

Pushing the limits with spring sown winter canola

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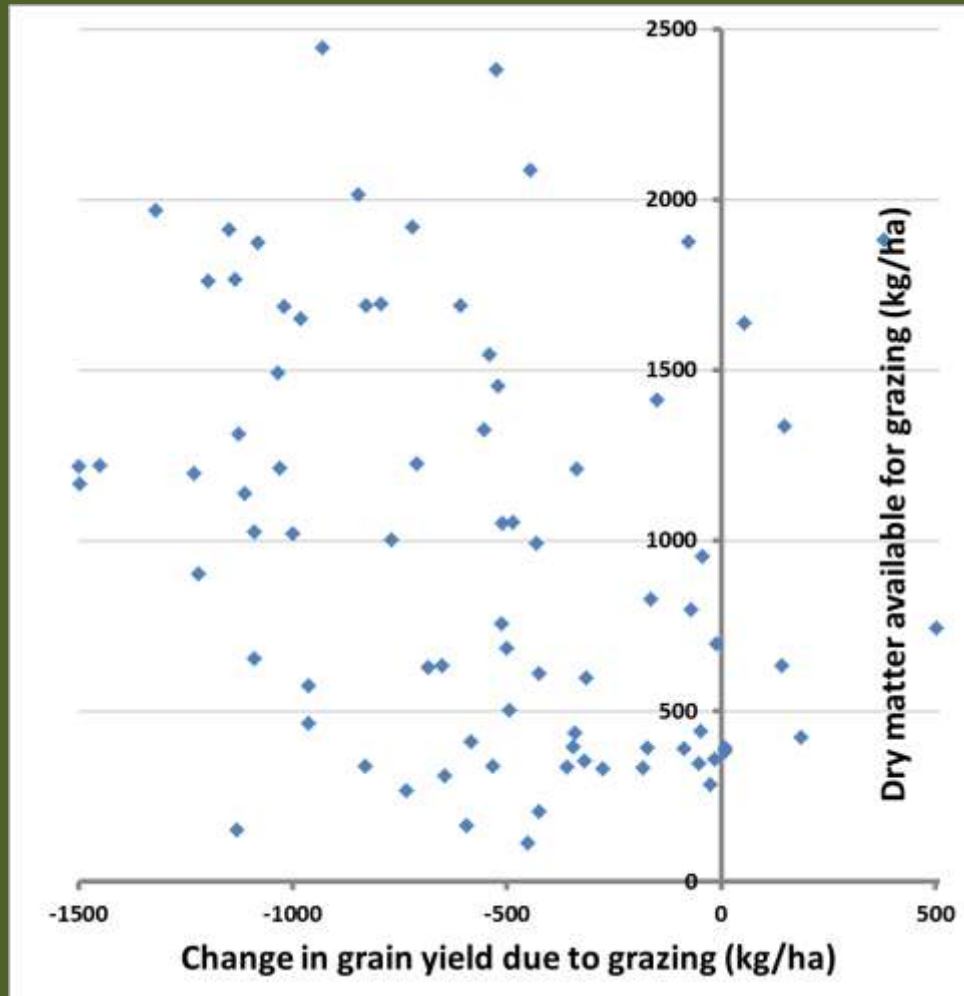


The beginning...

- Grazing canola over winter generally results in little dry matter and a likely yield decrease

Grazing canola conventionally

Low dry matter and yield penalty



Dry matter available at grazing and change in grain yield due to grazing (2010 -2012) - all varieties and sowing times.

The beginning...

- Grazing canola over winter generally results in little dry matter and a likely yield decrease
- Introduction of winter canola's which have a vernalisation requirement
- They won't flower until winter- dictated by temperature rather than day length (like spring types)
- Can sow them early autumn. Or even earlier...

2011/2012 season Dunkeld

What we did:

- Taurus canola sown 16th November 2011 after a failed cereal at Dunkeld, Vic
- Grazed over summer/autumn as a forage brassica
- Grazed once, twice and three times at light and heavy intensity
- Nitrogen management following grazing
- Sheep taken out May and left to mature for harvest
- Forage brassica and a grain yield

Sown 16th November 2011

31st Jan 2012
Prior to first grazing
3.5t DM/ha @ 13.8 MJ



Heavy graze



Did grazing effect grain yield?

