ESTABLISHMENT OF MULTI SPECIES SWARDS

1.Planning

•which field?
•what to sow?
•what cultivation method?
•post sowing management?

2. Field preparation

- Limited herbicides available - select fields with reduced weed burden & good drainage
- Nutrient requirements:
  - ✓ correct soil pH (6.2-6.5)
  - ✓ correct soil index for P and K required (Index 2)
  - ✓ avoid heavy, poorly drained fields
- soil improvement with: lime, farmyard manure, P&K fertiliser
  - ❖ e.g. Index 2: 50kg Phosphate/ha and 40-60kg Potash/ha with a later application of N 25kgN/ha only if required. Avoid high N compound fertiliser

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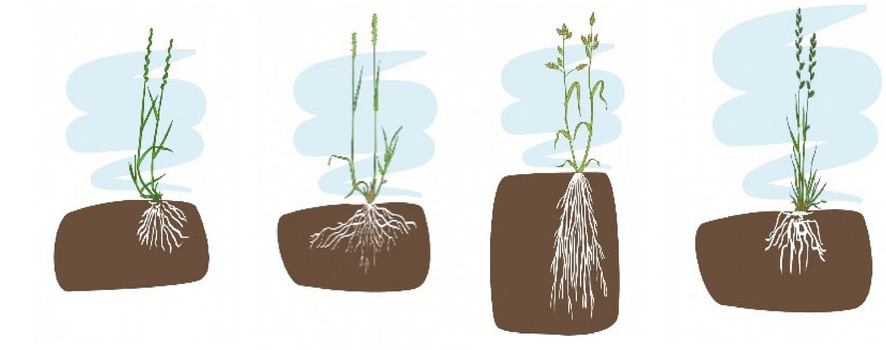
3. Seed mixtures

Species	Full Mixture	Overseeding
	Rate (kg/ha)	
PRG	7	-
Other Grass	7	4
WC	3.5	3
RC	4	4
Plantain	2.5	4
Chicory	3	6
Total	**27**	**21**



Perennial Ryegrass Timothy Cocksfoot Festulolium

4. Seedbed preparation

- A well consolidated, fine & firm seed bed is essential
- Clover, Timothy, chicory & plantain must be no deeper than 10mm
- No-plough: create some bare earth at the surface post sward kill or reduce the competition from existing sward by harrowing/discing
- Stale seed bed: spray – cultivate – leave 2+ weeks – remove germinated weeds – sow new seed After sowing the seed bed may need to be rolled twice, once in either direction.
- Seed / soil contact and soil moisture are vital for successful germination.

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5. Establishment phase

- Ready to graze 8-10 weeks post-sowing - wait until herbs have at least 6-7 leaves per plant
- Rotational grazing is preferred - the sward requires short, intensive periods of grazing to 7-8cm, with sufficient recovery periods of 4-5 weeks between grazings
- First grazing should be completed over 4-5 days to encourage establishment and sward density
- Prevent poaching and sward damage to maintain yield and persistency
- Keep sown species competitive e.g. clean graze out in autumn

