

# Dual purpose crops in the feedbase

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## Effect on ewe Reproduction

- Modelling of south west Victorian prime lamb enterprises has shown that weaning rates and early reproductive success in ewes are key levers to increase profit per hectare.
- The use of forage, pasture or dual purpose cropping systems that provide an extended growing season can be used to improve reproductive performance at joining in ewes.
- Green feed can result in flushing of ewes joined on lucerne and chicory.
- Flushing effects may also occur on green Brassica crops.
- Where energy content of feed is two times maintenance, pregnancy rates can also be reduced.



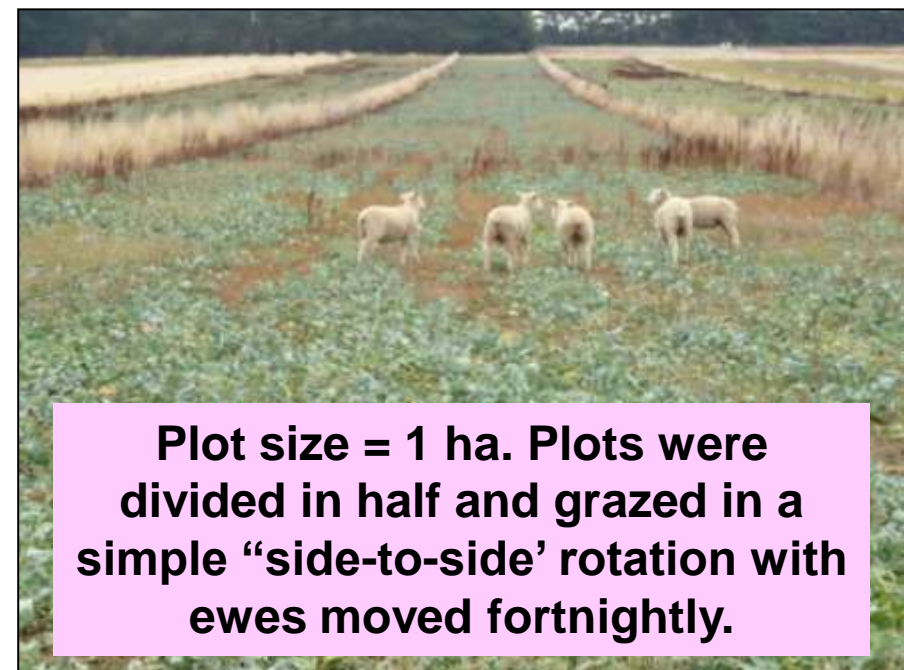
# Experimental Design and Treatments

## Objective

- To determine the forage potential of spring sown winter-type canola in Victoria's HRZ.
- To determine if grazing ewes on canola prior to and during joining impacts on conception and reproduction rate.

## Methodology

- Seven treatments, four replications
  - 1) Canola cv. Hyola971CL
  - 2) Canola cv. Taurus
  - 3) Forage brassica cv. Winfred
  - 4) Lucerne cv. Stamina GT6
  - 5) Chicory cv. Puna II
  - 6) Plantain cv. Tonic
  - 7) Perennial ryegrass+pellet (control)

