

GOA Trial Site Report

Comparison of products to improve dry down in canola, Wellington 2013

Year/Date/Season; Winter 2013
Location; Spicer's Creek, Wellington NSW
Collaborators; Mason Families
Project Code; GOHM00413-1

Background

When comes to harvest options for canola it basically comes down to two choices - to windrow or to direct head.

Previous trial work by GOA has demonstrated that direct heading is a comparable option to a well-timed windrow in terms of yield performance but with potential for cost and labour savings amongst other potential benefits. The GOA region is seeing an increasing rate of adoption of direct heading but there could be a number of limitations against an even wider adoption.

One of those is the potential delays to direct heading with crops of uneven maturity. One of the key advantages to windrowing is that it brings the whole crop to an even maturity to allow harvest to start rather than having to wait for greener patches to ripen for direct heading to commence. Growers in the GOA region are now questioning what role a desiccant might have in this scenario?

Reglone™ has label claims for this purpose; to desiccate green material in a crop ahead of harvest to facilitate earlier harvesting. However, its' high cost both in purchase and application and many anecdotes of ineffectiveness is a major deterrent to use by many growers.

Now with the impending registration of Nufarm's Roundup® DST for pre-harvest weed control in canola, many growers are speculating its potential value as an alternate to Reglone. Lower purchasing cost and easier application are obvious benefits but many have a perception of increased reliability over that of Reglone®.

The following trial was designed to assess both Reglone® and Roundup® DST for their ability to speed up of crop dry down compared to nil treatment to facilitate earlier harvesting of the crop.

DISCLAIMER

Following is a report on a scientific experiment. It may contain some herbicide treatments that are not registered for the situation, manner or rate at which they are used in this trial. This document or anything else resulting from, construed or taken from this or by GOA or its representatives should not be taken as a suggestion, recommendation or endorsement of any unregistered herbicide uses.

Aim

Compare the use of Reglone® against Roundup® DST and Nil treatment for the rate seed moisture content declines in canola following application.

GOHM00413-1 Canola Desiccation Wellington

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GOA Trial Site Report

Methods

This trial used a randomized complete block design with sown small plots (10m * 1.8m).

Table 1 Trial site details- Wellington 2013

Crop and Variety	44Y84	Seeding rate	3.5 kg/ha
Sowing date	11 th May 2013	Harvest Date	Listed below
Seedling equipment	Cone seeder	Row Spacing	23cm
Crop Nutrition (kg/ha)	Pre drilled-Urea @ 150 + Gran Am @ 80. Seeding- Granulock 12Z @ 100	Soil type	Red Clay loam
Previous Crop (and yield)	Wheat	Pre Sowing Stubble Management	Sown into full retained stubble

Round Up DST and Reglone treatment were applied at one timing targeted at 70% of the pods changing colour as per direction on the Reglone label.

Four harvest timings were undertaken with an aim that the earlier harvest timings commenced well before the crop had dried down to 8% grain moisture content. Subsequent timings were spaced aiming to achieve 8% in all samples by the final harvest timing.

Table 2- Herbicide treatment, crop stage, application dates and harvest timings, Geurie 2014

Herbicide	Crop Stage	Application Date	Harvest Time	Harvest date
Untreated Control	NA	NA	H1	7/11/2014
			H2	8/11/2014
			H3	9/11/2014
			H4	10/11/2014
Round Up DST @ 3.4L/ha	60% Seed colour change	25/10/2013	H1	As above
			H2	
			H3	
			H4	
Reglone 3 L/ha	70% Pod colour change	25/10/2014	H1	As Above
			H2	
			H3	
			H4	

All herbicide applications were applied by and ATV motor bike fitted with a high boom at least 50cm above the top of the crop canopy and fitted with AIXR015 nozzles spaced at 50cm and operating at 3 bar pressure. Products were applied with rain water at 100L/ha of spray solution and applied early morning in all cases to avoid drift onto adjacent plots.

GOA Trial Site Report

Samples were taken from the harvested grain from each plot immediately after harvest and put into airtight plastic bags that were then refrigerated to avoid samples spoiling. These samples were then assessed for moisture content by NIR after the final harvest timing.

Grain yields were not assessed in this trial.

Results

The results are presented in Table 3.