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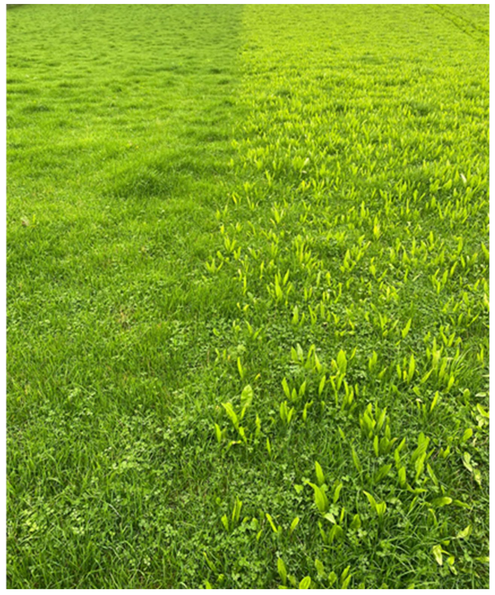
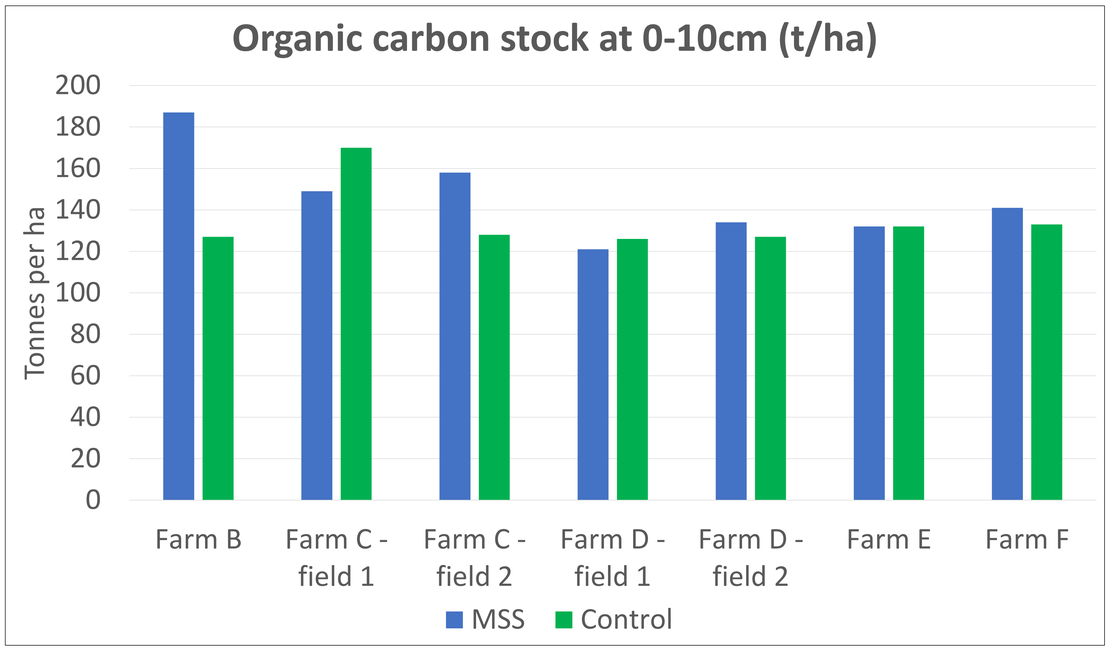
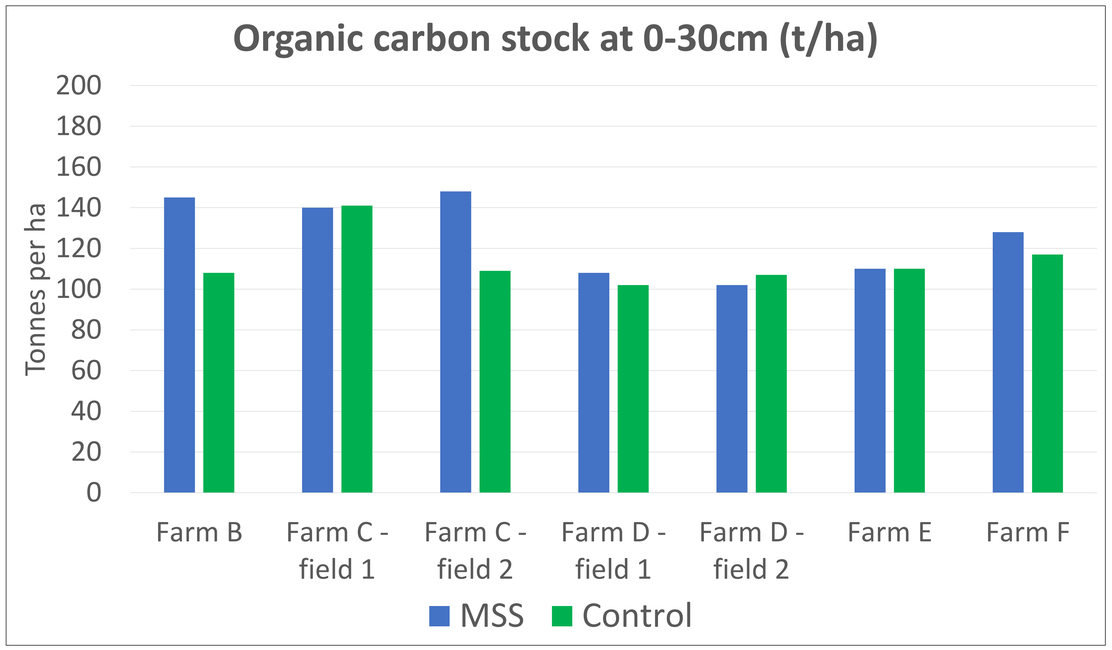
EcoSward Project

