



Diverse swards and mob grazing for dairy farm productivity *- a UK case study -*

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Background

- What is Mob Grazing (or Mob stocking)?

7.11 Mob stocking (n.). A method of stocking at a high grazing pressure for a short time to remove forage rapidly as a management strategy.



Background

- What is Mob Grazing (or Mob stocking)?

Pastures are allowed to grow taller than the traditional height

- *long resting periods*

Animals consume and trample the sward for a short period of time

- *are moved to a new paddock within 24h*





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Background

- Mob Grazing (or Mob stocking)

Grazing patterns of wild herbivores roaming unrestricted over large rangelands



Background

- **Mob Grazing** (or Mob stocking)

Was developed in Africa and North and South America to address problems related to

- Over Grazing
- Deterioration of natural pastures
- Soil erosion and water stress



Background

- Claimed benefits of Mob Grazing
 - Long resting period allow for a greater root biomass
 - Animals can opt for parts with high nutrient value through diet selection
 - Trampling the residual plants can increase Soil Carbon levels
 - Increased SC levels promote water holding capacity of the soil
 - Improved Soil Structure
 - High forage yield



Background

- Mob Grazing

There is little research-based information on the benefits of MG

Is this system suitable for cool temperate climates?

Does it deliver the claimed benefits?



Participatory Research Study



Pictures from the participating farm

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Participatory Research Study

- Farm information

Manor Farm is a 220 ha mixed dairy /arable farm in South West, UK

Converted to organic production in 2005

Diverse swards consist of 10 grass species, 6 legumes and 5 herbs

Mob grazing was introduced as an approach to increase Soil Organic Matter



Participatory Research Study

- Measurements
 - Assessing Forage Productivity
 - Determination of herbage composition
 - Comparison of the productivity between Grass/Clover and Diverse Sward
 - DM based on the Plate Meter readings will be compared with the actual DM yields (determined in the lab)



