



Improve liquid nitrogen safety and crop responses

WESTERN Australian graingrowers could soon reap the benefits of an ability to place liquid nitrogen with seed at sowing, when applied with a soil moisture and retention agent.

Liquid and granular nitrogen (N) fertilisers are traditionally placed away from seed due to toxicity and related crop establishment risks however, trials of liquid nitrogen applied with the unique soil moisture and retention agent, SE14 from SACOA, have shown encouraging results for further research.

Independent research business, SLR, last year conducted trials investigating various applications of SE14, UAN and NPK compound fertiliser with canola and wheat.

"One of the objectives in the trials was to push the rate of UAN applied with SE14 close to the seed to see if there would be an effect on crop establishment," said SLR representative Michael Lamond.

"In a warm, drying seedbed, 8-10 total kilograms of N per hectare can be toxic on canola.

"We wanted to see if we could apply the UAN and the SE14 together down the liquid tube and still be safe on the canola and wheat.

"We reduced canola plant establishment at 90 litres a hectare of UAN, although 30L/ha and 60L/ha appeared safe.

"When the liquid nitrogen was mixed with SE14 and placed in close proximity to the seed, there was not



□ Pictured left in a canola trial at Bolgart shows the response from an application of SE14 at 3 litres per hectare, UAN at 60 L/ha and K-Till Plus at 80 kilograms/ha, all applied with the seed, compared with the same application (right) without SE14.

the same reduction (in plant numbers) that you can get with UAN alone, urea or granular fertilisers."

He said particularly for growers who did not have split seeding tanks, the research indicated they could apply UAN and SE14 together, close to the seed at the rates tested.

"Normally, UAN is applied below the seed and SE14 is close or above the seed, where it can quickly utilise rainfall," Mr Lamond said.

"We had the outlet behind the seed shoot and as you travel along, you get some mixing with the soil around the seed – some just below and some above.

"The trials showed that you can probably apply more UAN with SE14 than you think – it is not as toxic as granular fertiliser."

He said further research, in combi-

nation with the environment, would target a range of liquid nitrogen rates to apply safely with SE14.

Synergy Consulting's David Pfeiffer, who took some grower groups through the trials last season, said it appeared SE14 was making the solution with UAN softer and he looked forward to further research.

"The focus with SE14 has been on placing it with the seed and it appears to have excellent safety," Mr Pfeiffer said.

"The results with UAN in a dry season were extremely encouraging and I understand some farmers are happy to adopt it.

"The thought of applying UAN close to the seed with SE14 is a bit scary, so it was good to see the trials and that safety was acceptable, particularly in cereals, which are more tolerant."



□ There was strong interest in canola at a Bolgart field day last season, with growers tuning in to western regional manager Damon Fleay (centre).

He said it meant growers could look at one liquid stream at sowing for nutrition, fungicide and SE14, leading to improved fungicide efficiency and access to nitrogen and trace elements.

Meanwhile, Mr Lamond said the full trials program included treatments with and without SE14 and different rates of UAN and compound fertiliser, as well as split applications of the compound fertiliser placed with and below the seed.

He said one of the major findings was the improved canola establishment and yields from the addition of SE14.

In canola at Bolgart, 80 kilograms a hectare of K-Till Plus, 30L/ha of UAN and 3L/ha of SE14 all banded with the seed recorded 23 plants per square metre, 35 days after sowing (DAS), 43 per cent canopy cover 67 DAS and a

final yield of 1.6 tonnes a hectare.

The same application without SE14 and the UAN banded below the seed only achieved 10 plants per square metre, about 15pc canopy cover and a yield just above 1t/ha.

"It was right from the initial plant density and the improvement was quite a bit in some cases, whereas the differences in the wheat were more subtle," Mr Lamond said.

"In all cases, one of the best treatments was SE14 and UAN with the seed and a split application of compound fertiliser with and below the seed."

For those growers interested in applying SE14 in the upcoming season, stocks are still available and they are urged to secure their supply as soon as possible.

□ More information: sacoa.com.au

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