- Multi-species and grass/clover swards were established on seven commercial farms across NI
- Seed mixes:
  - Control mix – Perennial ryegrass (89%) and white clover (11%)
  - Multi-species mix – Perennial ryegrass (80%), white clover (11%), plantain (5%) and chicory (4%)



Preliminary soil organic carbon stock results – MSS vs control swards





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Multi-Species Swards: Science & Practice

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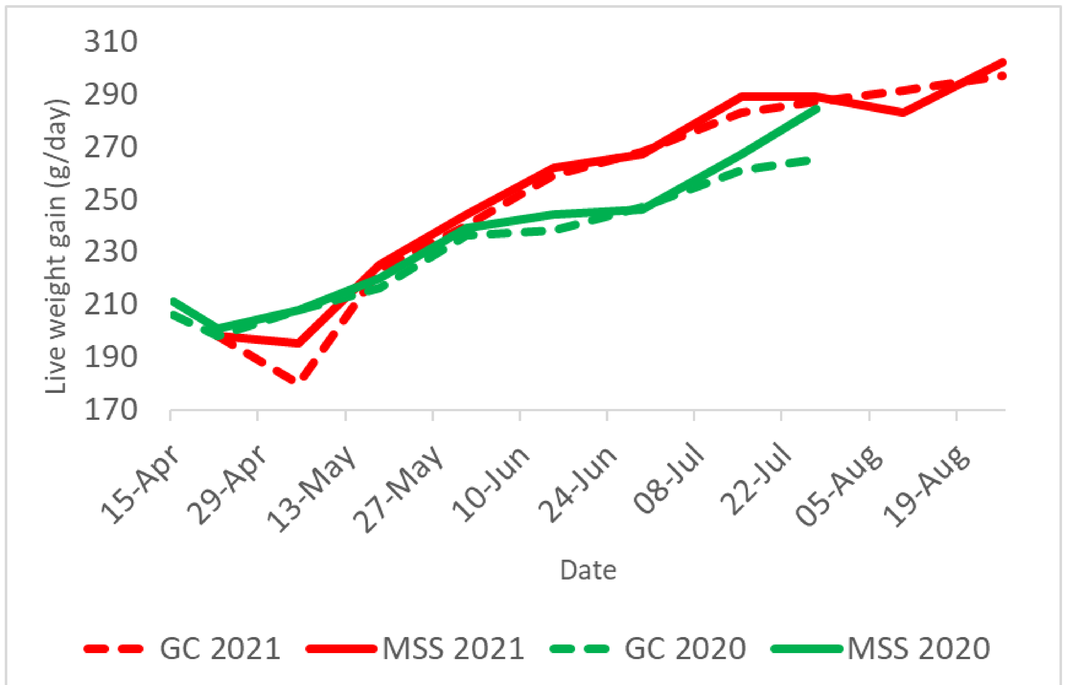
QUEEN'S UNIVERSITY BELFAST

