Impact for a **sustainable future**

Everris Australia Pty Ltd, trading as ICL
PO Box 6170
Baulkham Hills NSW 2153 Australia

Tel: (02) 8801 3300
Email: info.anz@icl-group.com

www.icl-growingsolutions.com

Everris International B.V. (UK, Netherlands, Germany) is certified according ISO – 9001. Everris International B.V. Heerlen is also certified according ISO – 14001 and OHSAS – 18001. Everris International B.V. is a legal entity under ICL.

01-2026

Making plants **grow better**

Speciality fertilizers for professional growers 2026

Ornamental Horticulture

ICL, focus on Fertilizer Performance in Ornamental Horticulture

At ICL we are committed to bring you, the grower, proven performance. Performance in our top-end products such as Osmocote and Peters and quality in the outstanding service provided by our technical advisors who work closely with you and for you in the field.

We understand the challenges you face and strive to provide you with innovative products that help you solve any issue. Whether you are dealing with a challenging cultivation situation involving sensitive crops or issues with irrigation water, our skilled sales force and our R&D department is continuously looking for solutions to help you grow better plants and make your life easier.

ICL's key drivers for quality in ornamental horticulture are:

- **Proven performance in fertilizers**
  Achieved through continuous research, years of experience and stringent quality control.
- **Expert advice**
  Our teams of technical advisors offer recommendations tailored to your individual needs to help you make the most out of your fertilizer plan.
- **Grow green**
  Osmocote, the green choice, allows you to grow more with less. Use our coated fertilizers to comply with regulations and decrease fertilizer usage and spillage.

Contact us

WA
Joska Stroobach
Regional Sales Manager
T: +61 416 041 759
E: joska.stroobach@icl-group.com

SA, VIC, & TAS
Kim Girdwood
Regional Sales Manager
T: +61 418 350 984
E: kim.girdwood@icl-group.com

NZ
Nicola Rochester
Regional Sales Manager
T: +64 274 908 438
E: nicola.rochester@icl-group.com

NSW & ACT
Robert Megier
Regional Sales Manager
T: +61 418 239 503
E: robert.megier@icl-group.com

QLD
Scott Beckett
Regional Sales Manager
T: +61 455 533 328
E: scott.beckett@icl-group.com

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Making plants grow better

Our technical values

- Products that **perform**
- All claims based on **research**
- To be **progressive** and **responsible** with our advice
- Conscious of our **impact**

Section 1 – ICL Products

Contents


ICL

1.1 Osmocote
Product development for growers

The introduction of Osmocote® – the world's first controlled release fertilizer – in 1967 revolutionised the fertilizer market. Over the past five decades, Osmocote has grown into one of the world's leading plant nutrition solutions that is used by growers around the globe.

ICL is proud that coated fertilizers are more relevant today than ever. We now offer five generations of Osmocote and have embraced cutting-edge technologies to develop new release patterns and features. All with the aim of meeting your evolving needs as a grower. Now and in the future. Whatever your specific needs, situation or crop, there is an Osmocote solution that is right for you.

Trust in proven performance

A coated fertilizer must do what you expect from it. It needs to be predictable and consistent in its performance for good results. Choosing Osmocote coated fertilizers means choosing proven performance for the best results for your crops.

Over decades, Osmocote has proven to be worthy of your trust. Our years of experience, tried and tested coatings, pure and best quality raw materials used in our products and continuous quality control are the pillars of this trust. This is what you can expect from us at ICL: guaranteed high-quality crops and the best return on investment for your business.

The quality of your plants is guaranteed thanks to optimum growth. Plants grow better because Osmocote provides them with the nutrients they need exactly at the moment they need them. This gradual nutrient supply ensures that plants experience less disease pressure and can grow into vital, healthy specimens.

The plants even keep their vitality and health when they are delivered to the consumer. This is yet another benefit that comes from the continued release of nutrients from Osmocote fertilizers... customer satisfaction!

Be in control of your plants

Rely on Osmocote 5 & Osmocote Exact

Osmocote 5

- Extraordinary leaf colour thanks to the OTEA-system.
- Nutrients supplied exactly when the plant needs them through NutriMatch-Release technology.
- Greater resilience thanks to smooth and steady plant growth.

Available in longevities:
3-4M, 5-6M, 8-9M & 12-14M.

Osmocote Exact Standard

- Continuous nutrition during the growth season.
- All-round application: suitable for all crop types and many situations.

Available in longevities:
3-4, 5-6, 8-9 & 12-14m.

Osmocote Exact Lo.Start

- Relatively low nutrient release during first months after applications.
- Suitable for sensitive crops.

Available in longevities:
16-18M.

Osmocote Exact High K

- Steady & efficient NPK release during the season.
- N:K ratio potassium-based.
- For compact plant growth or in case of irrigation water containing nitrogen.

Available in longevities:
5-6M & 8-9M.

The 8 guarantees of Osmocote 5 and Osmocote Exact

1. Safety in consistency

Osmocote 5 and Osmocote Exact's longevities and nutrient release patterns are guaranteed year by year, month by month, bag by bag. You know exactly what you buy and what your plants receive. As a grower, you are in control and can rest assured that the fertilizers will not cause surprises during the season.

2. Safety in release

What's in Osmocote also comes out. Osmocote gets each and every element, NPK and all trace elements, where it needs to act.

Osmocote Exact

Other CRF - disintegrates when in contact with wetting agent

3. Safety against chemicals

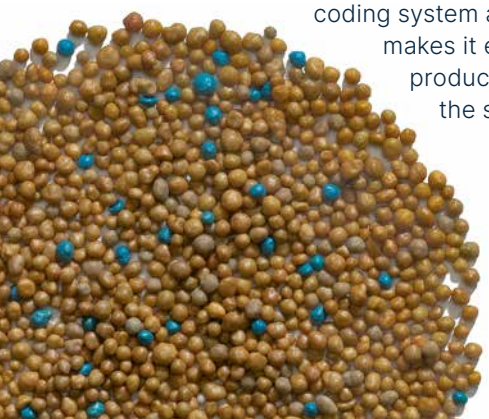
Osmocote's resin coating is resistant against all kinds of plant protection products and wetting agents.

4. Secure supply of trace elements

Osmocote 5 and Osmocote Exact offer a premium trace element package.

5. Safety through colour coding

Each Osmocote Exact longevitiy has its own colour for easy recognition. About 4% of the granules in a bag are colour coded according to longevity: red for 3-4 months, brown for 5-6 months, blue for 8-9 months and yellow for 12-14 months. This colour coding system avoids mistakes and makes it easy to tell if the right product has been added to the substrate.



6. Safety in plant hole dibbling

Granules are uniform in size, which makes them perfect for dibbling with dosage machines. Less abrasion and bruising ensure longer operational times and interference-free function of the equipment.

7. Low release Rate during the first stage of cultivation

Our patented Osmocote coating technology and the use of only the best raw materials ensure even granules and a safe release of fewer nutrients during the first stage of cultivation. Thanks to Osmocote Exact's low initial release rate it is suitable for numerous cultures, even ones grown in greenhouses or tunnels.

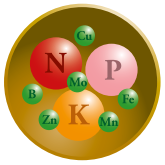
8. Safety in heat

Osmocote has proven its performance in extremely difficult circumstances. With temperatures reaching 40 degrees Celsius, Osmocote Exact's nutrient release remained secure and controlled. The laboratory trials from spring 2000 support the manufacturer's claims according to a research article on Osmocote's nutrient release published by the Fachhochschule Osnabrück in Germany. *'All Osmocote Exact product types release the nutrients gradually and evenly, even in severe temperature fluctuations*'. (Prof. Dr. Schacht 5/2003).

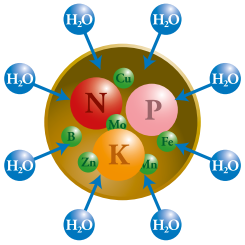
The Osmocote working principles

Osmocote are coated fertilizers containing nitrogen, phosphorus, potassium, magnesium and trace elements. Compositions vary per brand or per product.

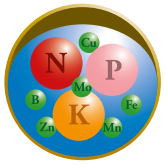
Every granule is covered by an organic resin coating that regulates the daily release of nutrients to the plant.



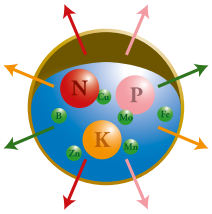
Granules contain NPK, Mg, B, Cu, Fe, Mn, Mo and Zn.



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



Nutrients diffuse through the coating and into the soil at a controlled rate.



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

The release of nutrients is regulated by temperature only

Other factors such as salt levels, pH of the substrate, microbial activity, water quality and rainfall do not influence the nutrient release, making Osmocote the most reliable coated fertilizer. Osmocote fertilizers are available in different longevities: 3-4, 5-6, 8-9 and 12-14 months. There is an Osmocote for every situation and crop type. The colour coding on the packaging indicates the longevity.

Osmocote 5, Osmocote Exact and Osmocote Exact Protect products also contain colour tracers for easy recognition. This ensures you always add the fertilizer with the correct longevity to your substrate! The fertilizer ingredients and the thickness of the coating determine the longevity. The stated longevity is based on an average soil temperature of 21 °C. Higher temperatures accelerate the nutrient release, while lower temperatures slow it down.

Osmocote® 5

5th Generation Coated Fertilizer | FEED NEED NutriMatch Release | Trace Elements OTEA system

3-4 | 5-6 | 8-9 | 12-14

Osmocote 5
The 5th generation

Osmocote® 5 gives you as a grower access to the current generation of controlled release technology. Osmocote 5 takes efficient, safe and consistent plant nutrition to a new level. All with the aim of enabling your plants' full potential.

Each granule of Osmocote 5 contains:

FEED NEED NutriMatch Release

Trace Elements OTEA system

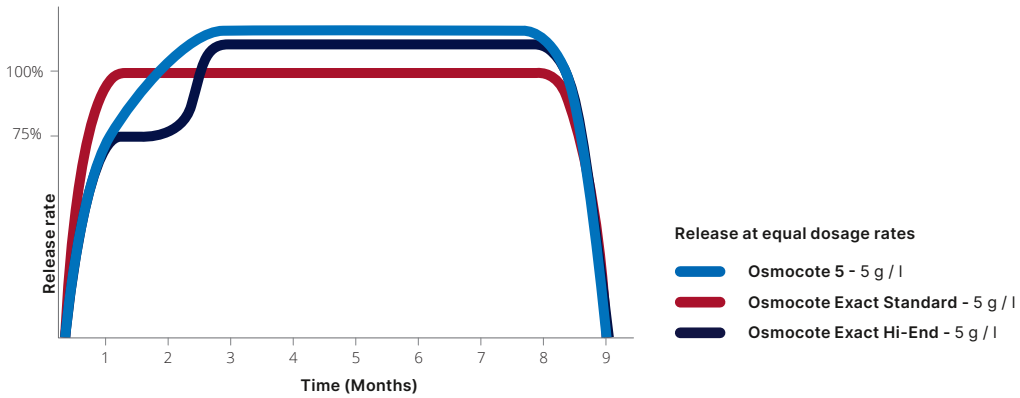
1. **NutriMatch-Release technology** for an NPK release pattern that matches the plant's needs more precisely than ever before. This brings about even more efficient and effective uptake and use of the applied plant nutrition.

2. **OTEA-System,** an ingenious technology that optimises the availability of trace elements in the growing media and their uptake by plants.

Osmocote 5 grower benefits

1	Extraordinary leaf colour thanks to the OTEA-system that supplies trace elements in an entirely new way, from the start at potting until the delivery of the plants
2	NutriMatch Release technology that ensures plants are supplied with nutrients exactly when they need them, resulting in higher-quality and healthier plants with better branching, earlier budding, and improved leaf colour
3	Smooth and steady plant growth is enabled by the OTEA-System and NutriMatch-Release technology, which doses lower nutrient levels at the start of the crop growth, and then accelerates the supply of nutrients during the main growing season

Nutrient Release of Osmocote (8-9M Longevity)

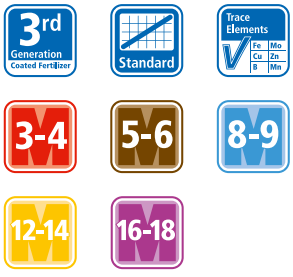


Small granule, big impact.

Osmocote® 5

1.3
Osmocote Exact Standard and Low Start
Osmocote Exact Standard, Mini, High K, Tablet

Osmocote® Exact Standard



Osmocote Exact Standard:

Giving you steady nutrition all growing season

Osmocote® Exact Standard brought precision nutrition to a new level. This third generation fertilizer gives you a constant nutrient release throughout the growing season. Osmocote Exact Standard gives you maximum efficiency and safety for your plants.

The great thing about Osmocote Exact Standard is that you can count on its reliable performance in almost any growing situation. You'll also enjoy maximum consistency and uniformity because our tailored production process and stringent quality control ensure that each bag contains the same high-quality fertilizer and guaranteed release pattern. If your plants need more nutrients available later in the growing phase, we recommend that you use the 5th generation Osmocote 5.

Osmocote Exact Standard grower benefits

1	You know before usage that Osmocote Exact will perform. Bag by bag, week by week, month by month, year by year
2	Works in all situations, incorporated in growing medium, plant hole application and directly onto the pot as topdressing
3	Efficient and sustainable thanks to the high nutrient use efficiency
4	Unique colour coding with specific colours for each longevity, so it is easy to recognise in the growing medium

Osmocote Exact Mini:

Mini granules, big advantages for small volumes

Osmocote® Exact Mini has been specially developed for use in small substrate volumes, such as plugs and trays. The mini granules produce maximum results in volumes as low as 20 mL. Osmocote Exact Mini is little but mighty!

You can apply Osmocote Exact Mini on cuttings and young plants by topdressing once the roots have developed sufficiently. It's perfect for bridging the period from rooting to re-potting because cuttings substrate is usually very low in nutrients and applying fertilizer with sprinklers is inconvenient. In some cases Osmocote Exact Mini can be mixed into the growing medium. Ask your ICL advisor for tailored advice.

While the granules are smaller than their big brother Osmocote Exact, this mini version gives you mighty performance with a complete package of trace elements and magnesium.

Osmocote Exact Mini grower benefits

1	Perfect for use in small substrate volumes, such as plugs or trays
2	Optimised growing conditions in small pot volumes because nutrients stay in the growing medium
3	Uniform plant growth thanks to optimum dispersion of the granules
4	Optimised plant growth: 100% coated and 100% safe for plants
5	Each granule contains all the nutrients
6	Nutrition and irrigation can be managed as separate systems
7	Easy to apply and one application provides nutrients for a longer period of time

Osmocote® Exact Mini

ICL tip

Use Osmocote Exact Mini after rooting for slow-rooting and sensitive young plants to ensure healthy growth.

Osmocote® Exact High K

3rd Generation Coated Fertilizer | High K | Trace Elements (Fe, Mo, Cu, Zn, B, Mn) | 5-6 | 8-9

Osmocote Exact High K:

High potassium, compact growth

Osmocote® Exact High K with high potassium content has been specially developed to support compact plant growth and for use when irrigation water contains high nitrogen levels.

Growers like to grow high quality plants and sometimes a high potassium analysis fertilizer can help to achieve this. Offering plants less nitrogen and more potassium will slow down growth and stimulate compactness. Compact plants take up less trolley space and can often be transported more efficiently. Also for replanting in public green areas, sometimes more compact plants are preferred. Here the high potassium products of Osmocote Exact contribute value.

In areas where the irrigation water contains higher levels of nitrogen, the Osmocote Exact High K products will help to prevent excessive stretch and vegetative growth. Plant growth will be more controlled and of a higher quality.

Osmocote Exact offers maximum safety when applied in the growing media at potting and is featured with a full package of essential trace elements. A range of longevities matching with your needs, is available.

Osmocote Exact High K grower benefits

1	Compact plant growth thanks to a high potassium level and low nitrogen, making it ideal for CNS crops to grow compact
2	Perfect branching and healthy roots due to precision nutrient release
3	Full trace element package for great leaf shine and colour
4	Residual nutrients in Osmocote maintains plant quality even after plants are sold to consumers.
5	Maximum safety for plants, even in demanding cultivation conditions
6	Designed to be used in combination with irrigation water containing high nitrogen levels

Osmocote Exact Tablet:

The power packs

Osmocote® Exact Tablets give you an easy and effective way to deliver precision doses of nutrients. The tablets are cone shaped, so they're very easy for you to push into the growing medium.

Osmocote Exact Tablets feature a unique patented water-soluble glue system. This innovative technology means the tablets disintegrate after the plants are watered, which prevents roots from pushing the tablet out of the pot. This makes Osmocote Exact Tablets a very environmentally-friendly solution.

If you are using drip irrigation, push the tablet into the growing media under the drippers for optimum nutrient dispersal.

Caring for your customer

Osmocote Exact Tablets are often applied to container plants and hanging baskets just before delivery so consumers enjoy prolonged nutrition and a healthier plant.

Ideal for use in new landscape plantings.

ICL tip

Osmocote® Exact Tablet

1.4
Osmocote Pro
Osmocote Pro, Pro Low P

Osmocote® Pro

Osmocote Pro:

Proven performance from the best second generation fertilizer

Good results and value for money. Osmocote® Pro combines high NPK with a complete trace element package. It's the perfect choice when you're looking for a good allrounder, usually for use as a base fertilizer. Osmocote Pro is your economical solution for good results and returns.

Osmocote Pro grower benefits

1	Complete nutrition (high NPK + trace elements) for optimum plant growth
2	100% coated: safe and reliable
3	Guaranteed longevity and composition
4	Orange / white colour coding in all Osmocote Pro longeveties for easy recognition to ensure your growing medium contains the best 2nd generation coated fertilizer
5	Very efficient in use: all nutrients are released to the plant

ICL tip

Important

We recommend that you use Osmocote 5 or Osmocote Exact if you have one or more of the following, situations or needs:

- Salt-sensitive crops
- High-value crops
- Application of coated fertilizer via plant hole dibbling
- High trace element availability is essential for your plants
- There are challenging circumstances, such as poor quality irrigation water.
- You grow in greenhouses/covered areas

Osmocote Pro Low P:

Safe and reliable

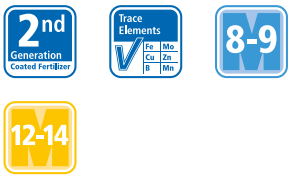
Osmocote Pro Low P has been designed for use on phosphorus sensitive crops, including Australian native plants and those in the Proteaceae family.

