

# New liquid fertilisers improve nutrition systems

By Roy Hildebrand, Liquids Manager, Incitec Pivot Limited

New developments in fertilisers, including the introduction of three new liquids this season by Incitec Pivot Limited, continue to make cotton nutrition more precise and efficient for growers.

The new fertilisers, known as EASY Liquids Starters, are ideal for providing low concentrations of readily available nutrients via liquid injection at sowing.

'Pop-up' applications are just one way that growers can more accurately meet plant nutrient uptake requirements in line with their growing yield expectations.

While there's nothing new about pop-ups, the introduction of EASY Liquids Starters allows growers to make these applications in the easiest possible way.

The liquid solutions are delivered on farm ready to apply, with the balance of phosphorus, nitrogen, potassium and zinc required.

### Phosphorus nutrition

Phosphorous plays a critical role in early crop growth.

One of the key attributes of phosphorus is that it is relatively immobile in the soil. This makes placing phosphorous fertilisers close to germinating seeds essential for effective uptake by the crop.

This is where EASY Liquids Starters can be used to great effect.

Growers can use them for precise and accurate place-

ment of small amounts of phosphorous with the seed at planting.

The pop-up applications give the crop ready access to nutrients during the early stages of germination and establishment, before plant roots reach banded granular starter fertilisers.

EASY Liquids Starters can be applied much more evenly along the row at low rates than any granular fertiliser.

Pop-up applications of just five to 15 litres per hectare can be especially valuable when the crop faces other potentially limiting germination or establishment issues, such as cold soils.

### Nutrient availability

The nutrients supplied have been carefully chosen for maximum efficiency in crop. EASY Liquids Starters con-

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tain 100 per cent water soluble phosphorus, potassium phosphate, chelated zinc and ammonium nitrogen.

Chelated zinc has been used to improve zinc availability where the soil pH is outside the optimum range for zinc uptake (5.0 to 6.0).

Where potassium is supplied, potassium phosphate is the form used. It is the best source of potassium for direct contact with germinating seedlings because it has a low salt index.

Ammonium nitrogen can improve phosphorous uptake by the crop. As plants take up nitrogen, phosphorus comes along with it.

**Nutrient balance**

EASY NP fertiliser contains 11 per cent nitrogen (w/v) and 16 per cent phosphorus (w/v).

Where zinc is required, EASY NP plus Zn fertiliser contains 10 per cent nitrogen (w/v), 15 per cent phosphorus (w/v) and 0.7 per cent zinc (w/v).

EASY NPK 27 fertiliser contains eight per cent nitrogen (w/v), 14 per cent phosphorus (w/v), five per cent potassium (w/v) and 0.7 per cent zinc (w/v).

The products are available from Incitec Pivot's agents and dealers in bulk tanker loads or 1000 litre containers. Supplies are held in Brisbane and Moree for growers. 🌱

## Variation kept in check at Brookstead

A three year program of variable rate application of BIG N fertiliser has resulted in cost savings and harvest improvements for Brookstead cotton grower Russell Clapham.

Nitrogen variation between the top and drain ends of his cotton paddocks had been causing uneven defoliation times, with cotton at the drain ends still growing big, rank bushes while the top was ready to pick.

"Before Bollgard cotton, grubs couldn't be controlled in the rank areas, resulting in yield reductions up to 30-40 per cent compared with the better areas" said Russell.

Soil tests confirmed that the pattern he was seeing was caused by a nitrogen variation. Intensive soil testing was used to gain as much information as possible about the fertility of paddocks, with samples taken at two hectare intervals.

"We started by taking little steps," said Russell.

Paddocks were split in three for BIG N rates so that the top end received the highest rate, the middle a lower rate and the tail end received the least.

Although his system has become more precise as the years have passed, Russell cautions growers to tread carefully when approaching variable rate technology.

He now has yield map data, soil test data and previous application rate maps as source material. With the help of his son, Nathan, he creates specific BIG N application maps for each paddock each year, which are loaded onto a data card in the tractor.

Application is automated with the use of a Raven flow controller and GPS. But while the potential of the equipment hasn't really been tested, he's reached the limit to which he is willing to refine the system at this stage.

"I could split the paddock up into 100 pieces and treat every area differently, but it comes back to the time spent and the returns to be achieved," he said. "For the work we've already done using a few soil tests and some agronomic advice, we have fixed 90 per cent of the problem."

In fact, Russell is so pleased with the results so far, he's planning to cut back on his use of variable rate this season.

"The crops are cutting out much more evenly. There's been a definite visual improvement and the yield monitors show that yields vary by only about 10 per cent across the paddock," he said.

At the same time, he has been saving on fertiliser costs by better targeting rates to what's required and



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