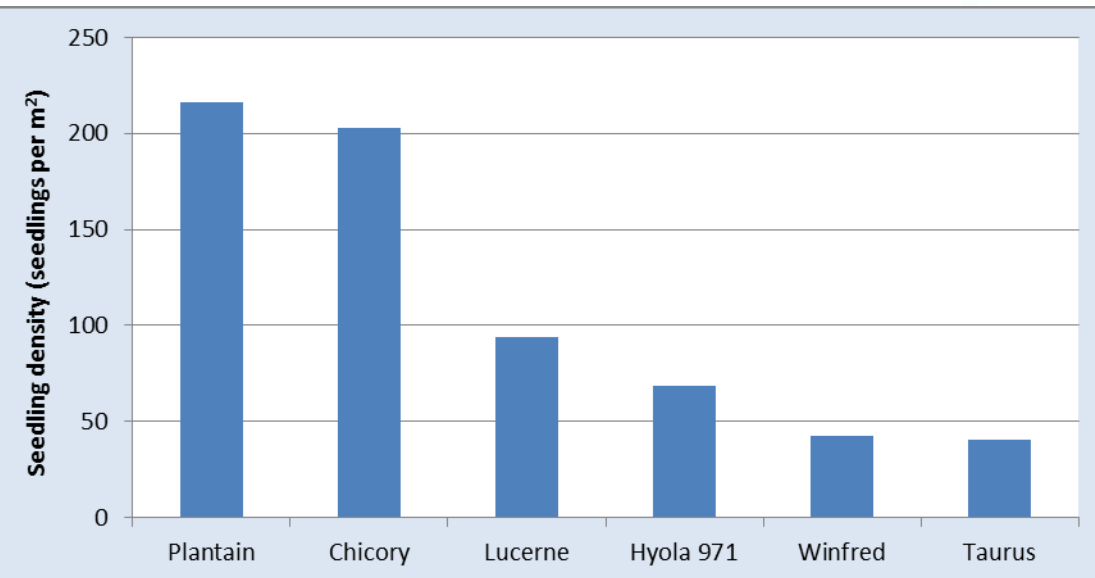


# Establishment

- Plots were sown Oct/Nov 2013.
- It was planned to sow in October 2013, but paddocks were too wet.
- Three plots required re-sowing in December 2013 (Taurus canola in rep 2, lucerne in rep 3 and rep 4).
- Seedling counts indicated established plant density of  $>35$  plants/m<sup>2</sup> for the brassicas.

