## Plant nutrition courier

The best bits of plant nutrition research

2021-06

# Scientists find crucial cross-talks between plant nutrients 4

Nitrogen affects phosphorus mineralisation depending on form and dose 10

Potato cultivars for low and for high phosphorus levels 11

Silicon attenuates effects of calcium deficiency in cabbage 12

Slow-release molybdenum fertilisers 13

Fruit fungicide is potent nitrification inhibitor



## Nitrogen affects phosphorus mineralisation depending on form and dose

Urea stimulates or suppresses mineralisation of organic phosphorus in soil, depending on the application rate.



### Potato cultivars for low and for high phosphorus levels 11

Some cultivars are more suited for phosphorus-limited conditions than others, some are more efficient in phosphate uptake at high soil phosphorus levels than others.



Silicon attenuates effects of calcium deficiency in cabbage 12



Fruit fungicide is potent nitrification inhibitor 16

#### Cross-talks between plant nutrients

- 4 Scientists find crucial cross-talks between plant nutrients
- 5 Editorial: Cross-talks between plant nutrients deserve more attention
- 6 Selection of interactions between plant nutrients inside plants

#### Arable farming

- 10 Nitrogen affects phosphorus mineralisation depending on form and dose
- 10 Maize residue stimulates soybean nitrogen fixation
- 10 Crop sequence affects nitrate leaching
- 10 Faba bean intercrop stimulates nitrogen accumulation in wheat grain
- 10 Zinc-deficient maize is better off with ammonium than nitrate
- 10 Sulphur improves soybean seed protein quality
- 11 Titanium improves phosphate uptake in soybean

#### Potato nutrition

10

- 11 Potato cultivars for low and for high phosphorus levels
- 11 Root and shoot contribution to nitrogen efficiency
- 11 Publications about potato nutrition research

#### Fruits and vegetables

- 12 Silicon attenuates effects of calcium deficiency in cabbage
- 12 Selenium improves mandarin fruit quality

#### **Fertilisers**

- 12 Labour-saving potassium chloride plus plant growth regulator formulation
- 12 Controlled release of humic acid
- 12 Liming with pelletized limekiln dust
- 12 SSP outperforms DAP and TSP on alkaline calcareous saline-sodic soil
- 12 Simple cold extraction method for mineral fertiliser analysis
- 13 Experimental slow-release molybdenum fertilisers
- 13 Extruded bioplastic as carrier for zinc sulphate
- 13 Urea-formaldehyde-based fertiliser for fertigation
- 13 Molasses-based and gum/potassium iodide coatings for granular urea
- 13 Cell membrane is effective carrier for foliar fertilisers
- 14 Publications about new, experimental and potential fertiliser formulations

#### Nitrification inhibitors

- 16 Fruit fungicide is potent nitrification inhibitor
- 16 Novel water-soluble formulation for nitrification inhibitor nitrapyrin
- 16 Nitrapyrin effects on soil microbes depend on their nutrient preference

#### Literature

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

#### Service

- 35 Calendar of events
- 38 Colophon

#### Subscription rates have been changed, for 2022 they are:

Small subscription 1 - 10 users at one physical location: € 140.00/year ex VAT

**Medium subscription** 1 - 50 users at multiple physical locations in the

€ 875.00/year ex VAT

organisation: € 410.00/year ex VAT

Worldwide in-company

subscription

Single issues: € 45.00 per issue ex VAT

Publications about plant nutrition research			from page 17
General	17	Calcium	29
Biofortification	17	Lime / pH	29
Climate change	17	Magnesium	29
Greenhouse gas emission	18	Sulphur	30
Mapping, sensing, sampling and analytics	18	Boron	30
Ammonia and urea fabrication processes	19	Cobalt	31
Application technology	19	Copper	31
Foliar fertilisation	20	Iron	31
Chelates	20	Manganese	32
Organic fertilisers and industrial wastes (selection)	20	Molybdenum	32
Green manure / cover crops	21	Zinc	32
Biochar	21	Selenium	33
Humic acids	21	Rare earth elements	33
Nano-fertilisers	21	Strontium	33
Nitrification and urease inhibitors	22	Titanium	33
Specific release	22	Rhizobia, mycorrhiza etc.	34
Nitrogen	23		
Phosphorus	27		
Phosphite	28		
Potassium	28		

Fertiliser companies









#### Fertiliser research



FERTILISER TECHNOLOGY RESEARCH CENTRE

Liquid fertiliser applicators



Soil services



Mycorrhizae



#### 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 <u>www.plantnutritioncourier.nl</u>

Subscriptions Small: € 140,00/year ex VAT (1 - 10 readers at one physical location of the organisation).

Medium: € 410,00/year ex VAT (11 - 50 readers ate multiple physical locations of the organisation).

Worldwide: € 875,00/year ex VAT (worldwide in-company subscription).

Single issues € 45,00/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.