M and MC you have the choice of two rates

1.5kg rate - lower nutrient level for autumn production and salt sensitive species such as Antirrhinum, Alyssum, Verbena etc

2-3

Nutrient Added 180N 46P 100K

2.5kg rate - standard rate for all other bedding crops

Nutrient Added 300N 76P 166K

## New Product Innovation from Levington.

- Have confidence with *Osmocote* controlled release technology included
- Maximise your yields
- Perfect for bedding and pot plant growers



Standard mix with  
starter fertilizer



Levington  
Advance Bloom



Standard mix with  
starter fertilizer



Levington  
Advance Bloom

Growing media conductivity is measured using a method of analysis of 1:5 dilution rate.

\*Product specification is subject to change dependent on raw material availability and moisture content in order to maintain consistency, quality and high level of performance. Due to its inherent consistency and potential contamination problems we do not allow green waste on our site. speak to your local ICL Technical Area Sales Manager for further information regarding this.





Grow

## Levington® Advance Seed & Modular

Levington Seed & Modular growing media has a low or a medium base level of fertilizer to meet the individual requirements of crops and their growing regimes. The particle size is below 3mm and contains *H<sub>2</sub>Gro* wetting agent with the pH adjusted to between 5.3 and 5.8 using dolomitic lime.



### Levington Advance Seed & Modular - Low nutrient F1

- Suitable for all seed sowing
- Having a low level of starter fertilizer ensures even the most sensitive seedlings can grow exceptionally
- Growth of the seedlings can be easily managed with water soluble fertilizers
- pH range 5.3 - 5.8
- Modules, trays and small pots up to 7cm

Particle size 0-3mm

Conductivity 200-294µS

Nutrient Added 96N 49P 159K

### Levington Advance Seed & Modular - F2

- Suitable for seed sowing and direct rooting of softwood cuttings like Chrysanthemums and Fuchsia
- For more vigorous seedlings including vegetable plants
- pH range 5.3 - 5.8
- Modules, trays and small pots up to 7cm

Particle size 0-3mm

Conductivity 269-379µS

Nutrient Added 144N 73P 239K

### Levington Advance Seed & Modular - F2S

- Seed sowing and direct rooting of cuttings
- Contains silver sand to improve the flow of the growing media even into the smallest cells
- pH range 5.3 - 5.8
- Modules, trays and small pots up to 7cm

Particle size 0-3mm

Conductivity 269-379µS

Nutrient Added 144N 73P 239K

### Levington Advance Blocking - B2

- Blend of wet and dry milled peats to retain structure
- Suitable for making all sizes of blocks and growing vegetables, such as lettuce and tomato
- pH range 5.3 - 5.8

Conductivity 310-350µS

Nutrient Added 150N 75P 201K



Grow

## Levington® Advance Pot & Bedding

This range of growing media products has particles no larger than 10mm enabling them to be used from a 12mm pack up to 9cm pots. While water holding is good, our revolutionary *H<sub>2</sub>Gro* wetting agent also helps encourage rooting. The pH is between 5.3-5.8 and, depending upon which product is chosen, even the most sensitive and most vigorous plants can be grown.



### Levington Advance Pot & Bedding - Low nutrient M1

- Suitable for growing the most sensitive of pot and bedding plants
- Encourages rooting and allows for control of growth with follow up water soluble feeding
- Cell packs and small pots up to 9cm
- pH range 5.3 - 5.8

Particle size 0 -10mm

Conductivity 234-336µS

Nutrient Added 120N 61P 199K

### Levington Advance Pot & Bedding - Med nutrient M2

- Designed to grow a wide variety of pot and bedding plants
- Good quality nutrient supply for feeding of up to four weeks
- Cell packs and small pots up to 9cm
- pH range 5.3 - 5.8

Particle size 0-10mm

Conductivity 228-464µS

Nutrient Added 180N 90P 299K

### Levington Advance Pot & Bedding - High nutrient M3

- This product is designed for the most vigorous plants including tomatoes
- Controlled release fertilizers should not be added due to the high levels of nutrients already contained in this product.
- Small pots up to 9cm
- pH range 5.3 - 5.8

Particle size 0 -10mm

Conductivity 355-485µS

Nutrient Added 192N 96P 319K

\*Product specification is subject to change dependent on raw material availability and moisture content in order to maintain consistency, quality and high level of performance. Due to its inherent inconsistency and potential contamination problems we do not allow green waste on our site. speak to your local ICL Technical Area Sales Manager for further information regarding this.

Growing media conductivity is measured using a method of analysis of 1:5 dilution rate.





Grow

## Levington® Advance Potting

A range of growing media products designed to provide a good open well drained structure with low base fertilizer levels. *H<sub>2</sub>Gro* wetting agent is added to optimize water uptake and rooting. Different markets have different plant specifications so the growth can be controlled by adding *Osmocote Exact* or by liquid feeding.



### Levington Advance Medium Coarse Potting - MCP

- Blend of particle sizes for open structure providing improved drainage
- For indoor and outdoor crops
- For 9-14cm pots, tubs and baskets
- pH range 5.3 - 5.8

**Blended particle sizes<sup>†</sup>**  
70% 0-10mm / 30% 6-12mm

**Conductivity**  
269-379µS

**Nutrients Added** 144N 73P 239K

### Levington Advance Pot Plant General - PPG

- A blend of 0-10mm and 6-12mm particles providing a good open structure
- To be used in small pots up to 2 litres, baskets and tubs
- pH range 5.3 - 5.8

**Blended particle sizes<sup>†</sup>**  
40% 0-10mm / 60% 6-12mm

**Conductivity**  
269-379µS

**Nutrients Added** 120N 60P 199K

### Levington Advance Alpine, Herbaceous, and Cyclamen - AHC

- A blend of 0-10mm and 6-12mm peat plus 5-12mm pine bark to keep the structure open
- This product is well drained and has a low base fertilizer
- Suitable for 9cm to 3 litre pots
- pH range 5.5 - 6.1

**Blended particle sizes<sup>†</sup>**  
45% 0-10mm / 35% 6-12mm  
+ 20% 5-12mm bark

**Conductivity**  
234-336µS

**Nutrients Added** 135N 60P 199K

<sup>†</sup>Product specification is subject to change dependent on raw material availability and moisture content in order to maintain consistency, quality and high level of performance. Due to its inherent inconsistency and potential contamination problems we do not allow green waste on our site, speak to your local ICL Technical Area Sales Manager for further information regarding this.

Grow

# Levington® Advance Container Nursery Stock

Within the *Levington* range there are two off-the-shelf standard mixes for container nursery stock. Taken as the industry standard over many years, ICL continue to invest in the development of their growing media. Making it not only the most technologically advanced growing media but also the best value.



## Levington Advance CNS General

- Levington CNS General is made up of a blend of 0-10mm and 6-12mm particles of peat. This allows it to flow readily into smaller pots yet retain a reasonable open structure for drainage
- For use in 9cm pots for liners up to 2 litre pots
- pH range between 5.2 - 5.7, together with a low level of starter fertilizer

**Blended particle sizes<sup>†</sup>**  
40% 0-10mm / 60% 6-12mm

**Conductivity**  
234-336µS

**Nutrients Added 120N 60P 199K**

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## Levington Advance CNS Ericaceous

- The structure of this growing media is based on CNS general with a slightly lower started fertilizer
- Designed for acid loving plants such as Heather, Rhododendrons, Camellia and Pieris
- Less lime to provide a pH of 4.8 - 5.3

**Blended particle size<sup>†</sup>**  
40% 0-10mm / 60% 6-12mm

**Conductivity**  
191-283µS

**Nutrients Added 90N 45P 150K**

## Levington Advance CNS Coarse

- Levington CNS Coarse is made up of a blend of 0-10, 6-12 and 10-25 mm particles of peat
- It is a more open mix suitable for larger pots and overwintering stock outdoors. For use in pots over 2L
- pH range 5.2-5.7, together with a low level of starter fertilizer

**Blended particle size<sup>†</sup>**  
30% 0-10mm / 40% 6-12mm/  
30% 10-25mm

**Conductivity**  
234-336µS

**Nutrients added 120N 60P 199K**





“

ICL's service, product quality and technical help is consistently good”

Adam Smith, Wykeham Mature Plants, using **Levington Advance Solutions**

Located on the picturesque Dawney Estate, near Scarborough in North Yorkshire, Wykeham Mature Plants produces an exceptional range of quality container grown trees; field-grown instant hedging; and large shrubs delivering instant impact.

Wykeham Mature Plants has relied on *Levington Advance* growing media for the last five years; they currently use a bespoke Levington Advance Solutions peat-reduced mix, containing bark and *Fibagro* woodfibre.

“Working with our precision nutrition programme Angelaweb we regularly review the nutrition,” explains Carl Mason. “By inputting information regarding the variety and growth stage we can see its specific nutritional demands. The next step involves inputting data regarding the water source, from samples analysed in a laboratory. By entering the current Osmocote programme we can see if the crop's nutritional needs are being met and, if necessary, what supplementary feeding is needed in regard to a topdress or Peters High Nitrogen water soluble fertilizer.”

The nursery has enjoyed a long association with Osmocote. “We've looked at the alternatives, but quite simply they're not as good,” says Adam. “Working with ICL the service and product quality as well as back-up and technical help is consistently good. We get regular calls and visits from Carl, and should something need sorting out, it happens. When we pick up the phone or send an email – we know we'll get a prompt response.”



Above: Part of the 150 acre production site at Wykeham Mature Plants, North Yorkshire

Top picture: ICL's Carl Mason (right) with Adam Smith, General Manager of Wykeham Mature Plants

ICL

## Grow

## IRISH PEAT AND GROWING MEDIA

Within Europe, thousands of professional growers and growing media manufacturers appreciate the benefits of using Bord na Móna Irish peat and growing media.

### Key features of Bord na Móna peat:

- Superb structural stability.
- Resistance to shrinkage and slumping.
- Excellent air capacity maintained during the life of the crop.
- Good buffering capacity.
- A perfect structure builder in potting soil mixtures.
- Plus the benefit from harvesting from carefully managed and well monitored bogs not treated with pesticides: ISO certified and reliability underpinned by first-class stock maintenance.
- Higher level of humic acid content.
- Milled Bord na Móna peat has lower levels of fine particles compared to less developed peat (H1, H2, H3).

Quite simply, using Bord na Móna peat ensures the best possible environment for root growth and plant development.

### Reliability of supply and quality control

The scale of Bord na Móna's production operations and its policy of investing in large stocks of raw materials ensures customers of a reliable supply of growing media even during years when the peat harvest is reduced.

### Salinity effects on plant growth

The higher buffering capacity of Irish peat allows it to withstand the negative properties of saline water.

***"For peat as a substrate, growers mostly use somewhat coarser peat, like Irish peat."***

Dutch Floristry Journal.

## Benefits of Bord na Móna Peat

### Structural stability

Structural stability reduces shrinking and slumping of peat. Bord na Móna Irish peat is renowned for its superb structural stability.

### Mechanical stability

Mechanical stability refers to the propensity of peat to break-down during mechanical handling. This leads to the creation of fine particles and consequently to a reduction in air space. If peat is mechanically stable it will breakdown less during handling and transport. This applies especially to fractioned and coarse peat.

Bord na Móna Irish peat is mechanically stable which means it is more resistant to breakdown.

### Buffering capacity

Irish peat is derived mainly from *Sphagnum imbricatum* while Baltic peat is derived mainly from fine leaved species such as *S.cuspidatum*. *S.imbricatum* has larger branch and stem leaves meaning that air space is still likely to be high even with fine material e.g 0-3mm peat. Larger leaves also result in a higher Cation Exchange Capacity (CEC). In a practical sense this means that Irish-type peat is better at protecting the plant from poor quality water (i.e. saline condition or conditions of high pH) than Baltic-type peat.

### Resistance to self-heating

When the peat is stockpiled in Bord na Móna it is mainly stored in a Peco pile. The Peco pile is much lower, less than two metres, so there is less chance of self-heating that is the case with the larger Haku pile. Where Bord na Móna stores peat in Haku piles, the temperature of the piles is monitored in order to avoid self - heating.

Bord na Mona factories are ISO 9001:2015 accredited.



## Substrate Plus<sup>+</sup> Range



### Seedling Substrate Plus<sup>+</sup>

**Peat:** 0–5mm 100%  
**Nutrients added (mg/l):** N 120, P<sub>2</sub>O<sub>5</sub> 140 (P 60), K<sub>2</sub>O 240 (K 200)  
**pH Range:** 5.3–5.7  
**Conductivity SC Range:** 300–500 µS  
**AFP:** 6–8% volume approx

#### Product Uses

For propagation from seed and cuttings for ornamental, salad and vegetable production – especially designed for modular transplants.



### Bedding Substrate Plus<sup>+</sup>

**Peat:** 0–14mm 100%  
**Nutrients added (mg/l):** N180, P<sub>2</sub>O<sub>5</sub> 210 (P 90), K<sub>2</sub>O 360 (K 300)  
**pH Range:** 5.3–5.7  
**Conductivity SC Range:** 400–600 µS  
**AFP:** 8–10% volume approx

#### Product Uses

Ideal for short term food and ornamental bedding crops in trays, multi-packs and pots.



### Potting Substrate Plus<sup>+</sup>

**Peat:** 0–14mm 100%  
**Nutrients added (mg/l):** N300, P<sub>2</sub>O<sub>5</sub> 200 (P 90), K<sub>2</sub>O 400 (K 330)  
**pH Range:** 5.3–5.7  
**Conductivity SC Range:** 400–700 µS  
**AFP:** 8–10% volume approx

#### Product Uses

For potting on a wide range of established bedding, pot plants, basket and container crops – contains a slow release fertiliser for up to 6 weeks growth. Not suitable for salt sensitive crops.



### Pot Plant Substrate Plus<sup>+</sup>

**Peat:** 0–14mm 65% 6–12mm 35%  
**Nutrients added (mg/l):** N 180, P<sub>2</sub>O<sub>5</sub> 210 (P 90), K<sub>2</sub>O 360 (K 300)  
**pH Range:** 5.3–5.7  
**Conductivity SC Range:** 400–600 µS  
**AFP:** 11–13% volume approx

#### Product Uses

For all specialist pot plant requiring higher aeration and low salt level. Use with a high-quality soluble fertiliser or controlled release fertiliser.