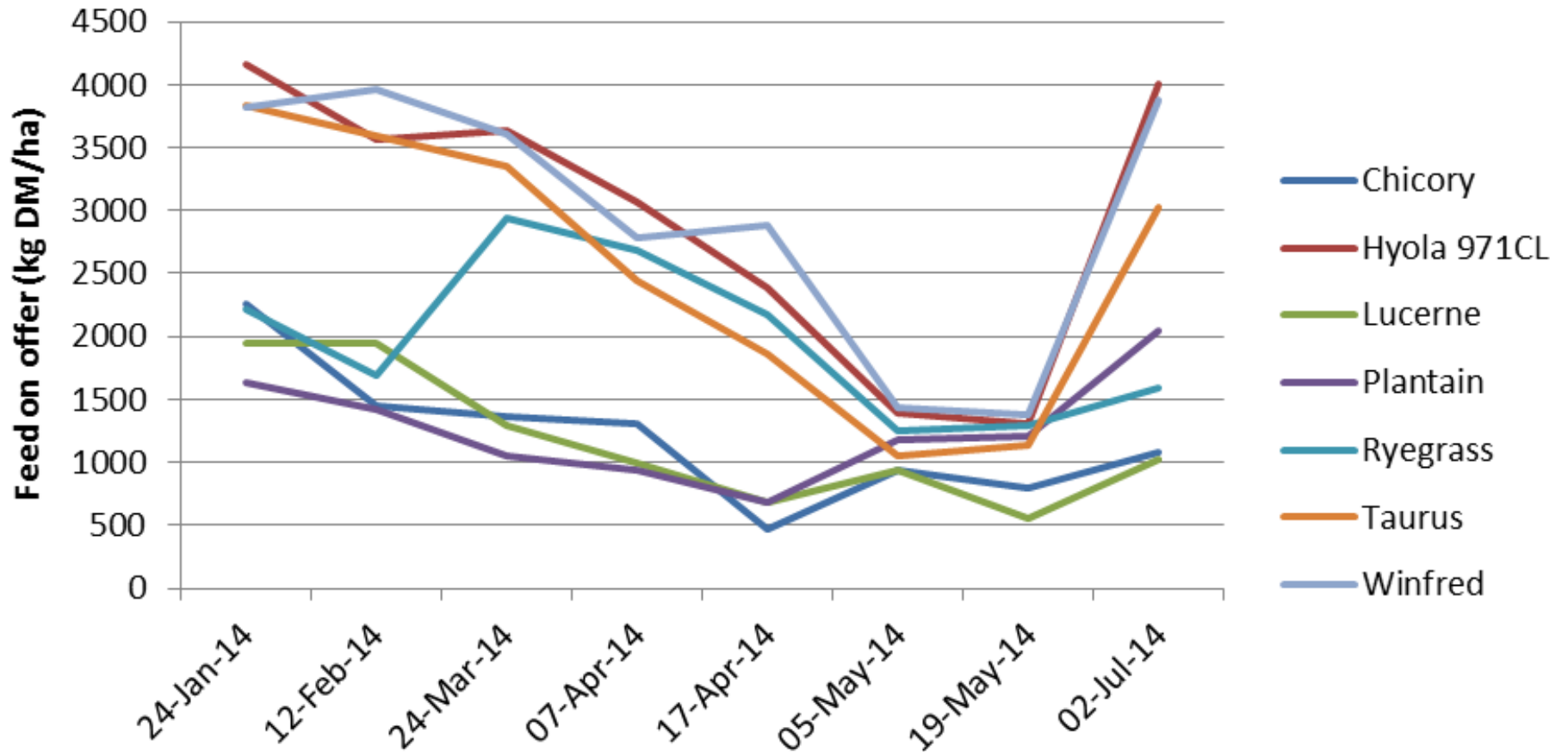


**August 2013. Sprayed with knockdown herbicide and left fallow during winter**



**Same plot, 25<sup>th</sup> Nov 2013. Hyola 971CL**

# Pre-Grazing Feed on Offer



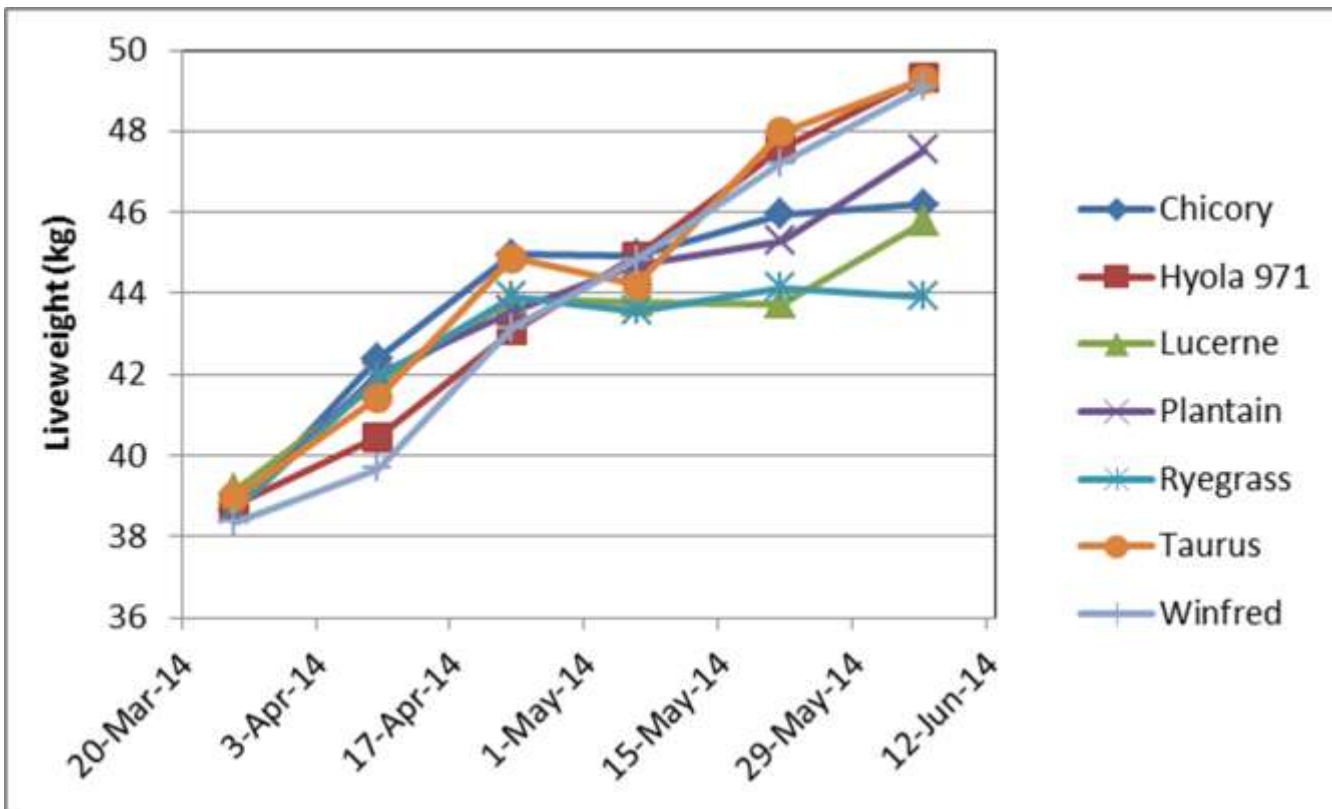
## Metabolisable energy (MJ/kgDM)

