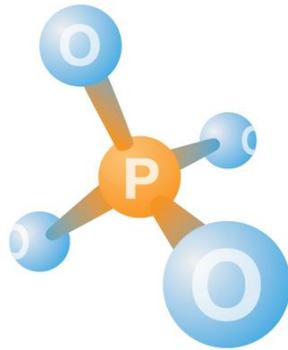


## Boosting nutrient delivery, root development and vigour

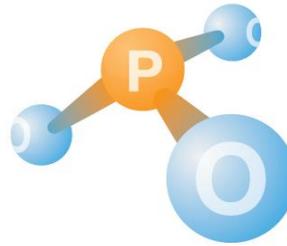
The effective use of phosphite technology has taken foliar nutrition to the next level, boosting growth and yield potential. By increasing the efficiency of nutrient uptake and stimulating root growth the unique chemistry of phosphites is helping crops overcome the stresses of adverse weather, nutrient imbalances and deficiencies to maintain health, vigour and yield potential.

### 1. Increased mobility

Phosphate  $\text{PO}_4$



Phosphite  $\text{PO}_3$

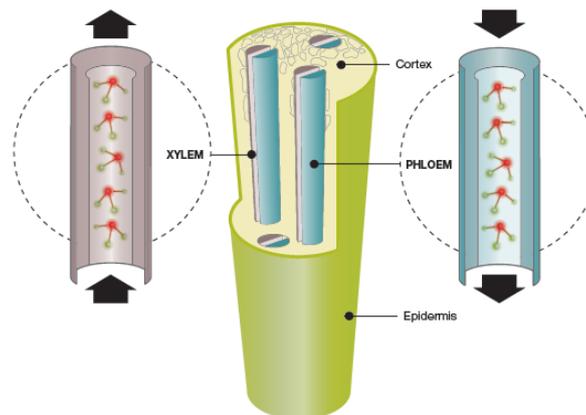


The **phosphite molecule** has 3 oxygen atoms, one less atom than phosphate. This significantly changes the nature and reactivity of the molecule making it highly plant mobile

### 2. Systemic delivery

Because of its chemistry the phosphite molecule is readily able to enter and be transported up and down the plant enabling the rapid and systemic delivery of key nutrients to all areas: leaves, stems and roots.

When taken up through the roots the phosphite molecule is easily absorbed and distributed within the plant **via the xylem**.



With foliar application, the phosphite molecule is easily absorbed through the leaf and rapidly transported throughout the plant, down to the roots **via the phloem**.

#### Key benefits

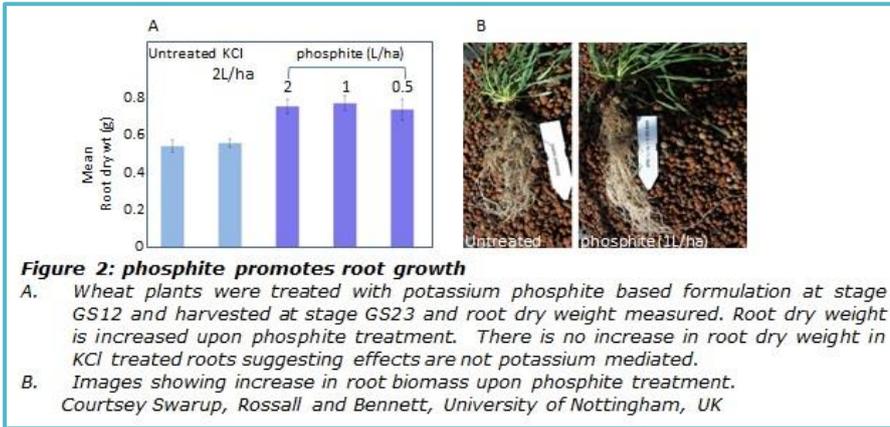
- Increased mobility in plant tissue and soils
- Easily taken up through leaves and roots
- Rapidly absorbed and transmitted via the xylem and phloem to all areas of the plant
- Complements the action and mobility of phosphorus and other nutrients such as calcium, manganese, boron and zinc
- Improves the solubility of other nutrient ions
- Facilitates more efficient uptake of soil applied nutrients via the roots

### 3. Enhanced rooting

The application of foliar phosphites have been shown to stimulate root growth and development with the following benefits:

- Increased uptake of soil-held nutrients for optimum nutrition
- Improved water capture and resistance to water stress
- Enhanced soil aeration and accessibility to micro-organisms
- Improved anchorage and stability





**Research carried out by Nottingham University** shows that foliar application of phosphites 'consistently enhances root growth and development' and research is ongoing to identify the molecular mechanisms involved. Swarup, R, Rossall, S and Bennett, M.J University of Nottingham (2015) 'Can Phosphites claim a Biostimulant effect?', New Ag International, Nov/Dec pp. 76-77



Image by kind permission of Blackthorn Arable Healthy roots in oilseed rape, (Norfolk) 2 months after Sept. application of Ilex OilSeed Raiser.



## Ilex phosphite range

**Advanced phosphite formulations, applied through the leaf, promote the rapid and systemic delivery of nutrients, stimulate root growth and the uptake of soil-held nutrients to boost nutrient use efficiency, crop health and yield potential.**

### Seed Treatments

Start-uP® seed treatments use phosphite technology to provide an efficient, readily available source of essential nutrients to promote root development, rapid establishment and early vigour.

- **Efficient combinations of phosphate and phosphite P maximise phosphorus availability and delivery**
- Faster more efficient delivery of key nutrients
- Increased root and shoot initiation and development
- Increased utilisation of available nutrients
- Enhanced natural protection against stress factors
- Improved plant health
- Better crop quality and yield potential

### Foliar Phosphites

Ilex phosphite formulations use the increased mobility of phosphite P for the efficient application, uptake and performance of key nutrients to boost crop health and yield potential.

