agrovista

REDUCE AIR POLLUTION

R-LEAF®

Matching nutrition to your

- **Crop requirements**
- **Environmental needs**

#NavigatingNutrition

R-Leaf® is a ground breaking technology developed by Crop Intellect Ltd that captures atmospheric nitrogen oxide (NOx) pollutants and converts them to plant feed.

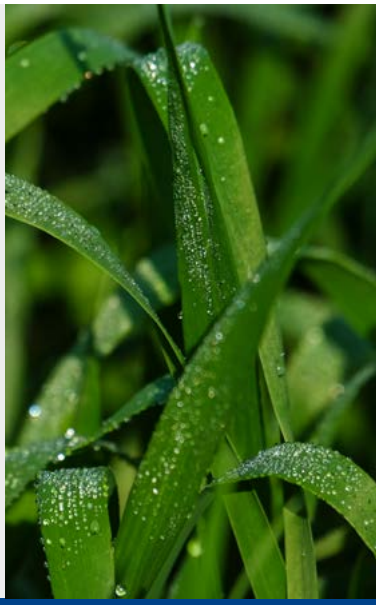
The technology is prepared into a suspension concentrate solution and is sprayed onto living plant surfaces.

Nitrogen oxide (NOx) pollution is broken down into nitrate which is absorbed by the plants as feed. This results in reduced air pollution and increased crop yield.

What does it do?

R-Leaf® has been processed to harvest energy from sunlight, an abundant source of free and clean energy. Sunlight charges the photocatalytic surface and when NOx comes in contact the molecules break down to inert material and nitrate. The nitrate is solubilised with dew and rain and taken up by the plant surface, resulting in increased biomass and yield.

The photocatalyst itself undergoes no changes and therefore continues to work for a prolonged period, suitable for scaling up, low-cost, chemical stability and safety.



Application

R-Leaf® is sprayed onto any crop. It is a stable suspension concentrate and can be tank mixed with most agrochemical inputs. It contains 500g of the specially processed photocatalytic material. It is classed as EC fertiliser containing zinc, molybdenum and manganese which are very often deficient, particularly in cereals, and are essential elements for yield security.

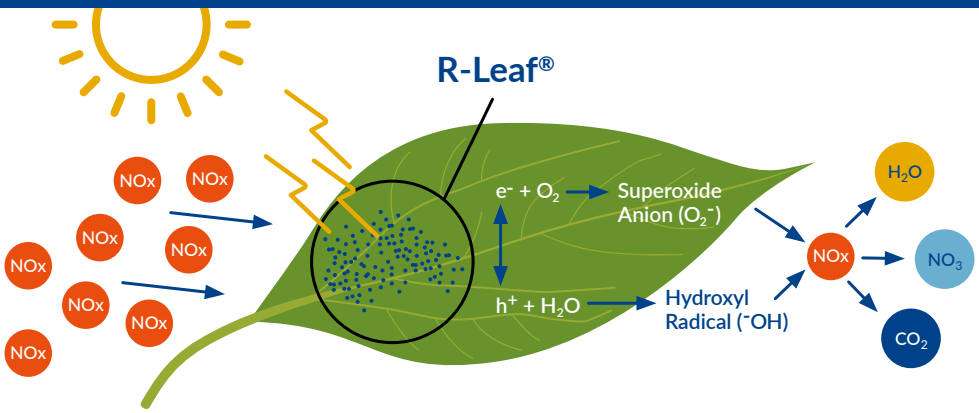
The recommended dosage of R-Leaf® is 1 l/ha. The best application timing for cereals is at T1 and T2 when the soil-applied nitrogen is starting to produce NOx and when the foliage is adequate to hold R-Leaf®. The T2 application is essential as the sprayed leaves are shaded by the new ones and therefore become less efficient.

How does it do it?

NOx is a term used to refer to nitrogen oxides. The most common NOx related to air pollution are nitric oxide (NO) and nitrogen dioxide (NO_2). NOx formation occurs when nitrogen and oxygen react with each other during combustion of fuels, oil, gas and organic matter.

