



*New ways of thinking*

# Bioscience products

Phosphorus  
Liberator

growing through **innovation**

Inspiring  
change...

# Phosphorus Liberator

*A soil-applied product that dissolves existing phosphorus locked up in the soil, making it available to plants and improving soil health.*

## The key to accessing soil nutrition

### How it works

Phosphorus Liberator contains carboxylic acid salt – an organic compound with the ability to break down calcium phosphate found in soil, into crop available form.

By using organic acid complexes, bound calcium phosphate is released in a manner that is not possible with water alone, and is neutralised with a counter-ion that allows the freed calcium phosphate to stay in solution.

By keeping phosphate in solution, the bonds with other minerals such as calcium are broken. Once broken down, phosphate is then available in the soil for uptake by the plant as nutrition.

Phosphorus is critical for crop growth, particularly during important phases such as germination, rooting, flowering and seed production. Deficiency of this important mineral can lead to reduced growth, tillering and tuberisation, and necrosis of older leaves.

The carboxylic acid technology found in Phosphorus Liberator also releases soil-bound manganese, whilst feeding saprotrophic fungi – organisms that help to degrade organic matter and release other nutrients found in soil.

With potential restrictions to phosphorus management on the horizon, effectively utilising existing soil-bound nutrients and improving water quality will be pivotal.



## Benefits

Phosphorus Liberator offers the following benefits:

- **Improves soil heath and access to nutrition**
- **Supports plant growth and establishment through increased rooting**
- **Maximises phosphate and fertiliser efficiency**

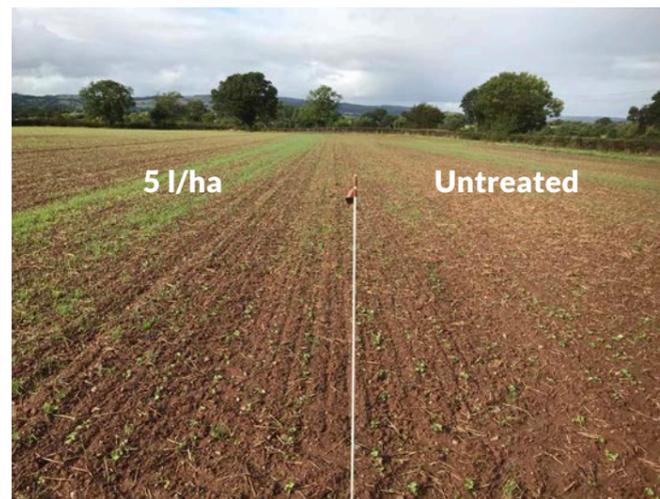
*Dissolves locked  
up soil-bound  
phosphorus*



## Results

Agrovista trials conducted autumn 2019 at a site in Leominster show a visible improvement in the establishment of oilseed rape following an application of Phosphorus Liberator at 5l/ha.

Images show 10 days post application.



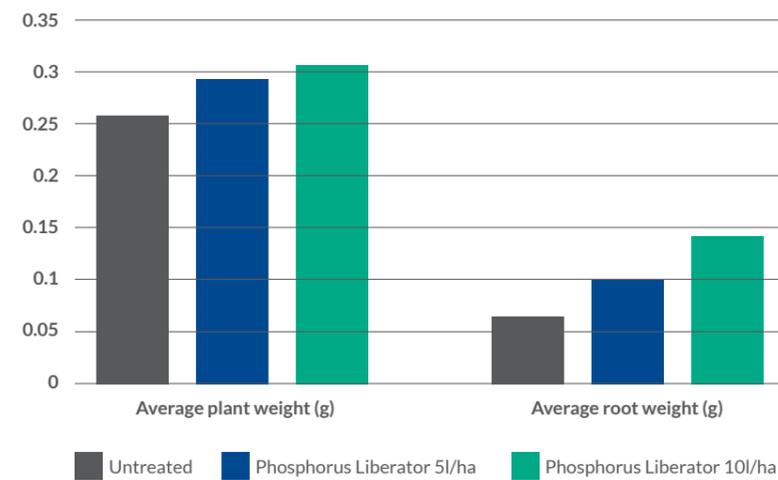
Phosphorus Liberator also performs well during difficult oilseed rape establishment conditions, such as this high-trash site in north Yorkshire.



## What this means for you

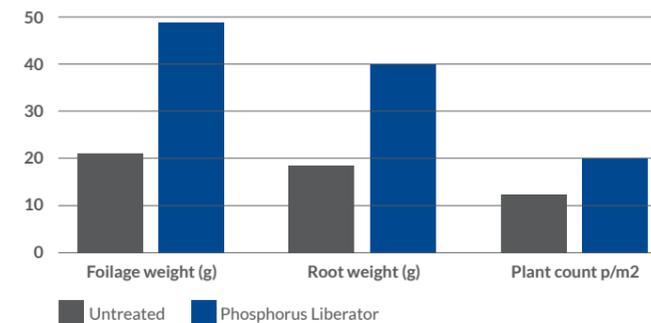
A winter wheat crop assessment conducted in Suffolk in January 2020 shows the positive impact Phosphorus Liberator can have on average plant and root weight.

## Winter wheat early crop assessment, Suffolk 2020



An assessment on spring beans in Oxford 2020 also shows favourable results.

## Spring bean development, Oxford 2020



Untreated:



Treated:



“

Chris Martin, Head of Soils at Agrovista said: “As the regulatory landscape changes in terms of fertiliser use, Phosphorus Liberator could become a go-to tool for those needing to unlock currently inaccessible nutrients within the soil, therefore reducing the reliance on traditional nutritional solutions.”

## Application

Rate	Application
5l/ha	Soil applied, combined with phosphate fertiliser or manure
10-20l/ha	Soil applied, when used alone

## Other features

- Operates in a wide temperature range
- Functions during dry conditions
- Non-hazardous and biodegradable
- Tank mixable and can be used with a conventional sprayer
- Available in various pack sizes

*Contact your local Agrovista agronomist today, to discuss our Innovation Range and how these exciting new products can support you.*



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