The granules are fully coated and contain NPK, magnesium and all necessary trace elements. Osmocote Pro Low P has a pre-defined longevity and can be used in specific low phosphorus situations and on phosphorusus sensitive crops.

Osmocote Pro Low P grower benefits

1	Low P content for low phosphorus demanding crops/cultivations
2	Full trace element package, elevated level of trace elements.
3	100% coated NPK, Mg and trace elements, plants are supplied with required nutrients during the whole crop cycle
4	Good value for money
5	Safe and reliable
6	Easy to use

Osmocote® Pro Low P



1.5
Fertilzer for special purposes
Osmocote BlueMax, Bloom, Start, Start&Gro

Osmocote BlueMax:

Specially formulated for use in the production of blue Hydrangeas

Blue-Max features controlled release Aluminium Sulphate (Al) to create and maintain the desired blue colour of hydrangea flowers.

With this coated approach, growers can deliver a sustained supply of Al to the plant in a safe and reliable manner. Unlike with drenches, the consistent release eliminates the need for repeated applications, saving time, labour and ultimately dollars.

Osmocote BlueMax grower benefits

1	100% coated to improve safety and minimise root burn
2	Consistent release eliminates repeated applications; saves time, labour and money
3	Risk of phytotoxicity is significantly reduced compared to drenches
4	Lasting colour inspires retailer/consumer satisfaction

Osmocote® BlueMax

2-3 **Application Rate**
4.5g/L - 7g/L

Osmocote® Bloom

Bedding Plant Special | Mid-size prills Normal | Trace Elements Fe Mo Cu Zn B Mn | 2-3

Osmocote Bloom:

The mini size prill that keeps your bedding plants blooming.

Designed for compact growth in bedding plants, Osmocote® Bloom provides a steady release of nutrients to ensure vibrant flowers all season long.

You'll enjoy higher quality plants because Osmocote Bloom delivers precision nutrition every step of the way during the crop cycle through to the selling and early consumer stages. Osmocote Bloom also helps you save on labour costs because you usually only need one application.

Trials have shown less stretch and better shelf-life in bedding plants compared to those grown with fertigation and other controlled release fertilizers.

Osmocote Bloom grower benefits

1	Achieve optimum results in bedding plants. Healthy, compact and uniform plants, with better shelf life in consumer phase
2	Sustainable due to reduced nutrient leaching and fewer nutrient losses compared to typical fertigation systems
3	Saves on labour costs as only one application is needed
4	Easy to apply into the growing medium, with mid-size granules that are perfect for mixing into smaller pots and packs
5	Lower EC value in the potting soil, less fertilizer inputs and reduced need for starter fertilizers, giving you better growth and results

Osmocote Start:

The short-track Osmocote

Osmocote® Start is a short-track High K solution that delivers an efficient and consistent nutrition supply. It's perfect for crops with a short cultivation cycle over a period of around six weeks.

Thanks to the Osmocote coating, the nutrients are released to the plant gradually and evenly, while ensuring low EC values in the growing medium. This creates optimum conditions for the root development of your crops.

Use Osmocote Start in salt-sensitive crops and cuttings that have difficulties with rooting. Unlike traditional fertilizers, Osmocote Start limits risks of excessive salt levels and nutrient leaching. With Osmocote Start your crops always get the right nutrients. The high potassium level in Osmocote Start ensures compact growth.

Osmocote Start can be mixed into the substrate. You can also apply the fertilizer on dry crops, providing you ensure no granules remain on the leaves.

Osmocote Start grower benefits

1	Designed especially for compact-growing plants with a short cropping cycle
2	Promotes improved root growth and plant colour
3	Fully coated fertilizer with uniform release
4	Efficient nutrition thanks to greatly reduced leaching
5	Safe to use – low EC combined with optimal nutrient supply

Osmocote® Start

Start&Gro®

Start&Gro:

Specialised fertilizer for potted, bedding and all container nursery plants

Start&Gro is the starter fertilizer offered by ICL Specialty Fertilizers for potted, bedding and all container nursery plants. Start&Gro is designed to be premixed in the substrate to fertilize crops for the first weeks of the cultivation.

Start&Gro grower benefits

1	Balanced NPK analysis
2	Free flowing
3	Good mixability
4	Not dusty
5	Contains chelated iron and copper

1.6
Fertilizers for topdress applications
Osmocote Topdress FT, NXT, High N

Osmocote Topdress FT (Fusion Technology):

Your go-to solution when you need re-fertilization to keep your plants in top condition before selling them.

Osmocote® Topdress FT is a partly coated fertilizer developed specifically for topdress applications in container nursery stock.

It contains fast and slow-release nitrogen and phosphorus for precision nutrition. When topdressed, it gives your plants a quick green-up effect and supplies nutrients for up to four to five months. Thanks to the unique Fusion Technology (FT), the product sticks to the growing medium so no fertilizer is lost if pots are blown over.

Osmocote Topdress FT grower benefits

1	Sticks to the growing medium thanks to Fusion Technology – no fertilizer loss if pots blow over and all nutrients stay available to the plants
2	Fast and prolonged plant response with both controlled-release nutrients and slow-release nitrogen and phosphorus
3	Dust-free and fine granules for even distribution
4	Contains extra trace elements for greening effect

Osmocote® Topdress
Fusion Technology

FT Fusion Technology | Spoon application | Does not fall off pots

4-5

If you'll be keeping plants at the nursery for more than four months, we recommend topdressing with Osmocote Pro, which has longevities of 5-6M, 8-9M and 12-14M. Check product breakdowns.

ICL tip

Osmoform:

The slow-release fertilizer for a fast colour boost

Topdressing with Osmoform gives you a great quick way to bring colour to your container nursery stock. Osmoform nutrition solutions are granulated slow-release fertilizers, most of which contain NPK, magnesium, and trace elements.

They make nitrogen available to your plants over a period of 8 to 10 weeks. Nitrogen becomes available to plants gradually through the breakdown of methylene urea chains. These chains are primarily broken down by temperature and bacterial activity.

Osmoform® NXT

Osmoform NXT:

Nutrition with slow-release nitrogen

Osmoform® NXT is the most advanced Osmoform product available. It is safe in usage and shows great green-up effects on plants. Easy to apply and stays on the pot surface.

Osmoform NXT grower benefits

1	Slow-release nitrogen
2	Sticks to the potting soil, so it doesn't fall out of the pot
3	Rapid start and greening effect
4	Efficient nitrogen, less sensitive to leaching compared to water soluble fertilizers
5	NPK, magnesium, and trace elements

Osmoform® High N

Osmoform High N:

The slow-release fertilizer for nitrogen fixating substrates

Microbial activity in organic growing media consumes some of the nitrogen from fertilizers.

Osmoform High N contains slow-release nitrogen, which helps to offset this nitrogen draw-down to ensure your crop has sufficient nutrients. The high nitrogen content ensures a good start-up supply for your crops. Osmoform High N granules are 0.5 - 1.7 mm in diameter and are easy to apply in the growing medium.

Osmoform High N grower benefits

1	Slow-release nitrogen that compensates the nitrogen-fixation of the non-peat components in the substrate
2	Quick start for a fast greening effect
3	Excellent price-quality ratio
4	Fine granules for optimal dispersion in the substrate
5	Proven performance

1.7
Water soluble fertilizers

Definition of water quality
SOFT WATER < 50 mg / L $CaCO_3$
NORMAL WATER 50 - 150 mg / L $CaCO_3$
Hard water > 150 mg / L $CaCO_3$

For more information about water quality see section 3.5 (page 74) of ICL's technical information on plant nutrition.

Water-soluble fertilizers

Take the all-important first step in determining the best water-soluble fertilizer for your growing circumstances and water quality.

Fertilizer and water must work in perfect harmony to ensure the fertilizer optimally helps you produce the highest quality plants with the highest possible sales price. Irrigation water quality is the root cause of many crop and growth problems. That's why you need to have your water analysed so you can pick the right fertilizer for your particular crop and irrigation water. This is crucial because salts in the irrigation water impact EC and pH levels in the potting soil, which in turn affects the crop. ICL water-soluble fertilizers offer you solutions for these challenges.

3 steps to optimise your plant quality and make growing easier

Step 1	Have your irrigation water analysed (irrigation water is the water you use to water and feed your plants). Don't just test the pH and EC values: The composition (the different elements) is also important, especially the bicarbonate (HCO_3^-) content. **A full water analysis is recommended.**
Step 2	Determine whether you need to acidify the water. We recommend acidifying the water if the bicarbonate (HCO_3^-) levels are higher than 2.5 mmol / liter (= 150 g / liter). The right way to acidify depends on several factors. Please contact your ICL advisor for tailor-made advice. Remember that the quality of the water can change when you mix springwater with rainwater. It is also important to change your fertilization plan if your rainwater supply is replenished.
Step 3	Select the right Peters for your situation.

Consult your ICL advisor for tailor-made advice during every step of this plan to the most ideal water-soluble fertilizer.

ICL tip

- Know your water quality to avoid problems! Analyse your irrigation water quality at least once a year.
- Optimise the interaction between fertilizer and water. Your ICL advisor will be happy to make a tailor-made fertilizer plan for you.

Why choose Peters?

Why should you choose Peters fertilizers?

And what are the advantages of using Peters products? Here are 3 reasons:

- Peters takes account of your water quality
- Peters leads the way technically and is of the highest quality
- Only Peters fertilizers contain M-77

You can choose the right Peters formulation for your water – hard, neutral or soft. Peters has high levels of purity and solubility. But the Peters fertilizer concept goes beyond the provision of nutrients. Only Peters uses the 'M-77' ingredient. This gives you maximum certainty that the nutrients end up where they are needed: in the plant. The result is a fast response following application and a perfect crop! You can see the effects instantly.

Water quality is of crucial importance: Peters has the answer!

The influence of the quality of the irrigation water is still underestimated. In fact, the composition of the water serves as a starting point for a fertilization plan. Hard water requires correction of the bicarbonate present in the water; soft water contains insufficient calcium and magnesium, essential elements for healthy plant growth. Peters responds to these factors and improves the results of your fertilization plan.

Choose the right Peters on the basis of the composition of your water

Peters Professional gives good results for most water types. If you want the best for your plants and you have particularly hard or soft water, choose Peters Excel.

Soft water?

Use Peters Excel 'CalMag' to add calcium and magnesium in one go (1-tank-mix).

Hard water?

Use Peters Excel 'Acidifier' to avoid problems caused by a rising pH level in the soil.

1.8
Peters fertilizers
Peters Professional, Excel

Peters:
Perfect results every time

Peters® is the world's leading water-soluble fertilizer range. It features a well-balanced combination of NPK, trace elements and special additives to ensure you achieve optimum results. Even under the most challenging conditions. Peters is the only fertilizer to include M-77® technology that optimises the availability and nutrient absorption.

Everything stems from optimum absorption

Nutrient absoption sets Peters apart. Peters contains special ingredients that help your plants absorb trace elements at the roots. M-77 'unlocks' the roots for optimum uptake of nutrients. Maximum absorption is at the heart of the Peters philosophy. Because absorption of nutrients is as important as the availability of nutrients.

Top of the line

The Peters range has outstanding water solubility, an optimum combination of trace elements, unrivalled absorption by the plant, the power of M-77 and a choice of formulations to solve growers' challenges make Peters the cream of the crop.

Peters® Professional grower benefits

1	Quickest plant response after application
2	Highest purity, fully water soluble
3	Featuring unique M-77 technology for maximum nutrient availability and uptake
4	Quickly dissolving, easy handling
5	Always good results

Solutions for every growing phase and every situation

Peters® Professional

Allrounder

20-8.7-16.6+TE

Allrounder has a balanced NPK formula containing urea. It's ideal for use in spring and summer. It acts as foliar and root feed and promotes healthy plant growth.

Blossom Booster

10-13.1-16.6+1.2Mg+TE

Blossom Booster is a classic formula that is still going strong. Its high phosphate levels and an N:K ratio of 1:2 make the Blossom Booster perfect for improving bud formation and flower development.

Combi-Sol

6-7.8-29.9+1.8Mg+TE

Combi-Sol has enhanced levels of trace elements that deliver perfect results. You can use this formula in two-tank systems with calcium nitrate. Used as 'stand-alone', the N:K ratio of 1:6 promotes excellent, compact plant growth. Combi-Sol can be the perfect solution when you're using irrigation water containing high levels of nitrogen.

Foliar Feed

27-6.5-10.0+TE

Foliar Feed contains a high percentage of urea and comes with a specially adapted trace element package. This unique combination is the ideal foliar feed for pot plants and bedding plants. Your plants will react fast, which makes Foliar Feed a perfect solution for quick greening before sale.

Plant Starter

10-22.7-8.3+TE

High phosphate levels and a balanced N:K ratio. This is the ideal initial fertilizer for stimulating the development of a good, uniform root system and flower buds. Use on cuttings and/or young plants just before potting for optimum rooting, and repeat just before initializing flower buds.

Pot Plant Special

16-4.8-26.6+TE

One of the most well-known Peters Professional formulas. Perfect for flowering pot plants and bedding plants, the N:K ratio of 1:2 ensures good colour, compact growth and high-quality plants. Contains a high proportion of nitrate and an elevated trace element level for quick results.

Winter Grow Special

20-4.4-16.6+TE

Winter Grow Special is specially designed for application in cold and dark weather conditions to support plant growth during the winter season. This formula has a balanced N:K ratio and contains high levels of nitrate. Quick plant reaction.

Peters® Excel

Peters Excel:

Improve your water quality

Our Peters® Excel range features unique formulations that give you a source of complete plant nutrition using one tank to prepare the stock solution. What's more, Peters Excel improves your water quality.

The range includes special products for soft water and hard water. All products are of superior purity and feature the best – chelated - trace element packages. All Peters Excel products feature our unique M-77® technology. Peters Excel helps you improve the irrigation water quality by lowering the bicarbonates present in hard water and by adding calcium/magnesium in soft water. You will see immediate and long-term effects on your plants.

The impact of the water you are using is often underestimated. Many growers do not have a clear picture of the quality and composition of the water they are using. It is important to know. What impact does the water have on my plants and their nutrient uptake?

Peters Excel ensures your plants grow well whatever the water. When you have soft water (such as rainwater), you'll only need to use a single product to give your plants all the elements they need for strong growth (NPK, calcium, magnesium and trace elements). This gives you optimum ease of use and convenience.

If you have hard water with bicarbonates, you usually won't need to add additional acids in the stock solution when using Peters Excel Acidifier. This state-of-the-art nutrition solution will take care of all your hard water needs – safely and reliably. Peters Excel for hard water improves the quality of water by removing bicarbonates. Less bicarbonates reaching the growing medium means less increase of the growing medium pH. The best possible uptake of phosphates, manganese and iron delivered by Peters Excel is guaranteed.

When you're using hard water, the acidifying Peter Excel solutions will dilute more easily because they decrease the water pH in the stock solution. This gives you shorter dilution times and optimum ease of use. Peters Excel's strong action also mostly prevents calcium stains on leaves.

All the products within the Peters Excel range enable you to realise strong plant growth and compactness. Products within a group (hard water types or within a group of soft water types) can be mixed to achieve other NPK analyses. Never mix hard and soft water types together as this might cause precipitation.

Peters Excel takes your water quality into account to provide a precision nutrition solution that lets you grow better and easier.

Peters Excel

For soft water

Soft Water Special

Peters® Excel CalMag grower benefits

1	Specially designed for use in soft water
2	Healthy growth thanks to continuous supply of calcium and magnesium, which are essential elements often lacking in soft water
3	Made from the best raw materials and trace elements
4	Chelated trace elements encourage growth and perfect colour
5	Unique M-77® technology

CalMag Grower

15-2.2-12.4+5Ca+1.8Mg+TE

Peters Excel CalMag Grower has been specifically engineered to promote healthy growth. This single-tank mix formula has a balanced N:K ratio and contains all necessary nutrients. CalMag Grower is compatible with calcium nitrate.

CalMag Finisher

14-2.2-17.4+5Ca+1.2Mg+TE

Peters Excel CalMag Finisher provides plants with all the essential nutrients. Often used as a follow-up to CalMag Grower, this premium high-potassium fertilizer leads to compact and condensed growth. CalMag Finisher can be used in combination with calcium nitrate

Peters Excel

For hard water

Hard Water Special

Peters Excel Acidifier grower benefits

1	Specially developed for use in hard water containing bicarbonates
2	Keeps growing medium pH level stable thanks to buffering effect on HCO_3^- (bicarbonates) in the applied irrigation water
3	Improves irrigation water quality and reduces EC values
4	Prevents blocked drippers and keeps irrigation systems clean
5	Perfect colour and growth thanks to chelated trace element packages
6	Unique M-77 technology

Hard Water Grow Special

18-4.4-14.9 +TE

Hard Water Grow Special delivers balanced N:K when using hard irrigation water.

1.9
Trace element fertilizers
Magrimax, Micromax Premium, Micromax WS, Micromax WS TE-mix

Magrimax:

The answer for magnesium deficiencies in your crop

Magrimax is a unique blend of immediately available and slow release magnesium.

Magrimax provides magnesium sulphate and magnesium oxide. This can prevent magnesium deficiency for up to 12 months.

Magrimax grower benefits

1	Prevents magnesium deficiency for up to 12 months
2	Contains magnesium sulphate and magnesium oxide
3	Ideal for Mediterranean perennial plants, Camellia, Rhododendron and Citrus trees
4	Should be used in addition to a full nutrition program

Magrimax®

Micromax® Premium

Trace Elements
Fe Mo
Cu Zn
B Mn

Micromax Premium:

Give your plants guaranteed availability of trace elements for a full season

Micromax® Premium can be mixed by your growing media supplier, and gives your plants a constant supply of all essential trace elements for a full season. You guarantee optimum availability of trace elements, even at higher pH values (> 6.5).

Trace elements are essential for optimum growth. A shortage of trace elements can affect plant growth in many ways. This is a problem that is often underestimated. When it comes to plant growth, the availability of sufficient amounts of magnesium, copper, zinc, iron, manganese, boron and molybdenum is just as important as using a soil amendment that supplies nitrogen, phosphorus and potassium (NPK). If any of the trace elements are lacking the growth rate and quality of the plant will be affected.