### Nursery Stock Substrate Plus<sup>+</sup>

**Peat:** 0–14mm 65% 10–25mm 35%  
**Nutrients added (mg/l):** N 120, P<sub>2</sub>O<sub>5</sub> 140 (P 60), K<sub>2</sub>O 240 (K 200)  
**pH Range:** 4.7–5.3  
**Conductivity SC Range:** 300–500 µS  
**AFP:** 14–16% volume approx

#### Product Uses

For the production of all general nursery stock subjects. Use with a high-quality controlled release fertiliser.

**Custom Mix packages available in Big Bales and Bulk on request.**

Heritage Quality Expertise

#### Delivery options



Packaged Product



Super Bale



Container



Ship

## Substrate Range



### Superfine Substrate

**Peat:** 0–5mm 100%  
**pH Range:** 3.8–4.4  
**Conductivity SC Range:** <100 µS  
**AFP:** 6–8% approx

#### Product Uses

After appropriate pH and nutrient adjustment, for use in propagation from seeds and cuttings for ornamental, salad and vegetable production – especially designed for modular transplants.



### Medium Substrate

**Peat:** 0–14mm 100%  
**pH Range:** 3.8–4.4  
**Conductivity SC Range:** <100 µS  
**AFP:** 8–9% approx

#### Product Uses

After appropriate pH and nutrient adjustment, recommended for ornamental bedding and potting use, and salad and vegetable production.



### Medium Coarse Substrate

**Peat:** 0–14mm 65% 6–12mm 35%  
**pH Range:** 3.8–4.4  
**Conductivity SC Range:** <100 µS  
**AFP:** 10–12% volume approx

#### Product Uses

After appropriate pH and nutrient adjustment, suitable for pot plants where structure is required for longer term crops.



### Coarse Substrate

**Peat:** 0–14mm 50% 10–25mm 50%  
**pH Range:** 3.8–4.4  
**Conductivity SC Range:** <100 µS  
**AFP:** >15% volume approx

#### Product Uses:

After appropriate pH and nutrient adjustment, recommended for long-term nursery stock production in containers.



# Nurture

**ICL products are seen as the industry standard and trusted by growers worldwide when it comes to nurturing ornamental crops to peak condition.**

From the *Osmocote* range of controlled release fertilizers to the pure and premium quality of *Peters* water soluble fertilizer, ICL has the solutions to meet every crop situation. With our *AngelaWeb 2.0* precision nutrition programme and expert advice, you can be assured that with ICL your crops are getting what they need, when they need it, maximising plant growth & quality and minimising nutrient leaching.



# AngelaWEB2.0

Designed by experts at ICL, **AngelaWeb 2.0** takes precision nutrition to the next level.

- Ensures the crop gets exactly what it requires
- Helps UK growers comply with the new water framework directive
- No more nutrient wastage
- Maximise your plant quality
- Save precious management time
- Money saving



AngelaWeb 2.0 generates graphs showing the percentage of the plants nutritional needs being fulfilled at each growth stage and at the EC level.

**FREE**  
technical  
service  
provided  
by ICL





## PRECISION NUTRITION

# AngelaWEB2.0

## Giving your crops what they need?

Many factors impact on plant quality and providing the correct nutrition is among the most important. It not only has a key role to play in preventing plant diseases, but is vital to healthy growth and, where appropriate, crop yield - therefore ultimately financial performance.

Plants need the correct nutrients depending on the growth stage, the growing media and its pH and Electrical Conductivity (EC). Water quality is another key parameter and on many nurseries it can change through the season when switching between different water sources. How it is applied to crop also has an impact.

## Saving you time, money and helping the environment

While some find manually calculating plant nutrition programmes for different crop stages somewhat daunting, it can also be time consuming. **AngelaWeb 2.0** looks to save precious management time and decrease any errors in nutrient calculations.

With the rising price of mineral raw materials and transport costs, fertilizer is a significant input cost. Apply too little and plant quality/yield suffers, apply too much and money is wasted, the environment suffers and growers may fall foul of the new water framework directive.

## How it works...

Web based, **AngelaWeb 2.0** is straightforward to operate and apply. First the crop, including the variety, as well as growing media type and growth phase is selected. From this the crop's specific nutritional demands are displayed as well as the option to create Controlled Release Fertilizer simulations. The next step involves inputting data from a detailed analysis of the water source and how it is to be applied. Next, by selecting from a list of 'straights' or water soluble fertilizers, the software calculates a fertilizer regime. In support of this, it generates a graph showing the percentage of the plants nutritional needs being fulfilled at each growth stage, as well as the EC level.

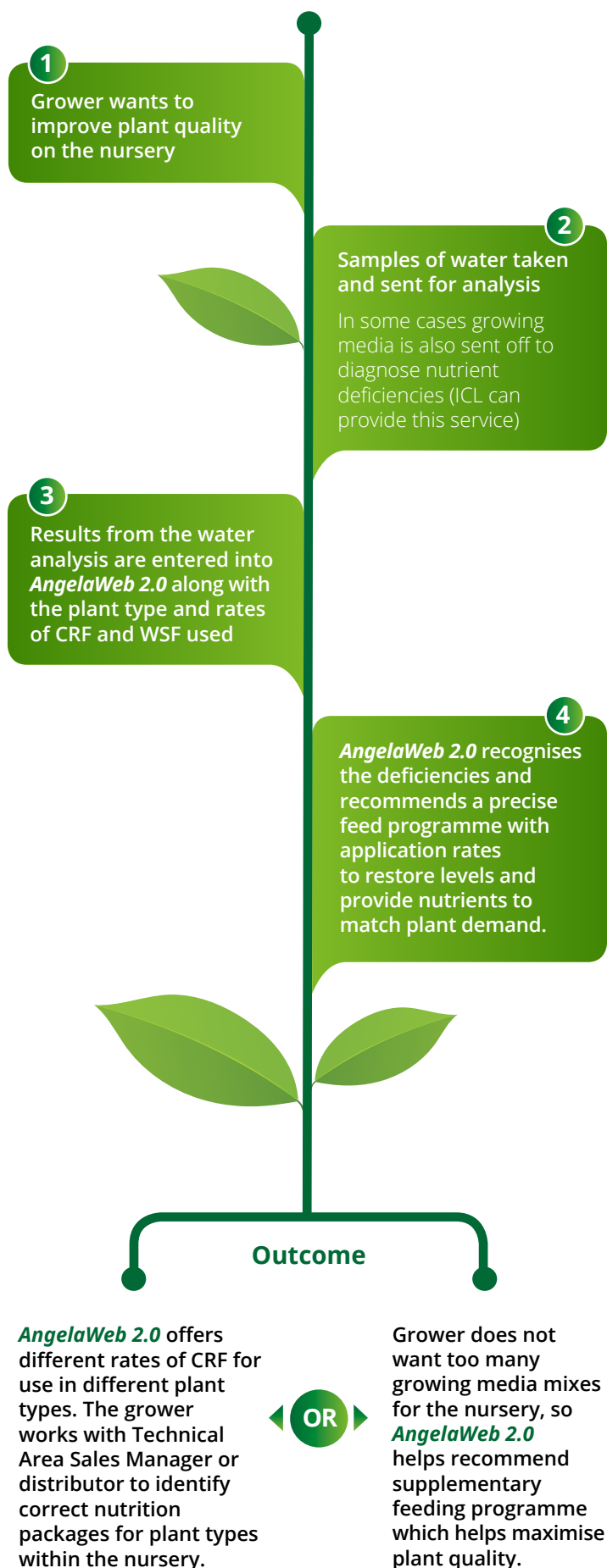
As the season progresses if certain elements change, such as the water source, the existing data can be retrieved and changes quickly made. The software, having made the necessary tweaks and adjustments to the fertilizer programme, produces new print outs and reports.



**AngelaWeb 2.0** generates graphs showing the percentage of the plants nutritional needs being fulfilled at each growth stage and at the EC level.



## Example



## AngelaWeb 2.0 at work...

### Case study A

- Grower has recently installed a rain water collection system where previously he used mains water
- Since doing so grower has noticed tip scorching in his primula crop
- After visit from ICL TASM\* growing media results show low level of calcium. Water sample confirms soft water with low levels of calcium and magnesium
- TASM\* confirms calcium deficiency with grower and recommends using Universol Soft Water
- *Angelaweb 2.0* report is given to the grower providing product recommendation and application rates for various growth stages

### Case study B

- Traditionally uses 12-14m standard controlled release fertilizer – 4kg per m<sup>3</sup>
- Small nursery with one growing media mix for all plant types
- Some species such as laurels/photinia showing poor leaf colour in the Autumn
- Using *Angelaweb 2.0* the ICL TASM\* identified that the current nutrition programme is only 66% of the plant need
- TASM\* offer two solutions based on *Angelaweb 2.0*

**Flexible**  
able to change growing media mixes

Set up individual mixes with 4kg 8-9m *Osmocote Exact Hi. End* (More powerful effect)

**Non-flexible**  
unable to change growing media mix

Using *Universol Hard Water* for supplementary feed

### Did you know?

*AngelaWeb 2.0* holds weather temperature data from all over the world from thousands of weather stations, as well as local grower information such as tank sizes (once supplied).



Nurture

50<sup>+</sup>  
years  
Osmocote

# Osmocote®

## ***Osmocote* - Trusted and innovative control release fertilizers developed over five decades.**

Having pioneered controlled release fertilizers over 50 years ago, our world-leading *Osmocote* range of products are still evolving thanks to innovative new technologies. The most significant difference between then and now is the level of applied scientific horticultural knowledge.

For specific rates  
on *Osmocote* go to  
our dedicated microsite  
**[www.osmocote.co.uk](http://www.osmocote.co.uk)**





Our most advanced, 4th generation, *Osmocote* fertilizers provide a choice of longevities as well as the way nutrients are released making these products unique.

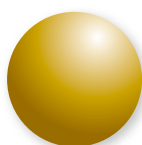
No matter which *Osmocote* controlled release fertilizer product is selected, growers can rest assured the highest quality and return on investment will be delivered.

# Benefits of using Osmocote

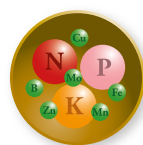
- Plants grow better as they get the nutrients they require at any given growth stage
- Guaranteed safety - nutrient leaching is minimised making it the most environmentally friendly product on the market
- Plant quality is guaranteed thanks to optimum uniform growth
- There are less pest and disease pressures thanks to an even supply of nutrients and healthy plant growth
- Satisfied customers, as plants retain their high quality after consumer purchase, thanks to the continued release of nutrients

## Working principles of Osmocote

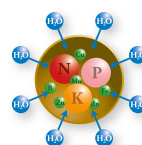
Quick guide to coated controlled release fertilizers...



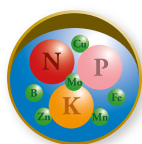
Every granule is covered by an organic coating that regulates the daily release of nutrients.



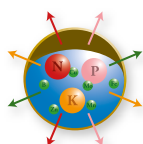
Granules contain NPK, B, Cu, Fe, Mn, Mo and Zn.



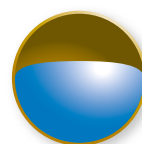
Water penetrates through the coating and dissolves the nutrients inside the granule.



The dissolved nutrients are released through the coating, by osmotic pressure.



Influenced by the temperature, the nutrients are released at a constant, regular and controlled rate during the longevity.



Once empty, the membrane will gradually break down.

## Osmocote® proven performance, highest safety for plants

### Osmocote®

Osmocote coating technology

- ✓ 100% coated NPK
- ✓ Full range of longevities available



*The original*

Controlled release fertilizer

**1<sup>st</sup> Generation** 1<sup>st</sup> generation coated fertilizer

### Osmocote® Pro

Additional to Osmocote:

- + Trace element package included in the granules
- + Orange color tracer for easy recognition

*Proven performance*

Controlled release fertilizer

**2<sup>nd</sup> Generation** 2<sup>nd</sup> generation coated fertilizer

### Osmocote® Exact

Additional to Osmocote Pro:

- + Pre-defined release patterns
- + Designed to perform in every situation
- + Meets highest quality standards
- + Highest safety for plants
- + Premium trace element package included
- + Color tracer for each longevity for easy recognition



**Standard** *The safest Osmocote ever*

Patterned release fertilizer

**3<sup>rd</sup> Generation** 3<sup>rd</sup> generation coated fertilizer

### Osmocote® Exact DCT

Additional to Osmocote Exact:

- + DCT (Double Coating Technology) included. **DCT** Innovative technology which enables programmed release patterns.

Especially suitable for challenging growing conditions.

**Osmocote® Exact**  
**GUARANTEES**  
**CONSISTENT RESULTS**

*Taking fertilizers to a higher level*



Programmed release fertilizer

**4<sup>th</sup> Generation** 4<sup>th</sup> generation coated fertilizer

*Osmocote Bloom, CalMag and Iron also available.*

# Nurture

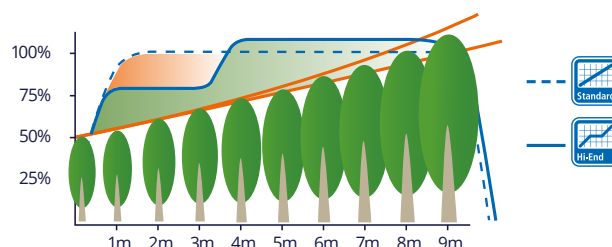
## Osmocote<sup>®</sup> Exact Hi.End

*Osmocote Exact Hi.End* is the latest 4th generation controlled release fertilizer from ICL. By incorporating Double Coating Technology (DCT) there is a lower initial release which is in line with plant need for better safety and establishment. This product is ideal for sensitive plants.

