

Plant nutrition courier

The best bits of plant nutrition research

2024-04



Renewed interest in ammonium carbonates 10

Triple superphosphate helps maize conserve soil moisture 4

Foliar-applied potassium increases ammonium tolerance 5

New look at potash caking 9

Recent plant nutrition patent publications 38



Renewed interest in ammonium carbonates 10

The previously widely used nitrogen fertiliser ammonium bicarbonate is getting new attention from the perspective of ammonia recovery from liquid digestate and carbon dioxide recovery processes.



Triple superphosphate helps maize conserve soil moisture 4

Triple superphosphate let maize decrease its transpiration rate at significantly higher soil water content than maize fed with diammonium phosphate.



Foliar-applied potassium increases ammonium tolerance 5



New look at potash caking 9

Ammonium carbonates

- 10 Renewed interest in ammonium carbonates
- 11 Ammonium bicarbonate deserves rehabilitation as a fertiliser
- 12 Bicarbonate alleviates ammonium-induced stress

Arable farming

- 4 Triple superphosphate helps maize conserve soil moisture
- 4 Wheat profits from deep-placed phosphate in wet subsoil when topsoil is dry
- 5 Foliar-applied potassium increases ammonium tolerance
- 5 Compounds found that enhance ammonium tolerance of crops
- 5 Maize hybrid and teosinte are similar in organic nitrogen uptake
- 5 Side-dress nitrogen form and placement affect maize grain yield
- 5 Effect of humic acids on urease inhibitor NBPT varies per soil type
- 6 Humic acid can enhance phosphate adsorption onto certain soils
- 7 Deep soil injection of crushed maize straw improves subsoil fertility
- 7 Sorghum catch crop reduces nitrification
- 7 Silicon-rich crop residues increase phosphate availability
- 12 Bicarbonate alleviates ammonium-induced stress

Potato nutrition

- 6 Potato rarely benefits from nitrogen side dressing
- 6 Publications about potato nutrition research

Fruits, vegetables and ornamentals

- 7 Biostimulant allows higher iodine dosing
- 7 Trunk injection of potassium silicate improves drought resistance in olive

Plant and soil analytics

- 8 Soil moisture and probe type affect soil test results
- 8 Soil sample freezing affects measured nitrogen contents
- 8 Slow-release ¹⁵N label enables tracing nitrogen uptake from deep soil

Fertilisers

- 8 Glutamic acid fertiliser additive increases phosphate availability
- 8 Seed priming microgel as micronutrient carrier
- 8 Biodegradable coating for diammonium phosphate
- 9 New look at potash caking
- 9 Deliquescence relative humidity lowering in compound fertilisers
- 12 Micronutrient fertilisers with biostimulant properties
- 12 Pyrolysis temperature affects biochar suitability as a microbial carrier
- 13 Searching for research hotspots and trends of nitrification inhibitors
- 13 Overview of research into polymer-coated fertilisers
- 13 Publications about new, experimental and potential fertiliser formulations

Silicon

- 7 Silicon-rich crop residues increase phosphate availability nitrification
- 7 Trunk injection of potassium silicate improves drought resistance in olive

Rhizobia, mycorrhizae and other beneficials

- 12 Pyrolysis temperature affects biochar suitability as a microbial carrier

Plant nutrition patents

- 38 Recent plant nutrition patent publications

Literature

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

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Fertiliser companies



Analytical services



Fertiliser research



Liquid fertiliser applicators



Soil services



Agricultural cooperatives

(Dutch - with international network of subsidiaries)



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Colophon

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