Micromax Premium grower benefits

1	Perfect mix of a powerful start-up effect and lasting supply of trace elements for a full growing season
2	Promotes rooting for healthy plant growth
3	Maximum ease and effectiveness with all essential trace elements in one application by your growing media supplier
4	Perfect crop colour thanks to its high iron and magnesium content
5	Easy and safe application by mixing the product into the growing medium

Micromax WS Iron:

The water-soluble pure iron chelate for strong support in plant growth and colour

Micromax® WS Iron is a water-soluble trace element fertilizer with iron EDDHA-chelates. It also contains X3, a biostimulant that facilitates the absorption of nutrients and enhances an effective uptake of iron by the roots and leaves.

Micromax WS Iron is easy and safe to apply and can be used to prevent or correct iron deficiency in various horticultural crops. If you apply it as foliar feed, you'll see fast results within two days. When applied through fertigation, you'll notice the difference in your plants within a week. Product is available in 5 kg buckets.

Micromax® WS Iron

X3 ACTIVE! Fertigation

Micromax WS TE-Mix:

Soluble trace element mix for maintenance or quick correction

This water-soluble mix contains all essential trace elements, where possible in high-quality chelates.

The added biostimulant X3 ensures a quick uptake of nutrients deep within the leaves. You can apply Micromax® WS TE-mix via fertigation or as foliar feed for best results. You'll see results within just two days if you're using a foliar application. In the case of fertigation, you'll notice the difference in your plants within a week.

Micromax® WS TE-Mix

X3 ACTIVE! Fertigation

Micromax WS Iron & Micromax WS TE-mix grower benefits

1	X3 biostimulant for optimised uptake through leaves and roots
2	Improves the growth of fine roots
3	Increases plant vitality
4	Fully water soluble
5	Can be mixed with fertilizers and most plant protection products

1.10
Wetting agents
Hydaflo 2, Hydraflo L

Advanced dual action technology

A new generation wetting agent in granular and liquid form for better nursery, turf and landscape results.

For immediate and long term response

The improved dual-action formulation of Hydraflo 2 and the easy-to-use granules deliver immediate action as a topdress application and improved efficacy incorporated in soils and potting mixes over a longer period of time. Hydraflo L is a liquid soil wetting agent that is as safe for use on delicate ornamental flowering plants as it is on turfgrass greens, sportsfields and lawns.

The ideal summer rewetter

Hydraflo effectively decreases water surface tension aiding the successful rewetting of soils in dry summer periods, eliminating localised dry spots and increasing the uniformity of wetting throughout the soil profile. By allowing for better water penetration and absorption, Hydraflo helps grow deeper stronger roots.

The ideal winter drainer

Hydraflo encourages free drainage from water logged soils in winter and during heavy rainfall. This inhibits surface moss, algae growth and soil borne pathogens. When water logged soils drain, air is allowed into the root zone enabling the plant to take up valuable nutrients.

Made in Australia for varied conditions

Hydraflo 2 can offer real help for overcoming extremes in weather, as well as hydrophobic soil conditions.

Hydraflo®

Hydraflo Solutions:

Designed for performance

Hydraflo 2

Granular soil wetting agent

- Easy to apply as a topdress or to incorporate in soil mix

Complete formula

- No mixing required, minimises risk of application mistakes. Safe for use in any season

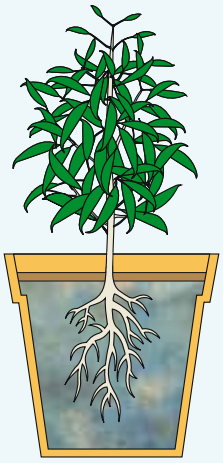
Improved active ingredient

- No dry spots
- Improves soil drainage
- Greater efficiency of irrigation
- Encourages deeper, stronger roots
- Reduces the growth of moss, algae and soil borne pathogens
- Low rate of use significantly reduces cost per cubic metre
- Can increase water retention without decreasing air filled porosity

Hydraflo L

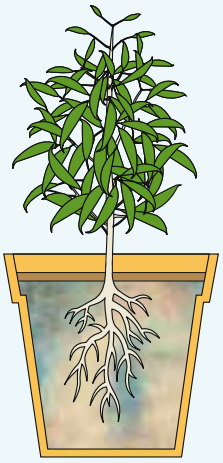
Liquid soil wetting agent

- Uniform wetting to avoid summer dry patch
- Long term performance enables rewetting of dry soils
- Aids infiltration & drainage for deeper stronger roots
- Safe for use on all ornamental plants, including turfgrass
- Available in 20 L and 200 L containers



Treated with Hydraflo

Treatment with ICL Specialty Fertilizers Hydraflo ensures an even matrix flow retaining moisture and nutrients in the root zone.



Not treated with Hydraflo

Application of coloured water demonstrates uneven water distribution and lack of moisture and nutrient retention in the root zone.

Application Guidelines

Hydraflo 2: Granular Soil Wetting Agent

Hydraflo 2 is an ideal additive to both peat and wood waste based nursery potting media, to aid in rewetting of dried mixes and drainage in water logged mixes.

Rates of application

- For general nursery and greenhouse potting mixes – incorporate at the rate of 1 kg - 1.5 kg per cubic metre of soil
- Propagation and plug mixes – incorporate at the rate of 0.3 kg per cubic metre of soil

Turf Application Rates

Turf application rates		
Application timing	**Application rate (per m^2)**	**Water**
10 – 12 weeks	20 – 25 g / m^2	4 – 6 mm
6 weeks	10 – 15 g / m^2	4 – 6 mm

Hydraflo L: Liquid Soil Wetting Agent

Nursery and horticulture application rates		
Situation	**Rate**	**Application Frequency**
Propagation and plug potting mixes 75 mL Hydraflo L diluted in sufficient water to evenly distribute through 1 m^3.	1 : 1000 | 10 mL Hydraflo L to 10 liters water	4 months (or as required)
Nursery and greenhouse potting mixes 150 mL Hydraflo L diluted in sufficient water to evenly distribute through 1 m^3.	1 : 500 | 20 mL Hydraflo L to 10 liters water	6 months (or as required)
Prepare sufficient solution of Hydraflo L with water (at the specified dilution rate) to treat the intended volume of growing media. Use this solution to thoroughly soak the soil media. No extra irrigation is required beyond initial drenching, other than normal irrigation practices.		

1.11
Plant protection products
OH2, Sierraron 4G, Banrot, Crown, Procide, Maxguard 2G

ICL makes it easier to apply products correctly with free tools designed to improve accuracy and results.

Tools to:

- Determine the correct rate and distribution
- Increase accuracy and efficiency of application

You can get the following application tools and resources from your local ICL distributor, or contact ICL for more information.

- OH2 calibration cards
- Nursery weed management guides
- OH2 hand shakers
- Handy Pro Spreader for larger areas

Weed management,
it's as simple as:

1. SANITATION
Use clean pots and propagation material. Control weeds in the surrounds.

2. HAND WEEDING
Remove weeds before they flower.

3. OH2
Control weeds as they germinate.

ICL Calibration Cards
Calibration cards provide a visual reference of the correct rate and distribution.

Effective Weed Management in Nurseries
The book “Effective Weed Management in Nurseries” provides comprehensive advice about the most effective weed control practices in nurseries.

ICL OH2 Shaker
The OH2 Shaker enables application around sensitive plants avoiding granules catching on foliage.

ICL HandyPro Spreader
The ICL HandyPro spreader applies OH2 to larger areas quickly and evenly.

OH2 Ornamental Herbicide

Safe and effective pre-emergent control of broadleaf and grassy weeds

Broad control

OH2 combines the action of two proven herbicides in one granule. This unique combination results in broad spectrum pre-emergent weed control of both broadleaf and grassy weeds. One application controls weeds for up to three months. OH2 pre-emergent herbicide is specifically designed for nurseries and landscaping to control weeds around container-grown ornamental trees and shrubs, garden beds and field-grown ornamental plants.

Safety

OH2 has been tested for safety on over 100 ornamental crops. It is the safest and most reliable pre-emergent herbicide to apply to containerised plants. OH2 sticks to the surface of growing media and soil. It is non-mobile, so will not leach in sensitive growing environments.

Save time and money with OH2

Weed control with OH2 costs less than alternative control measures. The correct use of OH2 saves you time and labour costs by drastically reducing the amount of hand weeding required in containers and garden beds. With the time saved you are free to do what you do best: caring for and nurturing plants and gardens. OH2's effectiveness at half the application rate of alternative herbicides ensures its use is very economical.

Note: When applied over the top of the crop, OH2 should be applied when foliage is dry to prevent granules sticking to the plant. If necessary, wash OH2 off leaves after application.

Tips for optimum OH2 performance

1	Avoid applying when small plants are putting on a flush of growth or breaking dormancy
2	Ensure there is plenty of air movement around the plant
3	Apply at least two weeks before moving plants into a greenhouse
4	Low growing soft annuals and perennials may experience leaf scorch

OH2 application

For best results, water plants before application to settle and firm down the soil. When foliage is dry, evenly distribute granules at the correct application rate over the entire soil surface.

Scan Me!

Scan here for a video tutorial on how to calibrate and apply OH2.

OH2 Ornamental Herbicide: Technical Information

Pack Size	Formulation	Active Constituents	Mode of Action Group	Poison Schedule	Application Rates
22.68 kg	Granular pre-emergent herbicide	20 g / kg Oxyfluorfen 10 g / kg Pendimethalin	Group 3 14 Herbicide	S5	11 g / m2 1.1 kg / 100 m2 110 kg / ha

Sierraron® 4G

Sierraron 4G Cutting weeding time, time after time

Sierraron 4G is a proven pre-emergent weed controller that continues working for up to six months. Sierraron 4G is recommended for use on such areas as fence lines, paths, driveways, fields, parks & production area perimeters.

Sierraron 4G is about saving you time

Recurrent weeds need recurrent attention, and it's well known that most organisations whose job it is to maintain the appearance and health of industrial and community grounds and parks find weed control a time consuming and endless task.

Sierraron 4G is a proven pre-emergent weed control solution that continues working for up to six months when applied correctly. Sierraron 4G boasts minimal potential for run-off or leaching, and because of its granular form is easy to apply, without the risk of spray drift. Sierraron 4G should become part of your preventative weed maintenance program.

A much needed extra hand for weeding

Persistent weeds need a lot of attention, especially in places like parks, community centres and industrial areas. Sierraron 4G is a proven pre-emergent herbicide that continues working for up to six months when applied at full rates.

Sierraron 4G comes as easy-to-use granules and the active ingredient sticks to the soil surface, so it won't wash away. Sierraron 4G is perfect for preventing weeds on pavement, gravel, established gardens and around buildings.

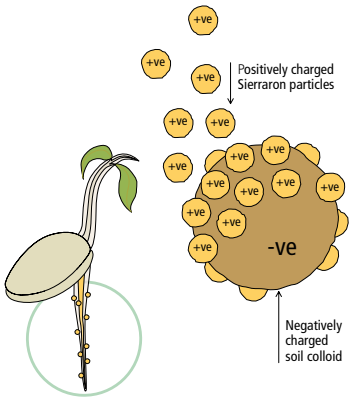
Sierraron 4G grower benefits

1	Eliminates most annual and perennial broadleaf weeds and grasses
2	A single application provides season-long weed control
3	Easy to apply ready to use granular formulation
4	Active ingredient binds strongly to the soil, minimising the potential for run-off or leaching
5	As long as soil is present, Sierraron 4G goes to work after watering in

Sierraron 4G is not available in NZ

How it works

Positively (+ve) charged Sierraron particles are attracted to negatively (-ve) charged soil colloids and adsorbed on contact. This process ensures there is minimal run-off into waterways. Sierraron is absorbed by weed roots and prevents cellulose biosynthesis at the root growing points, causing death.



Application areas

Councils

- Public playgrounds and community areas
- Established gardens
- Roadside and paved centre strips
- Sporting field perimeters

Landscape contractors

- Community grounds maintenance
- School playgrounds and fence perimeters
- Tennis court perimeters
- New home display centres

Other locations

- Plant Nurseries – in non-growing areas
- Exterior paved shopping walkways
- Stadium seating areas where concrete expansion joints can support weed growth
- Can be applied before paths and paving are laid down to prevent weeds emerging
- Industrial areas

Eliminates most annual and perennial broadleaf weeds and grasses

The hidden weed manager

For most other herbicides to be effective, weeds have to first emerge. Spraying them results in unsightly dead weeds and alerts the public that a herbicide has been used, such as in the case when trucks spray road-side weeds.

The advantage of Sierraron is that after the initial weeds are eliminated, it works below the surface, unseen. Consequently, Sierraron has become a standard addition to the weed maintenance program of many councils for over a decade.

Product Details	Technical Information
Pack Size	22.7 kg
Formulation	Granular pre-emergent herbicide
Active Constituents	40 g / kg Dichlobenil
Mode of Action Group	Group 29 Herbicide
Poison Schedule	S6
Application Rates	Rates are situation specific, refer to label

Banrot®

Banrot:

Proven disease protection

Deliver dependable, long-lasting control of damping off and root and stem rot soil pathogens on a wide range of bedding, foliage and container plants.

Proven disease protection available to Australian and New Zealand growers

Banrot delivers dependable, long lasting control of damping off and root and stem rot soil pathogens on a wide range of bedding, foliage and container plants.

Banrot has proven itself to be the single most effective broad spectrum soil fungicide product in the USA providing both systemic and contact activity.

Where broad spectrum soil pathogen control is needed, Banrot provides proven protection you can count on.

At planting and potting-up time

Although Banrot 400WP can be used as a drench anytime throughout the crop cycle, it is especially important to apply Banrot at the time of initial planting and when potting-up.

Treatments can be made either as a drench or incorporation with Banrot 400WP (Wettable Powder) or by incorporating Banrot 80G (Granular) directly into the growing medium.

Banrot offers protection at these critical times and allows plants to develop new and active root growth quickly, which is important in getting plants established.

Banrot grower benefits

1	Banrot is fungicidal, not fungistatic. It kills rather than suppresses target pathogens
2	Broad spectrum eliminates the need for separate fungicides
3	Significantly less soluble than other fungicides, reducing potential problems from leaching
4	Application flexibility with the WP formulation suited for drench application whilst the G formulation allows for incorporation, side-dressing and broadcast application
5	Provides systemic and contact activity on target pathogens, root and stem fungi for up to 8 weeks

The Banrot Range: Technical Information

Banrot 400WP

Product Details	Technical Information
Pack Size	907 mg
Formulation	Wettable Powder (WP) Fungicide
Active Constituents	250 g / kg Thiophanate-Methyl 150 g / kg Etridiazole
Mode of Action Group	Group 1 14 Fungicides
Poison Schedule	S5
Application Rates	Incorporating 60 g / m^3 Drench 4 - 8 g / m^2 up to 10 L of water

The Banrot Range: Technical Information

Banrot 80G

Product Details	Technical Information
Pack Size	12 kg
Formulation	Granular Fungicide
Active Constituents	50 g / kg Thiophanate-Methyl 30 g / kg Etridiazole
Mode of Action Group	Group 1 14 Fungicides
Poison Schedule	S5
Application Rates	Pre-plant soil mix additive – 300 g / m^3 Post-plant broadcast treatment – 2 – 4 kg / 100 m^2

Crown®

Targeted insect control, soft on many beneficial insects

A systemic insecticide that works both on contact with target pests and systemically through root and leaf uptake.

Crown is designed for quicker and more effective control of sucking insects and fungus gnats. In trials with fungus gnats, Crown outperformed other conventional formulations.

Crown is exclusively developed for use in ornamental horticulture and highly effective on sucking pests; acting on eggs, larvae and adults. It is best to apply Crown in the spring when plants start new growth and insects begin to emerge.

Puts pests in their place

Crown is easy to mix and even easier to apply. For the best results, use Crown in Spring, when your plant begins new growth and insects start to stir. Crown is relatively soft on many beneficial insects[1], e.g. 300x less toxic via contact and 2000x less toxic via oral absorption than its closest competitor on honey bees[2].

Crown grower benefits

1	Completely systemic through root and leaf uptake
2	Also works on contact with target pests
3	100% knockdown within 50 minutes on many target pests
4	Provides effective control even at low application rates
5	Can rotate with older insecticides to prevent resistance build-up
6	Use Crown as a drench for effective fungus gnat control. Refer to label for complete directions for use

Pest and Rates: Technical Information

Crown

Pest	Rate
Rose Aphid	11 mL / 100 L
Greenhouse Whitefly	11 – 22 mL / 100 L
Silverleaf Whitefly	11 – 22 mL / 100 L
Citrus Mealy bug	22 – 44 mL / 100 L (AU) 24 mL / 100 L (NZ)
Azalea Lace bug	11 – 16 mL / 100 L
Greenhouse thrips	11 – 16 mL / 100 L
Plague thrips	22 mL / 100 L

Pest	Rate
Psyllids	11 – 22 mL / 100 L
Scale insects*	11 – 22 mL / 100 L
Pulvinaria scale	22 mL / 100 L
Leafhoppers	11 – 22 mL / 100 L
Fungus gnat, Shore fly	Light potting mix – 5 – 10 mL / 10 m^2 Heavier potting mix – 10 – 20 mL / 10 L m^2

** Except white wax scale*

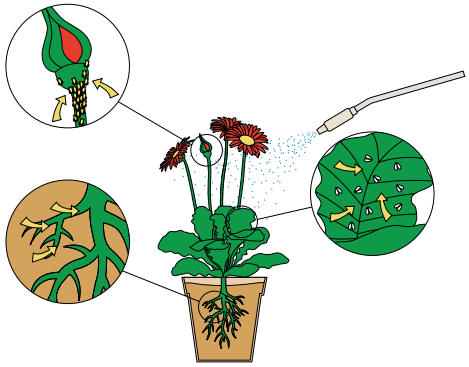
Targeted to nursery crops

Application

Crown 225SL is a water soluble concentrate requiring dilution with water prior to use. Applications should be made with equipment calibrated to deliver a fine spray quality in a suitable volume to ensure thorough coverage of leaf surfaces.

Use suitable application equipment and preferably cone-nozzle combinations to deliver appropriate spray volume and a droplet size VMD of 150 to 200 microns. Do not apply as a fog or mist. Crown 225SL is compatible with commonly used fungicides, miticides and insecticides. If in doubt, test the mixture before treating large scale areas.

Make sure to store in closed original containers, in a cool and well ventilated area away from children, animals, food and feedstuffs. Do not store for prolonged period of time in direct sunlight.



