

For further information contact John Mulhare @ 086-8229857. Gary Beirne @ 087-2547534

Special points of interest:

- New Product for 2020
- Combining the two biostimulants-Phosphite (as potassium phosphite) & Pidolic Acid
- Induces increased root development and improved nitrogen assimilation
- Dose Rate 0.5-1.0L\Ha
- Pack Size 10 Litres
- Key Crops-Cereals, **OSR**, Legumes, Maize

Understanding P Fertilisation

No matter how much phosphate is applied, its availability for root uptake is significantly affected by a number of factors, namely;

- poor mobility in the \Rightarrow soil profile,
- microbial activity, \Rightarrow pН,
- \Rightarrow
- \Rightarrow temperature,
- \Rightarrow moisture level, and of course the level \rightarrow of plant roots available

to absorb available nutrients.

Incite

Twin Biostimulant formulation of Phosphite & Pidolic Acid to promote Root **Development & Early Season Growth**

New Product 2020

Phosphite Mode of Action

Phosphite may be regarded as a biostimulant that induces root development and improved nitrogen assimilation.

While not contributing directly to P fertilization, phosphite is readily absorbed through leaves and translocated to the roots.

Phosphite can increase the level of the cytokinin cis-zeatin (cZ) and therefore the cZ/trans-Zeatin ration which leads to:

- Longer primary root growth ٠
- More lateral root develop-٠ ment

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A tendency to reduce root to shoot translocation of phosphate which further helps to induce enhanced root growth.

Phosphite stimulates root exudates which support beneficial soil mycorrihza enabling increased nutrient uptake.

Phosphite increases nitrate reduc-



tase (NR) activity enhancing nitrogen assimilation.

The combination of cZ and NR will boost a crops nutrient use efficiency and resistance to abiotic stress which will help contribute to yield production.

Early Applications of Incite followed by Uplift ATG maximize Plant Growth



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Pidolic Acid Mode of Action

Pidolic Acid (also a constituent of Uplift ATG) is a signaling compound at the heart of the nitrogen assimilation cycle. During the nitrogen assimilation cycle ammonia is used to form glutamine which is a building block of many amino acids. This process also feeds the Krebs Cycle which is linked to respiration and energy generation within the plant.

If pidolic acid applications are made to plants prior to or during stress, they allow for the nitrogen assimilation cycle to continue. This limits the build up of ammonia and permits the retention of more green leaf area.

Incite & Uplift ATG on Spring Barley Growth (University of Nottingham 2019





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- Independent research by Dr S Rossall of Nottingham University under controlled glasshouse experiments confirmed response to Incite @ 0.75L\Ha after 42 days as follows as follows:
- 63% Increase in Root dry weight
- 32% Increase in shoot dry weight
- In a programme of Incite 0.75L\Ha followed by Uplift ATG 2.0L\Ha 21 days later, further increases were found as follows:
- Increase in root dry weight rose from + 63% to +92%
- Increase in shoot dry weight rose from +32% to +54%





Effect of Incite & Uplift ATG on spring barley growth **INTRACROP**



Pidolic Acid + Phosphite for Growth & Yield



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Uptake &





Effect of Incite & Uplift ATG on Spring barley growth O INTRACROP



Spring barley cv Concerto was sown in compost and transferred at G512 into pots filled with 10 mm washed expanded clay pellets (Hydroleca) and maintained in a hydroponic system by daily irrigation with 20:8:20 NPK fertiliser, with trace elements. This system enables accurate assessment of root growth.

Incite (0.75 I/ha) was applied at GS14. After 21 days Uplift ATG 2.0 I/ha was applied and plants harvested after a further 21 days (42 days after Incite application). Control plots were sprayed with water only at each timing

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