15-9-12+2MgO+TE 5-6m  
15-9-11+2MgO+TE 8-9m  
15-8-11+2MgO+TE 12-14m

### Advantages of using Osmocote Exact Hi.End

- Improves crop quality, helps improve yields and ultimately increases 'return on investment'
- GREAT VALUE - Provides an integrated fertilizer boost saving time and money on additional applications during the growing season
- Environmentally safe - less leaching into water systems
- Due to the higher nutrient release in the second growing phase that matches the plant needs, plant growth optimised
- Offers new possibilities for use in greenhouses and tunnels with elevated temperatures
- Is safe and reliable, based on proven ICL's patented coating and Exact technology
- Reduces disease pressure as plants are more vigorous, especially in the second growing phase
- Trials clearly show the added value of *Osmocote Exact Hi.End* at a 25% increased dosage
- 25-40% of the granules are double coated for lower initial release, making it ideal for sensitive plants
- Works well for autumn and early spring potting



Due to *Osmocote Hi. Ends* 'programmed release', nutrient supply optimally matches plant needs. Meaning it delivers nutrients when the plant needs it later in the growing season, exactly when meeting the plants requirements.



# Nurture

## Osmocote<sup>®</sup> Exact Protect

*Osmocote Exact Protect* is a 4th generation 'programmed release' fertilizer developed for crops potted on in the autumn and winter seasons in Northern Europe.

14-8-11+2MgO+TE



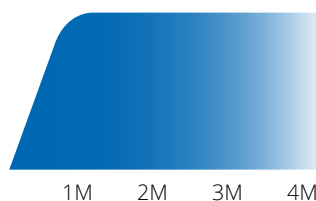
Designed to be used from mid-October until the end of December, it contains only double coated granules. Nutrient release is 'delayed' with hardly any release during winter so the EC in the growing media remains low during the first 2-3 months.

### Advantages of using Osmocote Exact Protect

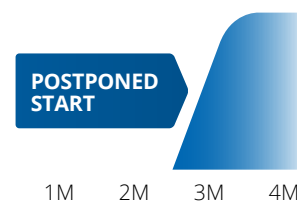
- Availability of nutrients matches closely with plant need as a result of 'programmed release'
- Protect is specially designed for container nursery stock potted on in autumn and winter
- Efficient use of released nutrients. Nutrients are released when the plant is able to take them up
- Safe and reliable, it is based on proven Exact technology
- Re-fertilization in spring is not required saving time and money
- Improves plant quality, yields and ultimately return on investment
- 100% granule coated

### The postponed start principle

Osmocote Exact  
WITHOUT DCT



Osmocote Exact  
WITH 100% DCT



# Nurture

## Osmocote<sup>®</sup> Exact High K

*Osmocote Exact High K* helps provide quality flowering plants which are compact with good leaf colouring. This is essential in order for growers to maximise return on investments through sales and transportation.

12-7-19+TE



Utilizing ICL's patented Double Coating Technology (DCT) *Osmocote Exact High K* optimizes the release of new raw materials which match the demands of the plant. This gives growers confidence in performance, safety and end results which lead to higher returns and better plants. *Osmocote Exact High K* is suitable for use in container nursery stock, perennials, pot plants and bedding plants.



### Advantages of using Osmocote Exact High K

- Good results for compact growth; ideal N / K ratio, combined with low P (reduced stretching)
- Plant roots develop very well with new High K because of optimal EC first weeks after potting
- Excellent leaf shine and colour, thanks to the full trace element package + ultimate Iron release
- Improved plant quality for consumers thanks to the long lasting effect of Osmocote Exact High K
- Improved availability with use of new raw materials
- Lower P content for reduced stretching and therefore better compact growth
- Improved iron availability, for better leaf colour
- Includes DCT for better nutrient release throughout the growing season
- Better plants and return on investment

\*3-4 Month does not include DCT (Double Coated Technology)





# Nurture

## Osmocote<sup>®</sup> Exact Standard

*Osmocote Exact Standard* products employ proven 3rd generation technology, providing the assurance of quality, safety and uniformity throughout the growth season and, if desired, patterned release.

16-9-12+TE 3-4m

15-9-12+2MgO+TE 5-6m

15-9-11+2MgO+TE 8-9m & 12-14m



For plants that have equal nutrient demands throughout the entire growing cycle, *Osmocote Exact Standard* is the ideal choice. Crops that have difficulty with rooting respond well to *Osmocote Exact Hi.End*, which releases fewer nutrients at the beginning. The *Osmocote Exact* range has the right products to suit any situation.

### Osmocote Exact Standard

*Osmocote Exact*, 3rd generation controlled release fertilizers, combine safety, consistency and patterned release. *Osmocote Exact* closely follows plant growth, making the product not only very efficient but also very safe.

### Advantages of using Osmocote Exact Standard

- Highest possible controlled release and safety fertilizer
- All essential trace elements
- Part of the granules are colour-coded according to longevity to avoid mistakes
- Very consistent, every bag of *Osmocote Exact Standard* gives identical results
- Excellent quality control, exceeding all industry standards
- Available in various release patterns, tailored to the crop requirements
- Provides optimal plant growth, as well as being very efficient and environmentally friendly





# Nurture

## Osmocote<sup>®</sup> Exact Mini

Specially developed for use in small substrate volumes, *Osmocote Exact Mini* is ideal for pots smaller than 8cm, for example plugs and trays with small compartments. With a granule size 0.85 to 2.0mm, this product guarantees optimum distribution of nutrients in substrate. The granules are so small that good distribution can be achieved even in volumes starting at 20ml.

15-9-11+2ngO+TE

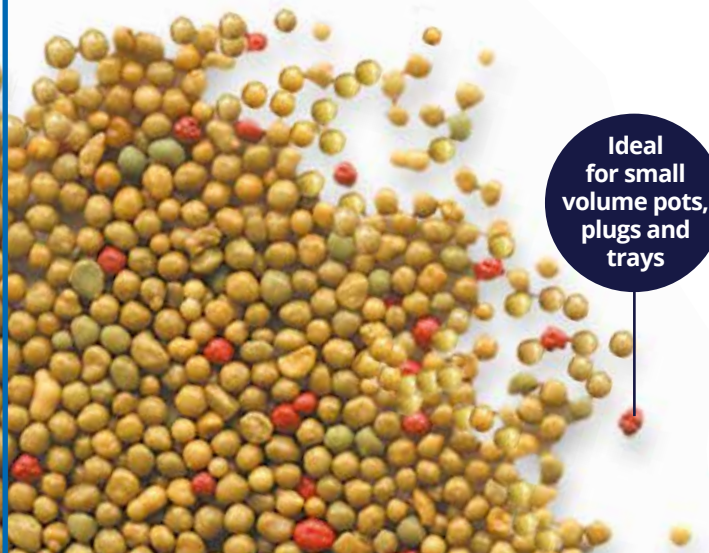
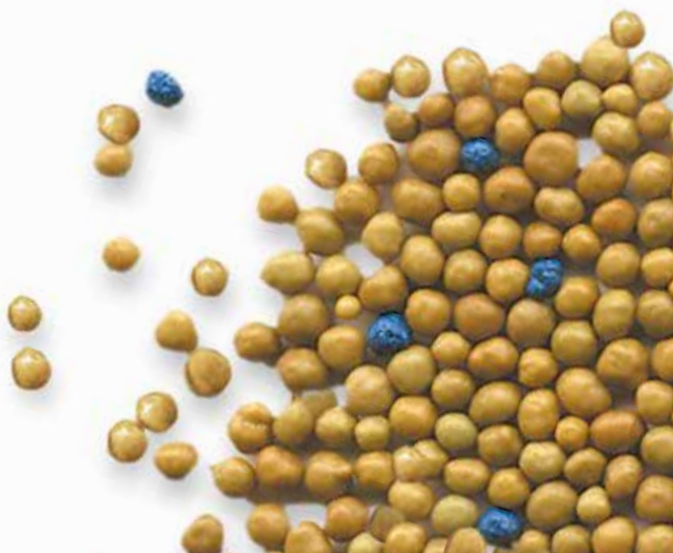
### Advantages of using Osmocote Exact Mini

- The reliability of *Osmocote Exact*, but for pots with small volumes
- Uniform plant growth, thanks to good granule distribution
- 100% coated and therefore 100% safe for plants
- Every granule contains all the nutrients
- Easy, accurate dosing
- Nutrition and irrigation are separated, enabling both to be optimised
- Very easy to apply



Regular Osmocote Exact

Osmocote Exact Mini



Ideal  
for small  
volume pots,  
plugs and  
trays





Nurture

# Osmocote<sup>®</sup> Exact Tablet

*Osmocote Exact Tablets* offer convenience and very accurate rates of nutrients. Due to their cone-like shape, the tablets can be easily pushed into the growing media. As with *Osmocote Exact*, the longevity is instantly recognized by the colour of the granules in the tablets. Tablets are available in 5 gram and 7.5 gram formats.

14-8-11+2MgO+TE



## Advantages of using Osmocote Exact Standard Products

- Safety: highest possible safety, controlled release and high level of all essential trace elements. Colour-coded for longevity to avoid mistakes
- Consistency: highly consistent, every box of product gives identical results thanks to excellent quality control exceeding all industry standards
- Patterned release: available in various release patterns, exactly tailored to crop requirements, to provide optimal plant growth. Very efficient and therefore environmentally friendly



# Nurture

## Osmocote® Pro

*Osmocote Pro* is a 2nd generation controlled release fertilizer with a high NPK content. Containing all necessary trace elements it has a fixed release pattern.

19-9-10+2MgO+TE 3-4m & 5-6m

18-9-10+2MgO+TE 8-9m & 12-14m

*Osmocote Pro* is available in four longevities 3-4 months, 5-6 months, 8-9 months and 12-14 months.

### Advantages of Osmocote Pro

- Contains trace elements
- 100% coated NPK, Mg and trace elements, plants are supplied with all required nutrients during the whole crop cycle
- Offers good value for money
- Has a high NPK content
- Safe, reliable and easy to use



## Osmocote® Bloom

*Osmocote Bloom* controlled release fertilizer for bedding plants is specifically designed for annuals in small pots.

12-7-18+1.5MgO+TE

Containing NPK, Magnesium and all necessary micro elements, it is 100% coated and has a pre-defined longevity.

### Advantages of Osmocote Bloom

- NPK ratio of 2:1:3 is perfect for condensed growth of bedding plants
- Mini granule ideal for mixing in small pots and packs
- Lower fertilizer inputs so environmentally friendly
- Easy to use, at full rates no need for water soluble fertilizers
- Improves shelf life of bedding plants trade and consumer phases
- Full trace element package and elevated trace element level
- 100% coated NPK, Mg and traces; plants are supplied with all necessary nutrients for the full crop cycle
- Good value for money
- Safe and reliable







## Nurture

### Osmocote® CalMag

Fully coated calcium and magnesium fertilizer.  
10-0-0+17CaO+5MgO

Controlled release nitrogen, calcium and magnesium in one product. For pot plants, bedding plants, perennials and container nursery stock crops, providing extra calcium and magnesium. Ideal for mixing in substrates and beneficial in peat reduced growing media.

#### Advantages of Osmocote CalMag

- The solution for soft water irrigation systems: give your crops the calcium and magnesium they need
- Efficient calcium nutrition, in line with the plant's need
- Apply this product with other *Osmocote* products to make strong combinations
- *Osmocote CalMag* adds extra nitrogen during the first months of the growing cycle, when this is required by the crop (for example in perennials)

#### Directions for Use

It is recommended to use *Osmocote CalMag* in combination with other *Osmocote* products (*Osmocote Exact*) or water-soluble fertilizers. Contact your ICL Specialty Fertilizers advisor for recommendations tailored to your crops.



The recommended application method is mixing into the substrate to obtain good granule distribution.

The product is ideal for use in specific situations where extra calcium or magnesium is needed. For example:

- Soft water conditions, where *Osmocote CalMag* can be used as base application of calcium and magnesium
- Peat-reduced potting soils, where *Osmocote CalMag* can compensate the nitrogen consumption of the materials and lack of calcium due to no or less liming
- Crops with a high nutrition need for calcium or magnesium

#### Recommended Rates

Addition in g/l in growing systems

	Cultivated outside	Cultivated in covered areas
Growing System	CNS / Perennials	Pot plants / Bedding plants in greenhouses
100% CRF ( <i>Osmocote</i> )*	1.0 g/l	1.0 g/l
50% CRF + 50% WSF	1.5-2.0 g/l	1.5-2.0 g/l
100% WSF (Water Soluble Fertilizer)	2.0 g/l	2.0 g/l

\*It is recommended to adjust the rate of *Osmocote Exact* when *Osmocote CalMag* is mixed in.

**Important:** Max. dosage starter fertilizer is 0.5 kg/m<sup>3</sup> growing medium. Max. rates are based on pot volumes. Plant hole dibbling and side dibbling are not recommended. In case of pre-mixing in growing medium bunker, please consult your ICL Specialty Fertilizers advisor.

#### Attention

Store the product in a cool, dry and ventilated place. As circumstances differ and as application of products is beyond our control, ICL Specialty Fertilizers cannot be held responsible for any negative results. With this publication all previously given recommendations expire. Before a new rate, product or application method is used, a small-scale trial is recommended.

Ask your local ICL Specialty Fertilizers dealer or the ICL Specialty Fertilizers representative in your country or area for more information or recommendations.

# Nurture

## Osmocote® N

*Osmocote N* is a fully coated nitrogen & potassium fertilizer. Coated with new advanced coating technology *Osmocote N* is perfect for pot and bedding plants, perennials and container nursery stock, providing extra nitrogen and potassium, especially required in peat free and peat reduced growing mediums.

35-0-5



### Advantages of using Osmocote N

- Fully coated nitrogen & potassium fertilizer
- Coated with new advanced coating technology
- For pot plants, bedding plants, perennials and container nursery stock crops, providing extra nitrogen & potassium
- Ideal for mixing in substrates
- Very suitable for peat reduced substrates to buffer nitrogen fixation

### Recommended Rates

Addition in g/l in growing systems

Target crop	Up to 30% peat reduced soils	More than 30% peat reduced soils
Container nursery stock	0.25 g/l	0.5 g/l
Pot plants / balcony plants	0.25 g/l	0.5 g/l
Perennials	0.25 g/l	0.5 g/l

\*It is recommended to adjust the rate of *Osmocote Exact*, when *Osmocote N* is mixed in.

