



## Canola Ameliorants

As the soil on the trial block is prone to slaking if overworked, this can become an issue when trying to establish canola, particularly when watering up. Calcium, either as gypsum or lime, can assist in improving soil structure and hence reduce soil crusting and slaking. Gypsum is widely used as it is available locally, saving transport costs, does not affect soil pH and is relatively soluble compared with lime.

In 2014, rates of gypsum, lime, gypsum/lime and PAM (polyacrylamide, which acts in a similar manner to calcium in that it helps aggregate the soil particles) were applied to the soil surface (which was crusting after pre-irrigation) and incorporated by sowing. Plant counts were taken as representing the success of the ameliorants in reducing soil crusting.

The 2014 results showed an improvement in establishment where gypsum was used at 3 t/ha over all other treatments. All other treatments except for the PAM were an improvement over the control (no ameliorant).

The trial was repeated in 2015. Plots were resown following pre-irrigation and relied on rainfall to ensure enough moisture for germination. Although rainfall was below average in May, there was enough for very good establishment. Target establishment was 50 plants/m<sup>2</sup>.



Treatment	Rate	(pl/m <sup>2</sup> )
Gypsum + Lime	1.5 t/ha	58.7
Gypsum + Lime	3.0 t/ha	82.9
Gypsum	1.5 t/ha	65.3
Gypsum	3.0 t/ha	69.5
Lime	1.5 t/ha	68.6
Lime	3.0 t/ha	68.0
No treat		74.3
PAM	5 kg/ha	65.1
p		0.325
lsd		NS
cv		14.3

No treatment had any effect on establishment. This may not be that surprising, given the small rainfall events in May. In order for the soil to slake post-sowing, it has to be wet enough to breakdown the soil structure. If it doesn't get particularly wet, then the soil can resist slaking and the seedlings can emerge unhindered.