

A green tractor with orange seed hoppers is shown in a field. The tractor is viewed from the rear, showing its large rear tire and the seed hoppers. The background is a brown field under a clear blue sky.

Plant nutrition courier

The best bits of plant nutrition research

2022-06

All seeds in the right orientation 4

Thinly seeded, square-arranged wheat can outperform conventionally-grown crop 9

Soil microbes save nitrate by converting it to ammonium 11

Pharmacologists find novel urease inhibitors 13

Subsurface banding confounds nitrogen release from polymer-coated urea 14

Recent plant nutrition patent publications 40



All seeds in the right orientation 4

Flat, perpendicular to the rows or with the germ upwards or downwards - seeds in the right orientation give higher yields than randomly sown seeds.



Thinly seeded, square-arranged wheat can outperform conventionally-grown crop 9

Wheat can compensate grain yield at lower seed rates. Grain phosphorus concentration is higher at low than at conventionally plant density. *Picture: Lucas Vicentin*



Soil microbes save nitrate by converting it to ammonium 11



Pharmacologists find novel urease inhibitors 13

Seed orientation

- 4 All seeds in the right orientation
- 7 Winter wheat: brush upwards or just downwards
- 8 Hypocotyl, hilum and radicle orientation
- 8 Editorial: Seed orientation: what are the effects on nutrient uptake?

Arable farming

- 9 Thinly seeded, square-arranged wheat can outperform conventionally-grown crop
- 9 Breeding living perennial mulch for winter cereals
- 9 Warming aggravates inhibiting effect of elevated CO₂ on mineralisation
- 9 Germinating sugar beet needs potassium
- 9 Screening maize hybrids for silicon deficient soils
- 10 Foliar-applied selenium increases white mould resistance of sunflower
- 10 Maize seedlings prefer nitrate over ammonium irrespective of soil pH
- 10 Special issue about the rhizosphere

Plant and soil analytics

- 10 Role of legacy phosphate in determining phosphate fertiliser recommendations

Potato nutrition

- 10 Publications about potato nutrition research

Beneficial soil microbes

- 11 Soil microbes save nitrate by converting it to ammonium
- 11 Scientists stimulate rice to attract soil bacteria that fix nitrogen from air
- 11 Seed inoculation increases maize grain yield

Fruits and vegetables

- 12 Nanosulphur enhances nutrient contents in tomatoes
- 12 Boron suppresses virus infection

Fertilisers

- 12 Fertiliser additive studied with sophisticated method
- 12 Chelating calcium with sorbitol stimulates foliar uptake
- 12 Nano-gypsum outperforms classical gypsum soil amendments
- 12 Biostimulatory and plant nutrition-related aspects of lignin and derivatives reviewed
- 14 Publications about new, experimental and potential fertiliser formulations

Urease and nitrification inhibitors and fertilisers coatings

- 13 Pharmacologists find novel urease inhibitors
- 13 Novel dual-action urease and nitrification inhibitors
- 14 Gum arabic tree leaves contain urease inhibitor
- 14 High-temperature-resistant nitrification inhibitor
- 14 Subsurface banding confounds nitrogen release from polymer-coated urea
- 14 Double-function coating for urea

Calcium signalling and manganese deficiency

- 18 Root tips sense manganese availability in soil
- 18 How manganese gets to where it is needed in plants
- 18 Calcium signalling differs per plant species

Plant nutrition patents

- 40 Recent plant nutrition patent publications

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Colophon

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