Assessing Forage Productivity



Ungrazed paddock

Grazed paddock



Participatory Research Study

- Assessing Forage Productivity

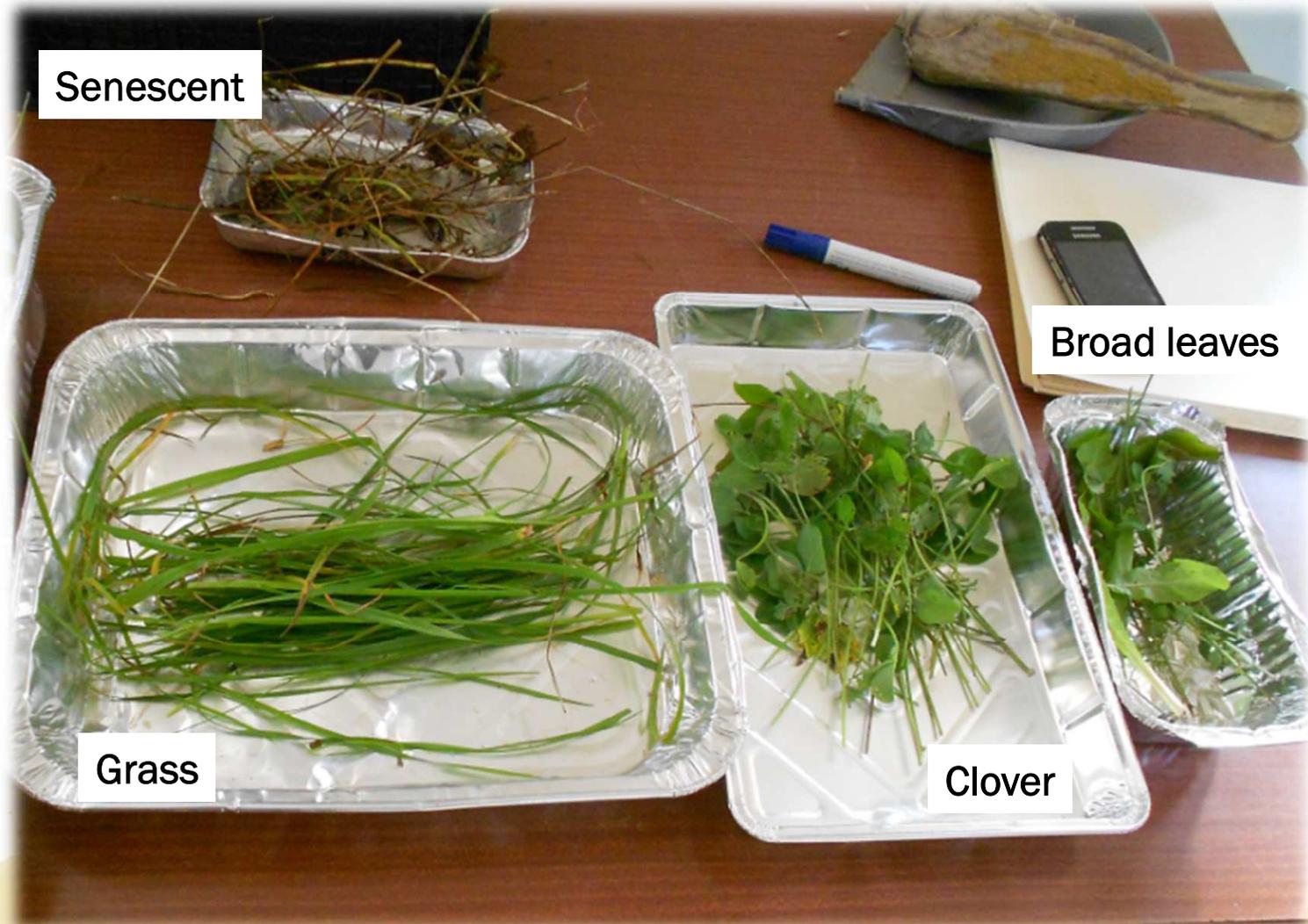


Participatory Research Study

- Assessing Forage Productivity



Participatory Research Study



