

Soil wetter and water rates demonstration

NATIONAL LANDCARE PROGRAM SMART FARMS SMALL GRANTS - AN AUSTRALIAN GOVERNMENT INITIATIVE

BACKGROUND

The use of soil wetting agents in treating water repellent sands is commonly used in other regions, however adoption in the Upper South East has been slow due to both the lack of liquid systems on airseeders and the variability in results. This demonstration aimed to see if increasing the water application rate / product rate gave more consistent results when using wetting agents to establish an annual crop.

SOIL FERTILITY SNAPSHOT

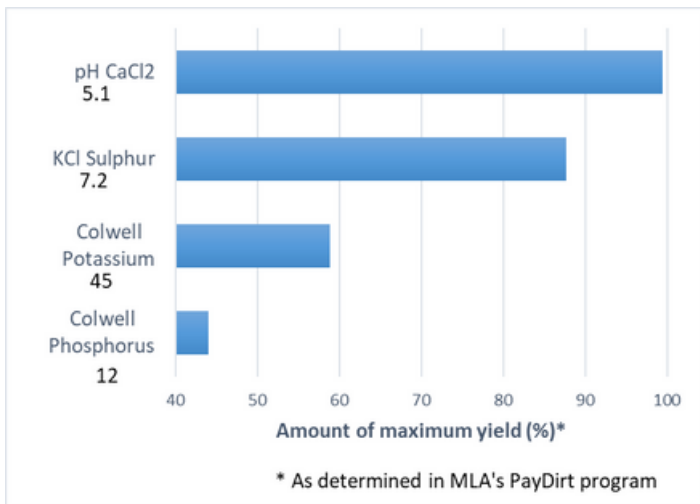


Figure 1. Soil Test results (0-10cm)

SITE ACTIVITIES

A barley crop was sown on 15/7/22 with a liquid system applying either 4.5L/ha or 2.25L/ha SE14 (soil wetter that has had greatest success in regional trials) at a water rate of either 50L, 100L or 200L/ha.

Demonstration strips had a control strip in between each row and the 3rd tyne in was the row measured to ensure machinery variability was accounted for.

Plant establishment counts were taken 14 days and 42 days post-sowing.

RESULTS

Initial 14 day assessments were taken and the only treatment that showed an increase in germination when compared to the control strip was the 4.5L/ha SE14 applied in 50L water.. The 6 week (42 day) assessments showed an increase in germination across all treatments except for the low rate of SE14 applied in 100L water (Figure 3). These increases in plant establishment did not however carry across to increases in grain yield with no differences observed between the treatments and the grain yield.



Figure 2. 42 day plant establishment

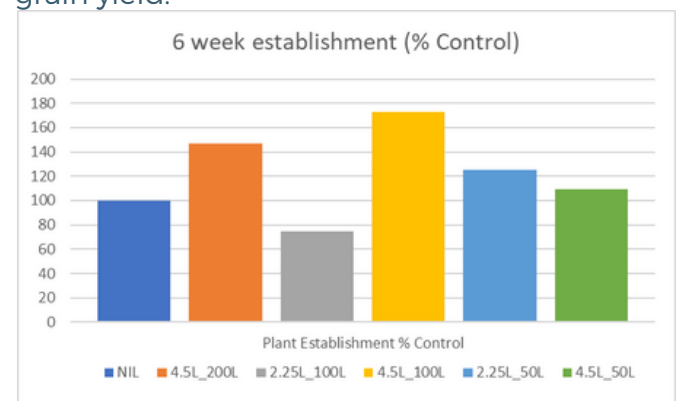


Figure 3. 42day plant establishment as a % of the untreated control.

ADDITIONAL NOTES

Seeder setup is critical if trying to achieve the most from soil wetting agents. The disc seeder used in this demonstration was placing the seed into the side of the furrow and the liquid at the base. The seed was therefore not well placed to access the moisture that was potentially harvested by the wetting agent.

Thanks to the Angas family for hosting this demonstration