NOx can cause serious damage to human and animal health, particularly through respiratory diseases. NOx is responsible for smog and poor air quality in cities, forming ozone when reacting with volatile organic compounds (VOCs) in the presence of light. This damages ecosystems, animals and plant life.

Once applied, R-Leaf® gets to work on a daily basis to break down the NOx into nitrate, which is the most available form of nitrogen in plants.



Features

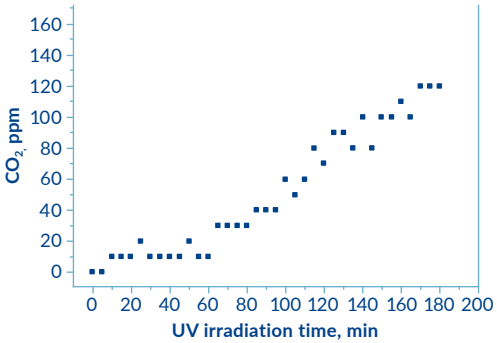
- Reduced air pollution
- Chemical stability
- Safe for crops
- Can be tank mixed with most agrochemical inputs

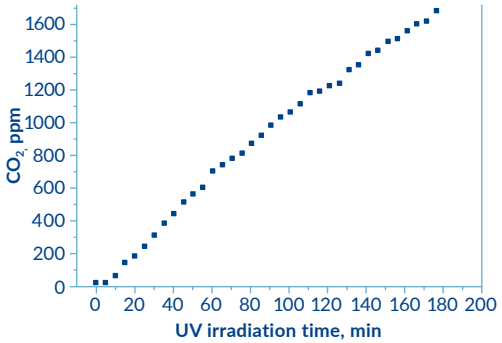
Benefits

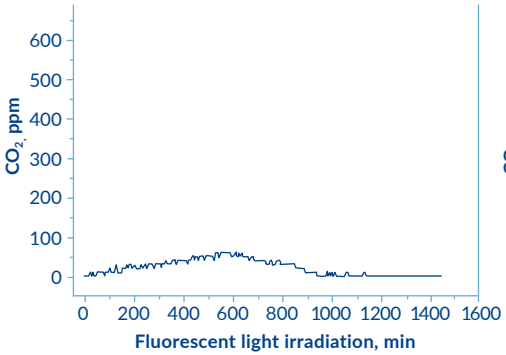
- Environmental benefits
- Reduced pollution
- Cost effective
- Increased crop yield

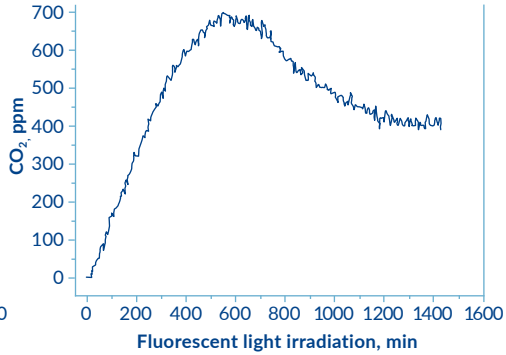
Results

The photocatalytic activity of R-Leaf® under UV and normal light was tested by independent experts in photocatalysis at Manchester Metropolitan University. The approved method measuring photocatalysis was by monitoring the CO_2 in a specific reaction and results are shown below. The material was 10 times more effective in photocatalysis, both under UV light and normal light, compared to the unprocessed material.









Data generated in collaboration with the University of Lincoln confirmed the conversion of N_2O, NO and NO_2 to nitrate for plant use. The amount of nitrate produced is directly related to the ppm NOx concentration.

Navigating Nutrition

Agrovista leads the way in progressive, cost-effective nutrient management. Years of research and development along with a tailored product range means we can provide expert advice on this complex area, working to match your crop requirements to environmental needs and your carbon footprint.

www.agrovista.co.uk/nutrition

Matching nutrition to your **Crop requirements** **Environmental needs**

R-LEAF®

Talk to your local agronomist for more information or scan the QR code to view online.

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