



R&D update – mid row banding project

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At seeding time SCF with Direct Seeding and Harvest put in two trial sites to test whether mid-row banding nitrogen is more efficient than top dressing. Research indicates only 42% (on average) of nitrogen applied is utilised by the crop, with the remaining leached, volatilised or washed away. It is hoped that mid-row banding nitrogen at seeding and at the end of tillering will increase fertiliser use by the plant and decrease environmental losses.

Benefits from

mid-row banding include the same or higher yields from 20-30% less nitrogen being applied, improved nitrogen use efficiency and reduced acidification rates, with the main aim of improving profitability.

The two sites in 2020 include one at South Stirlings as a small plot trial, and another at Kendenup at a broadscale level. The trial at Kendenup compares mid-row banded against top dressed nitrogen at seeding time, while the plot trial in South Stirlings has six different treatments of nitrogen applications including:

- Urea MRB at seeding + Flexi-N MRB at tillering
- Urea MRB at seeding + Top dressed Flexi-N at tillering
- Top dressed urea at seeding + MRB Flexi-N at tillering
- Top dressed urea at seeding + Top dressed Flexi-N at tillering
- Nil urea at seeding + MRB Flexi-N at tillering
- Nil urea at seeding + Top Dressed Flexi-n at tillering

The seeder was used to band the urea at seeding before moving the machine six inches one way to then seed the plots. The in-season banding was done courtesy of the CSBP trial team, using their trial mid-row bander and flexi-N. The CSBP application went surprisingly well considering the spacings of machines were mismatched. Even when the disc was running directly over a row it was hard to determine any damage to the plants. Some loss did occur when the disc ran through the plants, with the most damage seen when one disc was just off the plant row cutting the outside leaves off. We look forward to seeing the results at the end of the year for this project.



Figure 1: Damage that is inflicted by running the mid-row banding disc next to the plant row.



Figure 2: Damage that is inflicted by running the mid-row banding disc directly over the plant row

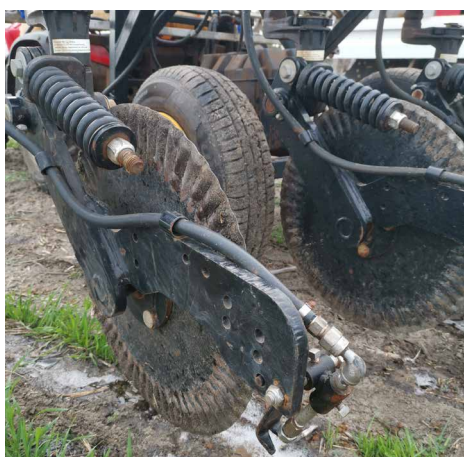


Figure 3: Close up of CSBP's trial mid-row banding machine.



Figure 4: CSBP's trial mid-row banding machine



Figure 5: South Stirling's MRB trial site.