



Saving time and passes with liquid delivery

Wick Dayman and Nathan Clifford from SA's Copper Triangle have saved precious time during seeding since converting from granular to liquid fertiliser.

Switching from granular to liquid fertiliser saves Wick Dayman and his son-in-law Nathan Clifford of Warburto Farms at least 90 minutes every day during seeding.

The continuous croppers from South Australia's Copper Triangle aim to cover 300ha of their 4000ha farm each day during seeding and before switching to liquid, would need to restock their seed and fertiliser every 80ha. Now, they refill every 200ha, more than doubling the distance covered.

"We're doing one refill per day with liquids, whereas before we were doing three or four," said Wick. "And it would take about half an hour to fill, so we're picking up another hour and a half easily per day. It means less time in the paddock throughout sowing."

Wick and Nathan installed Liquid Systems (SA) equipment in June 2017 and have been impressed with the accuracy of the system and its rate control. "I've found that to be excellent," said Wick. "If we program it to put out 25l/ha, it puts out 25l/ha."

The pair chose Liquid Systems' G22 Dual Module and Spiker Module to apply Stoller Australia's ClearStart 22KZ in-furrow fertiliser, UAN and a mix of fungicide and insecticide. After one season, they upgraded from Liquid Systems (SA) single stacker distribution system to a twin stacker to allow simultaneous and independent applications of ClearStart and UAN, which are chemically incompatible.

"Our main holding tank has three compartments, so we can have three different products that can't be mixed together in bulk form," said Wick. "We wanted to put the two different products – liquid phosphorous and UAN – out at the sowing boot. What the twin stacker allows us to do is pump different products, metered at different rates into the sowing furrow."

Designed to support crop development, ClearStart contains 22% liquid phosphorous (P), the trace elements zinc, manganese and copper, along

Who:	Wick Dayman and son-in-law Nathan Clifford
Where:	SA's Copper Triangle, near Moonta, Wallaroo and Kadina
Crop:	4000ha (wheat, barley, canola and legumes)
Equipment:	Liquid Systems (SA) G22 Dual Module and Spiker Module. Upgraded from single to dual stacker system after one year.
Outcomes:	<ul style="list-style-type: none"> • Cut seed and fertiliser refills by two thirds, saving 90 minutes down-time each day • Up-front application of fungicide and insecticide saves up to four sprays post seeding • Ability to apply multiple liquids in one pass with the twin stacker distribution system • Easily change rates on the go • Precise rate control and accuracy • Excellent early crop establishment

with molybdenum and cobalt. Wick and Nathan vary the amount of ClearStart across their property, with 15l/ha applied to heavier grey loam soil at the northern end of their farm and 25l/ha on their red, sandy loam soil at the southern end. As this part of their property yields more than the northern paddocks it requires more replacement P. They apply 25l/ha of UAN to cereals in their rotation and a mix of 500mm/ha of fungicide and 200mm/ha of insecticide using Liquid Systems (SA) Spiker Module. The mix is held in the smaller section of their three-compartment tank and is spiked into the tube together with the ClearStart.

"It gives you great flexibility in terms of getting the fungicide into the crop early," said Wick. "You don't have to worry about going back after the crop is up."

Wick estimates that applying the fungicide and insecticide in-furrow saves them up to four in-crop spraying passes, depending on the season's disease and insect levels.

"With fungicide, putting it on the crop after establishment means that if you get behind, you never get in front. Sometimes you might get the timing right, but a lot of times it's already too late.

"These products are more preventative. If it's in the system from seeding, you don't have to worry about it. Job's done. Close the gate."

Wick estimates that applying the fungicide and insecticide in-furrow saves them up to four in-crop spraying passes, depending on the season's disease and insect levels.

Wick and Nathan found installation of the Liquid Systems (SA) equipment on their K-Hart disc seeder with Gent openers a straightforward process. "It was like fitting a spray unit to your seeder bar," said Wick. "There's nothing hard about it. And the team at Liquid Systems were very good in terms of support. We've dealt with a lot of companies over the years and Liquid Systems is one of the companies that actually did what they said they were going to do."

Wick and Nathan's set-up includes a tow-behind liquid cart, made by Wick, which carries a 13,000 L liquid tank. It connects to a John Deere air seeder, which sits behind the K-Hart bar. Wick and Nathan purchased a 15,000 L bulk tank and pump for their semi-trailer, which they use to cart the seed and liquid products to the seeding unit in the paddock. The complete set-up cost Warbuto Farms \$100,000, including \$40,000 for the equipment from Liquid Systems (SA) and \$60,000 for the bulk tank and pump, liquid tank and cart.

Wick believes farming is a long-term concern, so it is too early to claim results from liquid application, however he is confident there hasn't been any detriment from switching from granular fertiliser. "We're not sure if there are any gains yet, but there are certainly no losses, in terms of yield or crop health," said Wick. "And early crop establishment has been excellent with liquids. It just gets up and going and our crops are a nice, dark green colour."



Front page: Nathan Clifford (left) & Wick Daymon (right) in front of their Spiker & G22 Modules. **Above left:** One of five dual Stacker Manifolds, allowing 98 outlets in total. **Above right:** Close up of liquid stream & terminal assemblies mounted to the K-Hart disc seeder with Gent Openers. **Below:** Warbuto Farms complete seeding rig in action.