Senescent

Broad leaves

Grass

Clover



Participatory Research Study

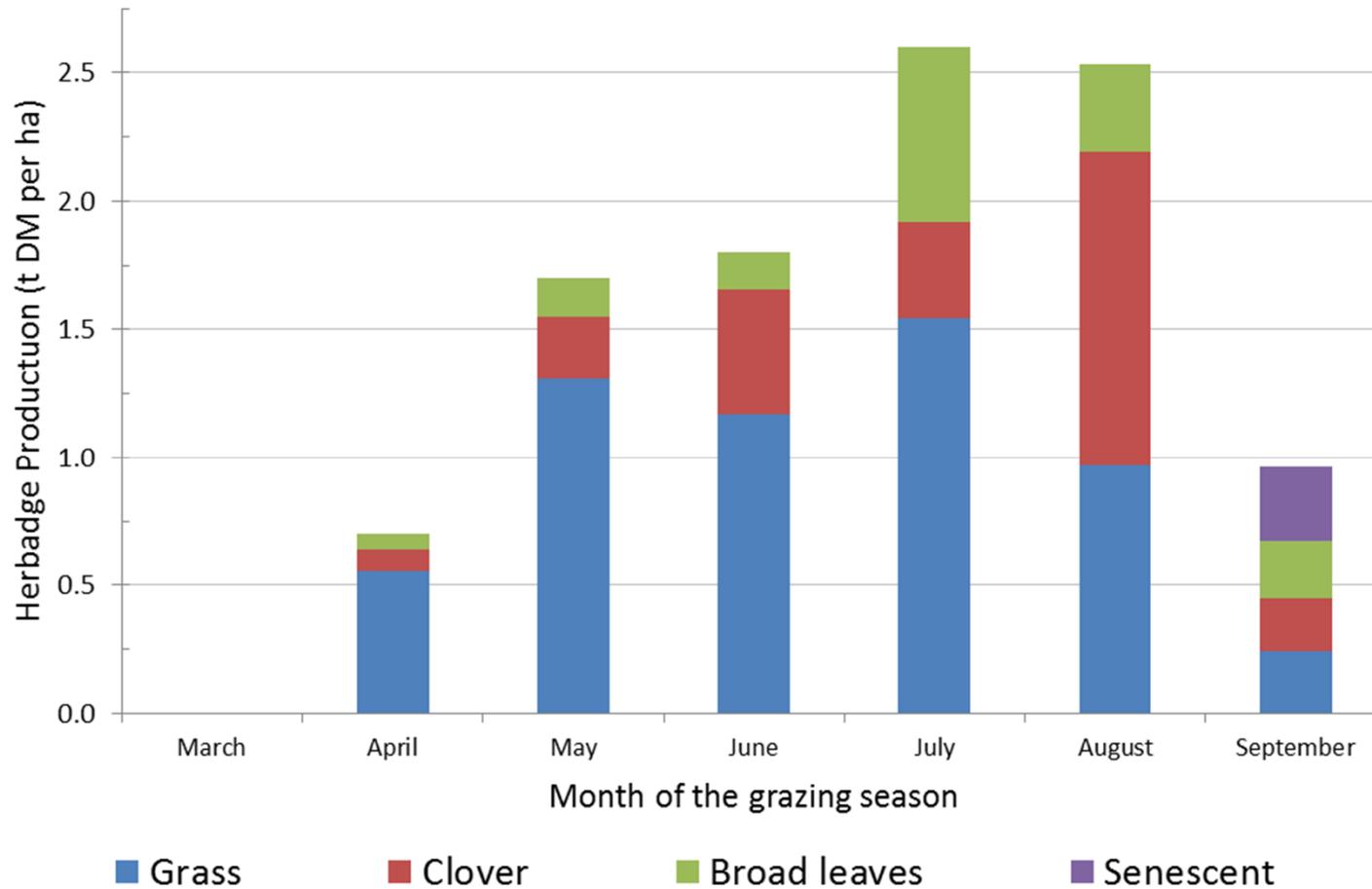


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Forage Composition & Productivity

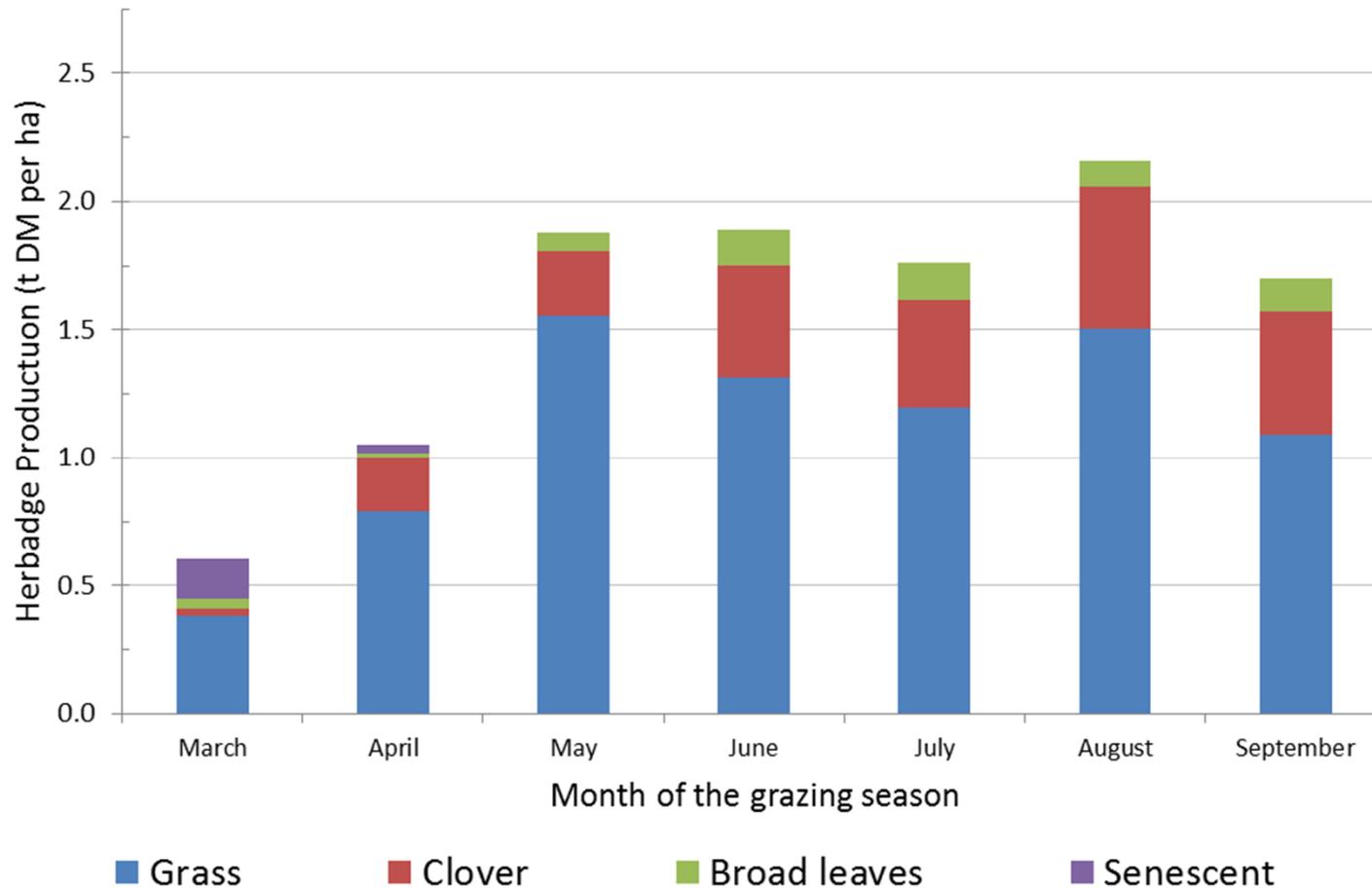
(year 1)