Triple action control

Crown works both on contact with the target pests and systemically through root and leaf uptake. The result is faster knockdown for longer. Additionally, very low concentrations are required for effective control. Being a new technology formulation, Crown will be useful in rotation with other older insecticides to prevent resistance build-up in the target pest.

Crown: Technical Information

Product Details	Technical Information
Pack Size	1 L
Formulation	Soluble Liquid Systemic Insecticide
Active Constituents	225 g / L Acetamiprid
Mode of Action Group	Group 4A Insecticide
Poison Schedule	S6

1. *Public Release Summary on 'Evaluation of the new active Acetamiprid in the new product – Supreme 225 SL insecticide', NRA (National Registration Authority – for Agricultural and Veterinary Chemicals) May 2003. Page 22.*
2. *Beneficial Insects – Nisso Field Trials Presentation, 2005.*

Procide®

Broad range insect & mite control

An advanced, very broad spectrum contact and residual suspension insecticide and miticide, safe for all ornamental plants.

Procide is an advanced, contact and long residual suspension concentrate insecticide and miticide for use on all ornamental plants.

A smarter weapon against insect and mite pests

Due to the fast knockdown activity of Procide it is a lower cost alternative to systemic insecticides, enabling you to monitor pest levels and deliver a fast acting knock down application to targeted areas. Procide is ideal as a preventative application during known higher insect activity times. A fortnightly application ensures full protection against target pests.

Longer residual activity

Procide uses an advanced pyrethroid chemistry that is light stable. This provides significantly longer residual activity; reducing spray frequency and therefore the total amount used to completely protect your crop. Less sprays needed means lower overall costs of insect control and less pesticide entering the environment.

Faster acting

The pyrethroid chemistry in Procide has more insecticidal activity than other classes of insecticides, such as organophosphates and carbamates. Procide acts faster to control target insects, even at low rates.

Safer on plants

Procide is formulated as a Suspension Concentrate (SC) without harsh solvents. This means that Procide is safe to apply to plant foliage with a minimal risk of burning.

Procide grower benefits

1	Ideal preventative
2	Less pesticide into the environment
3	Low risk of plant phytotoxicity
4	Fewer spray applications needed
5	Monitor pests and use as a knockdown as needed
6	No additional surfactants needed

The Procide Range: Technical Information

Product Details	Technical Information
Pack Size	1 L
Formulation	Liquid Suspension Concentrate contact and residual insecticide/miticide
Active Constituents	80 g / L Bifenthrin
Mode of Action Group	Group 3A Insecticide
Poison Schedule	S6

The Procide Range: Technical Information

Crop	Pest	Rate
All nursery and cut flower ornamental plants	Two Spotted mite (Tetranychus urticae)	35 – 50 mL / 100 L
	Aphids	25 mL / 100 L
	Caterpillars and loopers including heliothis (corn ear worm, native budworm) Helicoverpa spp, light brown apple moth (Epiphyas postvittana), and geranium plume moth (Sphenarches anisodactylus)	25 mL / 100 L
	Whitefly (Trialeurodes vaporariorum), Pointsettia white fly (Bemisia tabaci Biotype B)	25 mL / 100 L
	Mealy bug (Pseudococcus longispinus)	25 mL / 100 L
	Plague thrips (Thrips imaginis, Thrips simplex and Thrips hawaiiensis)	25 mL / 100 L
	Cutworm (Agrotis spp.) in beds, containers and pots	1.5 L / ha 15 mL / 100 m² 7.5 mL / 100 L

Apply at first sign of pest infestation and before pest populations build up to damaging levels. Repeat as necessary on 10-14 day interval. Best results are obtained from preventative rather than curative applications. Where indicated, use the higher dosage for knockdown of established pest infestation or when longer residual activity is required. Spray to run off using a spray volume of 10 – 15 L per 100 m².

** Except white wax scale*

A smarter weapon against insect and mite pests

Cautions for use

- Do not use in situations where predatory mites are established and are already providing effective mite control.
- Do not apply if rainfall is expected before spray deposits dry on leaf surfaces.

Smart in use

- Procide contains an effective surfactant to aid in wetting of foliage and complete contact with target pests.

APVMA Permits: Technical Information

Procide 80SC applicable

Target	Rate	Permit
Spiralling Whitefly (Aleurodicus dispersus)	25 mL / 100 L	**PER10043** – All States

MaxGuard® 2G

Fast acting, contact insecticide for immediate control of problem insects

The most advanced weapon in the fight against surface feeding insects. MaxGuard delivers fast acting, contact pyrethroid insecticide for immediate control of problem insects, such as Lawn armyworm, Sod webworm, Argentine stem weevil adults, African black beetle adults, Billbug adults, Cutworms and Ants, including Stinging ants.

MaxGuard is a cost effective alternative to preventative systemic insecticides that enables you to monitor pest populations, identify a damage threshold and deliver a targeted treatment that works immediately. Always keep MaxGuard handy when emergency treatment is required to act quickly.

Safer to apply

MaxGuard 2G is not a scheduled poison. With minimal contact when applying the granular formulation, it is extremely safe for users. Additionally, there are no restrictions on transport and storage as MaxGuard is not classified as a dangerous good on land.

Smarter chemistry

MaxGuard uses an advanced pyrethroid chemistry that is uniquely light stable. This provides significantly longer residual control (dependant on application rate) than conventional pyrethroids. MaxGuard is very effective even at low application rates.

Faster to act

MaxGuard chemistry has more insecticidal activity than other classes of insecticides such as organophosphates and carbamates, therefore requiring less active ingredient to control pest problems. MaxGuard acts faster to combat target insects at low rates.

MaxGuard 2G grower benefits

1	Effective on a variety of insects, including Red imported fire ant (see off label permit)
2	The application method is easy using a spreader
3	High safety margin / low toxicity
4	Quicker turf recovery
5	Requires less active ingredient to control pest problems than other classes of insecticides

Maxguard 2g: Technical Information

Pack Size	Formulation	Active Constituents	Mode of Action Group	Poison Schedule
22.7 kg	Granular Insecticide	2 g / kg Bifenthrin	Group 3A Insecticide	Not scheduled

Maxguard 2G: Application

Target	Rate	Critical Comments
Lawn armyworm (Spodoptera mauritia)	60 kg / ha (0.6 kg / 100 m^2)	Broadcast MaxGuard 2G with suitable application equipment to ensure uniform coverage over the treated area. To ensure optimum control, irrigate the treated area with up to 4 mm of water soon after application. Inspect the treated areas for continuing activity. Reapply as required. Where a rate range is indicated use lower rates under lower insect pressure and higher rates under higher insect pressure.
Sod webworm (Herpetogramma licarsisalis)	60 kg / ha (0.6 kg / 100 m^2)	
Cutworm (Agrotis sp.)	60 kg / ha (0.6 kg / 100 m^2)	
Argentine stem weevil adults (Listronotus)	60 – 120 kg / ha (0.6 – 1.2 kg / 100 m^2)	
African black beetle adults (Heteronychus arator)	120 – 180 kg / ha (1.2 – 1.8 kg / 100 m^2)	
Billbug adults (Sphenophorus brunnipennis)	60 – 120 kg / ha (0.6 – 1.2 kg / 100 m^2)	
Black ant, Coastal brown ant, Funnel ant, Meat ant, Sugar ant and Stinging ant only.	60 – 220 kg / ha (0.6 – 2.2 kg / 100 m^2)	Apply granules to areas where ants are active. Where possible, apply granules directly to the nest. Use the low rate for maintenance treatments or to control light infestations and the high rate for heavy infestations and for maximum residual control. The elimination of Funnel ants from a particular site will generally require more than one application. Initial applications should be broadcast over affected areas. As the initial numbers of active colonies is reduced, application should shift to targeting active mounds. Apply granules directly to the mound and in the area immediately surrounding active mounds (300 mm radius).

APVMA Permits: Technical Information

MaxGuard 2G applicable

Target	Rate Protection Period (mths)	Critical Comments	Potting Mix Rate	Permit
Red imported fire ant	Refer to APVMA Permit for the application rate			**PER13916** (NSW only) **PER13959** (QLD only) (standard potting mix with bulk density of 0.65)
Quarantine treatment of ornamental species and non-bearing potted fruit trees	Refer to APVMA Permit for the application rate			**PER9796** – All states

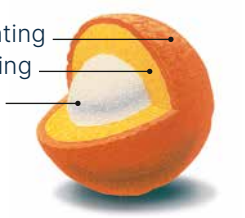
1.12
Lanscaper Pro
Landscaper Pro range

LANDSCAPER PRO®

Poly S Coated granule technology

Poly-S is a controlled release Nitrogen source that delivers nutrients gradually over the required longevity. Nutrient release is primed by moisture permeating through the outer polymer channels, through micro-channels in the sulphur layer and into the nutrient core where the urea is solubilised. Once the urea is solubilised, it then travels back through the same pathways where it is released and made available for plant uptake.

Poly-S technology



All Round

24-2.2-6.6-7.9S+1.2Mg
4-5 months, 15 kg bag

Nutrients in the All Round formula are released gradually through the Poly-S and PACE coating technologies used. The steady release of nutrients ensures balanced growth and good root development. The added magnesium improves grass colour. Perfect for use after moss or weed treatment.

- Mini granule for perfect distribution, simple to combine in maintenance programs
- Stimulates the development of young grass into a strong sward
- Contains magnesium for added grass colour

Suggested Application Rate: 45 g / m² (4.5 kg / 100 m²)
Bag coverage: 330 m²

New Grass

20-8.7-6.6-8.4S
2-3 months, 15 kg bag

Ideal fertilizer when laying new turf or re-sowing. Nitrogen release is controlled thanks to the Poly-S coating. This ensures balanced growth and good root development.

- High phosphorusus content promotes root growth
- The fine granule is ideal for even nutrient distribution
- Safe for young grass, minimal risk of scorching

Suggested Application Rate:
40 – 80 g / m² (4 – 8 kg / 100 m²) in garden beds
5 g / L in pots and hanging baskets
Bag coverage: 375 m²

Flora

15-3.9-9.1+1.8Mg
5-6 months, 15 kg bag

Specifically developed for fertilising garden beds, borders, pots and hanging baskets in a landscape situation. Nutrients are gradually and evenly released throughout the season using PACE technology. Ensuring balanced, healthy plant growth with maximum flowering.

- A single application for the entire growing season
- Even growth for healthy plants and profuse flowering
- Added magnesium for good leaf colour

Suggested Application Rate:
40 – 80 g / m² (4 – 8 kg / 100 m²) in garden beds
5 g / L in pots and hanging baskets
Bag coverage: 375 m²

Spring and Summer

20-0-5.8+11.6S+2.1Ca+1.8Mg
2-3 months, 15 kg bag

A controlled release fertilizer providing the lawn with all essential nutrients for a fast start to the season. Added magnesium provides for good leaf colour.

- Ideal first application follow up 3-4 times per year
- Fast start, quick green-up
- Revitalises worn lawns
- Suitable for all lawn species including buffalo, all couch grass types, kikuyu and cool season grasses such as rye and fescues. includes natural polysulphate for Cal, Mg, S+K delivery

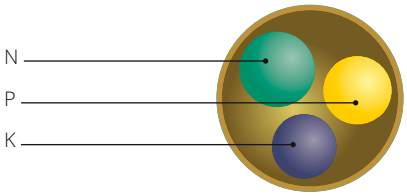
Suggested Application Rate: 35 g / m² (3.5 kg / 100 m²)
Bag coverage: 420 m²

PACE Resin coated technology

PACE is a controlled release fertilizer with a unique vegetable-based resin membrane that ensures plants receive a steady dose of Nitrogen, Potassium and Phosphorus. Depending on the thickness of the coating, nutrients are released over different lengths of time – from 2-3 months up to 5-6 months. The release is not influenced by soil moisture levels, pH or microbial activity, so remains consistent over a wide range of environmental conditions.

PACE technology

Nutrient is combined within each granule



Hydraflo 2

Hydraflo 2 is an easy-to-use granular wetting agent. It effectively treats hydrophobic soils, providing rapid water penetration and even moisture around plant roots. Hydraflo 2 results in higher quality and healthier plants.

- Encourages free drainage of water-logged soils and rewetting of dry soils
- Dual-action technology allows for improved and impressive nursery, turf and landscaping results
- Creates an ideal balance of air and water that results in healthier, higher quality plants
- Encourages deeper, stronger roots
- Easily applied as a topdress or incorporated in soil mix
- Reduces the growth of moss, algae & soil borne pathogens
- Safe for use on all ornamental plants including turfgrasses

Available in:

- 20 kg pack

Osmocote Exact Planting Tablets

14-3.5-9.1+1.2Mg+TE, 8-9 months
14-3.5-8.3+1.2Mg +TE, 12-14 months

Flexible controlled release fertilizer planting tablet offering the possibility of giving very accurate dosages of fertilizer in a simple manner. With a clever conical shape, the tablets can be pushed into the growing medium or placed in the planting hole.

- Safe to apply in the planting hole
- Convenient & easy to use
- Patented Osmocote Exact technology, safe for the environment with minimal leaching
- Ideal for use in re-vegetation and landscaping
- Safe for use in planting out most Australian and New Zealand natives

Available in:

- 5 g – 1500 tablets / carton

Sustainability in practice

Greenery brings new life; in fact, greenery is life! The beating heart in urban areas is without doubt the green space. The creation and maintenance of a lawn is therefore one of the pillars of sustainable interaction with our environment.

The lawn is a source of diversity: it might not occur to many people, but a lawn is a complex community of different varieties of grass and various soil organisms.

What makes a lawn so special?

There are plenty of reasons to cherish and care for the lawns that we have!

- A lawn is a much better noise buffer than steel or concrete
- A lawn filters particulate matter
- A lawn has a cooling effect on hot days
- A lawn produces essential oxygen
- A lawn absorbs CO_2
- A lawn is water-permeable
- A lawn has an attractive and natural look; concrete does not
- Healthy turf and gardens are of tremendous benefit to our environment and our mental and physical health

Application Rates

Suggested planting out rates for landscapes

Pot size		5g Osmocote Exact Planting tablets	Landscape Flora		Hydraflo 2	
mm	litres		(g)	Spoon Size No.	g @ 2 g / l	Spoon Size No.
Well rooted tube stock		1	5	1/2 of 1	3	5 g spoon
140	1.3	1	5	1/2 of 1	3	5 g spoon
180	3	2	9	No. 1	6	No. 1
200	5	3	15	No. 3	10	No. 3
250	8	5	24	No. 3	16	No. 4
300	12	7	36	No. 4	24	No. 5
400	24	14 or use Flora	72	No. 6	48	No. 6
500	45	27 or use Flora	135	No.7 + No.4	90	No. 6 * 2

Larger pot sizes/ Established plants	For each 30cm of plant height or spread, or for each 1.25cm of tree trunk diameter, use:		
For slow growing plants	2	10	1
For fast growing plants or poor soil situations	4	20	3

Hydraflo 2: Granular Soil Wetting Agent

Application timing	Application rate (per m2)	Water
10 – 12 weeks	20 – 25 g / m^2	4 – 6mm
6 weeks	10 – 15 g / m^2	4 – 6mm

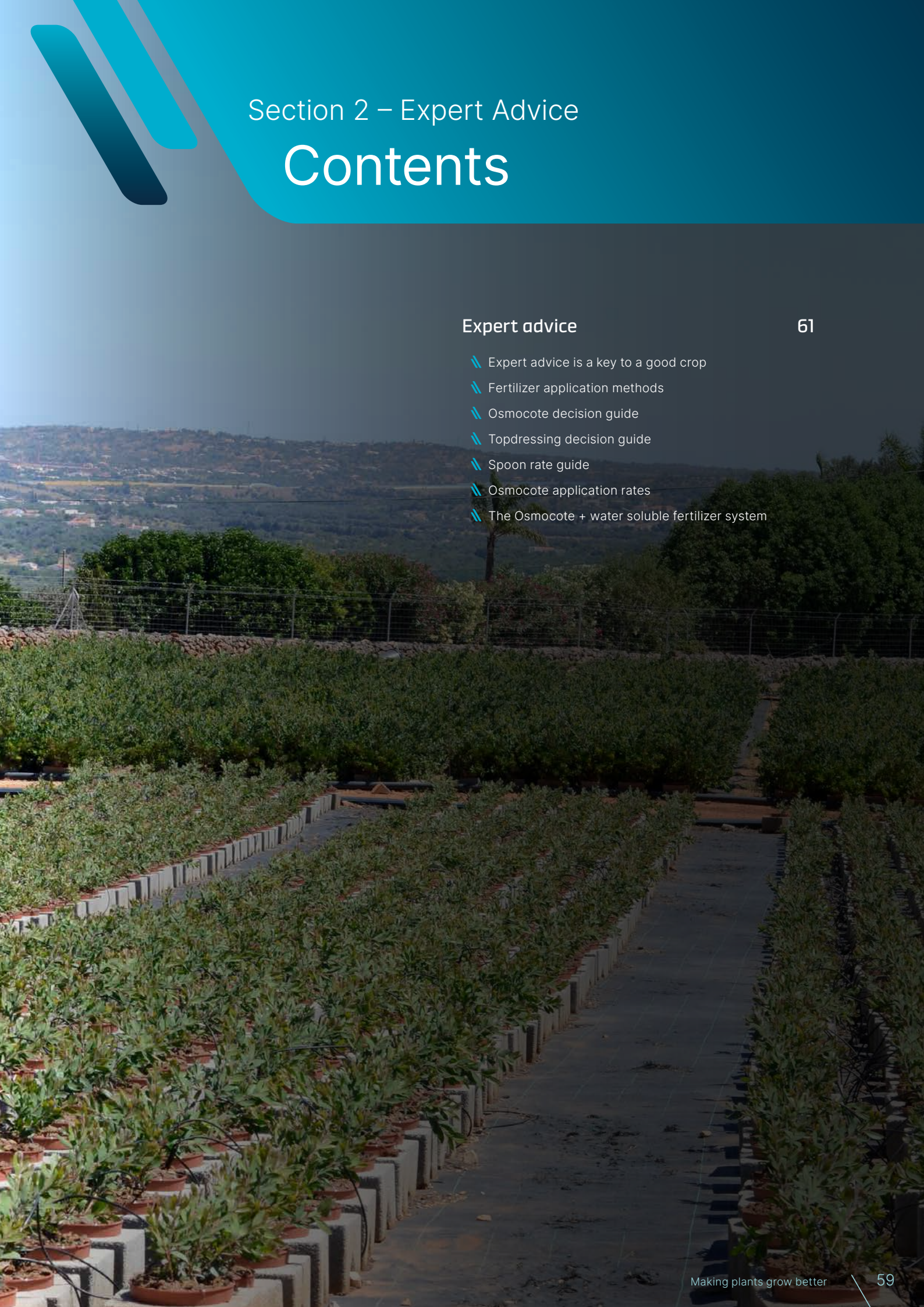
Hydraflo L: Liquid Soil Wetting Agent - Turf and landscape application rates

Situation	Rate	Application frequency
Greens and fine turf, lawns & landscapes	125 – 375 mL / 100 m^2	3 months or as required
Fairways, sports turf, lawn turf & landscapes	375 – 625 mL / 100 m^2	8 months or as required

Apply in advance of expected dry patch formation. Hydraflo L is a polymeric wetting agent that rewets readily after treated soil has been dry for extended periods. Application through boom spray should use a minimum dilution of 1 part Hydraflo L to 200 parts water (1 litre of Hydraflo L in 200 litres of water). Additional irrigation (3 – 6 mm) should be applied to ensure the Hydraflo L is thoroughly watered into the soil profile.

