

GRDC project BWD00024 - Maintaining profitable farming system in retained stubble

Whats happened so far?

\$15/Ha extra cost to harvest low. 10% efficiency drop for each 10cm of comb height.

Establishment of wheat in wheat stubble worked well no significant difference between disc & tine.

Lower DM early in disc but caught up ok. Resulted in significantly higher yields by 0.6t/ha in 2015.

2016 very different – sown 12 April dry seed bed

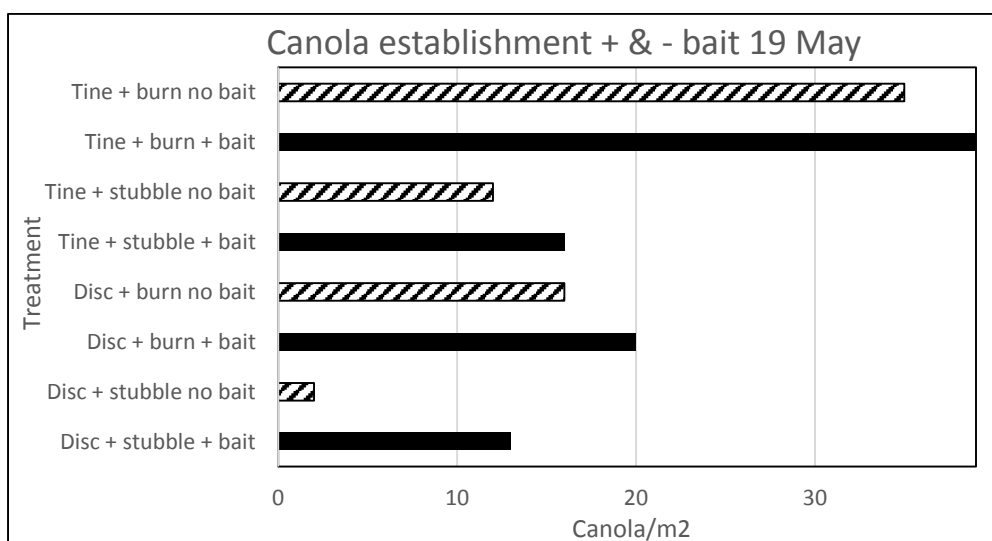
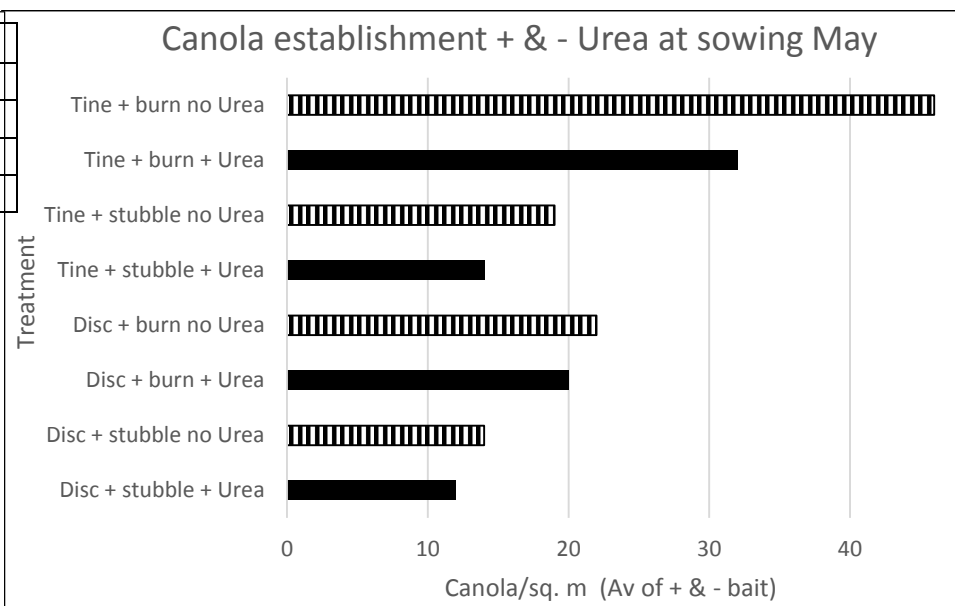
Week	Westmere 2016 Rainfall mm x month per week					Treatment	Soil moisture %	
	Jan	Feb	March	April	May		April 12	April 28
1		7		7	17	Disc stubble	12.5	10.5
2			9.6	1.6	44	Disc burn	12.7	9.9
3	12	3	12.8	1	11	Tine stubble	12.3	8.8
4	39	3		5	6*	Tine burn	12.3	7.8
Total	52	13	22	15	78*			

Treatment	28 April	19 May
Disc + stubble	2/m ²	13/m ²
Tine + stubble	15/m ²	16/m ²
Disc burn	3/m ²	21/m ²
Tine Burn	36/m ²	38/m ²

Tine emerged better than Disc in dry sowing conditions?

WHY???? Depth? Soil seed contact? Moisture harvesting? Rising moisture from knife point?

Moisture was not significantly different in furrow when measured?



Baited 4 x 10m wide with Mesuro 2.5kg/ha & Metarex 8kg/ha.