SUPER-G MSS Trial
AFBI Hillsborough

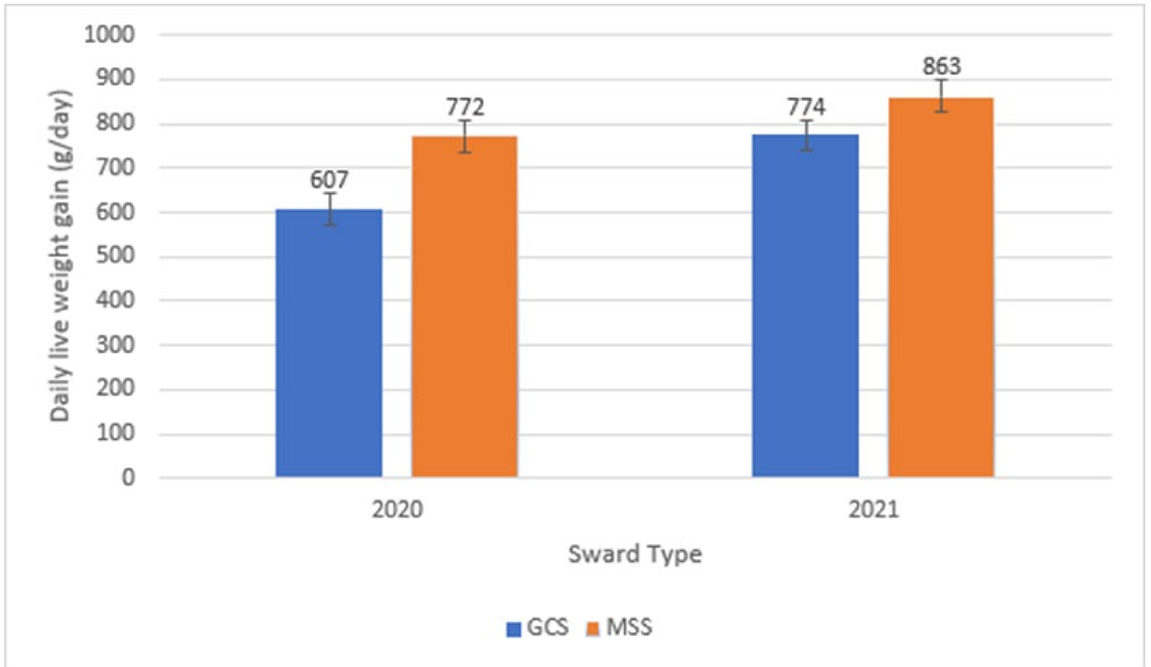
Objective: To assess the performance of MS leys & grass/white clover swards in a beef cattle grazing context



Two groups of **dairy-origin calves** rotationally grazed on mixture A & two groups on mixture B:

A. Perennial rye grass and white clover **(GCS)**
B. Perennial rye grass white clover, chicory and plantain **(MS)**

SUPER-G SUSTAINABLE PERMANENT GRASSLAND



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Animal Health

Faecal Egg Count

	GC	MSS
20/4/2021	0	0
18/5/2021	39	18
15/6/2021	27	15
10/8/2021	108	51

Lower FEC with the MSS animals

Trace element analysis

	GC	MSS
Copper	20	21
Selenium	156	151
Iodine	85	91

No evidence of differences

SUPER-G SUSTAINABLE PERMANENT GRASSLAND
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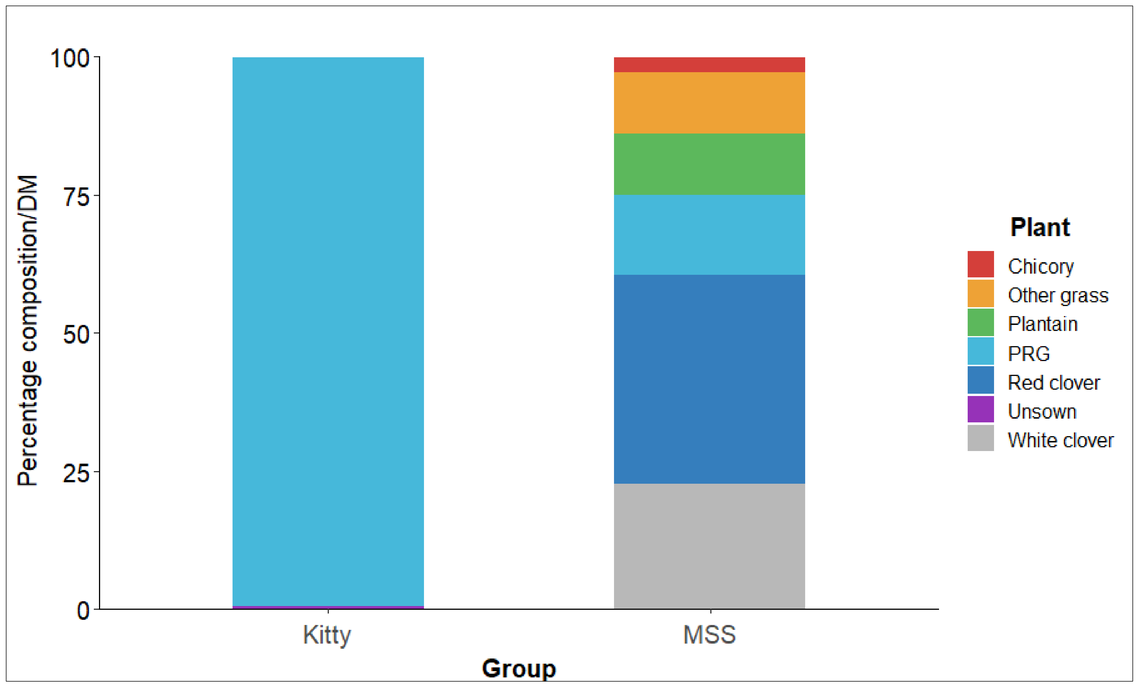
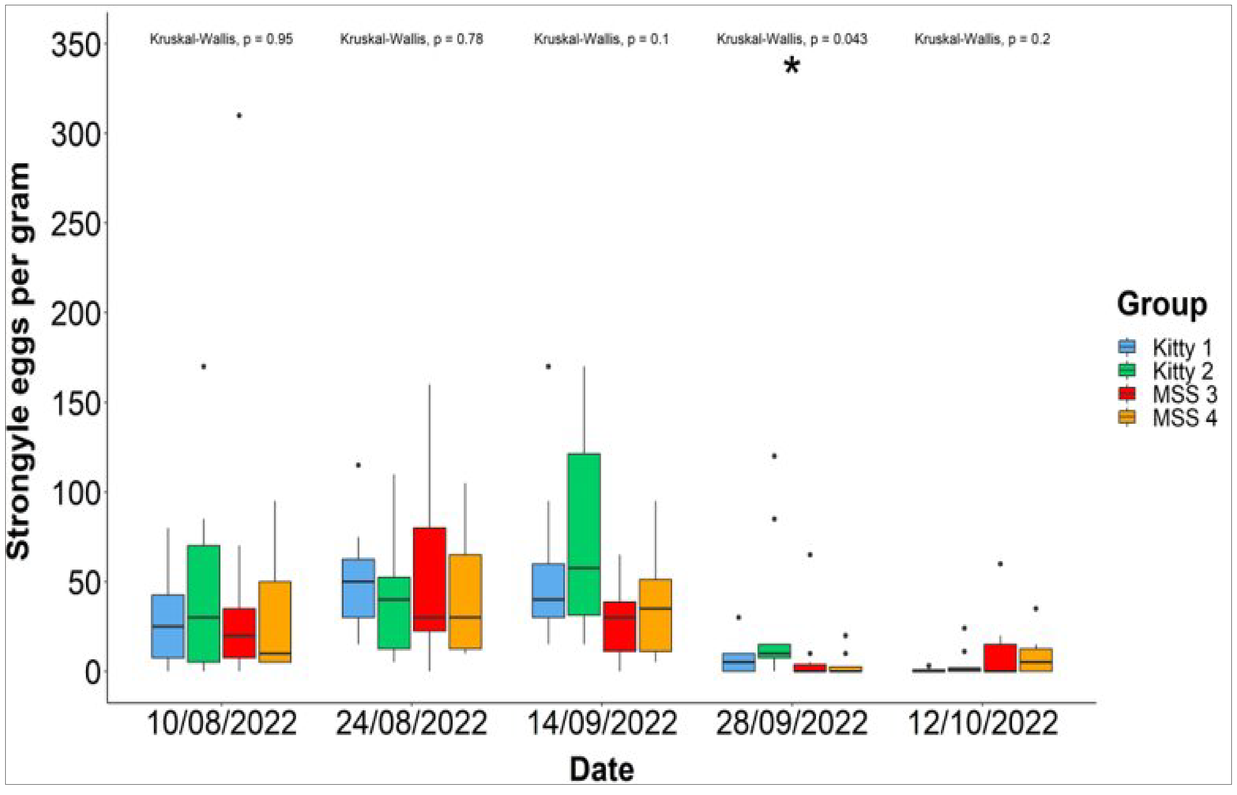
Nicole Henry PhD Study preliminary findings

- Multi-species vs grass swards at AFBI
- Dairy origin calves grazed July to Oct
  - Calves weighed every 2 weeks
  - Anthelmintic treatment offered once DLWG <0.65 kg/day
  - Faecal egg counts
  - Composition of GIN species in the eggs