Section 2 – Expert Advice

Contents



2.1
Expert advice is a key to a good crop

Expert advice is key to a good crop

Experienced ICL advisors understand your day-to-day practice as a grower. Every growing situation is different.

That's why you need the right specialized fertilization program to achieve optimum results. But choosing the perfect fertilizer isn't always easy. You've got to select one that gives your crops the ideal set of nutrients for healthy growth, which will pay off for you in higher yields and better profit. ICL is here to help. We have unrivalled expertise in the field of fertilization and we're pleased to share this knowledge with you – tailor-made and in the field.

Advice that yields results

Our specialists work shoulder to shoulder with you in the field to determine the perfect nutrition solution for your particular situation. This tailor-made and personalized service sets us apart and makes all the difference. With ICL, you can count on added-value advice that is:

- Up to date and aligned to your crop's needs
- Tailored to your specific growing method
- Designed to let you make adjustments at any time during the growing season
- Aligned to the composition of your growing medium and irrigation water
- Focused on helping you select the perfect fertilizer for your crop

Your ICL specialist works with you to select fertilizers that will achieve the very best growing results.

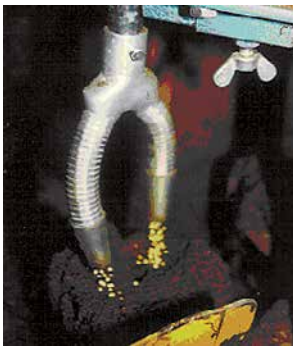
Information is key to making the right choice

The more information you have on fertilizers, the better your decision will be. It's important to have a clear vision on the objective of fertilization and know which product will work best for your crop and in your situation.

With ICL you receive the professional advice, clear information and useful insights you need to achieve growing success. A good crop that grows your profit.

2.2
Fertilizer application methods

Mixed into the growing medium



Side-dibbling method

Plant hole dibbling

Toppdressing

Topdress applicator

Osmocote Exact Tablets

2.3 Osmocote decision guide

Determine the best Osmocote option

Are they phosphorus senstitive? **YES** → Osmocote Pro Low P (8-9, 12-14)

NO

Are you growing in small pots? (e.g. < 100 ml)

NO

- Fast, vegetative growth → Osmocote Pro (3-4, 5-6, 8-9, 12-14)
- Compact growth with excellent colour → Osmocote Exact (3-4, 5-6, 8-9, 12-14)
- More compact plants, deeper colour, and better branching → Osmocote 5 (3-4, 5-6, 8-9, 12-14, 16-18)

YES

For crop growing time up to:

- 6 weeks → **YES** → Osmocote Start (6 Weeks)
- 2-3 m bedding plants → **YES** → Osmocote Bloom (2-3)
- 3-4 m or 5-6 months → **YES** → Osmocote Exact Mini (3-4, 5-6)

Topdressing decision guide

The ICL range of topdress products provides growers with the choice of short, medium and long term 'green-up' nutrition. We have a product to suit all crops and application methods. Talk to your local regional sales manager for a tailored solution to your topdressing needs. Visit www.icl-growingsolutions.com.au for more information.

Determine the best topdressing option

Quick green-up OR Long-term feed?

Quick green-up

Immediate sale

Osmoform NXT

Longevity: 8-10 weeks

- Slow release of nitrogen and slow release potassium.
- Contains magnesium and trace elements with high plant available iron.
- Fast green-up that lasts for 8-10 weeks.
- Includes silicon for stronger plants.
- Sticks to the surface of the growing medium so will not fall off if plants tip over.

Immediate sale greening + greater shelf life

Osmocote FT

Longevity: 4-5 months

- Contains fast, slow & controlled release nutrients for controlled green up for 4-5 months.
- Contains trace elements for greening effect.
- Contains 'Fusion Technology' so prills can stick to pot soil surface and therefore will not fall off if plants tip over.
- Mini granule size for better application.

Long-term feed

Will plants fall over and spill fertilisers?

YES

NO

Osmocote

Coloured 'tracer' prills & precise release are important for your crop

Osmocote 5 & Osmocote Exact

Longevity: 3-4, 5-6, 8-9, 12-14 and 16-18 months

- Controlled release of all major nutrients and trace elements.
- Safest Osmocote on the market with precise nutrient release control.
- Highest quality with uniform effects.
- Environmentally friendly with minimal leaching.
- Economical & efficient with supply of nutrients matching crop demands.

Pricing is your main consideration

Osmocote Pro

Longevity: 3-4, 5-6, 8-9 and 12-14 months

- Controlled release of all major nutrients and trace elements for a slower green up and controlled growth.
- Fixed longevities.
- Second generation technology, competitively priced.

2.5
Spoon rate guide

Spoon rate guide

For accurate measurement use an Osmocote yellow rate spoon

The following table provides suggested rates as a general guide for the incorporation and topdress application of all Osmocote 5, Osmocote Exact and Osmocote Pro products along with topdress application of Osmocote Topdress FT and Osmoform NXT.

- **Step 1:** Select pot size (using your discretion as to pot L/mm that best represents your crop
- **Step 2:** Select your recommended ICL fertilizer and applicable rate

Pot size		Osmocote Range					Osmoform NXT & Osmocote Topdress FT Range
litres	mm	3-4 mths gram (Full rate=4 g / L)	5-6 mths grams (Full rate= 5 g / L)	8-9 mths grams (Full rate= 6 g / L)	12-14 mths grams (Full rate= 7 g / L)	16-18 mths grams (Full rate= 10 g / L)	Grams (Full rate= 3 g / L)
0.5 L	100 mm	2 g	2.5 g	3 g	3.5 g	5 g	1.5 g
1.5 L	140 mm	6 g	7.5 g	9 g	10.5 g	15 g	4.5 g
2 L		8 g	10 g	12 g	14 g	20 g	6 g
3 L		12 g	15 g	18 g	21 g	30 g	9 g
4 L		16 g	20 g	24 g	28 g	40 g	12 g
5 L	200 mm	20 g	25 g	30 g	35 g	50 g	15 g
7 L		28 g	35 g	42 g	49 g	70 g	21 g
8 L	250 mm	32 g	40 g	48 g	56 g	80 g	24 g
14 L	300 mm	56 g	70 g	84 g	98 g	140 g	42 g
27 L	400 mm	108 g	135 g	162 g	189 g	270 g	81 g
35 L		140 g	175 g	210 g	245 g	350 g	105 g
50 L	500 mm	170 g	205 g	240 g	275 g	380 g	
100 L		270 g	305 g	340 g	375 g	480 g	
200 L		470 g	505 g	540 g	575 g	680 g	

Note: Full application rates are recommended up to a 35 L pot size. For each additional litre the full rate is reduced to 2 g / L for all Osmocotes except Osmocote Topdress FT & Osmoform NXT, where the rate for pots > 35 L is reduced to 1.5 g / L. All longevities are based on an average soil temperature of 21ºC.

- **Step 3:** Calibrate your dibbler to the recommended rate or use the Osmocote yellow spoons applicable for your rate of application

Spoon number	Osmocote range	Osmoform NXT & Topdress FT
1	10 g	9 g
2	15 g	13 g
3	20 g	17 g
4	35 g	30 g
5	50 g	43 g
6	80 g	69 g
7	100 g	85 g

Contact an ICL regional manager to determine the appropriate rate for your crop.

Spoon feeding your plants

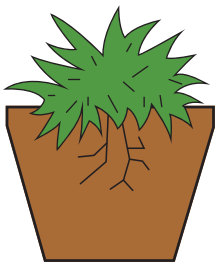
The best method for accurately adding fertilizer to potting media is to use a calibrated dibbling machine. The least reliable method is by handful guessing.

In between is a simple, yet reliable way and that is to use Osmocote yellow spoons. The spoons are graded for accuracy and it is worth asking an ICL regional manager for a set and advise on how to use them.

Underfeeding will necessitate topdressing later, which has high labour costs, so get your fertilizer rates spot on by spooning in.

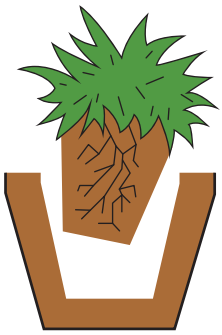
When potting up, ensure the mentioned rates are present in the whole pot. The dilution effect should be compensated for to apply the correct dosage.

Example: Quantity of fertilizer per pot = 12 g



3 LITRES OF SOIL
3 × 4 g / L = 12 g

When repotting, only part of the pot is filled with new media. If the target fertiliser rate is 12 g per pot and the pot will have 2 litres of new media, the fertiliser needs to be incorporated at 6 g / L (12 g / 2 litres).



2 LITRES OF SOIL
2 × 6 g / L = 12 g

2.6 Osmocote application rates

All rates are based on undertilzed substrates and are general recommendations. Contact an ICL regional manager to determine the appropriate rate for your crop.

For Osmocote 5, Osmocote Exact, Osmocote Pro, and other Osmocote products:

Recommended dosage of Osmocote Exact, Osmocote Pro, Osmocote Bloom and other Osmocotes	
Longevity	**Recommended Rate**
2-3	3 – 4 g / L
3-4	3 – 4.5 g / L
4-5	3 – 5 g / L
5-6	4 – 5 g / L
8-9	5 – 6 g / L
12-14	6 – 7 g / L
16-18	8 – 10 g / L

** These rates are based on unfertilized substrates and are general recommendations. Contact an ICL regional manager to determine the appropriate rate for your crop and growing conditions.*

For Osmocote Start and Osmocote Bloom:

	Light feeding	Normal feeding
Osmocote Start 6 Weeks	0.5 – 1.5 g / L	1.5 – 2.5 g / L
Osmocote Bloom 2-3	0.5 – 2 g / L	2 – 3 g / L

Contact an ICL regional manager to determine the appropriate rate for your crop.

For Osmocote Exact Mini:

Longevity	3-4 m	5-6 m
Bedding Plants	3 – 4 g / L	4 – 5 g / L
Vegetable young plants	3 – 4 g / L	4 – 5 g / L
Cuttings (lower rate for sensitive species)	1 – 3 g / L	2 – 4 g / L

Osmocote Exact Mini application rates can be reduced when additional water-soluble fertilizers are applied.

The Osmocote + water soluble fertilizer system

Rainfall is becoming more and more unpredictable. As a grower, you're faced with heavy rain showers and prolonged periods of continuous rainfall. This makes it more difficult for you to add fertilizer to growing media when you're using only water-soluble fertilizers. Osmocote® gives you the solution. Ease your mind and steer your crop growth by a solid Osmocote base and combined with water soluble fertilizer.

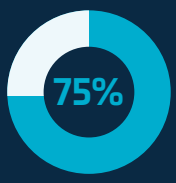
Even if you want to steer your plant growth with water-soluble fertilizers. Osmocote gives you great results when applied even at base rates (recommended at 75% of the normal dosage rate) and topped off with additional Peters. What's more, you'll have the added assurance that your plants can always rely on nutrients from the substrate – even in the event of heavy rain.

We recommend that you use base rates covering 75% of the plant's need to achieve the very best results. At these rates the beneficial effect of the base rate will generate the best return on investment for you. Throughout the growing season, a range of Peters analyses are available, enabling precise nutrient delivery to plants' specific requirements. For instance, Peters Professional Plant Starter promotes rooting. For general growth, Peters Professional Allrounder or Peters Excel CalMag Grower can be used. When the aim is to slow down growth and produce more compact plants, Peters Professional Combi-Sol is the appropriate choice.

Benefits of a base rate:
Osmocote

- Solid base nutrition ensuring plants always have sufficient feed (even in periods with excessive rainfall)
- Possibility to steer your crops by adding WFS at any point during crop growth
- You can add the WSF quantity based on plant need: less in the early crop stage, more in the later stage
- You can add acids or acidifying fertilizers such as Peters Excel Acidifier to improve the irrigation water quality
- Always in control, also when fertilizing your plants get less attention
- You need significantly less water-soluble fertilizers, giving you major cost-savings on water-soluble fertilizers
- Flexibility in steering the growth of your pot plants by choosing the optimal water-soluble fertilizer at any stage of the crop
- Happy customers thanks to longer shelf-life during consumer phase
- Fits into you sustainability strategy

The ICL Fertilizer system combining Osmocote® with Peters® and/or Universol®



Osmocote®

Applied at base rates

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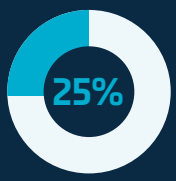


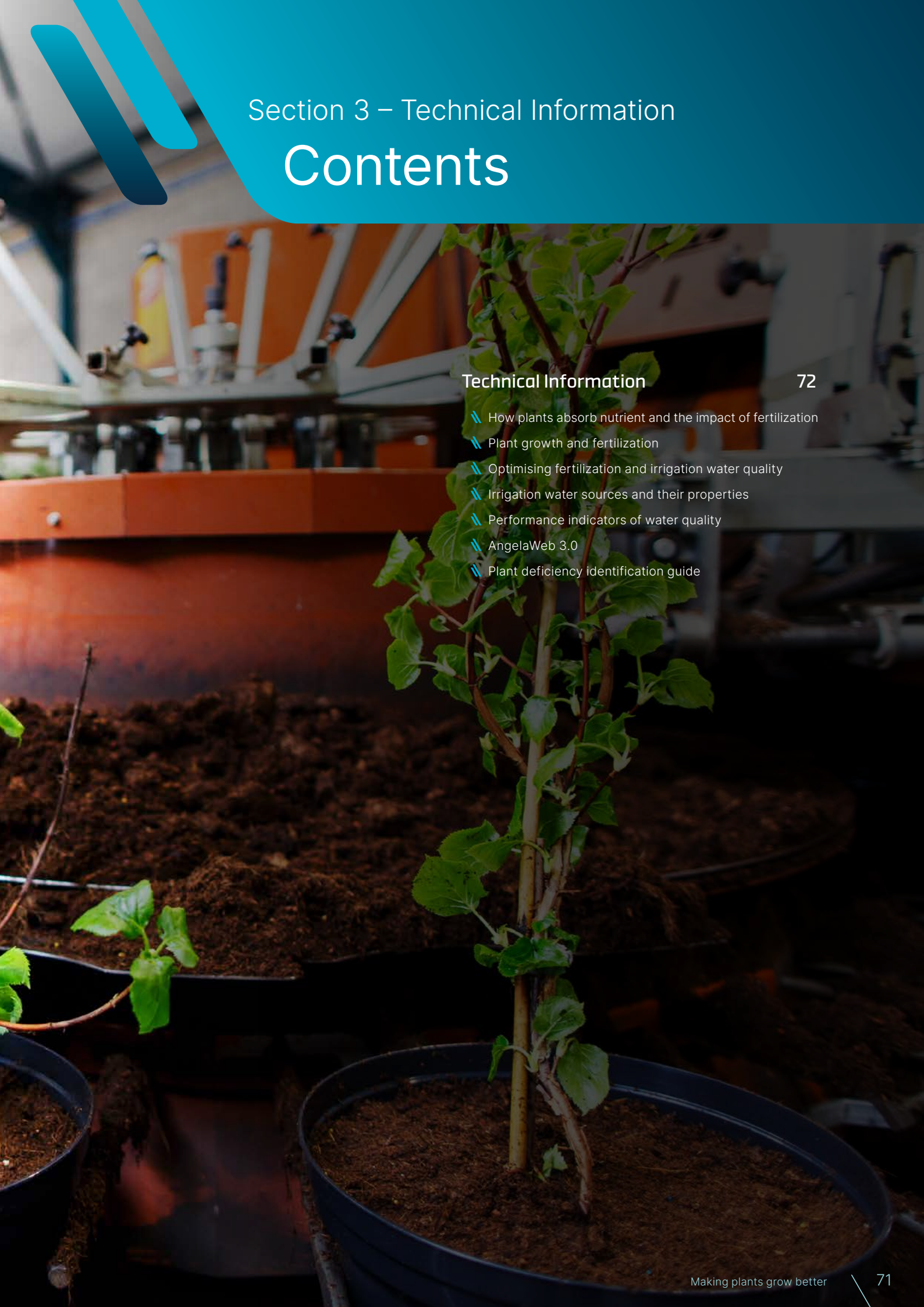
Peters® and/or Universol®

Applied additionally to Osmocote base rates

Goal of additional water-soluble fertilization with Peters/Universol:	**Container Nursery Stock & Pot Plants / Bedding Plants.**
I - Promote rooting	
High phosphates, low EC levels and efficient nutrition \\ Start of cultivation at transplanting \\ Promote roots in cuttings and young plants	Cuttings and young plants: \\ **Peters Professional** \\ **Peters Professional Plant Starter** \\ **Peters Excel**
II - Generate growth (vegetative phase)	
Nitrogen based, and high level of trace elements \\ After well-developed roots \\ Promote branching \\ Promote growth	\\ **Peters Professional Allrounder** \\ **Peters Excel Hard Water Grow Special** \\ **Peters Excel CalMag Grower** \\ **Peters Professional Winter Grow Special** \\ **Peters Professional Foliar Feed** \\ **Universol Blue and Green**
III - Finish growth, promote flowering (generative phase) and compactness	
Potassium-based, highly effective trace elements \\ After well-developed roots \\ Promote branching \\ Promote growth	\\ **Peters Professional Combi-Sol** \\ **Peters Excel CalMag Finisher** \\ **Peters Professional Blossom Booster** \\ **Peters Professional Pot Plant Special** \\ **Universol Orange, Basis**