No bait reduced establishment.

Burning increased establishment.

No bait areas suffered serious plant damage to the point of requiring resowing.

Pre-em Chlorpyrifos did a good job in the paddock.

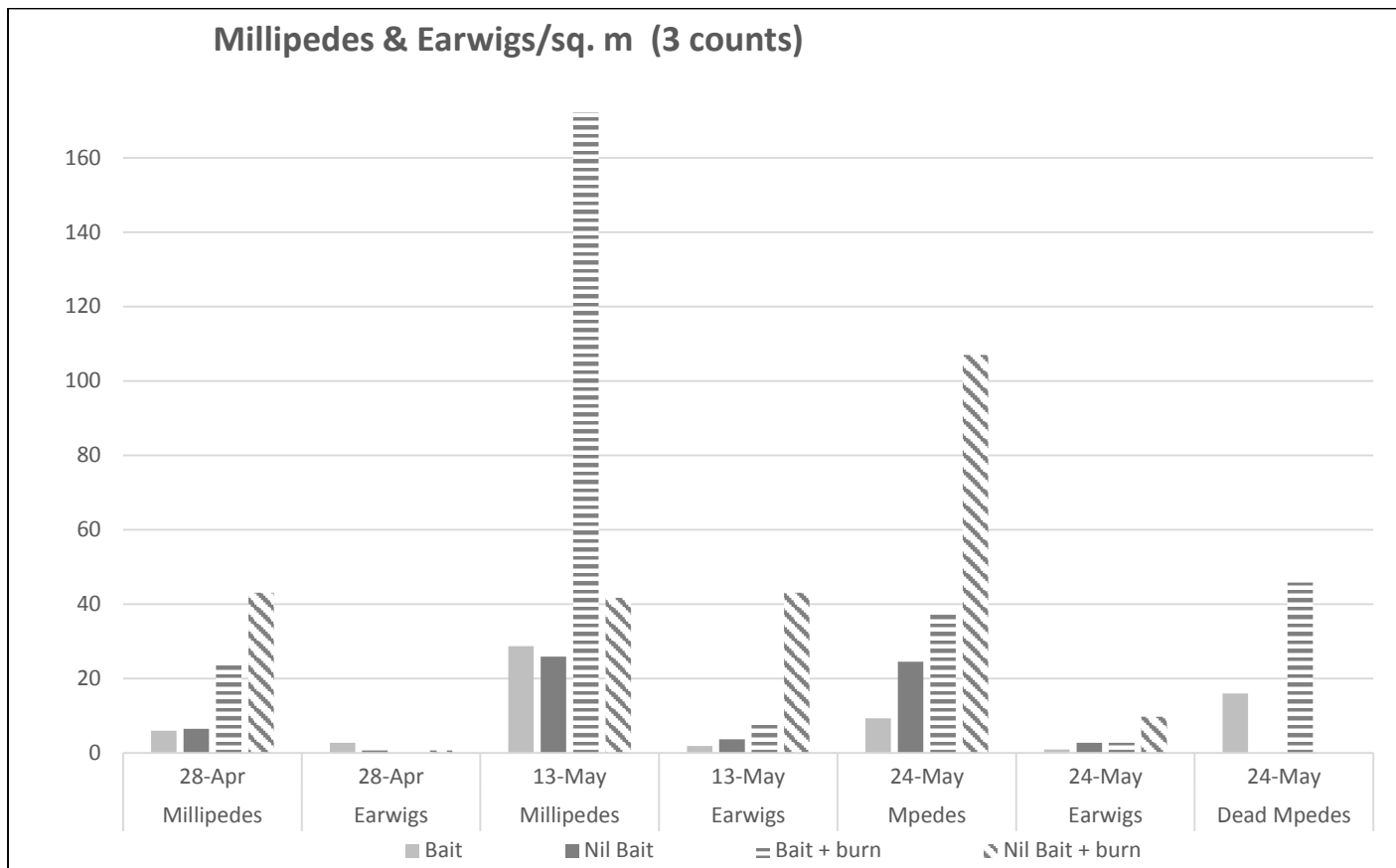
There is a suspicion that when dry sowing earwigs & millipedes eat seedlings for hydration?

Theory goes that once it rains earwig damage drops off? Did not happen here, Millipedes???

Damage to plants appeared to target true leaves of early emerging plants more so than cotyledons?



How many is too many?



Burnt on April 8. Data is skewed. No stubble so pests shelter under tiles.

Did not see much damage on April 28. Millipede numbers went up by a factor of 4.5 by May 13.

No difference in millipede numbers between baited and no bait? Serious damage by the May 9. Sprayed 12 May at night.

Still plenty of live millipedes on May 24, 9/m² compared to 29/m² on 13 May. 16/m² dead millipedes on May 24. Will they attack late germinations???

Treatment	% damaged	% Increase	Treatment	% damaged	% Increase
Stubble + bait	42		Disc + bait	17	
Stubble no bait	61	32	Disc no bait	27	37
Burn + bait	39		Tine + bait	67	
Burn no bait	51	24	Tine no bait	95	30