Grazing (no).	Intensity of grazing	Grazing times	Days grazed	Grain yield (t/ha)
1	Light	31 Jan - 22 Feb	22	2.8
	Heavy	31 - Jan - 5 Mar	34	2.5
2	Light	31 Jan - 22 Feb 29 Mar - 5 Apr	29	2.9
	Heavy	31 - Jan - 5 Mar 29 Mar - 10 Apr	46	2.5
3	Light	31 Jan - 22 Feb 29 Mar - 5 Apr 26 Apr - 3 May	36	2.7
	Heavy	31 - Jan - 5 Mar 29 Mar - 10 Apr 26 Apr - 7 May	55	2.4
		LSD ($p=0.05$)		NS
		Sown in Spring, ungrazed		1.9
		Sown in Autumn, ungrazed		2.3



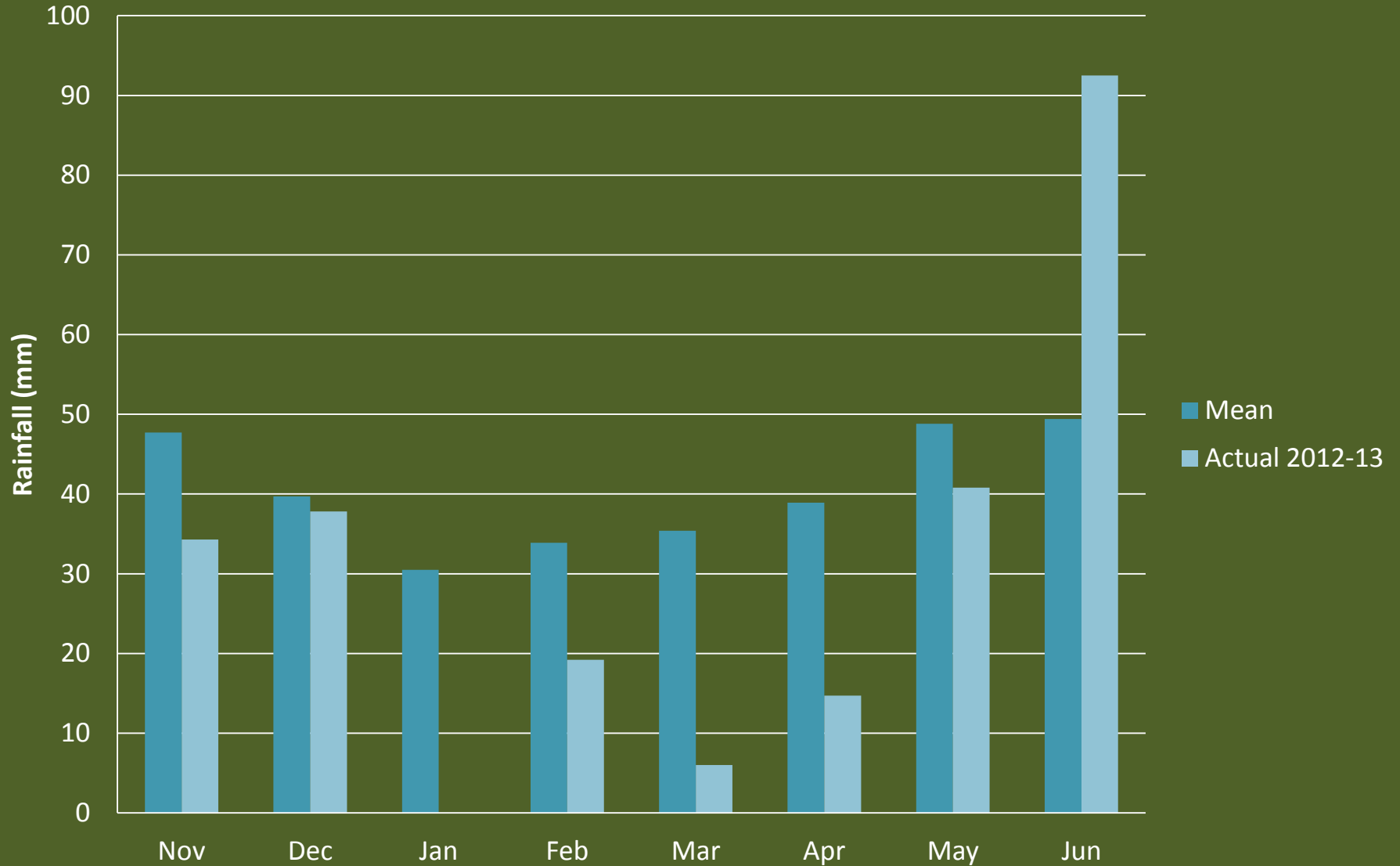
Crunching the numbers

- 4000 kg/DM/ha removed over three grazings
- 55 days grazing Feb-May
- Stocking rate 26 DSE/ha
- Feed quality 13 MJ/kg DM
- Plant pop. 40 plants/m² after grazing
- No yield penalty compared to ungrazed or autumn sown
- Nitrogen following grazing had no bearing on yield or plant recovery

2012/13 season

- Gnarwarre (near Inverleigh, VIC)
- Five varieties
- Winfred rape as a feed comparison
- Sown 14th November after long term pasture
- Target plant pop 70 plants/m² (3-4kg/ha)
- Below average rainfall summer and autumn

Winchelsea Rainfall 2012-13



27th January 2013



Grazed very heavily three times
between January and May 2013
2.5t/ha DM on offer



3rd April 2013
Will it survive?



12th July 2013



How do the varieties compare?

Variety	Time of sowing	Grazing	Spring estab (pl/m ²)	Autumn survival (pl/m ²)	Reduction in plants (%)	Summer DM (t/ha)	Grain yield Manual harvest (t/ha)
Taurus	Spring	Grazed	47	26	-43%	2.5	4.0
		Ungrazed	42	30	-29%		5.0
	Autumn	Ungrazed		8			3.6
	Hyola 971 CL	Spring	Grazed	41	28	-28%	2.4
Ungrazed			42	28	-28%		5.2
	Autumn	Ungrazed		14			4.4
	Hyola 930	Spring	Grazed	42	26	-38%	2.2
Ungrazed			39	36	-4%		5.2
	Autumn	Ungrazed		11			4.1
	CB 143 CL	Spring	Grazed	43	24	-44%	2.3
Ungrazed			38	30	-18%		4.5
	Autumn	Ungrazed		17			3.9