**Important:** Maximum dosage starter fertilizer is 0.5 kg/m<sup>3</sup> growing medium. Maximum rates are based on pot volumes. Plant hole dibbling and side dibbling are NOT recommended. In case of pre-mixing in growing medium bunker, please consult your ICL Specialty Fertilizers advisor

### Osmocote N performance

70% peat + 30% wood fibre



With Osmocote N



No added Osmocote N



## Osmocote® Iron

Fully coated iron sulphate fertilizer with controlled release.

0-0-0+17.8Fe

**CURRENTLY  
UNAVAILABLE**

For iron-demanding pot plants, bedding plants, perennials and container nursery stock. To be mixed into growing medium. Ideal for use in combination with other *Osmocote* products and water soluble fertilizers to easily and effectively increase iron level in growing media.

### Advantages of Osmocote Iron

- Constant daily release of iron throughout crop cycle
- Easy way to supplement iron levels
- No need to apply iron via irrigation system
- Always in the growing medium and replaces iron chelates deactivated in UV disinfectors
- Effective, even at higher pH levels. Especially suitable for iron-demanding crops

## Osmocote® Start

*Osmocote Start* is designed as a starter fertilizer for crops with a short cultivation cycle.

11-11-17+2MgO+TE

Fully coated, it has an NPK composition of 11-11-17 and contains all essential trace elements. Refined coatings enable uniform and controlled supply of nutrients to plants with a lower EC, even during shorter growing periods.

*Osmocote Start* is also virtually free from nutrient leaching. It creates prime rooting conditions since the nutrition it provides can be combined with low salt levels.

### Advantages of Osmocote Start

- Specialist product for slow growing plants with long cropping cycle
- Promotes improved rooting and crop colour
- Fully coated and provides uniform release
- Less leaching and extremely efficient
- Safe to use, no salt-stress
- Easy to apply and dust-free

## Osmoform® High N

Osmoform High N is a granulated slow release nitrogen fertilizer.

38-0-0

Osmoform High N is perfect for pot and bedding plant and perennials, providing extra nitrogen, especially required in peat free and peat reduced growing mediums.

### Advantages of Osmoform High N

- Incorporates slow-release nitrogen forms, the release of which is influenced by temperature, microbial activity and moisture
- Slow Release product to compensate for N-drawdown in peat reduced substrates (woodfibre and bark)
- Developed to be used in combination with other *Osmocote* products
- Less leaching compared with standard water soluble products



6  
Weeks

Mid-size  
prills

Trace  
Elements



Nutrient  
supply up to  
8-10  
Weeks

Trace  
Elements

Trace  
Elements



# Nurture

## Osmocote® Topdress Fusion Technology

*Osmocote Topdress FT* (Fusion Technology) 4-5 month is our coated fertilizer specifically designed for topdress applications in container nursery stock.

22-5-6+2MgO+TE

Containing fast and slow release NPK, it also contains Mg and all the essential trace elements. As well as providing a quick green up, this topdress will satisfy all the plants nutrition needs over the subsequent 4-5 months.

Simple things are often the best. Knowing that container nursery stock plants tend to fall over in windy conditions, *Osmocote Topdress FT* contains a component which makes the granules stick to the growing media. Even if the plant falls over, growers know they have not wasted time or money applying a topdress.

### Advantages of using Osmocote Topdress FT

- Contains fast and slow release nitrogen and phosphorous
- Fine granule size for an even distribution
- Sticks to the growing medium - no loss of granules if the pot is blown over
- Is dust free
- Contains extra trace elements for greening effect

4-5



## OsmoTop®

*OsmoTop* has been specifically developed for topdress applications in container nursery stock.

23-5-10+MgO+TE

*OsmoTop* is ideal for topdressing on containers for quick greening or for fast corrections of deficiency symptoms. Only use on well-rooted, containerized plants.

### Advantages of Osmotop

- *OsmoTop* contains fast and controlled release nitrogen
- Fine granule size made with ICL granulation technology for even distribution on the containers
- *OsmoTop* is dust free
- *OsmoTop* contains extra trace elements for greening effect

2-3





## The Osmocote Range

Longevity	Osmocote Exact Hi-End	Osmocote Exact Protect	Osmocote Exact High K	Osmocote Exact Standard	Osmocote Exact Mini	Osmocote Exact Tablets	Osmocote Pro	Osmocote Bloom	Osmocote Iron	Osmocote Start	Osmocote CalMag	OsmoTop	Osmocote Topdress	Osmocote Pro High K	Osmocote Exact Lo-Start	Osmocote N	Osmoform High N
Release pattern																	
	-	-	-	-	-	-	-	-	-	11-11-17	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38-0-0
	-	-	-	-	-	-	-	12-7-18	-	-	-	23-5-10	-	-	-	-	-
	-	-	-	16-9-12	15-9-11	-	19-9-10	-	0-0-0+17.8Fe	-	10-0-0+17CaO+5WGO	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	22-5-6	-	-	-	-
	15-9-12	-	12-7-19	15-9-12	15-9-11	14-8-11	19-9-10	-	-	-	-	-	-	11-10-19	-	36-0-5	-
	15-9-11	14-8-11	12-7-19	15-9-11	-	14-8-11	18-9-10	-	-	-	-	-	-	11-10-19	-	-	-
	15-8-11	14-8-11	12-7-19	15-9-11	-	-	18-9-10	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15-8-11	-	-

Generations/Granule size

## Application Rates for Osmocote Hi-End and Standard

Recommended Rates gram per Litre	Release Pattern		Longevity	Light Feeding	Normal Feeding	Heavy Feeding
<b>Bedding Plants</b> For container and baskets use heavy feeding rate			2 - 3m	1.5 - 2	2 - 3	3 - 4
			3 - 4m	1.5 - 2	2 - 3	3 - 4
			5 - 6m	2 - 3	3 - 4	4 - 5
			8 - 9m	3 - 4	4 - 5	5 - 6
<b>Pot Plants</b> High K formulations available for certain crops			3 - 4m	1.5 - 2	2 - 3	3 - 4
			5 - 6m	2 - 3	3 - 4	4 - 5
			8 - 9m	3 - 4	4 - 5	5 - 6
			5 - 6m	2 - 3	3 - 4	4 - 5
<b>Nursery Stock</b>			8 - 9m	3 - 4	4 - 5	5 - 6
			12 - 14m	3 - 4	5 - 6	6 - 7
			16 - 18m	4 - 6	6 - 8	8 - 10
			5 - 6m	1 - 1.5	1.5 - 2	3
<b>Perennials</b> High K formulations available for compact growth/flowering			8 - 9m	2	2.5	3.5
			12 - 14m	2.5	3	4

The above are general rates, for crop specific recommendations talk to ICL. Recommendations powered by ArgelWeb 2.0

## Topdressing

To feed plants in the season after potting apply in spring

### Recommended application rates

Osmocote FT 22-5-6 4-5m	Containers < 10 litres	Containers > 10 litres
Container Nursery Stock	2 - 4 g/l	20-40g+1 gram for every extra litre content*

\*Example - Total rate when using a 50 litre container:  
3 g/l for first 10 litre = 30 gram  
1 g/l for the additional 40 litre = 40 gram  
Total = 30 + 40 = 70 gram per 50 litre container

### Recommended application rates

OsmoTop 22-5-10 2-3m	Containers < 10 litres	Containers > 10 litres
Container Nursery Stock	1 - 2 g/l	10 - 20 gram +1 gram for every extra litre content

For full details of Osmocote products please see page 22

# Nurture

## Micromax<sup>®</sup>

The ultimate trace element packages for your crops.



**Granular  
fertilizer**

### Micromax Premium

Micromax Premium is a fine granular fertilizer with trace elements, which are essential in order to obtain optimum plant growth. The unique formula also increases the efficiency of the major elements.

#### Product advantages

- Well balanced combination of trace elements, including B, Cu, Fe (15%), Mn, Mo and Zn.
- Superior product for containerized crops
- Perfect start-up effect
- Long lasting supply of trace elements to the plants, up to 16months
- Very safe in use, prevents toxicity symptoms
- Simple to apply and an even distribution in growing media
- Stimulates rooting, strong and healthy crops
- Environmentally friendly, very low leaching of nutrients
- Better leaf colour with slow release Magnesium (15% MgO)



**Water Soluble  
fertilizer**

### Micromax WS Iron

Micromax WS Iron is a premium fully water-soluble fertilizer, consisting of 6% EDDHA-chelated iron plus X3, a biostimulant that enhances the absorption of the Fe-chelate compound into plant leaves resulting in optimum nutrient uptake.

#### Product advantages

- Fe deficiency disappears within a few days.
- Promotes rapid absorption of the Fe enclosed, into the crop's leaves and roots
- Enhances plant photosynthesis and other metabolic functions
- Dissolves quickly and totally, so that solution preparation is easy and trouble-free
- Contains X3, a specific biostimulant that enhances an effective nutrient uptake
- Can be tank-mixed with a wide range of other fertilizers and crop-protection compounds



**Water Soluble  
fertilizer**

### Micromax WS TE

Micromax WS TE is a premium water-soluble trace element mix, consisting of all major trace-elements (TE), whereby all cationic ones are present in chelated form.

#### Product advantages

- Prevents deficiencies via a well-balanced composition of essential trace elements
- Stimulates rooting and performs a base for healthy plant growth
- Promotes rapid absorption of the TE enclosed, into the crop's leaves and roots
- Enhances all plant's metabolic functions in which these TE are crucial prerequisites
- Dissolves quickly and totally, so that solution preparation is easy and trouble-free
- Contains X3, a specific biostimulant that enhances an effective nutrient uptake
- EDTA and DTPA are powerful chelating agents. Mn-EDTA, is 2 to 5 times better available to the plant than non-chelated manganese (eg manganese sulphate)



# Water Soluble Fertilizers



To produce the best plants you need the optimum fertilizers. By offering the most technologically advanced products available today, ICL provides growers with the finest fertilizers enabling them to deliver the highest quality plants to their customers.

Nurture

## Peters®

**Peters fertilizers** offer optimum feeding, delivering amazing quality and beautiful colour. These products contain NPK, Magnesium, trace elements and M-77 technology.

Our *Peters* range leads the way technically providing the highest quality products available in the market. There are two types:

1) **Peters Professional** - suitable for all water types, this wide range offers very specific products for particular growth phases or specialist crops.

2) **Peters Excel** - specifically formulated to improve water quality.

*Peters Excel "Acidifier"* is formulated to improve hard-water conditions while *Peters Excel "CalMag"* has been developed to combat soft-water conditions and includes calcium and extra magnesium in the formulation.

## Universol®

The **ICL Universol range** is the standard in ornamental water soluble fertilizers – offering reliability and great value for money.

*Universol* boasts a simple range of powerful fertilizers for all crop growth phases. Each bag is uniquely colour coded, to make choice and application easy, and contains a balanced NPK formula with Magnesium and trace elements.

The *Universol* range has recently expanded to include hard and soft water fertilizers, minimizing water issues and delivering healthier plants and easier cultivation. These new hard and soft water products are complete NPK fertilizers; including Calcium (in soft water formulation), Magnesium and trace elements.

When it comes to water soluble fertilizers, **ICL** has the answers.



Nurture

## Peters<sup>®</sup> Professional

ICL's *Peters Professional* range is the one to count on when needing 100% water soluble fertilizers. *Peters Professional* has a full range of formulations that respond to specific growing situations and different growth phases.



**Thanks to our exclusive M-77 chelating formula, *Peters Professional* gives an assurance that nutrients and trace elements remain readily available for fast and easy uptake - even during colder times of the year, when plants are under increased stress.**

M-77 "unlocks" the rooting area, allowing an effective increase in the absorption of nutrients. *Peters Professional* products do not contain any salts, such as chlorine, carbonates or sulphates. This helps optimise the feeding capacity rate, even with low levels of EC.

Whether choosing *Peters Professional* by ICL as a standard fertilizer, or as a means to solve a particular problem, you can be certain it will deliver a complete fertilization plan.

### Advantages of *Peters Professional*

- Contains NPK, magnesium and trace elements
- Pure formulations, no mixed substances
- Quick plant response
- Smaller granules to guarantee 100% water soluble
- Contains M-77 for maximum effect







#### **Plant Starter 10-52-10**

*Plant Starter* has high phosphates levels together with a balanced N:K ratio. This combination makes *Plant Starter* the ideal product for stimulating the development of a good root system as well as flower buds. Use after potting young plants for optimum uniform rooting.



#### **Foliar Feed 27-15-12+TE**

*Foliar Feed* has 20.4% nitrogen urea content, and comes equipped with a unique package of trace elements. This special combination encourages strong root growth and is the ideal foliar feed. Fast acting and great for greening up plants before sale.



#### **Allrounder 20-20-20+TE**

*Allrounder* has a balanced NPK formula which contains 13% urea. It is particularly suited for use in the spring and summer months. It acts as a foliar feed and encourages healthy plant growth.

## Other products in the **Peters Professional** range...

#### **Blossom Booster 10-30-20+2MgO+TE**

*Blossom Booster* has high phosphates levels and an N:K ratio of 1:2. This combination makes *Blossom Booster* the ideal product for improving bud formation and development.

#### **Hi-Nitro 30-10-10+TE**

*Hi-Nitro* has a 24.6% nitrogen urea content, and is equipped with a package of trace elements. It is ideal for use in spring/summer and/or when high levels of nitrogen are needed quickly. The high levels of nitrogen allow for extremely fast and healthy foliar growth.

#### **Combi-Sol 6-18-36+3MgO+TE**

*Combi-Sol* has enhanced levels of trace elements which deliver perfect results, even if diluted. It can be used in two tank systems with calcium nitrate. The product has a 1:6 N:K ratio for promoting excellent, compact plant growth. It is ideal to use when irrigation water contains high levels of nitrogen. It can also be used as a complete fertilizer.

#### **Plant Finisher 9-9-36+2MgO+TE**

Specifically formulated for compact controlled growth, with extra iron for optimum leaf colour, *Plant Finisher* is ideal in the later stages of propagation.

#### **Pot Plant Special 15-11-29 +TE**

Ideal for pot and bedding plants, the N:K ratio of 1:2 ensures good colour, controlled growth and high quality. A high proportion of nitrate nitrogen promotes quick results.

