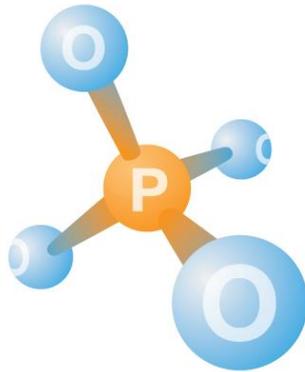


Boosting nutrient delivery, health and vigour

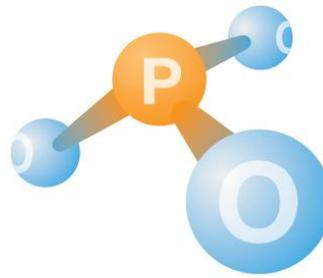
The effective use of phosphite technology has taken foliar nutrition to the next level, boosting growth and yield potential. By increasing the efficiency of nutrient uptake and stimulating the plants natural defence mechanisms the unique chemistry of phosphites is helping maintain crop health and vigour.

1. Increased mobility

Phosphate PO_4



Phosphite PO_3

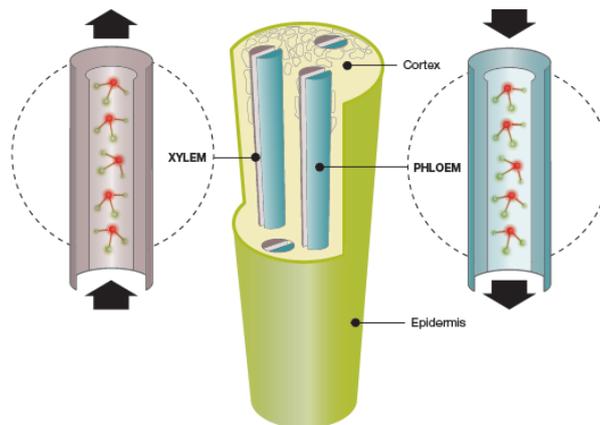


The **phosphite molecule** has 3 oxygen atoms, one less atom than phosphate. This significantly changes the nature and reactivity of the molecule making it highly plant mobile

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 phosphorous 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. Improved stress resistance

Phosphites promote a number of indirect biostimulating actions to improve natural resistance to disease pressure helping maintain plant health including:

- Stimulating the activity of the plant's natural defence mechanisms
- Increasing the production of natural phytoalexins (immune response agents)
- Encouraging polysaccharide production to strengthen cell walls



Phosphite and phosphate fertilisers

Phosphate fertilisers are traditionally applied in solid form. With very low solubility in water, high application rates are required to deliver the required amount of phosphate P to the roots.

Phosphorus (P) plays a vital role in photosynthesis, respiration, energy storage and transfer, cell division, and enlargement and is particularly important during early growth stages for rapid, extensive root growth.

Disadvantages of soil applied phosphates:

- Only effective if close to roots
- Low solubility in water
- Largely immobile in the soil
- Small proportion available to a crop at any one time
- Highly reactive in the soil leading to 'lock up' of both phosphorous and other elements
- Increased fixation occurs in clay soils
- Preferred soil pH of between 6-7 as lock up will occur at both ends of the pH scale
- Over-supply in the soil affects the availability of iron, calcium, magnesium & zinc
- Erodes with the soil over time

Carefully balanced formulations, based on phosphite technology and applied through the leaf, overcome the immobility of phosphate P enabling the rapid and systemic delivery of phosphorous to all parts of the plant.

Ilex phosphite range

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 phosphorous 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 performance.