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Forage Productivity (year 2)

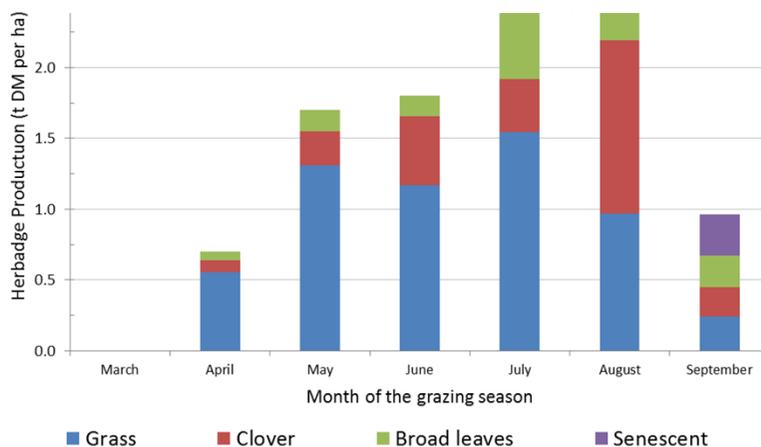


Forage Productivity

Total Production (year 1)

<u>Plant Species</u>	<u>tonnes</u>	<u>%</u>
Grass	5.79	56%
Clover	2.61	25%
Broad leaves	1.61	16%
Senescent	0.30	3%