#### **Grow Mix 21-07-21+3MgO+TE**

*Grow-Mix* has a balanced N:K ratio with low levels of phosphate, making it perfect for promoting balanced growth in pot plants. A large amount of the nitrogen consists of urea, allowing for perfect cultivating of orchids.

#### **Poinsettia Mix 17-7-27+2MgO+TE**

*Poinsettia Mix* contains modified levels of boron, zinc and molybdenum to ensure perfect plant health and quality. The *Poinsettia Mix* has high levels of nitrate nitrogen, therefore encouraging strong root growth.

#### **Winter Grow Special 20-10-20+TE**

*Winter Grow Special* has a balanced N:K ratio. It also contains high levels (12%) of quick absorbing nitrate nitrogen. This delivers a quick plant reaction, particularly promoting strong rooting. It is the ideal application for a healthy, winter plant growth.

#### **Potassium Booster 12-0-43+TE**

*Potassium Booster* has a powerful N:K ratio of 1:4. This quickly elevates potassium levels within the plant. It is also packed with numerous trace elements along with a 12% nitrate nitrogen level. *Potassium Booster* not only promotes good condensed growth, but great plant colour too.

# Angela WEB2.0

**FREE TECHNICAL ADVICE SERVICE**

For more information  
see page 19

# Nurture

## Peters<sup>®</sup> Excel

Our *Peters Excel* products feature unique formulations delivering complete plant nutrition using a single-concentrate stock tank, while taking into account the quality of irrigation water. This helps minimise labour, reducing overall costs while improving quality. All *Peters Excel* products are completely water soluble, keeping irrigation systems clean.



ICL offers two main *Peters Excel* ranges, the “*Acidifier*” range for hard water conditions and the “*CalMag*” range for soft water.

*Acidifier* has a bicarbonate-neutralizing effect which helps to achieve a stable pH level in the growing media. This improvement also reduces the EC value of the irrigation water. *Acidifier* also comes with M-77 technology, allowing for maximum absorbability of nutrients. Lastly, *Acidifier* delivers excellent growth and colour due to its high levels of chelated trace elements.

*CalMag* delivers a continuous supply of calcium and magnesium, which is missing in soft water systems. It is also extremely reliable due to its composition of raw ingredients and chelated trace elements. This provides for healthy colour and optimum growth. Similar to *Acidifier*, *CalMag* contains M-77 technology and has a single-tank mixing concept; all nutrient elements are in a single stock tank.

Whether for hard or soft water conditions, thanks to our *Peters Excel* range, ICL has the appropriate product to help professional growers cultivate healthy and strong plants.



## Peters Excel **soft water** range



### **CalMag Grower** 15-5-15+7CaO+3MgO+TE

*CalMag Grower* has a balanced N:K ratio that is engineered to promote healthy growth. It is a single-tank mix formula containing all the necessary nutrients plants require. *CalMag Grower* is also compatible with calcium nitrate.



### **CalMag Finisher** 13-5-20+7CaO+2MgO+TE

*CalMag Finisher* is a single-tank mix fertilizer providing plants with all the essential nutrients required. It is often used as a follow-up to *CalMag Grower*. It has a high potassium formula that leads to compact and condensed growth.

### Features and benefits of *Peters Excel CalMag Grower*

- Especially developed for use in soft water, unique in its effects
- Healthy growth as a result of continuous supply of calcium and magnesium
- Reliable system thanks to selected composition of raw materials and chelated trace elements
- High level of chelated trace elements ensures perfect colour and growth
- High level of chelated trace elements ensures perfect colour and growth
- Single-tank-mix concept: all nutrient elements in a single storage tank, including calcium

## Peters Excel **hard water** range



### **Hard Water Grow Special** 18-10-18+2MgO+TE

*Hard Water Grow Special* delivers balanced growth where hard irrigation water is used.



### **Hard Water Finisher** 14-10-26+2MgO+TE

*Hard Water Finisher* delivers remarkable compact growth and flowering. Due to its N:K ratio of 1:2, it can be used in irrigation water containing high nitrogen levels.

While solving hard irrigation water problems, our acidifying *Peters Excel* products contain high amounts of chelated trace elements, producing outstanding colour and healthy growth.

### Advantages of *Peters Excel* acidifying range

- pH level of growing media is stable due to (Bicarbonate)  $\text{HCO}_3^-$  - buffering effect
- Quality of water for watering/irrigation is improved
- Reduces EC value
- Prevents drippers from blocking
- Keeps irrigation systems clean
- Contains Peters M-77 chelating complex

# AngelaWEB2.0

FREE TECHNICAL ADVICE SERVICE

For more information  
see page 19



# Nurture

## Universol®



*Universol* is a great value water soluble fertilizer for pot, bedding and all container nursery stock. Trusted by growers, the *Universol* range helps consistently deliver high quality plants.

**DID YOU KNOW?**

**Universol** is colour dyed for ease of use



**This versatile range can tackle any situation. Colour coded for easy-use, the *Universol* range features our *Bright Solution System*. Using carefully selected ingredients ensures consistent quality – gives clear results and a clean irrigation system.**

*Universol* products are renowned for their reliability and great value for money.

### Advantages of Universol

- NPK formula with magnesium and trace elements
- Colour-coded for ease of use
- Excellent value for money
- Features the unique Bright Solution System







### Universol Blue 18-11-18+2.5MgO+TE

**Well balanced mid-season growth**  
*Universol Blue* has a balanced NPK ratio and elevated amounts of trace elements to help ensure even growth in the middle of the season. Additionally, it will help to increase the development of the plant. It is a balanced formula to use after *Universol Yellow*.



### Universol Orange 16-5-25+3.4MgO+TE

**Slower growth to promote flowering**  
*Universol Orange* is an effective, high-quality water soluble fertilizer which dissolves very quickly for immediate use. While helping to slow down plant growth, it encourages flowering. Packed with potassium, *Universol Orange* is great to use on flowering pot and bedding plants. It is also ideal to use if there is excess nitrogen in the irrigation water.



### Universol Yellow 12-30-12+2.2MgO + TE

**Boost root and shoot bud growth**  
*Universol Yellow* gets plants off to a good start. Containing a high amount of phosphate it gives a valuable early boost to root and shoot bud growth. Apply once or twice soon after potting young plants to aid establishment.



### Universol Violet 10-10-30+3.3MgO+TE

**Compact strong early growth**  
*Universol Violet* contains high levels of potassium encouraging compact and strong growth, great leaf colour, and excellent flower development. Ideal to use for slowing down plant growth, it can be used as a holding feed. Additionally, it will help balance out nutrition if nitrogen is present in the irrigation water.



### Universol Green 23-6-10+2.7MgO+TE

**Nitrogen boost for extra growth**  
*Universol Green* contains a high level of nitrogen to boost growth. It contains the perfect balance of readily available nitrate nitrogen and ammonium nitrogen to promote medium to long term growth. *Universol Green* is best to apply at the beginning of the crop cycle, just after completing *Universol Yellow*.



### Universol Basis 4-19-35+4.1MgO+TE

**For 2 tank systems and hardening off**  
*Universol Basis* contains elevated amounts of trace elements to help ensure optimum crop performance in pot plants. It is designed for application through a two tank systems. *Universol Basis* can also be used for the sole purpose of hardening off pot, bedding or container nursery stock.

#### Recommended *Universol* rates for pot and bedding plants

	100% <b>Universol</b>	50% <b>Universol</b> 50% Osmocote
Crops with high fertilizer requirements	1 - 2 g/l	0.5-1 g/l
Crops with normal fertilizer requirements	1 - 1.5 gl	0.5 - 0.75 gl
Salt sensitive crops	0.5 - 1 g/l	Depends on situation

#### Recommended *Universol* rates for Container Nursery Stock crops

	100% <b>Universol</b>	50% <b>Universol</b> 50% Osmocote
Crops with high fertilizer requirements	20 g/m <sup>2</sup> /week	10 g/m <sup>2</sup> /week
Crops with normal fertilizer requirements	15 g/m <sup>2</sup> /week	7.5 g/m <sup>2</sup> /week
Salt sensitive crops	10 g/m <sup>2</sup> /week	5 g/m <sup>2</sup> /week



# Nurture

## Universol® Soft water range

### Advantages of Universol Soft Water products

- Contains all elements; NPK, magnesium, trace elements and even calcium
- Always the same composition thanks to stringent quality control
- Quick effect due to strong, fast performance
- Dissolves entirely and quickly because of the special ingredients and the 'Bright Solution System'
- Excellent value for money
- Always a suitable analysis for your crop
- Healthy growth as a result of continuous supply of calcium
- Improves the quality of the irrigation water



Soft  
water

### Universol®

#### Universol Soft Water

**Our three new *Universol Soft Water* products have been developed for application in soft irrigation water and contain NPK, Mg, Ca and a full package of trace elements.**

#### Universol Soft Water 312R

18-7-12+6CaO+2MgO+TE

With a nitrogen aimed N:K ratio of 3:2 and high calcium, *Universol Soft Water 312R* is ideal for foliar crops and for the early growing phase. This product can be mixed with calcium nitrate.

Note: mix up to a maximum 50:50. Before adding the CaNO<sub>3</sub>, first dissolve the Universol.

#### Universol Soft Water 213R

14-7-22+5CaO+2MgO+TE

With a potassium aimed N:K ratio of 2:3, this product is ideal for flowering crops and compact growth. *Universol Soft Water 213R* can be mixed with calcium nitrate making it possible to create a N:K ratio of 1:1.

#### Universol Soft Water 113R

11-11-31+2CaO+2MgO+TE

With a high potassium aimed N:K ratio of 1:3, this formulation is ideal for flowering crops and to harden off crops in their final growth phase.

#### TOP TIP

Add Extra Calcium for demanding crops such as Poinsettias.





Nurture

# Universol®

## Hard water range

### Advantages of Universol Hard Water

- Contains all elements; NPK, magnesium and trace elements
- Always the same composition thanks to stringent quality control
- Quick effect due to strong, fast performance
- Dissolves entirely and quickly because of the special ingredients and the 'Bright Solution System'
- Excellent value for money
- Always a suitable analysis for your crop
- Improves the quality of your irrigation water, by taking out bicarbonates
- The pH of the soil remains stable as a result of the  $\text{HCO}_3^-$  buffering effect



### Universol®

#### Universol Hard Water

**Our two new *Universol Hard Water* products have been developed for application in hard irrigation water, with high levels of bicarbonate.**

#### Hard Water 211

23-10-10+2MgO+TE

*Hard Water 211* contains NPK, Mg and a full package of trace elements. With an N:K ratio of 2:1, it is ideal for plants requiring high amounts of nitrogen during the early growth stage.

#### Hard Water 225

11-10-28+2MgO+TE

*Hard Water 225* promotes compact growth in flowering plants and is ideal for hardening off plants, acidifying irrigation water and neutralizing bicarbonate. The N:K ratio of 2:5 means this product can be used in combination with water containing high nitrogen levels and with nitrogen fertilizers (eg nitric acid).



Water with high bicarbonate levels (>150ppm) cause system blockages. Hard water causes precipitation of nutrients in irrigation system.

# Protect

**ICL offers a specialist range of plant protection products providing responsible solutions to controlling weeds, insect and disease problems.**

Thanks to continuous and successful partnerships, ICL is able to deliver solutions for a range of pest, weed and disease issues. By innovating new formulas, targeting the release of active ingredients using our patented technologies and through integrating crop management programmes, ICL continues to meet and exceed customers' demands.

Providing long-term, protective solutions and nutrition programmes to growers - that do not require multiple applications - is a top priority.

Our nationwide team of BASIS and FACTs registered Technical Area Sales Managers is on hand to give advice on all ICL plant protection products.





BIORATIONAL PESTICIDE

Protect

## Pitcher GR

*Pitcher GR* is the new biorational pesticide for the suppression of Black Vine Weevil eggs and early stage instar larvae. It is approved through an Extension of Authorisation for Minor Use (EAMU) in containerised ornamental plants, both protected and outdoors.



### Application

Pitcher is a granular biorational insecticide which is applied as a topdress over containerised ornamentals. Application can be via gloved hand (not a preferred method of application) or a suitable handheld application device.

### When to apply

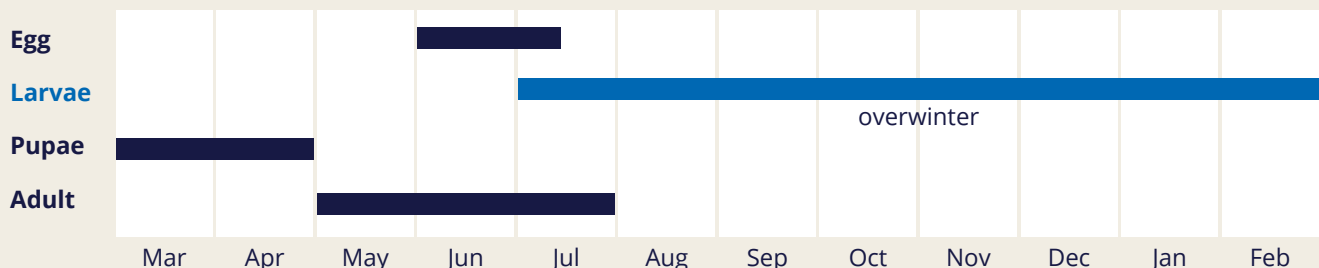
It is important to know when to apply Pitcher for maximum efficacy and therefore understanding the Vine Weevil life cycle is a key part of utilising this product.

It is important to note that all stages of the lifecycle can be present throughout the year in protected crops. It is important that you check your plants in these situations for the pest.

### Important information

- A minimum period of six weeks should be observed after initial application before any subsequent treatments of Pitcher or beneficial parasitic nematodes can be applied
- Pitcher is not affected by temperature fluctuations unlike some other biological products
- Pitcher must be used as part of an integrated pest management regime, please talk to your Technical Area Sales Manager or Distributor Representative for further information

## Black vine weevil life cycle



# Protect

# NEMATODES

## Vine Weevil Seeka® CT

**Vine Weevil Seeka CT** contains the beneficial nematode *Steinernema kraussei* and provides effective control of black vine weevil larvae (*Otiorhynchus sulcatus*). Vine Weevil Seeka CT is formulated to provide effective control in cold to warm temperatures which range from 5°C - 30°C.