Section 3 – Technical Information

Contents

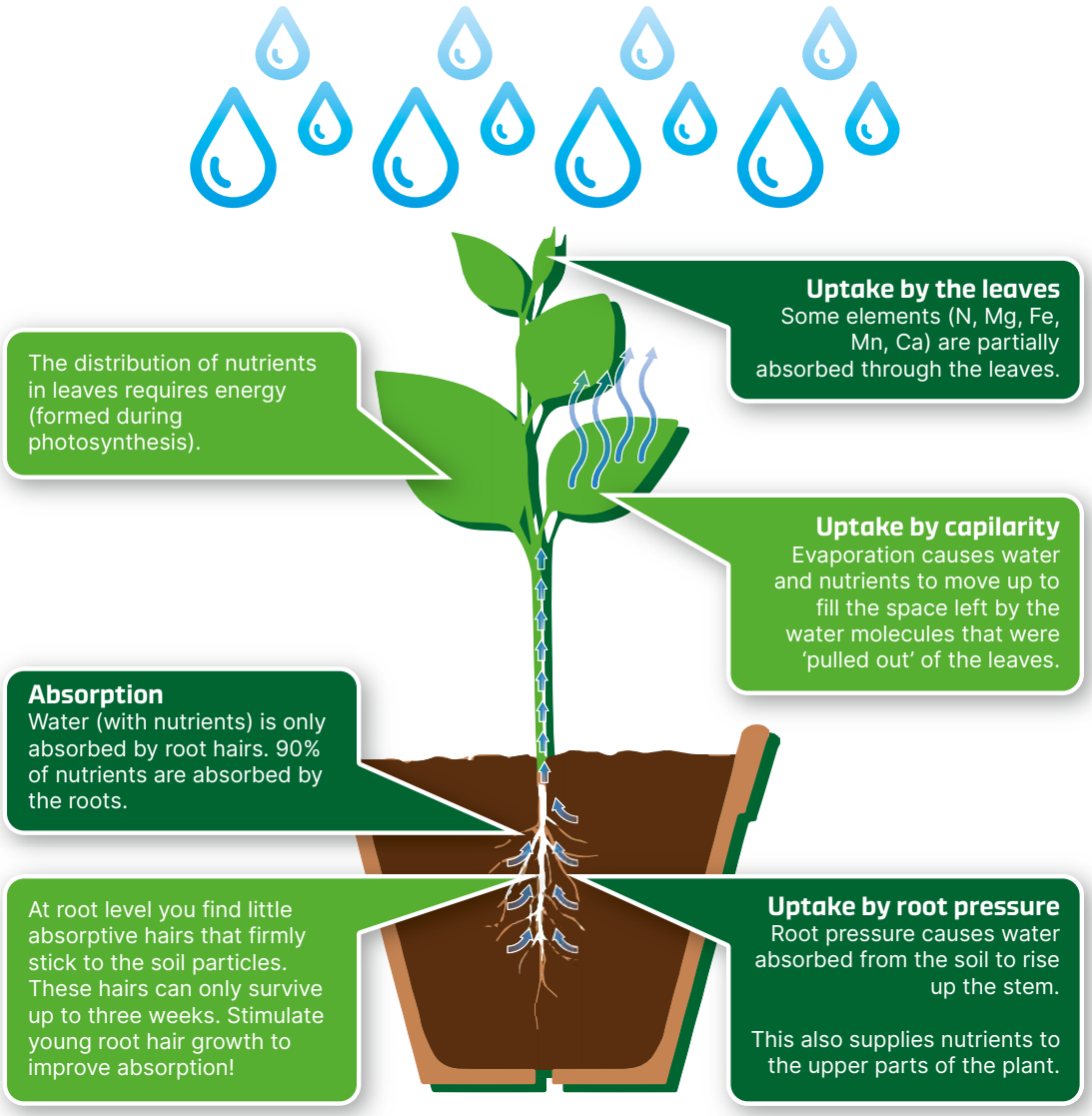


How plants absorb their food and the impact on fertilization

Plants need to get enough nutrients to grow well, but it's also important that the nutrients are absorbed at the right places. To gain better insight into this process and the way it affects plants, it is good to start with some basic information about nutrient absorption.

Nutrients are absorbed by plants in the form of nutrient elements. Plants can only absorb elements that are dissolved in water.

How do nutrients get to the right place?

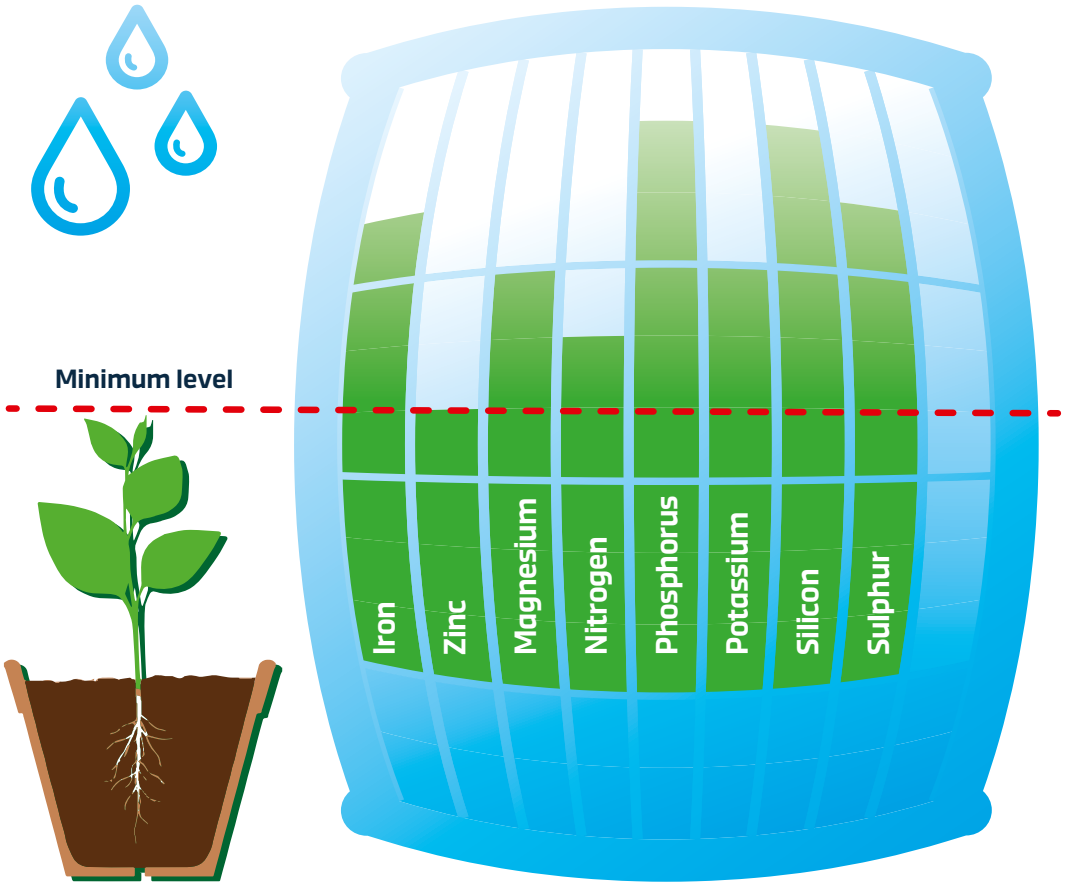


3.2
Plant growth and fertilization

Plant growth in relation to fertilization

Balance between elements

Crops require a balanced diet of essential nutrients in order to grow. If there is a lack of nutrients, crops will show abnormal growth and deficiency, or they may not reproduce. In the 19th century Justus Freiherr von Liebig developed the Law of the Minimum, a principle which states that growth is controlled not by the total amount of resources available, but by the lowest available nutrient (limiting factor). The image of the so-called Liebig's barrel shows how it works.



Liebig's barrel

3.3
Optimising fertilization and irrigation water quality

Optimising fertilization and irrigation water quality

Plants rely on water to transport nutrients to their cells. Water is necessary for good plant nutrition.

The quality of water has a major influence on the effectiveness of fertilizers. In the next pages you will find all the information you need to determine the quality of your irrigation water. The quality of a fertilizer does not only depend on what's in it, but also on what the plant can absorb!

ICL tip

Tips & Tricks for Plant Watering and Cultivation

- Analyse your irrigation water on a regular basis (minimum once a year).
- Review your analysis with an ICL technical advisor.
- The most common parameters used for determining irrigation water quality are acidity (pH), Electrical Conductivity (EC) and hardness (Ca-, Mg-bicarbonate), but look at the other elements in the water as well.
- Determine, together with your ICL advisor the need for measures to improve the quality of the water.
- Take into account the !differences in water hardness and pH buffering capabilities between the different types of irrigation water (e.g. rainwater vs. well water).
- If the water is too hard or contains too high levels of Bicarbonate (HCO_3^-), it may be necessary to decrease the pH in the water by acidifying.
- Soft water may contain low concentrations of calcium. Adjust tank composition accordingly and add calcium.
- Match irrigation to water quality, weather conditions, and crop need at all times.
- ICL offers products that improve water quality based on advanced technologies. Ask your ICL advisor for tailored advice.

3.4
Irrigation water sources and their properties

Types of irrigation water and their properties

Rainwater

- Large fluctuation in pH due to lack of pH buffering
- Very low EC levels. Clean water collecting system has great impact on quality
- Algae growth can become a problem and should be prevented

Recirculated water

- Ensure water is disinfected to kill plant pathogens
- Frequent water analysis is required to prevent sodium accumulation/build up
- Recirculated water with high EC levels is usually low in trace elements
- Adjust amount of additional fertilizers according water analysis

Reverse Osmosis (RO) water

- pH neutral, does not contain any salts
- Very clean water
- Does not contain buffers. Buffering capabilities removed through RO
- Expensive method of water purification due to power consumption
- Take note of regulations referring to the disposal of the waste water from the RO installation.

Well water

- Composition varies per area and depth of the well
- Constant composition and temperature (yearly water analysis is recommended)
- May contain iron, manganese & bicarbonates
- May contain high levels of Ca and Mg

Surface water

- Watch out for potential fungi/bacteria in the water
- Possible high concentration of Na and Cl
- Composition varies per season and area, and may fluctuate quickly

Tap water

- Quality varies per region
- May contain Ca, Mg, Na and Cl
- Take into consideration the levels of $HCO3^-$ (bicarbonate)
- Expensive

3.5
Performance indicators of water quality

Performance indicators of water quality

pH value

Variations in pH during cultivation will affect the quality of your plants. Low pH levels disturb the uptake of elements such as potassium, calcium, magnesium and molybdenum. Low pH can increase toxicity because some trace elements are absorbed too easily. A pH value that is too high can prevent a plant from absorbing phosphate and trace elements (with the exception of molybdenum).

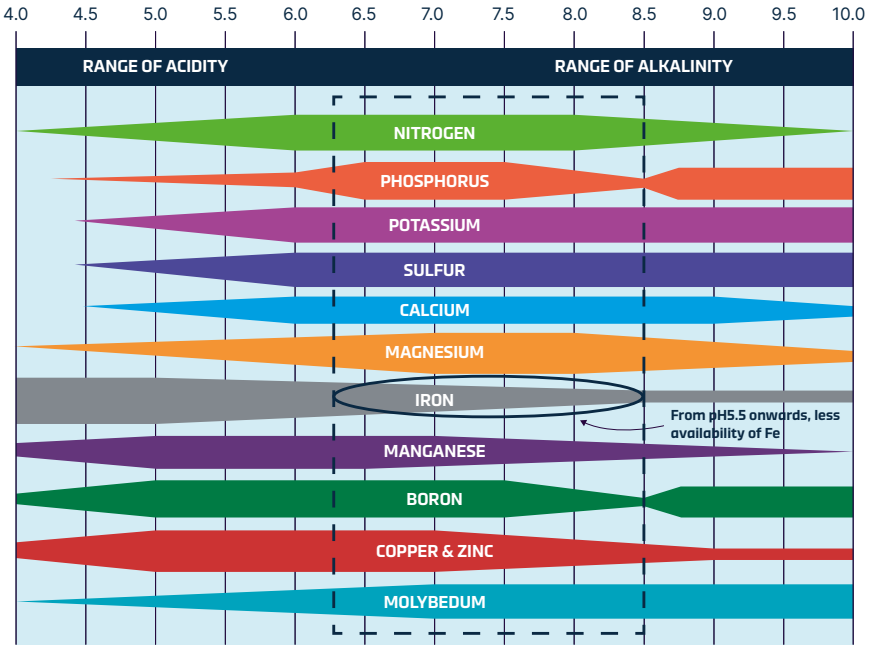
Water pH and bicarbonates (HCO_3^-)

Water pH can change easily and quick when only a small buffer of HCO_3 is available. Only a small amount of acidifying fertilizer can drop pH by several points. For optimum results it is recommended to always have a small buffer of HCO_3^- (1.0 – 1.5 mmol / L HCO_3^-)in the irrigation water. Always realise water pH is not equal to substrate pH.

Water hardness

The simple definition of water hardness is the amount of dissolved calcium and magnesium carbonate ions in the water. Hard water increases the pH in the growing medium. Soft water on the other hand can reduce the pH in the root environment. It's essential that growers take measures to improve water quality. Whether the water is hard or soft, ICL provides expert advice on how to control the quality of your water.

The influence of substrate pH on nutrient availability for plants



EC

Electrical Conductivity (EC) is the amount of electrical current water can carry. EC is expressed as milliSiemens per centimeter (mS / cm) at 25ºC. The electrical conductivity of water is actually a measurement for salinity. Soil with excessively high salinity, or high EC, can prevent efficient nutrient absorption by the plant. Irrigation water with high EC is also unfavourable for usage on plants, because it limits the possibilities of fertilization and it can harm plants.

3.6
AngelaWeb 3.0

AngelaWeb3.0

AngelaWeb3.0, designed and developed by ICL takes precision nutrition to the next level.

This innovative computer programme offers advisors and growers the possibility of individual recommendations, tailored to specific pot plants, nursery stock crops, cut flowers, vegetables and fruits. AngelaWeb3.0 takes into account the crop type, variety, and growth phase to display the specific nutritional demands. By inputting information regarding the water source and how it is applied, and selecting the fertilizer products of choice, AngelaWeb calculates a regime tailored to the exact needs of the crop.

Designed by the experts in precision nutrition for professionals

- Give the crop exactly what it requires
- Maximize your return on investment
- Optimise nutrient usage

Giving your plants what they need

Many factors have an impact on plant quality and correct nutrition is among the most important. It not only has a key role to play in preventing plant diseases, it is also vital to healthy growth and plant quality - and therefore affects the financial performance of your business.

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 this can change at many nurseries over the course of the season when switching between different water sources. How it is applied to the crop also has an impact.

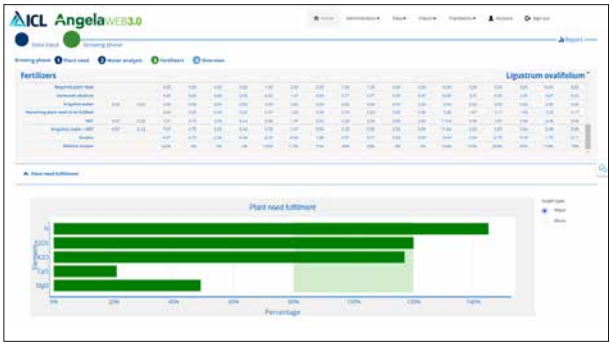
Perfect your fertigation program with AngelaWeb 3.0

How it works...

Web-based AngelaWeb is straightforward to operate. First the crop, including the variety, as well as the growth phase are selected. This information is then used to calculate and display the crop's specific nutritional requirements, and the option is also provided to create Controlled Release Fertilizer simulations.

The next step, put in base fertilizers: Osmocote followed by water analysis. The program will calculate the plant need that needs to be fulfilled with water soluble fertilizers. Users can then select from a broad list of water soluble fertilizers to create a tailored program. AngelaWeb determines the amount of fertilizer that needs to be dissolved in your stock-tanks, based on your system size and water quality. It generates a graph showing the percentage of the plants nutritional needs that are fulfilled at each growth stage.

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 to the fertilizer programme, produces new print outs and reports.