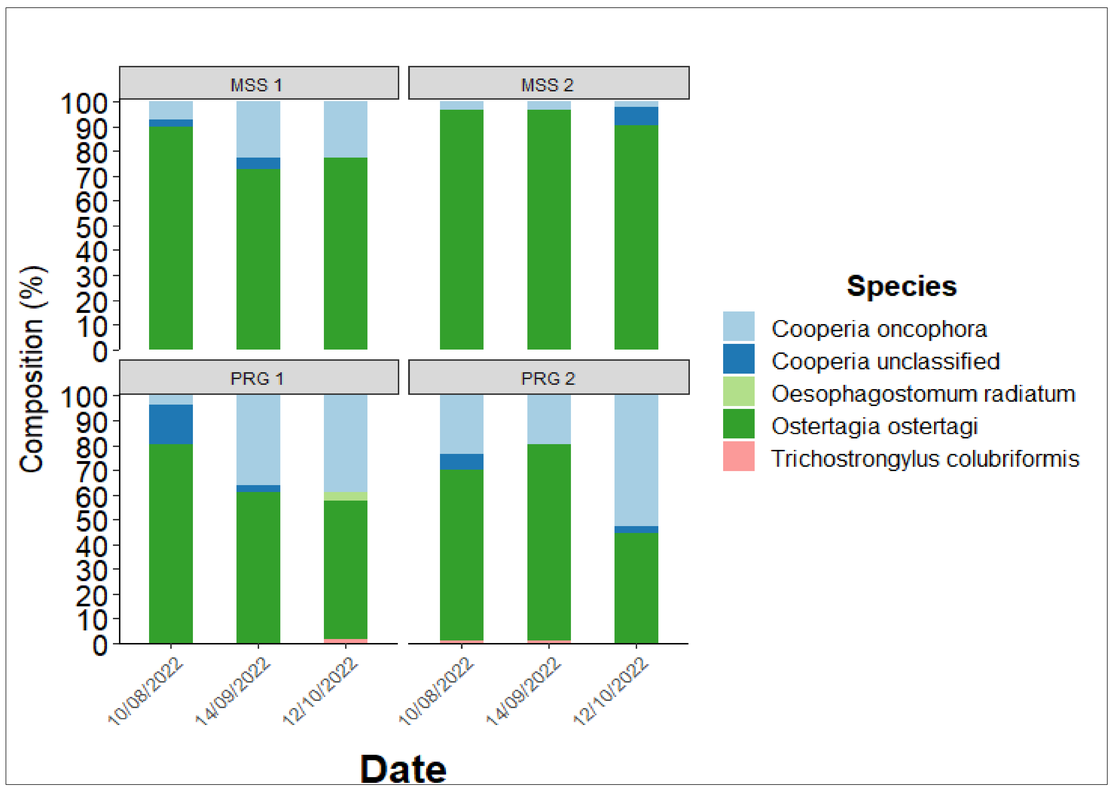
Composition of different swards pre-grazing



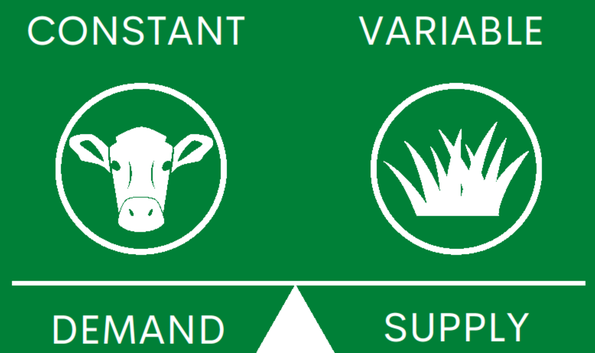
Faecal egg counts samples



Composition of the GIN species of eggs cultured into L3 in faecal samples



Multi Species Swards vs Perennial Rye Grass



- 14 Species Mixture (Grass, legume & Herb)
- 32 day paddocks in the mob
- 32 day Rotation
- No Chemical N applied
- 1 Application of 2000 Gal Slurry
- Measured on a weekly basis (Cut & Weigh)

- Mineral Mining
- Nitrogen Fixation
- Reducing The Requirement For Chemical Inputs
- Improved Soil Fertility

- Perennial Rye Grass mixtures
- Paddock System 8 paddocks within a mob
- 21 day rotation
- 2000 Gal of cattle Slurry every other grazing
- ½ bag of Urea every other grazing (Foliar)
- Measured on a weekly Basis (Plate Meter)
- Growing over 10T DH/HA

- Golden rule of three
- 40% extra stocking density vs set stocking
- Improved response to N Fertilier

- Look at Cattle Performance on cattle on MSS vs PRG
- Looking at Cattle worming requirements on MSS vs PRG
- Looking at growth yields of MSS vs PRG

Multi-Species Swards: Science & Practice

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1. River Field – November 21

2. River Field – November 21

3. River Field – July 22

4. River Field – July 22

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