### Product Profile

<b>Active ingredients</b>	Nematodes: <i>Steinernema kraussei</i>
<b>Volume</b>	Varies on pot volume (please see label)
<b>Dose</b>	Varies on volume (please see label)
<b>Target pests</b>	Black vine weevil ( <i>Otiorhynchus sulcatus</i> )
<b>Soil temperature</b>	Between 5°C and 30°C
<b>Application window</b>	When black vine weevil larvae are present

### Advised application method

Soil drench (via boom sprayer, knapsack, lance or sprinklers)

## Vine Weevil Seeka®

**Vine Weevil Seeka**, powered by BASF technology, is based on the beneficial nematode *Heterorhabditis bacteriophora* (82%) and an inert carrier with water (18%). It provides control of black vine weevil larvae (*Otiorhynchus sulcatus*) present in soil or container-grown crops.



### Product Profile

<b>Active ingredients</b>	Nematodes: <i>Heterorhabditis bacteriophora</i>
<b>Volume</b>	Varies on pot volume (please see label)
<b>Dose</b>	Varies on volume (please see label)
<b>Target pests</b>	Black vine weevil ( <i>Otiorhynchus sulcatus</i> )
<b>Soil temperature</b>	Between 12°C and 30°C
<b>Application window</b>	When black vine weevil larvae are present

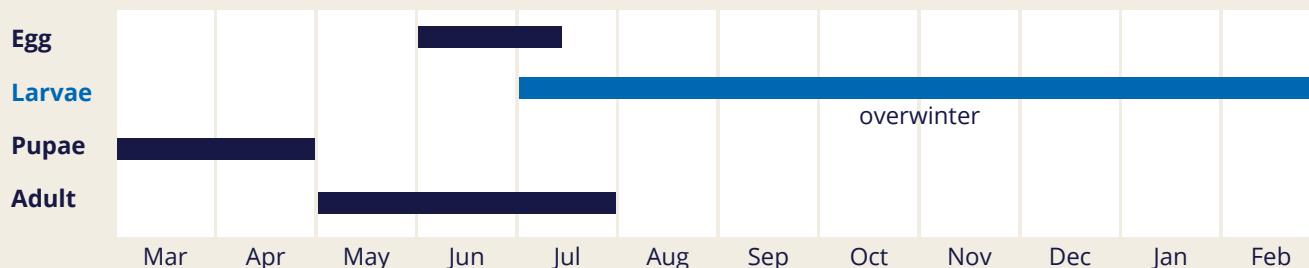
### Advised application method

Drench application: preferred method, especially where crop canopy is dense.



# Black vine weevil life cycle

Vine Weevil Seeka is effective on vine weevil larvae only. Please note - under protection all stages of the life cycle may be present throughout the year.



## Application advice

- Apply when larvae are present (lift a few plants/remove from pots to examine root ball - untreated larvae are white)
- Apply to plants in moist soil/growing medium, in sufficient water volume to ensure the root ball is thoroughly treated
- Avoid applications in direct sunlight, evening applications are best
- Do not exceed 300 psi/20 bar/2000 kPa pump pressure
- Nozzle aperture should be greater than 0.5 mm
- Suitable nozzles should produce a coarse spray at the intended application pressure
- Make up the stock solution and mix thoroughly to ensure that the nematodes are well dispersed

## Precautions

- Upon receipt, use immediately or store in a refrigerator at 5°C
- Do not use product if past expiry date or incorrectly stored (do not freeze)
- Use entire packet at one time, do not store diluted product

## Benefits

- Vine Weevil Seeka can be used in organic systems or as part of an IPM programme
- Safe to users and the environment
- Nematodes survive up to approximately 4 weeks in the soil
- No pest resistance problems
- Gives high levels of control between 5°C - 30°C (Seeka CT)
- Simply applied as a drench or through irrigation systems
- Protects root system preventing subsequent damage and plant loss, particularly for container-grown plants
- Larvae treated with Vine Weevil Seeka will not develop into adult vine weevils, eliminating unsightly damage to the foliage (typical leaf notching)

## Application Methods

Depending on what you are trying to achieve with your nematode application, you have a few different options in terms of how you apply. Application is crucial for the efficacy of nematodes and can be the cause of the product being ineffectual. Over the next few pages are examples of these methods with best practice for each in order for you to maximise the protection of your plants.



Knapsack/pump sprayer



Dosing unit



Irrigation



Foliar sprays



**Increase nematode performance with ICL's exclusive penetrant *Transporter***

See Page 59

## Recommended Rates

Application method	Application volume	Application	Dose	Pack size 50 million	Pack size 250 million
Open soil	4 litres/m <sup>2</sup>	Curative	1,000,000/m <sup>2</sup>	50m <sup>2</sup>	250m <sup>2</sup>
Pots/Containers	4 litres/m <sup>2</sup>		500,000/m <sup>2</sup>	100m <sup>2</sup>	500m <sup>2</sup>
Strawberry	100 ml/plant		25,000/plant	2,000 plants	10,000 plants

The table below gives volumes of diluted Seeka® required for individual pots of different sizes, using the recommended pot rate of 125,000 nematode / litre of water. Note that the nematode volume per pot (ml/pot) decreases as the pot volume increases. The dose rate is related to the surface area.

Pot volume (L)	Drench (ml)/pot	Nematodes/pot	Pots treated/ 50 million pack	Pots treated/ 250 million pack
1	46	5,750	8,708	43,542
2	81	10,125	4,940	24,702
5	166	20,750	2,404	12,020
7.5	226	28,250	1,773	8,863
10	278	34,750	1,437	7,187
12	317	39,625	1,263	6,315
14	353	44,125	1,135	5,673
16	386	48,250	1,036	5,180
18	418	52,250	958	4,788
20	448	56,000	894	4,469
22	476	59,500	841	4,203
25	516	64,500	776	3,879
30	576	72,000	695	3,474
35	629	78,625	636	3,179
40	677	84,625	591	2,954
45	720	90,000	556	2,778

### Directions for use

- Remove all fine filters (50 mesh or smaller) from the application equipment.
- Partly fill the tank with cool, clean water. Start the agitator and keep running until application is completed.
- Empty one tray into a bucket and add a minimum of 10 litres of water.
- Stir the contents thoroughly making sure the entire product is mixed.
- Add nematode suspension into the tank through its sieve.
- Fill tank to the required water level.
- Apply dose immediately to the whole crop at the appropriate rate.
- Irrigate immediately after application to disperse nematodes into the soil; do not irrigate to cause run off from the tops of pots.

### Knapsack sprayer (suitable for 50 million packs only):

Make up stock solution; suspend one 50 million tray of Seeka® in 10 litres of water in a clean graduated bucket. Agitate the stock solution and dilute as follows:

- For open soil use 1 part stock solution + 19 parts water.
- For pots/containers use 1 part stock solution + 39 parts water.
- Keep solution agitated and apply immediately.

### Dosing unit application (Suitable for 50 and 250 million packs):

- Set injection rate on dosing unit (normally 1%).
- Considering the injection rate, area to treat, and recommended rates, calculate number of nematodes and volume of water required in concentrate bucket. Make up concentrate solution of nematodes in the calculated volume of water. Mix thoroughly to ensure that the nematodes are well dispersed. NOTE: If the solution is too viscous add an additional known volume of water and adjust the injection rate accordingly.
- Start application ensuring the correct volume of water is being applied per unit area. Throughout application ensure that the nematode solution remains agitated.

### Drip irrigation application:

- Repeatedly rotate through irrigation blocks in field.
- Allow enough time for nematodes to reach intended area of crop.
- Flush system with enough water to wash nematodes out of irrigation pipes.
- Consult your supplier to determine suitability of your drip irrigation system.

### Application conditions. For optimum results:

- Treatment should be applied when black vine weevil larvae and pupae are present.
- Soil or media temperatures should be between 12°C and 30°C for at least two weeks after application.
- The soil or media should be moist.
- Routinely treat new material coming onto the nursery that may contain black vine weevil larvae.
- If product is applied over foliage, irrigate immediately with water to wash the nematodes into the soil.
- Drench application: preferred method, especially where crop canopy is dense.
- Strawberry application: drench each plant individually, direct application around the base of each plant avoiding run off.

### Precautions

- Agitate nematodes constantly during application.
- Do not use product if past expiry date or incorrectly stored.
- For information relating to which chemicals are compatible with Seeka® ask your distributor.
- Once opened, use each entire tray immediately (do not sub-divide or store opened packs or mixed suspension).
- Seeka® persists for approximately four weeks; larvae emerging from eggs laid after this time may be poorly controlled.
- Seeka® will not control black vine weevil adults.
- Do not exceed 300 psi/20 bar/2000 kPa pump pressure.
- Nozzle aperture should be greater than 0.5 mm
- Suitable nozzles should produce a medium or coarser spray at the intended application pressure.





NEMATODES

Protect

## Fungus Gnat Seeka®

**Fungus Gnat Seeka**, powered by BASF technology, is based on the beneficial nematode *Steinernema Feltiae*. It provides control of fungus gnat larvae (*Sciaridae spp.* or more commonly known as Sciarid Fly) as well as Western Flower Thrips.

### Product Profile

<b>Active ingredients</b>	Nematodes: species <i>Steinernema Feltiae</i>
<b>Volume</b>	Varies on pot volume (please see label)
<b>Dose</b>	Varies on volume (please see label)
<b>Target pests</b>	Fungus Gnat Larvae ( <i>Sciaridae spp.</i> ) and Western Flower Thrips
<b>Soil temperature</b>	Between 10°C and 30°C
<b>Application window</b>	When fungus gnat or western flower thrips are present

### Application advice

- Soil or media temperatures should be between 10°C and 30°C for at least two weeks after application
- The soil or media should be moist
- Routinely treat new material coming onto the nursery that may contain fungus gnat larvae
- If product is applied over foliage, irrigate immediately with water to wash the nematodes into the growing media

### Precautions

- Agitate nematodes constantly during application
- Do not use product if past expiry date or incorrectly stored
- For information relating to which chemicals are compatible with Fungus Gnat Seeka ask your distributor

### Advised application method

Drench application: preferred method, especially where crop canopy is dense.

### Benefits

- Fast and effective natural control
- The most robust and efficacious nematode product on the market for fungus gnat control
- Control achieved at all times when the pest larvae are active
- No pest resistance problems
- Gives high levels of control between 10°C - 30°C

#### Did you know?

Fungus Gnat Seeka can also protect your crops against Western Flower Thrips when applied as a foliar spray. Please ask your Technical Area Sales Manager for more details.

## Recommended Rates

Pest	Application method	Application volume	Application	Dose	Pack size 50 million	Pack size 250 million
Sciarids/ Fungus Gnat	Soil drench	1 litre/m²	Propagation	500,000/m²	100m²	500m²
		2 litres/m²	Preventative Curative	500,000/m² 1,000,000/m²	100m² 50m²	500m² 250m²
WFT pupae			Preventative Curative	125,000/m² 250,000/m²	400m² 200m²	2,000m² 1,000m²
WFT larvae	Foliar contact	0.1 litre/m² (+/- to ensure leaf coverage without runoff)	Preventative Curative	125,000/m² 250,000/m²	400m² 200m²	2,000m² 1,000m²
Leafminer			Curative	250,000/m²	200m²	1,000m²
<i>Tuta absoluta</i>	Foliar contact	400-4,000 litres/ha	Curative	1,000,000/litre	50 L	250 L

## Directions for use

- Remove all fine filters (50 mesh or smaller) from the application equipment.
- Partly fill the tank with cool, clean water. Start the agitator and keep running until application is completed.
- Empty one tray into a bucket and add a minimum of 10 litres of water.
- Stir the contents thoroughly making sure the entire product is mixed.
- Add nematode suspension into the spray tank through its sieve.
- Fill spray tank to the required water level.
- Apply dose immediately to the whole crop at the appropriate rate.

## Application conditions

### Soil drench

- If using spray equipment, apply as a course or extra course spray ensuring nematodes reach the soil surface.
- Treat entire house or plant inventory as soon as pests are seen.
- Soil / compost should be moist and between 10°C and 30°C.
- If product is applied over foliage, irrigate immediately to wash nematodes onto compost.
- Propagation crops require frequent applications to maintain effective nematode numbers in the soil. Repeat applications every 2-6 weeks according to soil volume and pest pressure.

## Foliar contact


Nematodes require water and contact to find the pest therefore:

- Apply as a medium spray ensuring good foliar coverage but do not apply to run-off as nematodes will be lost.
- After application, ensure that the crop remains wet for at least 2 hours. Close windows / ventilation during this period.
- Do not apply in direct sunlight – use blackouts during and for at least 2 hours after application.
- If using artificial lighting, switch off during and for at least 2 hours after application.
- Repeat foliar applications as necessary for your pest control programme.
- For control of *Tuta absoluta* apply nematodes in a water volume per hectare suitable to achieve good foliar coverage of the bottom two thirds of the canopy or where active mines are present.

## Precautions

- Agitate nematodes constantly during application.
- Do not use product if past expiry date or incorrectly stored.
- For information relating to which chemicals are compatible with Seeka® ask your distributor.
- Once opened, use each entire tray immediately (do not sub-divide or store opened packs or mixed suspension).
- Do not exceed 300 psi/20 bar/2000 kPa pump pressure.
- Nozzle aperture should be greater than 0.5 mm
- Suitable nozzles should produce a medium or courser spray at the intended application pressure.





BIOFUNGICIDE

Protect



*PRESTOP*<sup>®</sup> is a multi-use biofungicide which contains mycelia and spores of *Gliocladium catenulatum* Strain J1446, a naturally occurring soil fungus, that provides disease control benefits to multiple crop situations.