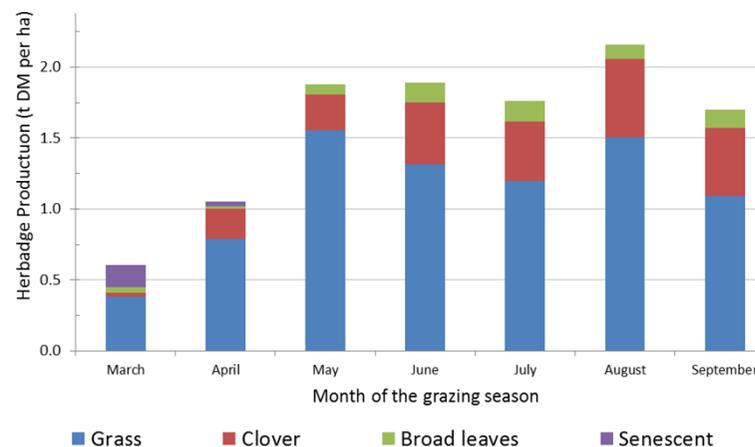
Total Production **10.3** 100%



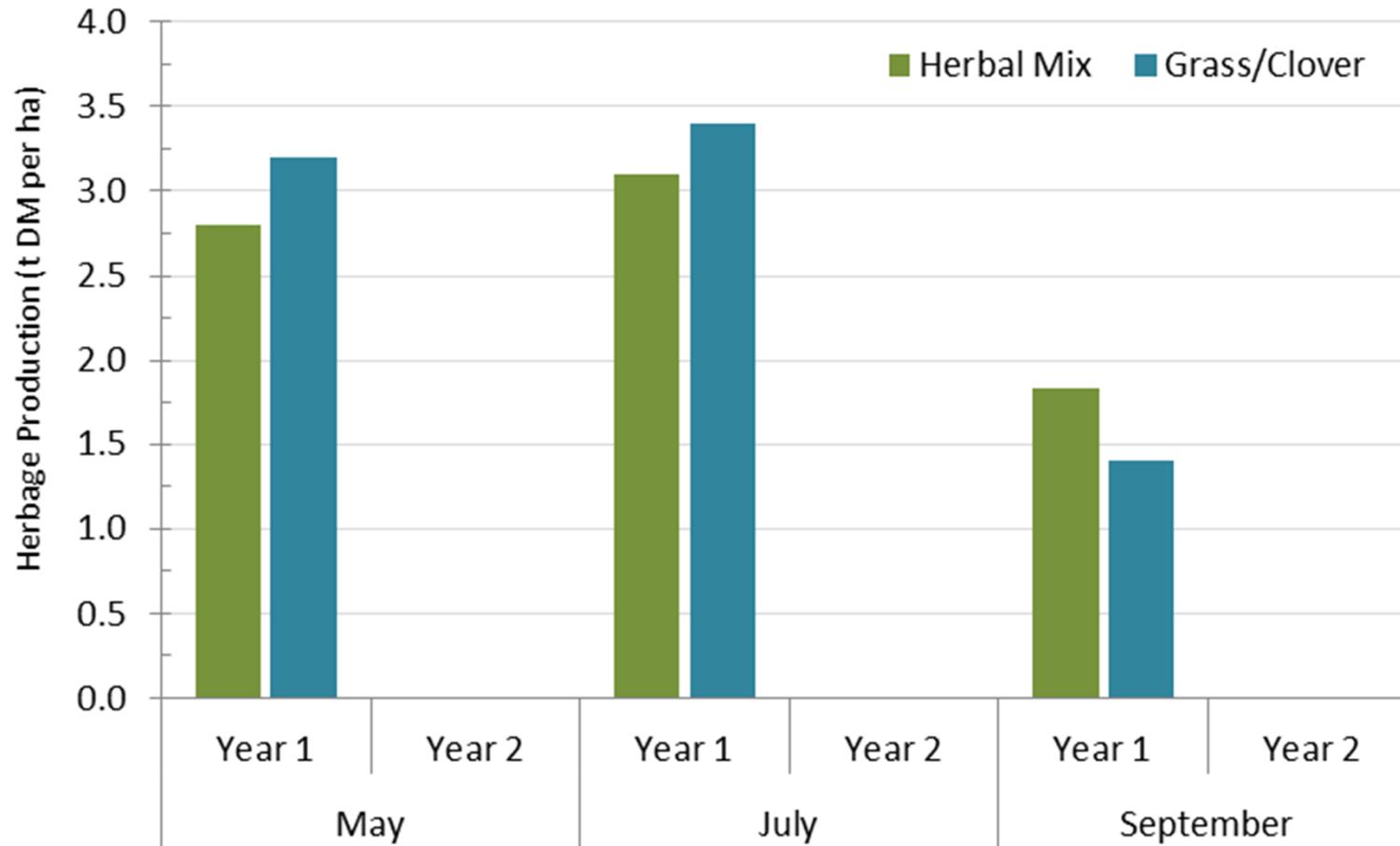
Total Production (year 2)

<u>Plant Species</u>	<u>tonnes</u>	<u>%</u>
Grass	7.84	71%
Clover	2.38	22%
Broad leaves	0.65	6%
Senescent	0.19	2%

Total Production **11.0** 100%



Grass/Clover vs. Herbal lay (year 1)



Grass/Clover vs. Herbal lay (year 1)

Total Production (year 1)

