Canola Establishment Trials - Fertiliser Trial

This trial was sown to investigate the potential of fertiliser toxicity on canola germination when sown “down the tube” with various fertilisers.
A rule of thumb when sowing seed with fertiliser into the same tube/furrow is to not exceed 20 kg N/ha. Above level this has the potential to have a negative impact on the germinating seed, and this risk is increased with marginal moisture levels in the soil. There are also some differences in the way DAP and MAP dissolve and create alkaline (DAP) or slightly acid (MAP) conditions around the granules. As DAP dissolves, ammonia is released and this can be harmful to shoots and roots in the immediate proximity.
MAP is slightly safer than DAP, but in a practical sense, there is very little difference between the two fertilisers, particularly when we are sowing irrigated crops, as moisture is not usually limiting, and is definitely the case when irrigating a crop up. We choose DAP over MAP due to the higher N (18% versus 10%) and at 125 hg/ha, supplies all the necessary P to meet our target yields.
This trial was sown on April 27th with variable rates of DAP and MAP, as well as urea and triple super replicating the amount of N or P in the MAP or DAP rates.
The trial was then irrigated up and the establishment counts taken approximately 5 weeks after sowing.

Treatment Fertiliser and Rate	Kg N/ha	Kg P/ha	Establishment Plants/m^2
DAP @ 110 kg/ha	20	22	36.1
DAP @ 165 kg/ha	30	33	36.3
MAP @ 90 kg/ha	9	20	33.1
MAP @ 180 kg/ha	18	40	42.8
No fertiliser	-	-	24.4
TSP @ 98 kg/ha	-	20	31.8
TSP @ 146 kg/ha	-	30	29.3
TSP @ 196 kg/ha	-	40	40.6
Urea @ 22 kg/ha	10	-	25.4
Urea @ 44 kg/ha	20	-	32.3
Urea @ 66 kg/ha	30	-	24.8

Statistical analysis of the establishment counts saw no significant differences between treatments. Therefore it can be concluded that the inclusion of fertiliser “down the tube” at the above rates with canola that is watered up has no effect on canola plant establishment.