#### Features and Benefits

- Multiple mode of action wettable powder with proven efficacy against:
  - Damping-off diseases - Botrytis, Pythium, Phytophthora, Rhizoctonia, Fusarium;
  - Root and Base Rot diseases - Pythium, Phytophthora, Rhizoctonia, Fusarium;
  - Aerial diseases - Botrytis, Didymella (Mycosphaerella)
- Improved resistance management through the multiple capabilities of the naturally occurring micro-organism which has not been genetically manipulated in any way
- Flexible application methods
- Compatible with biological and integrated pest management programmes
- No residue so no harvest interval
- High level of safety to operators and the environment when used according to label instructions

Additional benefit against other diseases such as *Plasmodiophora brassicae* (clubroot) in brassica crops, sclerotinia, thielaviopsis, helminthosporium, verticillium, penicillium and alternaria species can also be expected.

MAPP no. 17223

PCS no. 04367



#### Prestop<sup>®</sup> protects against:

- Grey mould and stem cankers caused by Botrytis spp. on ornamental plants
- Gummy stem blight caused by Didymella sp. on cucumbers
- Damping-off and root or base rot diseases caused by Pythium, Rhizoctonia, Phytophthora and Fusarium spp. on vegetables, salads, aromatic plants, ornamentals and fruit crops



Botrytis symptoms



# Protect

# BIO-STIMULANT

## Vitalnova®



### Prime

ICL has partnered with Alltech, an industry leader in animal and plant nutrigenomic research, to present new biological products which increase plant health. Discovering how plants respond to nutrients and novel bioactive compounds at a genetic level allows Alltech to design and formulate solutions that optimise plant health and performance.

#### Solutions

*Vitalnova Prime*, powered by Alltech technology, is part of ICL's biological plant health range which includes products formulated to nutritionally support plants' inherent defences, including fertilisers, plant activator and microbial inoculants. Providing unique, natural solutions that improve plant health and resiliency against infection and disease throughout the growing season.

#### Features and Benefits

- Blend of active ingredients designed to fortify the plant
- Leaves no synthetic chemical residues
- Integrates with pest management programmes
- Healthier plants are more able to resist stress

#### Directions for use

Foliar application of Vitalnova Prime at 1L per Ha every 10-15 days (1ml per litre) | 0.5 per Ha every 7 days (0.5ml per litre). For fertigation apply between 1L per Ha (1ml per litre). Product performs best if used within 24 months of the date of manufacture. Half fill the tank with water before adding the required amount of *Vitalnova Prime* stir the solution during mixing and during spraying operations. If mixing this product with other plant protection products, it is advisable to check the physical compatibility prior to mixing in the tank.

#### Guaranteed Analysis

Copper (Cu)	4.00%
Sulfur (S)	2.00%
Derived from Copper sulfate	

New  
Product  
launch  
from ICL







BIO-STIMULANT

Protect

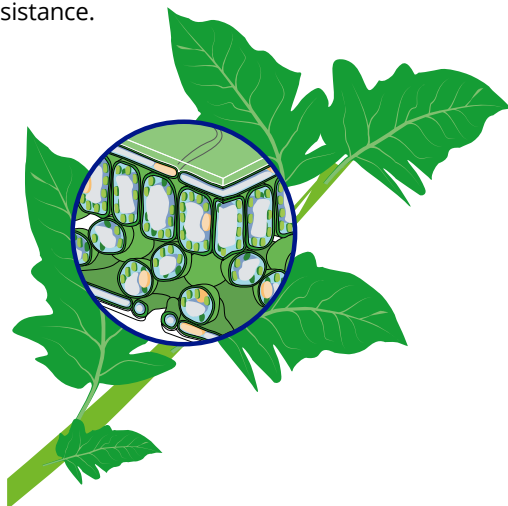
Plants face a constant variety of fungal, bacterial and viral stresses, leading to a loss in productivity

#### Induced resistance and sustainability

Natural elicitors leave no synthetic residues and can be used in growing systems either alone or in combination with conventional chemicals.

#### What is induced resistance?

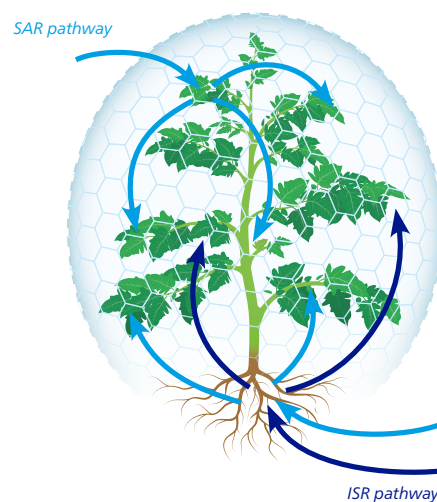
Plant-pathogen interactions initiate various chemical defence responses in the plant, similar to how our own immune systems respond to vaccines. Elicitors are compounds that activate these same natural plant defences, a state known as induced resistance.



#### Two of the most commonly studied forms are:

**Systemic Acquired Resistance (SAR):** Exposure triggers gene expression associated with the plant hormone salicylic acid, protective proteins, phytoalexins and various defensive enzymes.

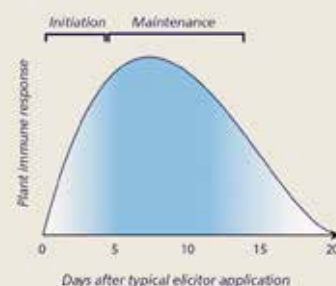
**Induced Systemic Resistance (ISR):** Exposure to specific bacterial strains triggers production of the defensive plant hormones jasmonic acid and ethylene.



#### How are natural elicitors used?

Elicitors are used preventatively. Just as vaccines take some time to produce a response in our bodies, elicitors take several days for their full effect to develop (initiation). This plateaus into a maintenance phase before the effects eventually wear off.

SAR is associated with a variety of cellular immune responses, including strengthening of cell walls.



# Protect

# BIO-STIMULANT

## Vitalnova®



### Guardian

*Vitalnova Guardian*, is part of ICL's biological plant health range which includes products formulated to nutritionally support plants' inherent defences, including fertilisers, plant activator and microbial inoculants. Providing unique, natural solutions that improve plant health and resiliency throughout the growing season.

#### Solutions

*Vitalnova Guardian* is a blend of naturally derived polyketides and foliar-applied nutrients essential for plant biofortification, formulated for immediate effect and rapid response in the face of external crop stresses. Well-nourished plants have a more effective defence system.

#### Features and Benefits

- Effective foliar action
- A unique combination of cations
- Leaves no synthetic chemical residues
- Foliar applied and fortifies the leaf to help the plant cope with environmental stress
- Integrates with pest management programs (IDM)
- Approved for organic crop production according to EC 834/2007
- Can be used in conjunction with Vitalnova Prime
- Can be used for all crop types (edible and non edible)
- Vitalnova Guardian is a foliar intervention product only when crop stress is evident

#### Directions for use

*Vitalnova Guardian* is foliar applied at 2ml per litre (0.2%) | 2L pe Ha. Product performs best if used within 24 months of the date of manufacture. Half fill the tank with water before adding the required amount of *Vitalnova Guardian*. Stir the solution during mixing and during spraying operations. If mixing this product with other plant protection products, it is advisable to check the physical compatibility prior to mixing in the tank.

#### Guaranteed Analysis

Copper (Cu)	2.0%
Iron (Fe)	1.6%
Manganese (Mn)	0.8%
Zinc (Zn)	3.2%

Derived from Copper sulfate, Ferrous sulfate, Manganese sulfate and Zinc

New  
Product  
launch  
from ICL







BIO-STIMULANT

Protect

# **Trianum<sup>®</sup>** **G**

**KOPPERT**  
BIOLOGICAL SYSTEMS

*Trianum G* granules contain *Trichoderma harzianum* strain T-22 spore powder which increases the resistance of plants to stress caused by diseases, sub-optimal feeding, watering regimes or climatic conditions, while it increases nutrient uptake. This can enhance the growth and development of roots and above-ground plant parts.

## **Benefits of Trianum G**

- *Trianum G* guards roots
- Protects your plants against soil-borne diseases
- Gives your crop vitality and vigour strengthens the plant and promotes growth
- Easily integrated with chemical crop protection
- Effective in many different substrates, and at various temperatures and pH values
- Reliable and consistent quality
- Safe for people, plants and the environment
- Pack size - 20kg bag





# Specialty Products

**ICL specialty products provide growers with the extra tools to Grow, Nurture and Protect their crops throughout the growing season. From optimising water usage with H2Gro to general clean up throughout the nursery, ICL products are there to make life easier.**







## OPTIMISE NEMATODE PENETRATION

# Transporter

ICL's revolutionary penetrant formulation which aids nematode dispersion within the growing media following application. *Transporter* is a blend of soil surfactants which optimise the distribution of water allowing for a more even spread of your nematode application, putting the nematodes where they are needed and therefore reducing waste.

### Features and Benefits

- Rigorously tested and no negative effects on nematode species
- Increases efficacy of each nematode application with less wastage
- Can be used in conjunction with fertilizers
- Works quickly with all substrates
- Nematodes are effectively distributed through the substrate and not just on the surface
- Excellent spreading and penetration characteristics
- High strength product, contains 88% surfactant for superior performance

### Did you know?

Transporter should only be used when wanting to apply nematodes as drench in to the growing media. You should not use when applying as a foliar treatment.



Vine Weevil  
Larvae



Fungus Gnat  
Larvae



## WETTING AND WATER CONSERVATION AGENT

# H<sub>2</sub>Gro<sup>®</sup>

H<sub>2</sub>Gro is a unique blend of surfactants formulated into the most advanced wetting agent designed specifically for growing media. H<sub>2</sub>Gro uses the latest technology to maximise the water holding capacity of substrates for improved wetting-up, spreadability and re-wetting even in water repellent materials.

### It's all about the science

**Due to one end of the H<sub>2</sub>Gro molecules having a strong non-polar charge, it attaches itself to organic matter in water repellent particles.**

### There are three different chain lengths:

Short (4-6 weeks), Medium (6-10 weeks) and Long (complete season). As the medium and long chain molecules breakdown, they re-attach themselves to the non-polar sites

### Features and Benefits

- 3 in 1 mode of action - wetting and spreading agent, penetrating agent and re-wetting agent
- Manages water issues
- Granular product gives long lasting effect.
- Effective, efficient and reliable
- Guards against plant stress
- Plants stay in healthier condition after they are sold
- Safe to beneficial microbes
- Less dried out (hydrophobic) areas
- Improves the uptake of nutrients and many other products
- Offers the plant **100%** of the horticultural media to grow in



Application	Reason
<b>With irrigation</b>	Maintain optimum levels of wetting agent, particularly in longer term crops, to maximise irrigation efficiency, conserving water and optimising nutrient uptake.
<b>Prior to shipment</b>	Maximise the effect of final watering, ensure growing media is fully wetted up to increase the shelf life.
<b>Interior Plantscapes</b>	Distributes water evenly throughout pots reducing chances of overwatering and increases water conservation.
<b>Misting cuttings</b>	Ensures fine mist particles that remain on the leaf surface reducing the number of misting cycles required.





## Liquid Application Rates - Available in 5ltr bottles and large IBC's on request

Production Area	Application Rate/cubic metre (100 litres) for incorporation into growing media prior to potting	Drench application rate after potting	Longevity requirements for growing media conditions
Containers, field soil Long-term production cycles	150ml	100 - 150ml/100 litres of water	Maximum Longevity (6-12 months) Severely water repellent
Pots, hanging baskets Medium-term production cycles	100 - 125ml	60 - 100ml/100 litres of water	Medium Longevity (2-6 months) Moderately water repellent
Flats, pots, trays, plugs Short-term production cycles	50 - 75ml	40 - 50ml/100 litres of water	Short-term Activity (2-6 weeks) Moderately water repellent

Application	Rate	How to use
With irrigation	0.5ml/100 litres of water	In combination with daily feed
Prior to shipment	50-100ml/100 litres of water	Drench containers, hanging baskets and trays prior to shipment
Interior plantscapes	50-100ml/100 litres of water	Drench containers, hanging baskets and planters
Misting cuttings	15ml/100 litres of water	Spray freshly stuck cuttings with a very fine mist to the point of run off

## Granular Application Rates - Available in 10kg bags

Amounts for own mixed application		
Production area	Rate	Longevity requirements / Growing Media Conditions
Containers, long term production cycles	1kg/m <sup>3</sup>	Maximum longevity (9-12 months) Severely water repellent
Pots, hanging baskets, trays, modules, plugs and short term production cycles	500g/m <sup>3</sup>	Medium longevity (3-6 months) Moderately water repellent

Amount for topdressed and drenched in application		
Production area	Rate	Water volume
Containers, pots, hanging baskets	40g/m <sup>2</sup>	Water until container is thoroughly wetted

\*Rates for Dosatron usage are available at [www.icl-h2gro.co.uk](http://www.icl-h2gro.co.uk)

### Product Information

- Remains in the media to allow water to re-wet the soil particles
- Stable in growing media in storage
- Excellent initial wetting
- Excellent long term wetting
- Excellent through wetting/drying cycles
- Flexible, compatible and easy to use
- Economical low use rate
- Excellent shelf life
- Pack size 10kg bag / 5 litre pack

### DID YOU KNOW?

As well as a mixed blend into growing media **H2Gro** can be topdressed and drenched in



TANK CLEANER

# Sp0tless

*Sp0tless* is a highly formulated cleaning agent for the cleaning and decontamination of spraying equipment. It is especially effective at clearing sticky formulations.

## Features and Benefits

- Maintains the effectiveness of spray equipment
- Decontaminates sprayer after use
- It is especially effective at clearing sticky formulations (sulfonylurea (Group B) and carfentrazone-ethyl (Group G) herbicides)

## Directions for use

### CLEANING PROCEDURE

Any rinsate arising from spray tank cleaning should be disposed of on a crop approved for the products being used, not exceeding the maximum individual dose for that crop. Cleaning can be completed on an enclosed wash down area with water cleaning system.

1. Immediately after spraying and completely emptying tank, hoses and booms. Wash any contamination on the outside of spraying equipment with *Sp0tless* (50 ml in 10 L water)
2. Rinse inside of tank with clean water and flush through hoses and booms using 10% of tank spray volume. Drain tank completely.
3. Half fill the tank with clean water and add *Sp0tless* Tank Cleaner at the selected rate. Agitate and briefly flush the hoses, boom and nozzles. Then completely fill tank with water and agitate for 15 minutes.