	22-Jan-14	21-Mar-14	10-Apr-14	17-Apr-14	6-May-14	20-May-14	4-Jul-14
Hyola971CL	13.2	13.0	12.7	12.3	12.3	11.9	12.9
Taurus	13.2	13.0	12.8	12.3	12.2	12.2	12.8
Winfred	13.3	13.2	12.9	12.6	12.2	12.1	13.1
Lucerne	10.1	8.8	9.0	8.7	8.0	8.0	11.0
Chicory	11.4	10.8	11.3	10.6	9.5	9.3	10.9
Plantain	10.7	10.6	9.7	10.4	8.3	8.7	10.3
Ryegrass	11.1	8.9	11.3	8.1	10.1	10.8	11.8

## Crude protein (%DM)

	22-Jan-14	21-Mar-14	10-Apr-14	17-Apr-14	6-May-14	20-May-14	4-Jul-14
Hyola971CL	16.5	18.7	18.8	20.8	21.5	22.3	27.9
Taurus	20.0	20.1	21.7	18.6	23.4	27.8	27.0
Winfred	15.0	14.0	18.4	17.8	19.3	19.6	25.4
Lucerne	15.1	13.3	13.8	16.2	20.0	23.5	35.9
Chicory	16.6	15.4	15.3	22.3	19.4	26.8	24.7
Plantain	14.8	16.3	17.4	16.7	22.5	29.9	24.0
Ryegrass	11.5	9.8	15.8	10.9	18.4	23.8	27.8

