



Plant nutrition courier

The best bits of plant nutrition research

2024-06

Nutrient solution flow rate affects nutrient uptake, crop growth and yield 7

Plea for phosphorus saturation degree as agronomic and environmental soil phosphorus indicator 8

Siderophore-based chelating agent outperforms synthetic congeners 9

A close look at drying foliar fertiliser droplets 15

Recent plant nutrition patent publications 39



Nutrient solution flow rate affects nutrient uptake, growth and yield 7

The flow rate of the nutrient solution affects root morphology. This way, the flow rate affects nutrient uptake, growth and quality of hydroponically-grown vegetables.



Plea for phosphorus saturation degree as indicator 8

Dutch researchers plea for a universal agronomic and environmental soil phosphorus test: the acid ammonium oxalate-derived phosphorus saturation degree.



Siderophore-based chelating agent outperforms synthetic congeners 9



A close look at drying foliar fertiliser droplets 15

Arable farming

- 4 Wheat response to foliar-applied phosphorus depends on topsoil phosphorus buffering
- 4 Safe rates for seed-placed fertilisers assessed for barley
- 4 Adjustment of pH alleviates ammonium-induced toxicity
- 4 Chelating agents can control rice blast disease
- 5 Harsh criticism of inoculants claimed to fix nitrogen in non-legumes
- 5 Silicon alleviates sodium-salt stress in barley
- 5 Silicon application can reduce greenhouse gas emissions
- 5 Cover crop trends: keyword choice affects outcomes of bibliometric research

Potato nutrition

- 6 Site-specific nitrogen at start of potato growing only useful in temporarily stable management zone
- 6 Publications about potato nutrition research

Fruits, vegetables and ornamentals

- 7 Nutrient solution flow rate affects nutrient uptake, crop growth and yield
- 8 Substrate moisture and temperature affect limestone reaction rate in peat-based substrate

Plant and soil analytics

- 8 Plea for phosphorus saturation degree as agronomic and environmental soil phosphorus indicator
- 8 Importance of nickel for crop growth mapped out
- 8 Portable X-ray fluorescence analysis of Mehlich III soil extraction solutions is a reliable technique

Fertilisers

- 9 Siderophore-based chelating agent outperforms synthetic congeners
- 9 Novel biodegradable chelating agents from seed meal
- 9 Foliar fertilisers of magnesium and zinc layered double hydroxides
- 9 Humic acid stabilises struvite too much
- 10 Granulation of urea with micronutrients and coating with NBPT
- 10 Blending urea with granular slow release urease inhibitor reduces ammonia volatilisation
- 10 Compound fertiliser with reduced caking tendency
- 10 Vivianite as a source of phosphate
- 11 Low fertiliser pH increases zinc availability in zinc-enriched granular phosphate
- 11 Granular MAP and DAP as carriers for sulphur
- 11 Thermally activation increases active silicon content of silicon-rich minerals
- 11 Publications about new, experimental and potential fertiliser formulations

Formulation research: news and insights for fertiliser formulators

- 15 A close look at drying foliar fertiliser droplets
- 16 Publications about formulation research

Plant nutrition patents

- 39 Recent plant nutrition patent publications

Silicon

- 5 Silicon alleviates sodium-salt stress in barley
- 5 Silicon application can reduce greenhouse gas emissions

Literature

- 6 Publications about potato nutrition research
- 11 Publications about new, experimental and potential fertiliser formulations
- 16 Publications about formulation research
- 17 Publications about plant nutrition research

Service

- 45 Calendar of events

Publications about plant nutrition research

from page 17

General	17	Phosphorus	29
Rhizosphere, root hairs and soil hydraulics	17	Potassium	31
Biofortification	17	Calcium	32
Climate change	17	Lime / pH	32
Greenhouse gas and ammonia emissions	18	Magnesium	33
Glyphosate and other herbicides	18	Sulphur	33
Mapping, sensing, sampling and analytics	19	Boron	33
Fertiliser production	20	Copper	34
Application technology	20	Iron	34
Foliar fertilisation	20	Manganese	35
Chelates	21	Molybdenum	35
Organic fertilisers and industrial wastes (selection)	21	Sodium	35
Green manure / cover crops	22	Zinc	35
Biochar	23	Aluminium	36
Humic acids	23	Nickel	36
Nano-fertilisers	23	Selenium	36
Urease, nitrification and denitrification inhibitors	24	Silicon	36
Coatings and other specific release mechanisms	24	Rare earth elements	38
Nitrogen	25	Rhizobia, mycorrhiza etc.	38

Subscription rates for 2025

Small subscription	1 - 10 users at one physical location: € 170.00/year ex VAT
Medium subscription	1 - 50 users at multiple physical locations in the organisation: € 495.00/year ex VAT
Worldwide in-company subscription	€ 1.045.00/year ex VAT
Single issues:	€ 50.00 per issue ex VAT

Fertiliser companies



Analytical services



Fertiliser research



Liquid fertiliser applicators



Soil services



Agricultural cooperatives

(Dutch - with international network of subsidiaries)



How to advertise

Advertisements in the international Plant nutrition *courier* are published in six consecutive issues including one free issue. Follow [this hyperlink](#) for details about advertising in the Plant nutrition *courier* and/or in the email newsletter.

Colophon

Editor	Gert van den Berg
Publisher	Landbouwkundige Uitgeverij G.C. van den Berg
Address	Van Maerlantstraat 5, 3906 EL Veenendaal, The Netherlands
Website	www.plantnutritioncourier.nl
Subscriptions	Small: € 160,00/year ex VAT (1 - 10 readers at one physical location of the organisation). Medium: € 465,00/year ex VAT (11 - 50 readers at multiple physical locations of the organisation). Worldwide: € 985,00/year ex VAT (worldwide in-company subscription).
Single issues	€ 50,00/issue ex VAT.

Plant nutrition *courier* is an internationally published bimonthly digital newsletter on plant nutrition, including silicon and other beneficial elements. Authors and publisher declare the information in the Plant nutrition *courier* is provided to our best knowledge of the current situation, but they cannot accept responsibility for the validity or for the consequences of their use. Subscriptions will be extended, unless cancelled at least one month before the end of the yearly subscription.