Flush the hoses and spray all of the contents out through the boom. Drain the tank completely.

NOTE: If it is not possible to drain the tank completely, repeat step 3 before going on to step 4.

For very large sprayers with internal sprinklers it is not necessary to completely fill the tank. With agitation and sprinklers running ensure contact

time between the cleaning solution and all internal tank surfaces of 15 to 30 minutes.

For extra resistant combinations, allow the cleaning solution to 'sit' for 24 hours to increase residue removal. If it is suspected hoses and spray lines are contaminated increase cleaning solution contact time to 48 hours.

4. Nozzles, screens and filters should be cleaned with a fresh solution of Tank Cleaner and water (50 ml in 10L of water).
5. Rinse the tank with clean water and flush through the hoses and boom. Drain the tank completely.
6. Sample of final rinse may be applied to a susceptible plant to ensure total decontamination.

## Where to use

Can be used with all spray applications.

## Recommended period of use

Year-round.

## Product characteristics

Pack size: 5 litres  
Packs per outer: 4 x 5 litres

## Health and safety

A Material Safety Data sheet is available on request.

## Application rate

For decontamination of spray tank and cleaning of sticky formulations (sulfonylurea (Group B) and carfentrazone-ethyl (Group G) herbicides): Use 500 ml per 100 litres of water.





## HARD SURFACE CLEANER

# Ranger®



*Ranger* is a Hard Surface Cleaner for use on all hard surfaces including: Concrete\*, Asphalt, Tarmac, Block paving, artificial sports surfaces, any hard surface areas (except memorial marble/slate).

### Features and Benefits

- Cleans and removes algae, slimes and lichens
- Reduces the risk of slippery surfaces
- Low application rates
- Economical to use

### Directions for use

- *Ranger* can be applied by brush, mop and ideally by surface spray
- It is essential that all areas to be cleaned are thoroughly wetted with the product
- *Ranger* works on contact and continues to work for 5 to 7 days after application
- In some instances a second treatment may be necessary where there is severe algae/lichen build up

### Where to use

Concrete\*, Asphalt, Tarmac, Block paving, artificial sports surfaces, all hard surfaces (except Marble and slate).

### Recommended period of use

Year-round.

### Product characteristics

Pack size:	5 litres
Packs per outer:	4 x 5 litres
Pack coverage:	500m <sup>2</sup>
Contains:	dodecyl dimethyl ammonium chloride, as well as a blend of Organic Acid and Surfactants.
HSE Number:	10045
PCS:	PCS registration pending at time of publication

### Health and safety

A Material Safety Data sheet is available on request.

### Application rate

1 litre treats 100m<sup>2</sup>

### Water Volume

20 litres water per litre of product.



### FAQs

#### Should I walk the material from a hard surface onto a lawn, plant or crop area?

No it could scorch turf, plant and crop areas as *Ranger* could be transferred through footprints.

#### What should be done if spilt or walked onto turf, plant or crop area to prevent damage?

Water through with clean water.

#### Do I need to take any special precautions regarding children/pets/animals coming into contact after treatment?

It would be sensible to keep children, pets etc off treated areas until the spray has completely dried. The time for this depends on environmental conditions.

#### What protective clothing should be worn during application?

Full PPE should be worn.

#### If applied by sprayer what level of cleaning is required to make sure that it doesn't cause permanent damage?

Regular cleanout of the sprayer parts with an approved cleaner such as *SpOtless* is advised.

\*Do not use on high quality concrete that has a smooth finish, such as patio stonework made from reconstituted stone or cement.

# UK Distributors

At ICL we work closely with our trade partners so that all growers who use our products get the best advice and support throughout the season.

## Agrii

63 Sandwich Road, Ash,  
Canterbury, Kent, CT3 2AH

**01304 813 900**

[www.agrii.co.uk](http://www.agrii.co.uk)

## Agrovista UK Ltd – North

The Airfield Industrial Estate,  
Pocklington, York, North Yorkshire,  
YO42 1NR

**01759 305 040**

[Pocklington.depot@agrovista.co.uk](mailto:Pocklington.depot@agrovista.co.uk)

[www.agrovista.co.uk](http://www.agrovista.co.uk)

## Berrycroft Stores Ltd

8 Berrycroft, Willingham,  
Cambridge, CB24 5JY

**01954 260 296**

[bsltd@tiscali.co.uk](mailto:bsltd@tiscali.co.uk)

[www.berrycroftstoresltd.co.uk](http://www.berrycroftstoresltd.co.uk)

## BHGS Ltd Evesham

Vale Park, Crab Apple Way, Evesham,  
Worcestershire, WR11 1GP

**01386 444 100**

[contact@bhgsd.co.uk](mailto:contact@bhgsd.co.uk)

[www.bhgsd.co.uk](http://www.bhgsd.co.uk)

## BHGS Ltd Chichester

Unit 16, New Barn, Funtington,  
Chichester, West Sussex, PO18 9DA

**01243 578800**

[contactchichester@bhgsd.co.uk](mailto:contactchichester@bhgsd.co.uk)

[www.bhgsd.co.uk](http://www.bhgsd.co.uk)

## BHGS Ltd Hayle

Guildford Road Industrial Estate,  
Hayle, Cornwall, TR27 4QZ

**01736 755 766**

[sales.hayle@bhgsd.co.uk](mailto:sales.hayle@bhgsd.co.uk)

[www.bhgsd.co.uk](http://www.bhgsd.co.uk)

## Clydeside Trading Society Ltd

Western Building, 80 Vere Road,  
Kirkmuirhill, Lanarkshire, ML11 9RP

**01555 894 151**

[lorraine@clydesidetd.co.uk](mailto:lorraine@clydesidetd.co.uk)

## Codnor Horticulture

Cherry Tree Cottage Farm,  
210 Peasehill, Ripley, DE5 3JQ

**01773 742 847**

[info@gro-welldirect.co.uk](mailto:info@gro-welldirect.co.uk)

[www.gro-welldirect.co.uk](http://www.gro-welldirect.co.uk)

## David Dumosch

Morville Farm, Le Hurel, Jersey,  
Channel Islands, JE3 2GB

**01534 862 333**

[daviddumosch@gmail.com](mailto:daviddumosch@gmail.com)

## Dejex Supplies Ltd

7 Millfield Road Ind Estate,  
Donington, Spalding, Lincolnshire,  
PE11 4UR

**01775 821 800**

[sales@dejex.co.uk](mailto:sales@dejex.co.uk)

[www.dejex.co.uk](http://www.dejex.co.uk)

## East Riding Horticulture Ltd

11 Humber Holdings, Kirknewton,  
Midlothian, EH27 8DS

**01506 880 090**

[sales@eastridinghorticultureltd.co.uk](mailto:sales@eastridinghorticultureltd.co.uk)

[www.eastridinghorticultureltd.co.uk](http://www.eastridinghorticultureltd.co.uk)

## East Riding Horticulture Ltd

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Sutton Upon Derwent, York, YO41 4BY

**01904 608 157**

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[www.eastridinghorticultureltd.co.uk](http://www.eastridinghorticultureltd.co.uk)

## Fargro Ltd

Essex Office  
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London, East London, North London

**01206 735 467**

[david.buckley@fargro.co.uk](mailto:david.buckley@fargro.co.uk)

## Fargro Ltd

Vinery Fields, Arundel Road (A27)  
Poling, Arundel, West Sussex, BN18 9PY

**01903 721 591**

[info@fargro.co.uk](mailto:info@fargro.co.uk)

[www.fargro.co.uk](http://www.fargro.co.uk)

## James Pollock & Sons

5 Ballybrakes Rd, Ballymoney,  
County Antrim, BT53 6LQ

**02827 663 333**

[j.pollock55@googlemail.com](mailto:j.pollock55@googlemail.com)

## JF Mckenna Ltd

66 Cathedral Road,  
Armagh, BT61 8AE

**02837 524 800**

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[www.jfmckenna.com](http://www.jfmckenna.com)



## LBS Horticulture

Stanroyd Mill, Cottontree,  
Colne, Lancashire, BB8 7BW

**01282 873 333**

[sales@lbs-global.com](mailto:sales@lbs-global.com)

[www.lbsbuyersguide.co.uk](http://www.lbsbuyersguide.co.uk)

## LS Systems

184 Blackgate Ln, Tarleton  
Preston, PR4 6UU

**01772 812484**

[sales@lssystemss.co.uk](mailto:sales@lssystemss.co.uk)

[www.lssystemss.co.uk](http://www.lssystemss.co.uk)

## National Agrochemical Distributors Ltd

Blake's Cross, Lusk County  
Dublin, Ireland, K45 H525

**(+353-1) 843-7808 or**

**(+353-1) 843-7484**

[sales@nadirl.com](mailto:sales@nadirl.com)

[www.nad.ie](http://www.nad.ie)

## Stan Brouard

PO Box 383, Landes du Marche,  
Vale, Guernsey, GY1 3FE

**01481 252 521**

[info@stanbrouard.com](mailto:info@stanbrouard.com)

[www.stanbrouard.com](http://www.stanbrouard.com)



# The Professional Horticulture Team

Providing you with ongoing technical support throughout the growing season to maximise the quality and return of your crops.



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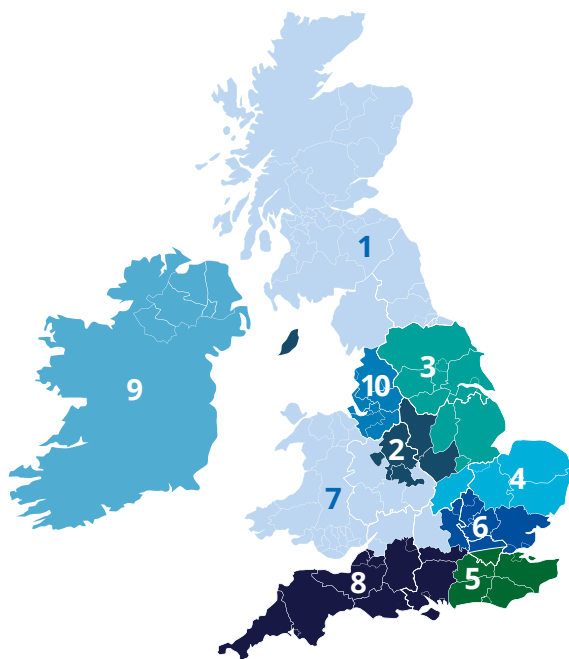
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## Technical Area Sales Managers

At ICL we have a dedicated team who have worked with growers for a number of years, gaining vast experience in the horticulture field. We pride ourselves on our technical expertise and expect the highest of standards from our team, who are FACTS and BASIS qualified (or training to be so). They are there to offer support to maximise your crops and yields throughout the year.



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## Levington Advance Standard Specification Table<sup>†</sup>

Levington<sup>®</sup> Advance

		Bulky raw materials (%)¹						kg/m³	kg/m³			
Growing Media Type	Name	0-3 mm	0-10 mm	6-12 mm	10-25 mm	5-12m Pine Bark	Sand	Start and Gro added	Bloom	Micromax	pH	Page
Seed & Modular - Low Nutrient	F1	100						0.8		0.1	5.3-5.8	8
Seed & Modular	F2	100						1.2		0.1	5.3-5.8	8
Seed & Modular + Sand	F2S	95					5	1.2		0.1	5.3-5.8	8
Levington Advance Bloom*	M 1.5		100					0.5	1.5	0.1	5.3-5.8	9
Levington Advance Bloom*	M 2.5		100					0.5	2.5	0.1	5.3-5.8	9
Levington Advance Bloom*	MC 1.5		80	20				0.5	1.5	0.1	5.3-5.8	9
Levington Advance Bloom*	MC 2.5		80	20				0.5	2.5	0.1	5.3-5.8	9
Pot & Bedding - Low Nutrient	M1		100					1		0.1	5.3-5.8	10
Pot & Bedding - Medium Nutrient	M2		100					1.5		0.1	5.3-5.8	10
Pot & Bedding - High Nutrient	M3		100					1.6		0.1	5.3-5.8	10
Potting	MCP		70	30				1.2		0.1	5.3-5.8	11
Alpine, Herbaceous, Cyclamen	AHC		45	35		20		1		0.1	5.5-6.1	11
Pot Plant General	PPG		40	60				1		0.1	5.3-5.8	11
Container Nursery Stock	CNS General		40	60				1		0.1	5.2-5.7	12
Container Nursery Stock	CNS Ericaceous		40	60				0.75		0.1	4.8-5.3	12
Container Nursery Stock	CNS Coarse		30	40	30			1		0.1	5.2-5.7	12

Peat free

## Levington Advance Sustain - Standard Specification Table<sup>†</sup>

Levington<sup>®</sup> Advance  
Sustain

Levington Advance Sustain	Name	Bulky raw materials (%)				kg/m <sup>3</sup>		pH	Page
		Coir	Fibagro	0-8PB	5-12GB	Start and Gro added	Micromax		
Pot & Bedding	SM1	50	25	25		1	0.1	5.5-6.2	14
Potting	SMCP	40	25	25	10	1.2	0.1	5.5-6.2	14
Container Nursery Stock General	SCNS General	40	30	30		1	0.1	5.5-6.2	14

Product specification is subject to change dependent on raw material availability and moisture content in order to maintain consistency, quality and high level of performance. Due to its inherent inconsistency and potential contamination problems we do not allow green waste on our site. <sup>†</sup>Bulky raw materials include Peat for all *Levington Advance* growing media mixes and other materials as stated. For *Levington Advance Sustain* mixes all raw materials are as stated. all these professional grade raw materials may be substituted at any time to maintain quality, performance or due to availability.

PRODUCT CONTAINING GENERIC ADDITIVES

At the growers request, additional materials detailed below have been incorporated into this growing media. Store in a cool, dry place and use within 21 days unless detailed below.

\*While no protective clothing is required we recommend that gloves are worn.

UK  
Edition

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products or get the latest  
information and advice

Call +44 (0)1473 237 111  
Email [prof.sales@icl-group.com](mailto:prof.sales@icl-group.com)  
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