Grain moisture content (GMC) at H1 was lower following the Reglone treatment than both UTC and Round Up DST which were no different to each other. All three treatments were still above the deliverable standard of 8% GMC.

At H2 the Reglone treatment was below the 8% GMC standard and would be able to be harvested. The GMC of the Round up DST treatment was lower than the UTC but both are still above the 8% standard and would not be able to be harvested at that time.

At H3, 17 days after treatments were applied the Reglone treatments is still below the 8% GMC but the Round Up DST and UTC were both higher than 8% GMC and not different to each other.

By H4 all treatments were below the 8% GMC and safe to harvest and none were different to each other.

Table 3 Moisture content of harvested grain at four harvest timings in response to two desiccant treatments

Days after treatment	Harvest timing	Harvested grain moisture content %					
		UTC		Round Up DST		Reglone	
10	H1	21.1	A	20.6	A	13.5	C
13	H2	16.5	B	14.1	C	6.6	FG
17	H3	9.5	D	8.3	DE	7.0	EF
20	H4	6.3	FG	5.6	G	5.4	G

Means followed denotes no significant difference, means can be compared across treatments or harvest timings, lsd = 1.34, p = 0.05

GOA Trial Site Report

Discussion

This trial has demonstrated that Reglone can be effective at reducing GMC quicker than natural maturation which would have allowed harvesting to commence around five days earlier.

The use of Round Up DST however did not show realistically any advantage over the UTC in this trial. Although the GMC was lower than the UTC at most harvest timings, as illustrated in Figure 1, the differences were quite small and not significantly different.

It should also be noted that the application timing of the Round Up DST in this trial was applied quite late. More recent information regarding the pending registration of the Round Up DST has indicated that applications could be made as early as 20% SCC. Applying Round Up DST at this earlier timing may have decreased GMC quicker than the UTC but this cannot be certain.

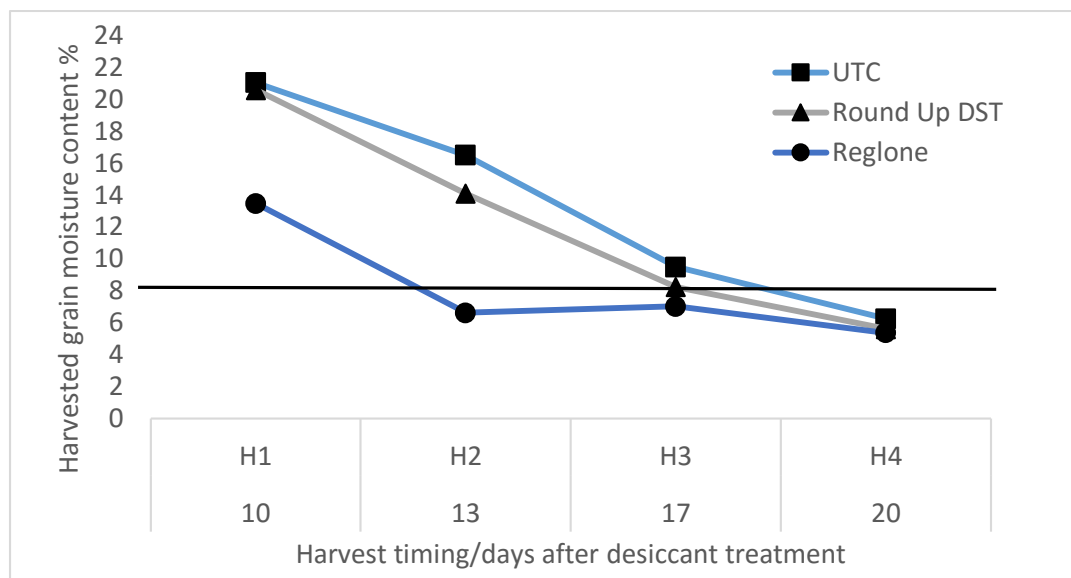


Figure 1 Moisture content of harvested grain at four harvest timings in response to two desiccation treatments

Conclusion

This trial has demonstrated the potential for Reglone to reduce GMC to allow for harvesting to start earlier than leaving the crop to mature naturally. In this case around 5-7 days.

However, Round Up DST applied around 60-70% SCC, did not show any potential to reduce GMC to facilitate an earlier harvest. The effect that an earlier application would have on GMC is not known and should be investigated further.

Acknowledgements

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