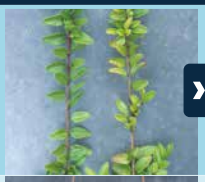


AngelaWeb3.0 generates graphs showing the percentage of the plants nutritional needs being fulfilled at each growth

Container Nursery Stock Deficiency symptoms

Macro elements

N Nitrogen



N deficiency in Lonicera
Source: LVG Bad Zwischenahn (D)

N deficiency in Cham. laws. 'Ellwoodii'
Source: LVG Bad Zwischenahn (D)

N deficiency in Philadelphus
Source: ICL Research (NL)

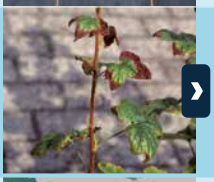
P Phosphate

P deficiency in Hypericum
Source: LVG Bad Zwischenahn (D)

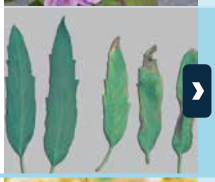
P deficiency in Hydrangea
Source: ICL Research (NL)

P deficiency in Thuja
Source: LVG Bad Zwischenahn (D)

K Potassium



K deficiency in Ribes
Source: LVG Bad Zwischenahn (D)

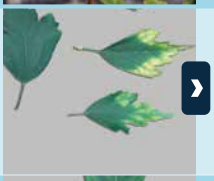


K deficiency in Caryopteris
Source: PPO Boskoop (NL)

K deficiency in Hibiscus
Source: PPO Boskoop (NL)

Meso elements

Ca Calcium



Ca deficiency in Hibiscus
Source: PPO Boskoop (NL)

Ca deficiency in Rosa
Source: ICL Research (NL)

Ca deficiency in Taxus bacatta'Hicksii'
Source: LVG Bad Zwischenahn (D)

Mg Magnesium

Mg deficiency in Hydrangea
Source: PPO Boskoop (NL)

Mg deficiency in Cham. laws. 'Ellwoodii'
Source: LVG Bad Zwischenahn (D)

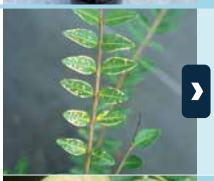
Mg deficiency in Magnolia
Source: LVG Bad Zwischenahn (D)

Micro elements

B Boron

B deficiency in Cytisus
Source: PPO Boskoop (NL)

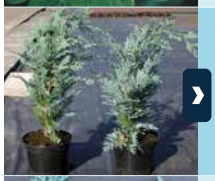
B deficiency in Ribes
Source: PPO Boskoop (NL)



B deficiency in Lonicera
Source: LVG Bad Zwischenahn (D)

Cu Copper

Cu deficiency in Lonicera
Source: LVG Bad Zwischenahn (D)

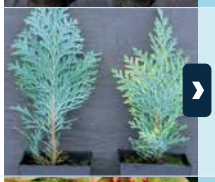


Cu deficiency in Cham. laws. 'Columnaris'
Source: ICL Research (NL)

Cu deficiency in Philadelphus
Source: PPO Boskoop (NL)

Fe Iron

Fe deficiency in Hydrangea
Source: ICL Research (NL)



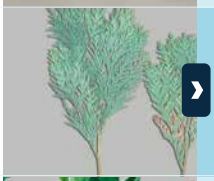
Fe deficiency in Cham. laws. 'Columnaris'
Source: LVG Bad Zwischenahn (D)

Fe deficiency in Potentilla tridentata 'Nuuk'
Source: LVG Bad Zwischenahn (D)

Mn Manganese

Mn deficiency in Kalmia
Source: LVG Bad Zwischenahn (D)

Mn deficiency in Pieris
Source: LVG Bad Zwischenahn (D)



Mn deficiency in Chamaecyparis
Source: PPO Boskoop (NL)

Mo Molybdenum

Mo deficiency in Ribes
Source: PPO Boskoop (NL)

Mo deficiency in Caryopteris
Source: PPO Boskoop (NL)

Mo deficiency in Philadelphus
Source: PPO Boskoop (NL)

Pot and Bedding Plants Deficiency symptoms

Macro elements

N Nitrogen

N deficiency in Guzmania 'Ostara'
Source: Corn. Bak B.V. (NL)

N deficiency in Doronicum
Source: LVG Heidelberg (D)

N deficiency in Poinsettia
Source: ICL Research (NL)

P Phosphate

P deficiency in Hydrangea
Source: ICL Research (NL)

P deficiency in Verbena
Source: WUR Glastuinbouw, Bleiswijk (NL)

P deficiency in Petunia
Source: WUR Glastuinbouw, Bleiswijk (NL)

K Potassium

K deficiency in Primula
Source: ICL Research (NL)

K deficiency in Kentia
Source: ICL Research (NL)

K deficiency in Gerbera
Source: ICL Research (NL)

Meso elements

Ca Calcium

Ca deficiency in Poinsettia
Source: ICL Research (NL)

Ca deficiency in Rosa
Source: ICL (NL)

Ca deficiency in Primula
Source: LVG Heidelberg (D)

Mg Magnesium

Mg deficiency in Pelargonium
Source: USDA (USA)

Mg deficiency in Guzmania
Source: Corn. Bak B.V. (NL)

Mg deficiency in Ficus
Source: ICL Research (NL)

S Sulphur

S deficiency in Pelargonium
Source: LVG Heidelberg (D)

S deficiency in Poinsettia
Source: LVG Heidelberg (D)

S deficiency in Poinsettia
Source: ICL Research (NL)

Micro elements

B Boron

B deficiency in Petunia
Source: ICL Research (NL)

B deficiency in Kalanchoë
Source: WUR Glastuinbouw, Bleiswijk (NL)

B deficiency in Hibiscus
Source: IFAS (USA)

Cu Copper

Cu deficiency in Chrysanthemum
Source: WUR Glastuinbouw, Bleiswijk (NL)

Cu deficiency in Gerbera
Source: ICL Research (NL)

Cu deficiency in Pelargonium
Source: USDA (USA)

Fe Iron

Fe deficiency in Rosa
Source: ICL Research (NL)

Fe deficiency in Pelargonium
Source: ICL Research (NL)

Fe deficiency in Calibrachoa
Source: LVG Heidelberg (D)

Mn Manganese

Mn deficiency in Kalanchoë
Source: WUR Glastuinbouw, Bleiswijk (NL)

Mn deficiency in Spathiphyllum
Source: ICL Research (NL)

Mn deficiency in Pelargonium
Source: USDA (USA)

Mo Molybdenum

Mo deficiency in Kalanchoë
Source: WUR Glastuinbouw, Bleiswijk (NL)

Mo deficiency in Poinsettia
Source: NCSU (USA)

Mo deficiency in Chrysanthemum
Source: WUR Glastuinbouw, Bleiswijk (NL)

Zn Zinc

Zn deficiency in Pelargonium
Source: USDA (USA)

Zn deficiency in Poinsettia
Source: ICL Research (NL)

Zn deficiency in Poinsettia
Source: ICL Research (NL)

Section 4 – Product Information & Breakdowns

Contents

Osmocote® 5

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P %	K %	
Osmocote 5	16-3.5-10+1.3Mg+TE	3 - 4	16	7.3	8.4	0.3	3.5	10	
Osmocote 5	16-3.5-10+1.3Mg+TE	5 - 6	16	7.3	8.4	0.3	3.5	10	
Osmocote 5	16-3.5-10+1.3Mg+TE	8 - 9	16	7.3	8.4	0.3	3.5	10	
Osmocote 5	16-3.5-10+1.3Mg+TE	12 - 14	16	7.3	8.4	0.3	3.5	10	

Osmocote® Exact

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P %	K %	
Osmocote Exact Standard	16-3.9-10+1.2Mg+TE	3 - 4	16	7	9	0	3.9	10	
Osmocote Exact Standard	15-3.9-10+1.2Mg+TE	5 - 6	15	6.4	8.6	0	3.9	10	
Osmocote Exact Standard	15-3.9-9.1+1.2Mg+TE	8 - 9	15	6.6	8.4	0	3.9	9.1	
Osmocote Exact Standard	15-3.9-9.1+1.2Mg+TE	12 - 14	15	6.4	8.6	0	3.9	9.1	
Osmocote Exact Lo.Start	15-3.5-9.1+1.2Mg+TE	16 - 18	15	6.6	8.4	0	3.5	9.1	
Osmocote Exact Mini	15-3.9-9.1+1.2Mg+TE	3 - 4	15	6.4	8.6	0	3.9	9.1	
Osmocote Exact Mini	15-3.9-9.1+1.2Mg+TE	5 - 6	15	6.4	8.6	0	3.9	9.1	
Osmocote Exact High K	12-3.5-15.7+1.1Mg+TE	5 - 6	12	5.1	6.9	0	3.5	15.8	
Osmocote Exact High K	12-3.5-15.7+1.1Mg+TE	8 - 9	12	5.1	6.9	0	3.5	15.8	

Osmocote® Exact Tablet

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P %	K %	
Osmocote Exact tablet	14-3.5-9.1+1.2+TE	8 - 9	14	6.2	7.8	0.0	8	9.1	
Osmocote Exact tablet	14-3.5-8.3+1.2+TE	12 - 14	14	6.2	7.8	0.0	8	8.3	

Osmocote® Pro

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P %	K %	
Osmocote Pro	19-3.9-8.3+1.2Mg+TE	3 - 4	19	6.3	8.2	4.5	3.9	8.3	
Osmocote Pro	19-3.9-8.3+1.2Mg+TE	5 - 6	19	6.2	8.2	4.6	3.9	8.3	
Osmocote Pro	18-3.9-8.3+1.2Mg+TE	8 - 9	18	5.9	7.7	4.4	3.9	8.3	
Osmocote Pro	18-3.9-8.3+1.2Mg+TE	12 - 14	18	5.9	7.7	4.4	3.9	8.3	
Osmocote Pro low P	16-1.3-13.3+1.8Mg+TE	8 - 9	16	6.2	6.8	2.4	1.3	13.3	
Osmocote Pro low P	16-1.3-13.3+1.8Mg+TE	12 - 14	16	6.0	6.7	2.6	1.3	13.3	
Osmocote Pro High K	11-4.8-15.8+1.2Mg+TE	5 - 6	11	3.8	6.2	1.0	4.8	15.8	
Osmocote Pro High K	11-4.8-15.8+1.2Mg+TE	8 - 9	11	3.8	6.2	1.0	4.8	15.8	

	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	1.3	6	0.30	0.30	0.05	0.012	0.018	0.01	0.010	2.0 – 4.5 mm
	1.3	6	0.30	0.30	0.05	0.012	0.018	0.01	0.010	2.0 – 4.5 mm
	1.3	6	0.30	0.30	0.05	0.012	0.018	0.01	0.010	2.0 – 4.5 mm
	1.3	6	0.30	0.30	0.05	0.012	0.018	0.01	0.010	2.0 – 4.5 mm

	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	1.2	6.4	0.45	0.09	0.07	0.028	0.060	0.02	0.024	2.0 – 4.5 mm
	1.2	6	0.47	0.09	0.07	0.028	0.060	0.02	0.024	2.0 – 4.5 mm
	1.2	6	0.45	0.09	0.07	0.028	0.060	0.02	0.024	2.0 – 4.5 mm
	1.2	6	0.45	0.09	0.06	0.028	0.060	0.02	0.023	2.0 – 4.5 mm
	1.2	6	0.45	0.09	0.06	0.015	0.050	0.02	0.020	2.0 – 4.5 mm
	1.2	6	0.46	0.09	0.06	0.027	0.071	0.02	0.023	1.0 – 2.23 mm
	1.2	5.6	0.46	0.09	0.06	0.027	0.071	0.02	0.023	1.0 – 2.23 mm
	1.1	8.4	0.35	0.07	0.05	0.021	0.060	0.02	0.018	2.0 – 4.5 mm
	1.1	8.4	0.35	0.07	0.05	0.021	0.060	0.02	0.017	2.0 – 4.5 mm

	Mg %	S %	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Weight per tablet gram 7.5
	1.8	5.6	0.41	0.08	0.059	0.025	0.043	0.01	0.022	7.5 g
	1.8	5.6	0.41	0.08	0.05	0.013	0.046	0.02	0.018	7.5 g

	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	1.2	5.2	0.3	0.06	0.04	0.011	0.037	0.01	0.015	2.0 – 4.5 mm
	1.2	5.2	0.33	0.06	0.05	0.020	0.043	0.02	0.016	2.0 – 4.5 mm
	1.2	4.8	0.33	0.06	0.05	0.020	0.041	0.02	0.016	2.0 – 4.5 mm
	1.2	5.2	0.35	0.07	0.05	0.014	0.045	0.02	0.017	2.0 – 4.5 mm
	1.8	7.2	0.2	0	0.03	0.008	0.050	0	0	2.0 – 4.5 mm
	1.8	7.2	0.2	0	0.03	0.008	0.050	0	0	2.0 – 4.5 mm
	1.2	8	0.2	0.04	0.03	0.012	0.035	0.01	0.010	2.0 – 4.5 mm
	1.2	8	0.2	0.04	0.03	0.012	0.035	0.01	0.010	2.0 –4.5 mm

Osmocote®

Name	Analysis	AI	N %	P%	K %	
BlueMax	0-0-0-13S+8AI	8	0	0	0	

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P %	K %	
Osmocote Bloom	13-3.1-14.9+0.9Mg	2 - 3	2 - 3	6.5	7.6	1	2.6	14.9	
Osmocote Start	11-4.8-14.1+1.2Mg+TE	6 weeks	11	4.5	6.5	0	4.8	14.1	

Start&Gro®

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P %	K %	
Start&Gro	14-7-14.9	0	14	5.2	8.8	0	7	14.9	

Osmocote® Topdress® Fusion Technology

Name	Analysis	Longevity in months at 21 °C	N %	NO_3-%	NH_4+ %	Urea %	P%	K %	
Osmocote Topdress FT	22-2.2-5+1.2Mg+TE	4 - 5	22	4.8	5.9	11.3	2.2	5	

Osmoform®

Name	Analysis	Longevity in weeks	N %	NO_3-%	NH_4+ %	Urea %	Ureaform % total	Ureaform % sol 20°C	Ureaform % insol. 20°C	Ureaform % insol. 100°C	
Osmoform NXT	22-2.2-9.1+1.2Mg+TE	8 - 10	22	0	3	7.5	11.5	3.8	3.8	3.9	
Osmoform High N	38-0-0	8 - 10	38	0	0	7.5	30.5	9.7	9.7	11.1	

Peters® Professional

Name	Analysis	N %	NO_3- %	NH_4+ %	Urea %	P%	K %	Mg %	Ca %	S%	
Allrounder	20-8.7-16.6 +TE	20	4.5	2.4	13.1	8.7	16.6	0.4	0	0.6	
Blossom Booster	10-13.1-16.6+1.2Mg+TE	10	5.2	4.8	0	13.1	16.6	1.2	0	1.6	
Combi-Sol	6-7.9-29.9+1.8Mg+TE	6	6	0	0	7.8	29.9	1.8	0	2.8	
Foliar Feed	27-6.5-10+TE	27	3.6	2.9	20.5	6.5	10	0	0	0.3	
Plant Starter	10-22.7-8.3+TE	10	0.3	7.4	2.3	22.7	8.3	0	0	0	
Pot Plant Special	16-4.8-26.6+TE	16	9.2	2.1	4.7	4.8	26.6	0	0	0	
Winter Grow Special	20-4.4-16.6+TE	20	12.1	7.9	0	4.4	16.6	0.6	0	0.7	

	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	0	13.3	0	0	0	0	0	0	0	2 – 4.5 mm

	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	0	6.4	0.3	0.3	0.037	0.01	0.024	0.01	0.010	1 – 2.5 mm
	1.2	6.8	0.38	0.17	0.05	0.01	0.09	0.01	0.01	1.0 – 2.23 mm

	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	0	0	0.09	0.09	0.16	0.04	0.12	0.03	0.2	2 – 4.5 mm

	Mg %	S%	Fe % Total	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	1.2	7.2	0.95	0.36	0.2	02	0	0	1 – 2.5 mm

	P %	K %	Mg %	S%	Fe % Total	Fe % EDTA	Mn %	Zn %	Cu %	B %	Mo %	Granule size mm
	2.2	9.1	1.2	5.6	0.5	0	0.1	0.02	0.02	0	0	1.2 – 2.8 mm
	0	0	0	0	0	0	0	0	0	0	0	0.5 – 1.7 mm

	Fe % DTPA	Mn % EDTA	Zn % EDTA	Cu % EDTA	B %	Mo %	C 1 g mS	Max Solub gr/l (20°C)	A/B kg/ kg $CaCO_3$
	0.12	0.06	0.015	0.015	0.02	0.010	0.8	400	-0.285
	0.12	0.06	0.015	0.015	0.02	0.010	1	300	-0.181
	0.25	0.06	0.015	0.015	0.02	0.010	1.1	300	0.124
	0.15	0.07	0.07	0.07	0.03	0.001	0.6	490	-0.466
	0.12	0.06	0.015	0.015	0.02	0.010	0.8	350	-0.452
	0.12	0.06	0.015	0.015	0.02	0.010	1	320	-0.039
	0.12	0.06	0.015	0.015	0.02	0.010	1.2	450	-0.206

Peters® Excel

Name	Analysis	N %	$N-NO_3$-%	$N-NH_4$+ %	N-Urea %	P%	K%	Mg %	Ca %	S %	
CalMag Grower	15-2.2-12.4+5Ca+1.8Mg+TE	15	11.5	1.4	2.1	2.2	12.5	1.8	5	0	
CalMag Finisher	14-2.2-17.4+5Ca+1.2Mg+TE	14	11.6	0.3	2.1	2.2	17.4	1.2	5	0	
Hard Water Grow Special	18-4.4-14.9+TE	18	10.3	3.6	4.1	4.4	14.9	1.2	0	0	

Magrimax®

Name	Mg %	S%	
Magrimax	27	9.2	

Micromax®

Name	Mg %	S %	Fe %	
Micromax Premium	8.4	16-9	15	

Micromax® WS

Name	Fe % total	Fe % EDTA	Fe % DTPA	Fe % EDDHA	
Micromax WS Iron	7	0	0	7	
Micromax WS TE-Mix	7.8	5.4	2.4	0	

LANDSCAPER PRO®

Product Name	Analysis	Nitrogen				
		Total N (% Coated)	$N-NO^3$	$N-NH^4$	N-Urea	
All Round	24-2.2-6.6+7.9S+1.2Mg	24 (80%)	5.3	6.3	12.4	
Flora	15-3.9-9.1+1.8Mg	15	6.5	8.4	0	
New Grass	20-8.7-6.6-8.4S	20 (80%)	0	4	16	
Spring and Summer	20-0-5.8+11.6S+2.1Ca+1.8Mg	20 (25%)	0	0	20	

	Fe % DTPA	Mn % EDTA	Zn % EDTA	Cu % EDTA	B %	Mo %	EC mS 0mg/l HCO_3^-	EC mS 50mg/l HCO_3^-	EC mS >150mg/l HCO_3^-	Max Solub gr/l (25°C)	Acidity mg/l HCO_3^-	A/B kg/ kg $CaCO_3$
	0.12	0.06	0.015	0.015	0.02	0.010	1.3	1	0	460	45	0.058
	0.12	0.06	0.015	0.015	0.02	0.010	1.3	1	0	320	46	0.120
	0.12	0.06	0.015	0.015	0.02	0.010	0	0	0.9	350	88	-0.155

	Mn %	Zn %	Cu %	B %	Mo %
	2.5	1	1	0.2	0.04

	Mn % EDTA	Zn % EDTA	Cu % EDTA	B %	Mo %
	0	0	0	0	0
	2.6	1.3	0.5	0.7	0.32

Nutrient Breakdown						Granule Size (mm)
	Total P (% Coated)	Total K (% Coated)	S %	Ca %	Mg %	
	2.2 (45%)	6.6 (65%)	7.9	0	1.2	2.0 – 4.0 mm
	3.9	9.1	0	0	1.8	1.3 – 2.5 mm
	8.7	6.6	8.4	0	0	0.85 – 2.0 mm
	0	5.8	11.6	2.1	1.8	0.85 – 2.0 mm

