Plant nutrition courier

The best bits of plant nutrition research

2020-04





Nutrient balance reflects nutritional status of potato 5

Every potato variety has a unique balance of nutrient concentrations. Canadian scientists are exploring whether such balances can be used to diagnose a crop's nutritional status.



Automated detection of deficiency in greenhouse-grown crops 8

Scientists have developed an automated sensing system to monitor the health of greenhouse-grown crops at sunset using a hyperspectral camera. *Photograph: UC Davis*



Fertosphere-pH crucial to plantavailability of phosphorus 11



Importance of silicon for legumes underestimated 36

Arable farming

- 4 Ammonium triggers formation of lateral roots
- 4 Nitrogen-fixing rhizobacteria differ in greenhouse gas production
- 4 Selenium stimulates iron acquisition in iron-deprived oilseed rape
- 4 Rainfall intensification increases nitrate leaching from tilled but not no-till cropping systems
- 6 Previous-year phosphorus nutrition index indicates phosphorus fertiliser need of maize
- 36 Excess manganese in soybean and sunflower binds to silicon in cell wall
- 36 Silicon mitigates water deficit stress in transplanted pre-sprouted sugarcane seedlings
- 36 Importance of silicon for legumes underestimated

Potato nutrition

- 4 Tuber nitrogen content is risk factor associated with tuber greening
- 5 Nutrient balance reflects nutritional status of potato
- 6 New indices for potato nitrogen status and tuber quality
- 7 Publications about potato nutrition research

Plant and soil analytics

- 4 Tuber nitrogen content is risk factor associated with tuber greening
- 5 Nutrient balance reflects nutritional status of potato
- 6 New indices for potato nitrogen status and tuber quality
- 6 Previous-year phosphorus nutrition index indicates phosphorus fertiliser need of maize
- 6 Determination of P and K in (in)organic fertilisers
- 6 Arginine concentration indicates nitrogen status of peach
- 6 Soil nitrite concentrations indicate hotspots and hot moments of nitrous oxide emissions
- 8 Automated detection of nutrient deficiency in greenhouse-grown crops

Ornamentals, fruits and vegetables

- 8 Automated detection of nutrient deficiency in greenhouse-grown crops
- 8 Foliar-applied manganese reduces green peach aphid fitness in bell pepper
- 8 Selenium enhances accumulation of glucosinolate-related compounds in pak choi
- 8 Iodine spray solution must hit apple fruit for biofortification
- 9 Adjusting nutrient solution allows growth at low pH to limit root rot spread
- 9 Foliar applied urea benefits cider fermentation from nitrogen-poor apple juice

Fertilisers

- 9 Polyhalite less leaching-sensitive than equivalent sulphate salts
- 10 Fluid phosphate fertiliser performance in calcareous soil is best at a low concentration
- 11 Fertosphere-pH crucial to plant-availability of banded phosphorus
- 11 Dual-release granular urea fertiliser
- 11 Glauconite milled into potassium fertiliser
- 11 Adjusting the phosphorus-availability of biochar
- 12 Foliar-applied urease inhibitor starves plant-pathogenic fungi
- 12 Iron(III) phosphate nanofertiliser differently utilised
- 12 Publications about new, experimental and potential fertiliser formulations

Silicon

- 36 Excess manganese in soybean and sunflower binds to silicon in cell wall
- 36 Silicon mitigates water deficit stress in transplanted pre-sprouted sugarcane seedlings
- 36 Importance of silicon for legumes underestimated
- 36 Recent silicon publications

Literature

- 7 Publications about potato nutrition research
- 12 Publications about new, experimental and potential fertiliser formulations
- 15 Publications about plant nutrition research
- 36 Recent silicon publications

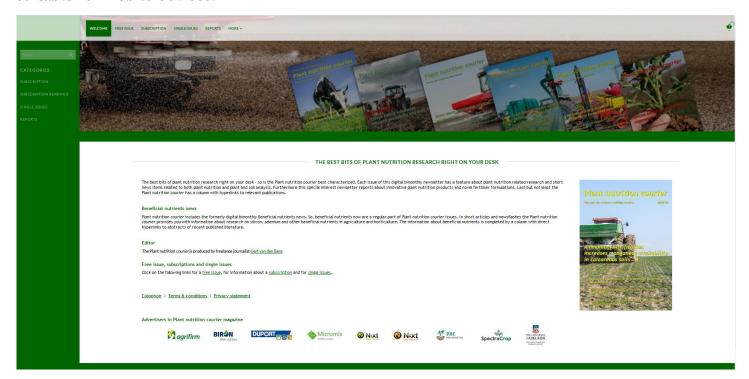
Service

38 Calendar of events

Publications about plant nutrition research from page 15 15 Potassium 15 Biofortification Calcium 30 15 Greenhouse gas emission Lime / pH 31 Mapping, sensing, sampling and analytics 16 Magnesium 31 Ammonia and urea fabrication processes Sulphur 32 14 Boron Application technology 18 32 Foliar fertilisation Chloride 18 32 Chelates 19 Copper 32 Organic fertilisers and industrial wastes (selection) 19 Iron 33 Green manure / cover crops 20 Manganese 33 Biochar 21 Molybdenum 34 Humic acids 21 Zinc 34 Nano-fertilisers 21 Aluminium 34 Nitrification and urease inhibitors 22 lodine 34 Specific release 22 Nickel 34 Nitrogen 23 Selenium 35 Phosphorus 28 Rhizobia, mycorrhiza etc. 35

Facelift for website Plant nutrition courier

The website of the Plant nutrition *courier* has been redesigned. This makes the website more suitable for mobile devices.



Fertiliser companies









Liquid fertiliser applicators



Fertiliser research



FERTILISER TECHNOLOGY RESEARCH CENTRE

Trial equipment



Plant and soil analysis devices and tools



Soil services



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Mycorrhizae



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