



Technical Data Sheet

Phosphorus Liberator

Phosphorus Liberator dissolves phosphorus locked up in the soil as calcium phosphate and makes it available to plants.



Phosphorus fertilizers are now banned or restricted in many countries, but Phosphorus Liberator allows you to ensure plants meet their phosphorus needs without applying phosphates.

Phosphorus lock up

Up to 90% of the phosphorus added as fertilizer to agricultural soil quickly becomes insoluble and is thus unavailable to plants. This is due to the formation of calcium phosphate, iron phosphate and aluminium phosphate. Lock up can occur within hours and its subsequent release can take decades. In fact, phosphorus binds to soil so strongly that its presence is used by archaeologists to find sites of human habitation from soil samples that have not been cultivated for thousands of years!

Due to lock up, year-on-year applications of phosphorus fertilizer are left stored in a 'soil bank account'. It is estimated that only 1% of the total phosphorus present in agricultural soils is available to the crops. The remainder lies there awaiting the slow release by fungi and plant exudates.

Phosphorus Liberator is far more effective and reliable than microbial products that claim to free bound phosphorus and is effective within a wide temperature range. The product is biodegradable, contains no heavy metals and is not classified as hazardous to the environment.

The carboxylic acid technology in Phosphorus Liberator will also aid plant growth due to;

- Releasing soil-bound manganese.
- Acting as a molecular shortcut in the Krebs' Cycle once absorbed by the plant.
- Feeding saprotrophic fungi which will degrade organic matter in the soil and release other bound nutrients (especially important for sulphur and boron)

Application Protocol

Apply 5-20 litres / ha of the Phosphorus Liberator diluted in 200 litres of water. The rate can be increased depending on the state of the soil and the level of bound phosphorus.

Check compatibility with a bucket test before co-applying with other agrochemicals.

Countries with bans or restrictions on phosphorus fertilizers

- Belgium; maximum rates in Flanders
- Estonia; maximum rates
- Finland; restrictions if farmers to receive subsidies
- France; maximum rates in Brittany
- Germany; maximum total soil P
- Ireland; maximum rates
- Luxembourg; restrictions if farmers to receive subsidies
- Northern Ireland; maximum rates
- Norway; maximum rates
- Sweden; maximum rates
- The Netherlands; maximum rates

USA

Bans or severe restrictions in the following states in turf / garden fertilizer;

- Florida
- Illinois
- Maine
- Maryland
- Michigan
- Minnesota
- New Jersey
- New Hampshire
- New York
- Vermont
- Virginia
- Washington
- Wisconsin