Objectives:

1. To investigate the addition of a companion forage to a perennial ryegrass sward on <u>ewe and lamb performance</u>

2. To investigate the addition of a companion forage to a perennial ryegrass sward on <u>pasture production, utilisation and quality</u>

EGF
29th GENERAL MEETING

Treatments:

1. Perennial ryegrass (**PRG**)

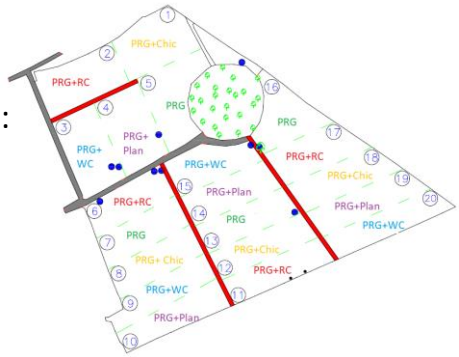
2. PRG & White Clover (**PRG+WC**)
3. PRG & Red Clover (**PRG+RC**)

4. PRG & Plantain (**PRG+Plan**)
5. PRG & Chicory (**PRG+Chic**)

Methods:

4 year study: 2018-2021

- Stocking rate of 11.5 ewes/ha
- Farmlets grazed from turnout post lambing until housing in December
- Pre weaning - rotational grazing system
  - Post grazing height 4.5cm
- Post weaning - leader follower grazing system:
  - Lambs post grazing height 6.0cm
  - Ewes post grazing height 4.5cm
- Swards receiving 130 kg N/ha/yr



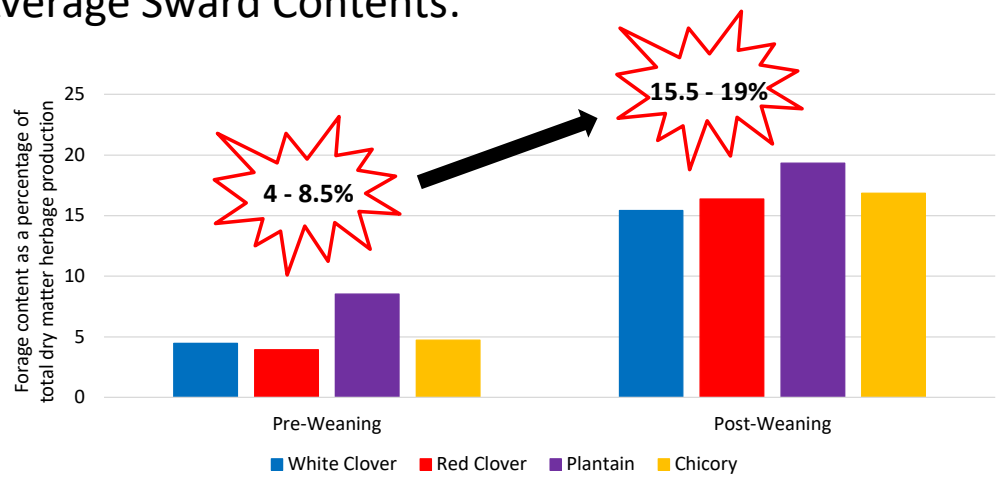
Establishment:

	Perennial Ryegrass	Companion Forage	Forage Varieties
PRG	25 kg/ha	-	-
PRG & White Clover	25 kg/ha	6 kg/ha	Galway & Coolfin
PRG & Red Clover	25 kg/ha	8 kg/ha	Aberclaret & Relish
PRG & Plantain	25 kg/ha	4 kg/ha	Tonic & Tuatara
PRG & Chicory	25 kg/ha	4 kg/ha	Choice & Puna 2