	CB Sherpa	Spring	Grazed	38	24	-35%	2.8
Ungrazed			43	27	-36%		5.2
	Autumn	Ungrazed		Not sown			-
	Winfred	Spring	Grazed	62	31	-49%	2.8
LSD (P=0.05)			12	7	NS	NS	0.8

- No difference in dry matter production between varieties including traditional forage brassicas
- Plant numbers declined over summer in grazed and ungrazed but still adequate plant numbers (30 plants/m²)
- Grazing reduced yield in most varieties by around 500kg/ha, but provided valuable summer feed
- **Inputs: 100kg MAP at sowing, 150kg SOA after final grazing, 100kg urea at green bud, 100kg urea at early flower**

Pests over summer



IPM strategy?



July 2013



Spring sown, grazed



Spring sown, ungrazed



Autumn sown





Root development over summer



May 2014

Canola sown December 2013, grazed over summer. Roots 200mm deep at time autumn sown canola crops are establishing.

Establishment pests like slugs, RLEM etc are not an issue to a plant this size.

Save on slug bait, whilst getting summer feed!

Canopy and root development when spring sown and grazed



Winter canola
Sown November 2013
Grazed

Winter canola
Sown May 2014

Spring canola
Sown May 2014

Change in canopy



18th October 2013, Hyola 971 CL Phenology comparison



Spring sown

Autumn sown

Ungrazed

Grazed

Commercial adoption has been huge since 2012
Paddock near Inverleigh, 12 weeks grazing

End of March 2014



Mid July 2014



Grazing pressure from livestock pushes crop hard and provides insight



Canola preferred feed over summer by sheep compared to forage rape

Levels of glucosinolate higher in rape

February 2014



Forage rape

Winter canola varieties







Acknowledgements



GRDC Grain & Graze 2

Participating farmers (and their sheep dogs)

SFS staff and casuals assisting with fencing, DM cuts and sheep wrestling