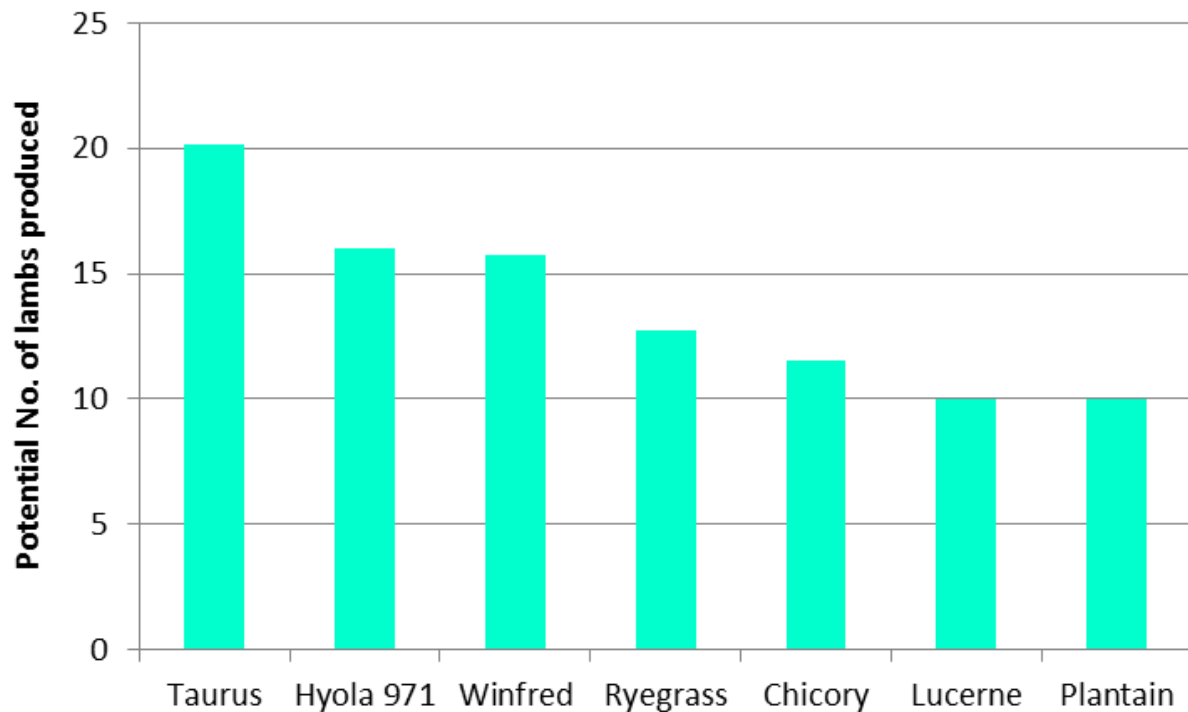
# Ewe Lamb Liveweights



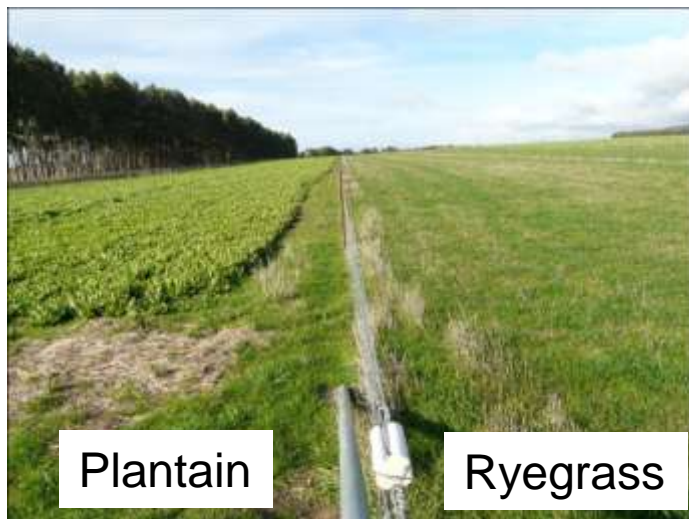
Liveweight gain (grams per head per day)

	Hyola971CL	Taurus	Winfred	Lucerne	Chicory	Plantain	Ryegrass
Pre-joining (25-Mar to 23-Apr)	145	240	166	163	215	205	184
Joining (23-Apr to 5-Jun)	147	132	137	51	27	101	2

