Keep it in the row!

Phillip Mackie, Project Officer, SCF

With challenging starts for the past couple of seasons, many growers have experienced issues in crop germination due to soil water repellence. SCF looked into this issue using soil wetters as a mitigation tactic for farmers to apply when they see fit as a low-cost alternative to soil amelioration methods. There was a range of treatments applied to determine the best placement and rate of soil wetters to best improve crop germination.

It was found that the best placement of SE14 is in the seed contact zone behind the seed boot which significantly increased both crop germination and early biomass growth compared to the control. Increasing the rate of SE14 from 2 L/ha to 4 L/ha in all treatments, except directly on the seed,did not give significant benefits. The higher rate directly on the seed reduced both crop germination and early biomass growth, mostly likely due to uneven seed spacings and incorrect seeding rate from tackiness when sowing.

We also found that seeding near or on last year's furrow significantly increased early biomass growth when compared to completely off row. However, when it came to the end of the season there was no benefit in any treatments for grain yield with the untreated control yielding the highest. This is not uncommon for canola because of its ability to compensate. Research suggests that canola needs only 10 plants per square meter to yield 1.5 t/ha. The yield differences seen could be attributed to the high spatial variability over the trial site. However, we think the higher biomass treatments had higher nutrition & moisture requirements during grain fill, which they didnt recieve when the topsoil was drying out, therefore, the poor season finish did not allow the higher biomass plots to reach their true yield potential.

We recommend for growers to seed as close as possible to last years furrow and use soil wetters in the seed contact zone for best returns. For full results from the trial site look for the summary in our review booklet due out later in April.

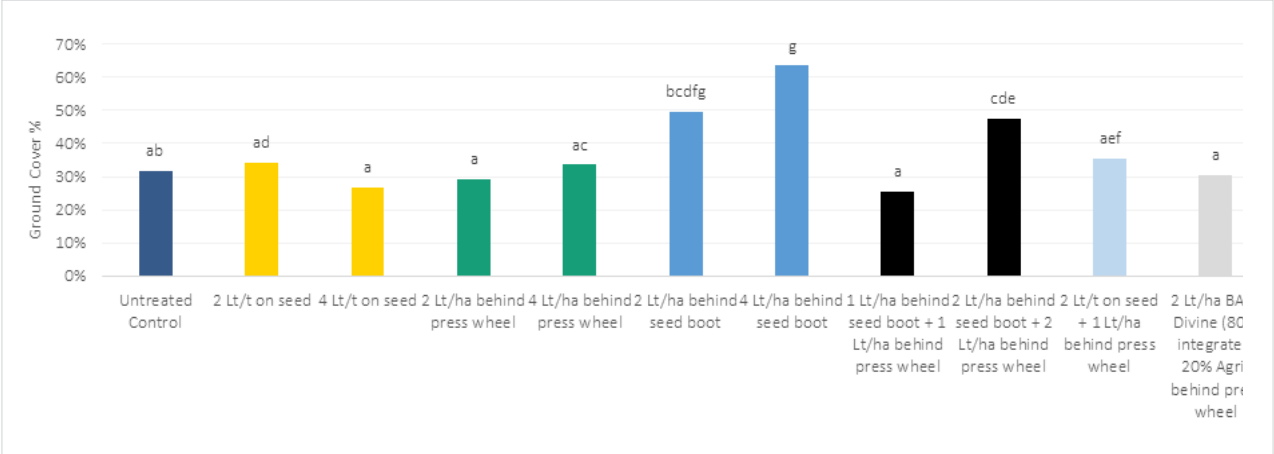

Figure 1: Ground Cover for different placements and rates of the soil wetters, SE14 and BASF Divine in a forest gravel at Tenterden WA. Percentages determined through calculations with drone imagery on the 28/7/2020. *Treatments with common letters are not significantly different from one another.*

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