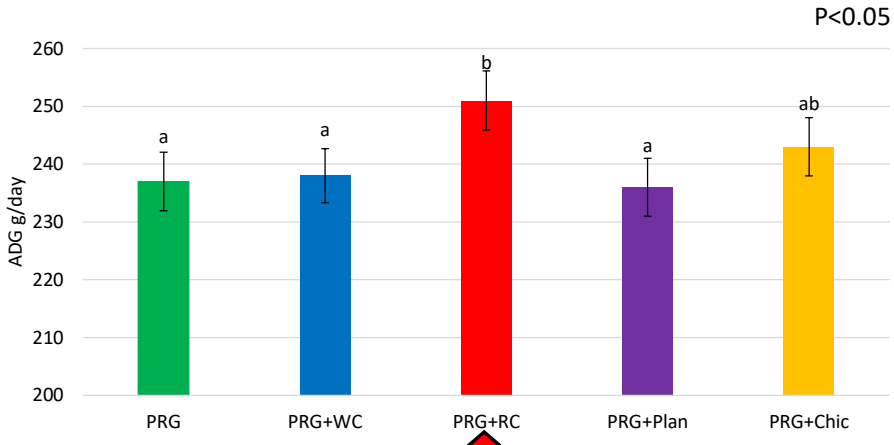
Methods:

- 5 treatment groups: 23 Texel and Belclare crossbred ewes and their lambs
- Ewes mated to Texel rams for a 6 week period in October/November
- Lambing from late February onwards
- Lambs weaned: 15 weeks of age
- Lambs drafted to achieve a target carcass weight of 20kgs

Average Sward Contents:

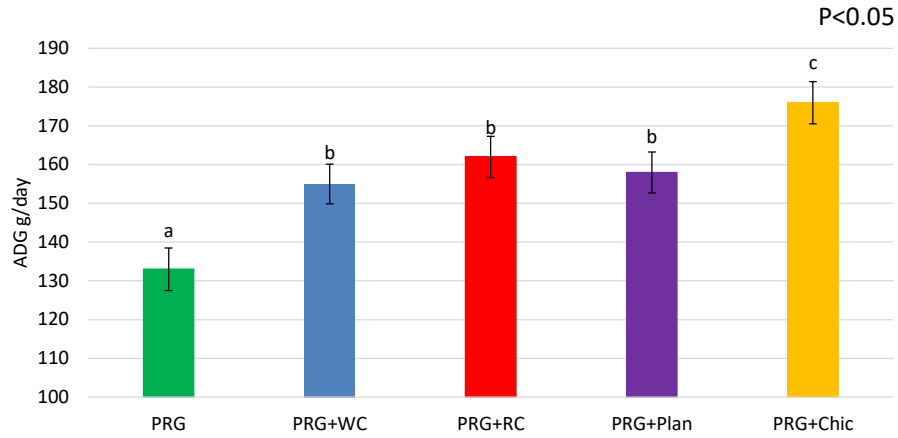


Pre- Weaning Lamb Performance:



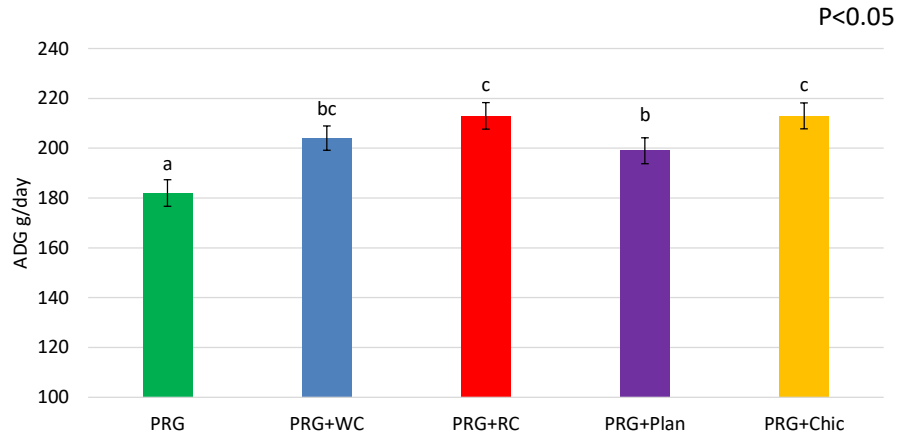
+ 1.6kg weaning weight

Post-Weaning Lamb Performance:



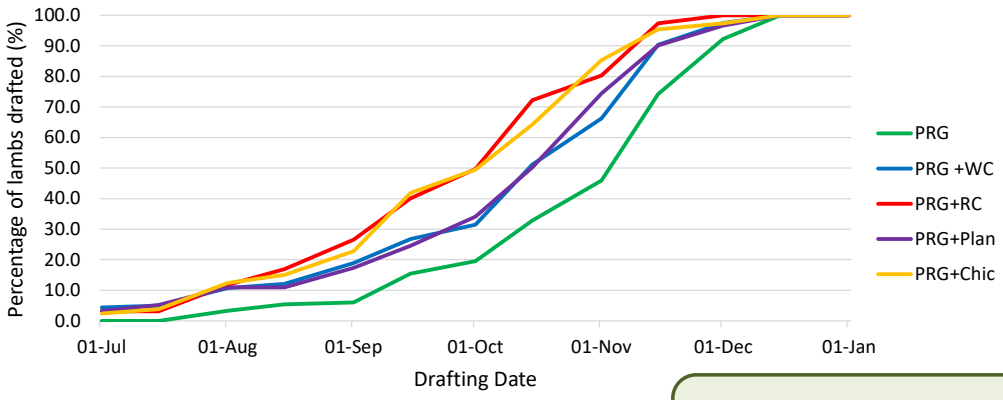
The addition of a companion forage significantly increased post-weaning lamb performance

Lifetime Lamb Performance:



Lifetime ADG increased by 17-31 g/day with the addition of a companion forage

Lamb Drafting Pattern:



Days to slaughter reduced by 16-28 days with the addition of a companion forage

Slaughter Data:

	PRG	PRG & WC	PRG & RC	PRG & Plan	PRG & Chic	SEM	P-value
Carcass Weight (kg)	20.7	20.6	20.7	20.6	20.4	0.17	NS
Carcass Conformation	2.44	2.52	2.61	2.57	2.54	0.082	NS
Fat Score	2.97	2.94	2.86	2.81	2.81	0.100	NS
Dressing Proportion	0.45	0.45	0.44	0.45	0.44	0.005	NS

Carcass conformation was scored using the EUROP grid system (E=excellent and P=poor), and expressed where E=1, U=2, R=3, O=4, P=5,
External fat score was scored using a one to five scoring system in order of increasing fatness (1=low fat cover; 5=high fat cover)

Ewe Body Weight (kg):

	PRG	PRG & WC	PRG & RC	PRG & Plan	PRG & Chic	SEM	P-value
Mating weight	65.8	67.3	68.2	66.6	68.5	1.25	NS
Scanning weight	72.6	73.2	74.2	72.6	74.9	1.33	NS
Week 6 weight	66.1^{a}	72.2^{b}	68.1^{a}	67.7^{a}	68.9^{ab}	1.60	<0.05
Weaning weight	62.0^{a}	66.3^{b}	67.0^{b}	63.9^{ab}	63.7^{ab}	1.51	<0.05
Next mating weight	65.4^{a}	69.1^{b}	68.9^{b}	68.3^{b}	68.2^{ab}	1.21	<0.05

Ewe Body Condition Score:

	PRG	PRG & WC	PRG & RC	PRG & Plan	PRG & Chic	SEM	P-value
Mating BCS	3.13	3.08	3.12	3.17	3.14	0.0412	NS
Scanning BCS	3.25	3.20	3.24	3.31	3.27	0.053	NS
Lambing BCS	3.07	3.01	3.01	3.02	3.06	0.065	NS
Week 6 BCS	2.70	2.93	2.80	2.80	2.75	0.073	NS
Weaning BCS	2.86	3.01	2.83	2.95	2.86	0.067	NS
Next mating BCS	2.98^{a}	3.05^{ab}	3.14^{b}	3.13^{b}	3.10^{ab}	0.046	<0.05

Conclusions:

- Lamb performance significantly improved, particularly in the post-weaning period with the addition of a companion forage
- Sward type had no effect on lamb carcass traits

- Ewe performance similar across all groups at mating, scanning and lambing
- Some differences in ewe performance at 6 weeks post lambing, weaning and at next mating, although not biologically significant