Section 5 – People & Organisation

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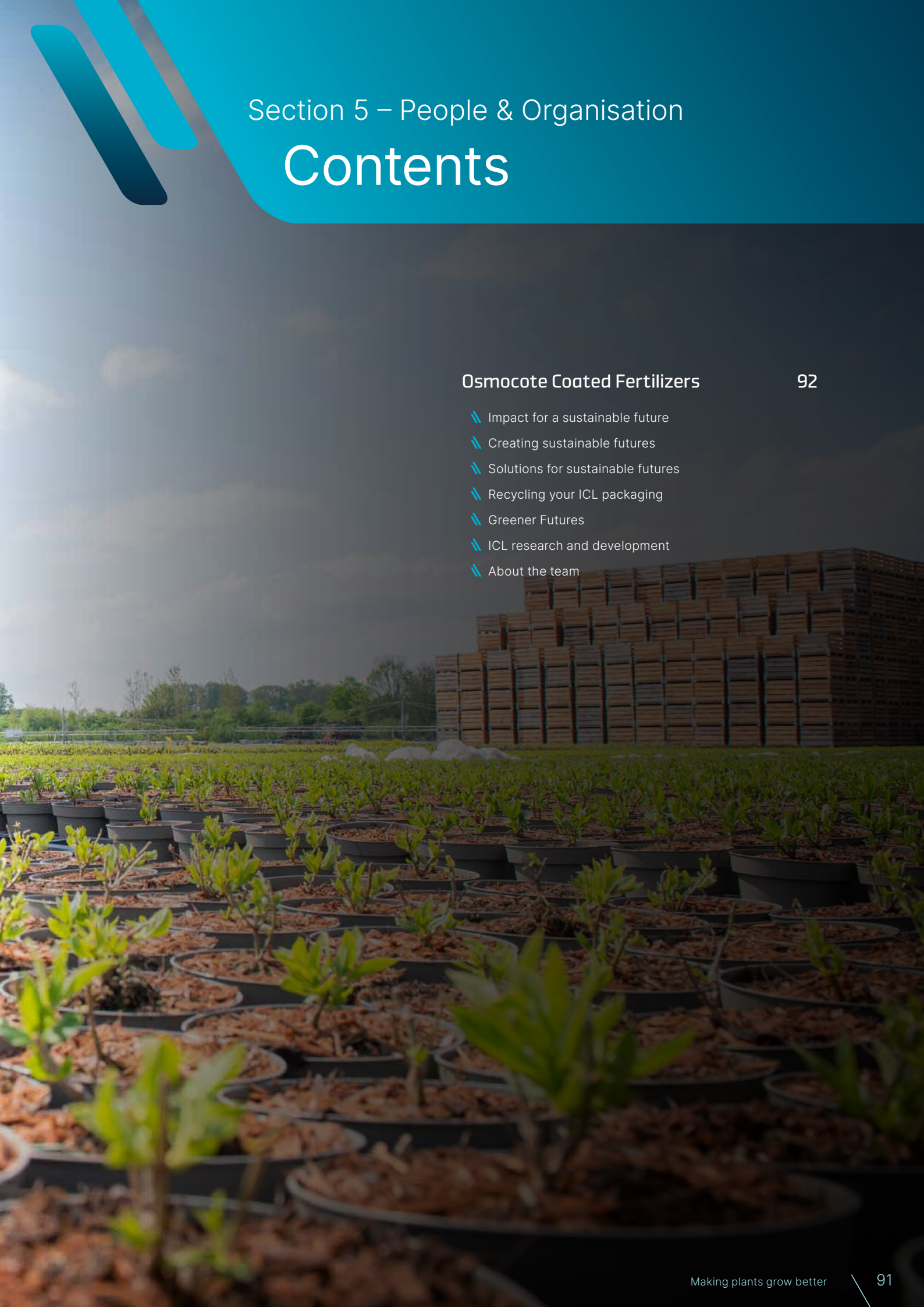


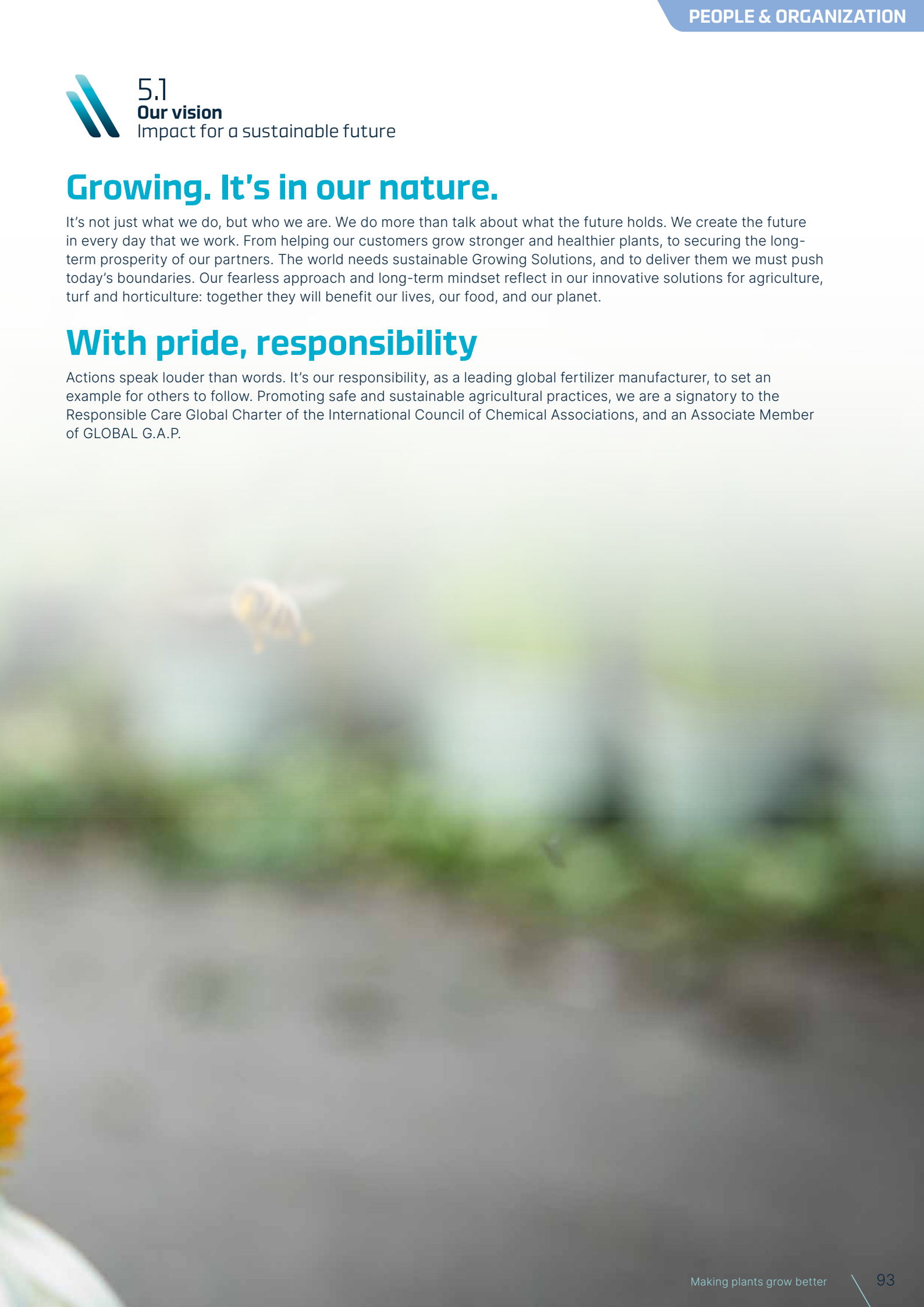
5.1
Our vision
Impact for a sustainable future

Growing. It's in our nature.

It's not just what we do, but who we are. We do more than talk about what the future holds. We create the future in every day that we work. From helping our customers grow stronger and healthier plants, to securing the long-term prosperity of our partners. The world needs sustainable Growing Solutions, and to deliver them we must push today's boundaries. Our fearless approach and long-term mindset reflect in our innovative solutions for agriculture, turf and horticulture: together they will benefit our lives, our food, and our planet.

With pride, responsibility

Actions speak louder than words. It's our responsibility, as a leading global fertilizer manufacturer, to set an example for others to follow. Promoting safe and sustainable agricultural practices, we are a signatory to the Responsible Care Global Charter of the International Council of Chemical Associations, and an Associate Member of GLOBAL G.A.P.



5.2
Creating sustainable futures

Creating impact for a sustainable future

We are a leading global specialty minerals company that creates impactful solutions for humanity's sustainability challenges in the global food, agriculture, and industrial markets.

Creating cutting-edge solutions

As a leading sustainable manufacturer of plant nutrition products for agriculture, ornamental horticulture, and turf & landscape sectors, we produce advanced fertilizers and plant nutrition products that help grow healthier and stronger plants. ICL Growing Solutions is part of ICL Group Ltd, a leading global specialty minerals and chemicals company. We create impactful solutions to meet humanity's sustainability challenges in global food production, agriculture, ornamental, turf, and industrial markets.

Developing sustainable solutions

Our R&D teams work tirelessly to invent sustainable solutions that have a global impact every day. We innovate to bring new products to market that raise the bar to improve the lives of people and the planet. More than 50 years ago, we revolutionised the fertilizer industry with the first controlled release fertilizer. Since then, we have continued to launch innovative new specialty plant nutrition products.

We are expanding our product portfolio of specialty plant nutrition products, including controlled release fertilizers (CRF), water-soluble fertilizers (WSF), liquid fertilizers, slow-release fertilizers (SRF), straights fertilizers (MAP/MKP/PeKacid), biostimulants, and others.

Sustainability for us means 'doing the **right thing**, in the **right way**, every day'.

ICL Growing Solutions

5.3
Solutions for sustainable futures

Creating cutting-edge solutions

ICL Growing Solutions is a sustainable manufacturer of plant nutrition products for agriculture, ornamental horticulture, and turf & landscape. As part of ICL Group Ltd., a global specialty minerals and chemicals company, we develop impactful solutions for food production, agriculture, ornamental, turf, and industrial markets.

Developing sustainable solutions

For over 50 years, our R&D teams have innovated sustainable plant nutrition products, including controlled release fertilizers (CRF), water-soluble fertilizers (WSF), liquid fertilizers, slow-release fertilizers (SRF), biostimulants, and more.

Sustainability in numbers

- 50% Renewable Energy by 2040 (2018 baseline).
- 30% Greenhouse Gas Reduction by 2030.
- Carbon Neutral by 2050.

We align with the UN's Sustainable Development Goals (SDGs) to develop solutions like eqo.x CRF coating technology, which enhances farm sustainability with a fully biodegradable coating.

Product carbon footprints

ICL has measured and managed its corporate carbon footprint for over a decade, with a target to reduce emissions by over 30% and achieve carbon neutrality by 2050. We publish product carbon footprints to help customers make sustainable choices.

Resilient and innovative agriculture

With the global population exceeding 8 billion and decreasing arable land, farmers face growing challenges. ICL develops advanced fertilizers and shares knowledge to improve plant nutrition, helping farmers maximise yields while reducing environmental impact.

Sustainable ornamental horticulture

ICL pioneered Osmocote, the first controlled release fertilizer, and continues to invest in sustainable solutions. Our CRFs enhance plant strength while reducing nutrient losses, ensuring efficient, environmentally friendly cultivation.

Future-proof turf nutrition technologies

With increasing regulations, turf managers face challenges in maintaining high-quality turf. Eqo.s technology, a fully biodegradable controlled-release fertilizer coating, ensures high-performance turf management with no residue left behind.

5.4
Recycling your ICL packaging

Recycle your ICL packaging

ICL is committed to making a sustainable future by making all soft product packaging to recyclable PE-LD 4.

04 PE-LD

All ICL packaging identifiable with the PE-LD 4 logo is now accepted for recycling in Australia and New Zealand. While we're transitioning all remaining packaging to recyclable PE-LD 4 material, you can recycle any ICL packaging marked with PE-LD 4 symbol today through Big Bag Recovery in Australia and Agrecovery Product Stewardship Program New Zealand. In addition, selected ICL branded products in plastic bottles and pails are also recyclable in Australia through drumMUSTER stewardship program managed by Agsafe.

Where & what to recycle

For PE-LD 4 marked ICL packaging and select bottled and pail products, you can recycle them today through our existing programs, see below.

Big Bag Recovery

Recycles all ICL plastic packaging labelled with PE-LD 4 logo

AgRecovery

Recycles all ICL plastic packaging labelled with PE-LD 4 logo

drumMUSTER

Recycles selective ICL plastic bottles and pails labelled with drumMuster icon on product label

Scan Me!

Scan here for more information about recycling ICL packaging.

5.5
Greener futures

For a greener future

As a globally leading fertilizer manufacturer, ICL fully recognises the importance of responsible environmental protection and sustainable practice.

Environmental policy

ICL believes in working together for a greener and more sustainable future. We embrace our responsibility to promote a sustainable environment and have established an environmental policy based on three core values;

1. Protecting the environment

ICL avoids processes that generate gaseous pollutant emissions and installs closed circuits for wastewater recycling. We are also committed to providing all our employees with the required training and tools to operate in an environmentally-responsible manner. It is our duty to protect the environment and we aim to reduce energy and water consumption.

2. Monitoring environmental impact

We are committed to assessing the environmental impact of all our processes. We also actively invest in new cleaner and safer technologies to improve production efficiency and reduce energy consumption.

3. Promoting best agronomic practices

We promote best agronomic practices in order to ensure the safe and optimum use of fertilizers. We promote tailor-made application methods so that the dose precisely matches the plant's specific needs. In addition, we advise our customers on the best way to transport, store, and handle our products with consideration for the environment.

Responsible care

Responsible Care®

We are a member of the Responsible Care® Program that is dedicated to achieving improvements in environmental global health, safety, and environmental performance. We are a signatory to the principles of the Responsible Care Global Charter of the International Council of Chemical Associations.

These principles encompass:

- Product stewardship
- Responsibility for environmental risk management
- Increased transparency across the supply chain
- Contribution to sustainable development
- Increased dialogue with stakeholders and external controls
- Environmental Policy

ICL & GLOBALG.A.P.

ICL is an Associate Member of GLOBALG.A.P. and in this role supports this worldwide organisation to achieve its crucial objective: the promotion of safe and sustainable agriculture practices to make this world a better place for future generations.

GLOBALG.A.P. is a network of partnerships that extends around the globe. By complying with a single harmonized global standard for safe and sustainable food production, producers can demonstrate their commitment to Good Agricultural Practice.

GLOBALG.A.P.
The Global Partnership for Safe and Sustainable Agriculture

MEMBER

5.6
ICL research and development

ICL Research & Development

Working on future fertilizer technology

ICL's research & development facilities are among the world's best. Our research teams are dedicated to develop new products and innovative technologies that improve the environmental profile of our plant nutrition and maintenance products and services.

ICL invests in research and development each year as well as in the training of our employees. Over 60 years of experience in the development and application of controlled release fertilizers has enabled us to evolve into a leader in plant nutrition and a professional partner for the green sector. ICL trials its products extensively in different cultivation situations and climates in Europe, USA, and Asia Pacific. The insights gained from the results form the basis for the safe use of our products and for the further development of existing and new technologies and solutions.

The rewards of ICL's research and development activities are twofold: maximising customers' returns on investment while respecting the environment. ICL's technical advisor teams bring this knowledge and expertise to you. Our local teams are at your service throughout the year for advice tailored to your situation. Our optimal fertilizer plans ensure you can grow quality plants with the best return on fertilizer investment.

Our experts work with customers to develop best fertilization practices which enable them to use our products in an optimum and environmentally friendly way. In keeping with our pledge to sound environmental stewardship, we implemented the Environmental Management System in compliance with the international standard ISO 14001.

EFFICIENCY • ECONOMY • ECOLOGY

ICL's mission for sustainable plant nutrition

Efficiency

✓ Improving nutrition delivery and efficiency

Economy

✓ Reducing fertilizer, labour and resource input

✓ Generating optimal yield per season

Ecology

✓ Minimising nutrient loss through the optimal location of the fertilizer

Grow more with less

Less fertilizer per hectare with much lower emissions

Since the first development of Osmocote products in 1967, our goal has been to provide plants with all essential nutrients throughout the growth cycle, while minimising leaching and loss of fertilizer. This goal is more relevant today than ever. The European Water Framework Directive was established in 2000 to clean up lakes, rivers and groundwater. For the agriculture and horticulture industries, this means strict rules for the amount of nitrates and phosphates that factories can release into bodies of water or the ground.

When water-soluble fertilizers are administered via a sprinkler system, part of the nutrients miss the pots and are absorbed by the surrounding soil. They eventually move into the surface water. A portion of the nutrients also drain out of the pots. 70% o water-soluble nutrients are wasted in total because they don't end up where they need to be.

Osmocote is mixed into the growing medium or applied directly into plant holes. The nutrients get where they need to go and significantly less fertilizer is leached and wasted. Osmocote releases the nutrients exactly where and when they are needed. You will see a noticeable difference and your plants will benefit greatly.

5.7
About the team

Our mission

ICL recognises that our people are our biggest asset, therefore we have created a culture of integrity, purpose, and innovation that unifies our employees around the world. We strive to unite all of our employees towards the common goal of making a positive impact. We do so by promoting ethical business conduct, fair labour practices, employee development, and investment in the community.

ICL provides the resources, infrastructure, and company values to allow each of our employees and managers to fulfill their potential and grow both personally and professionally. We constantly work towards improving our employer value proposition worldwide. Guided by a strategic vision focused on sustainable innovation, optimising operations, expanding into new industry sectors, and developing advanced products, innovation is embedded in our DNA. The ICL Business Innovation for Growth (BIG) accelerator fosters a flat organisational culture that empowers every employee to propose innovative ideas and lead projects. Sustainability is at the heart of our innovations, integrating Green Chemistry principles into all new products and processes, with a commitment to measuring environmental and societal impact.

ICL R&D and controlled released fertilizer manufacturing facilities in Heerlen, The Netherlands.

Our commitment to a greener world spans the globe. Every day and around the world, our experts in the field work with end users to optimise plant nutrition and provide advice, know-how and expertise on location. This combination of technology and a down-to-earth personal touch are the seeds of ICL's success.