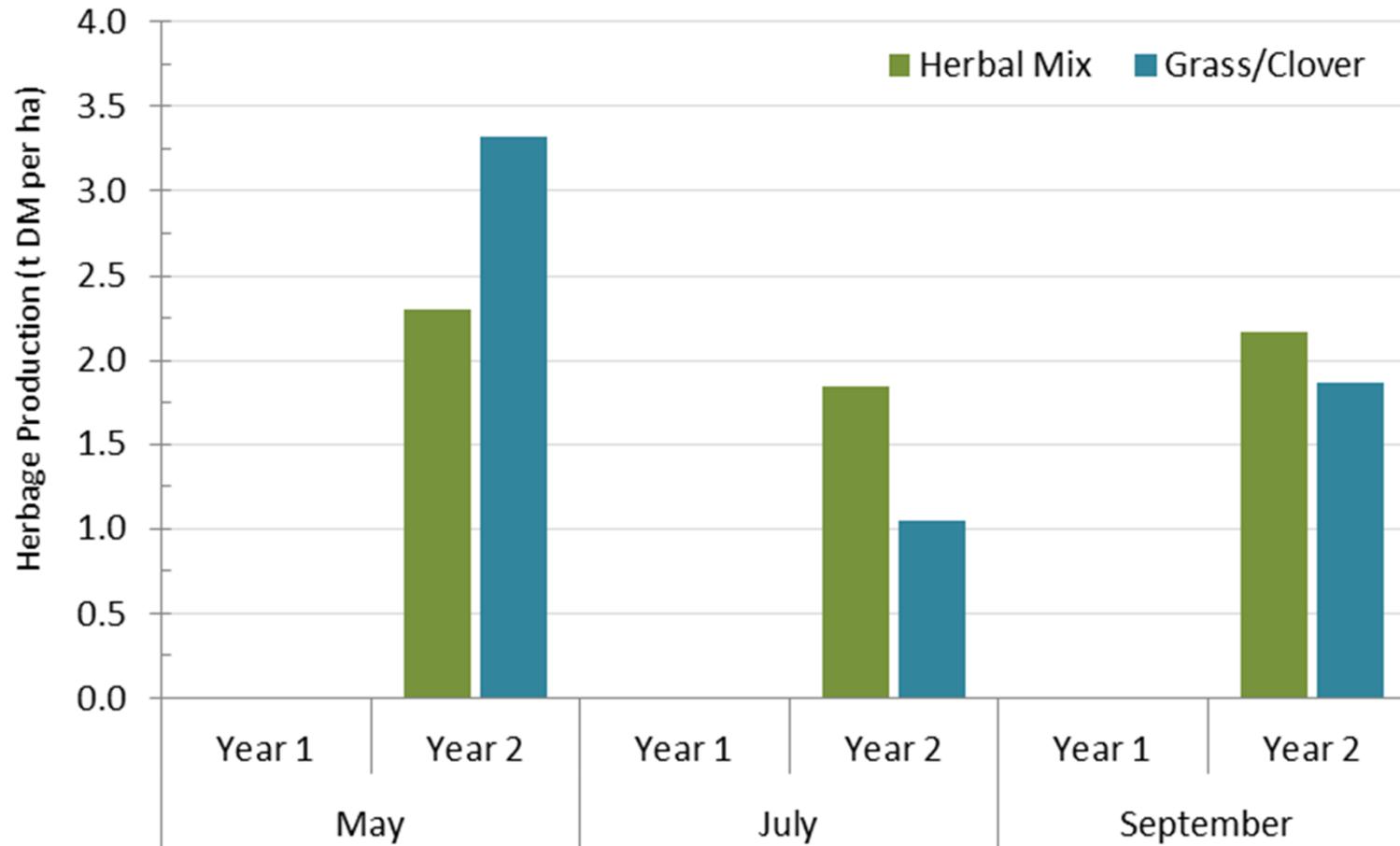
<u>Lay</u>	<u>tonnes</u>
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Herbal Mix	13.2
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Grass/Clover	13.7
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Grass/Clover vs. Herbal lay (year 2)



Grass/Clover vs. Herbal lay (year 2)

Total Production (year 2)

<u>Lay</u>	<u>tonnes</u>
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Herbal Mix	10.5
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Grass/Clover	10.6
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Conclusions

- There was a large variation in herbage composition between dates/months of sampling
 - Likely to be related to weather conditions
- No significant difference in DM yield was found between the two mixtures compared
 - Diverse swards can serve as a viable alternative to traditional pastures



Conclusions

- Long pasture recovery periods can increase the proportion of lignified/senescent material
 - Can affect forage digestibility and milk yield productivity
- Senescent material in the residual herbage is expected to make an important contribution to SOM
 - Solid samples will be analysed this autumn



Conclusions

- DM yield estimation by the PM method is unreliable
 - Likely because the equations used do not account for the plant diversity of the swards





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Thank you

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