# Ewe lamb reproductive rate (number of foetuses scanned per ewe)



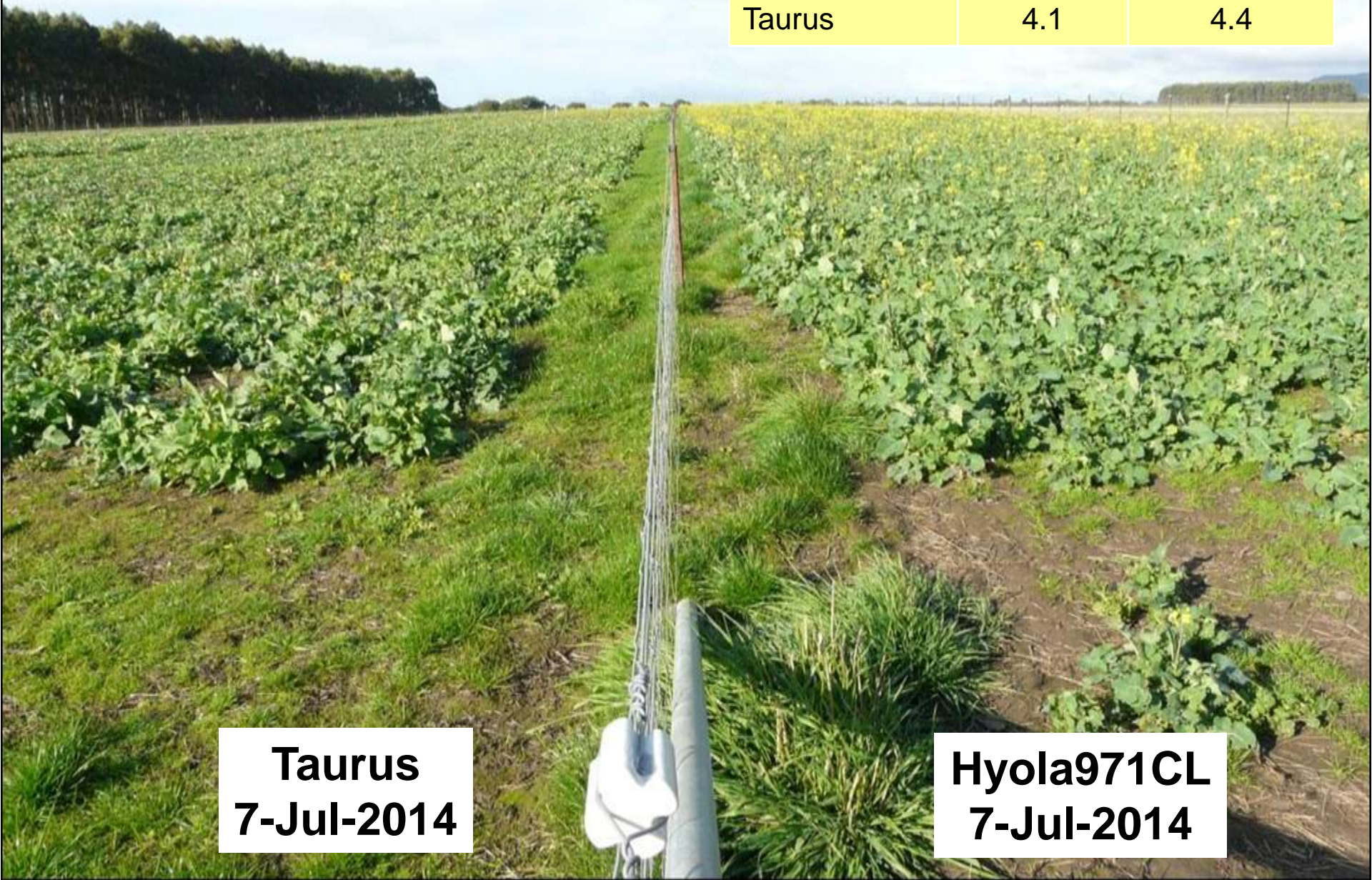
	Stocking Rate (ewes/ha)
Hyola 971	11
Taurus	14
Winfred	12
Lucerne	7
Chicory	8
Plantain	8
Ryegrass	12





# Canola Growth Stages

	7-Jul-14	21-Aug-14
Hyola971CL	4.2	4.8
Taurus	4.1	4.4



**Taurus**  
**7-Jul-2014**

**Hyola971CL**  
**7-Jul-2014**

## Key Messages

- Ewe lambs can be safely joined on brassica crops during autumn.
- Feed on offer and nutritive characteristics of canola were similar to Winfred forage brassica.
- Livestock performance from the caola was similar to the Winfred forage brassica.
- It is therefore the value of the canola harvest that will determine the economic viability of the dual purpose system.
- There are risks associated with the canola running to head early.
- Further research is needed under multiple sites and climatic conditions to determine if these results can be repeated.

