

# PastureBase Ireland

Joseph Dunphy

February 2024

eagasc

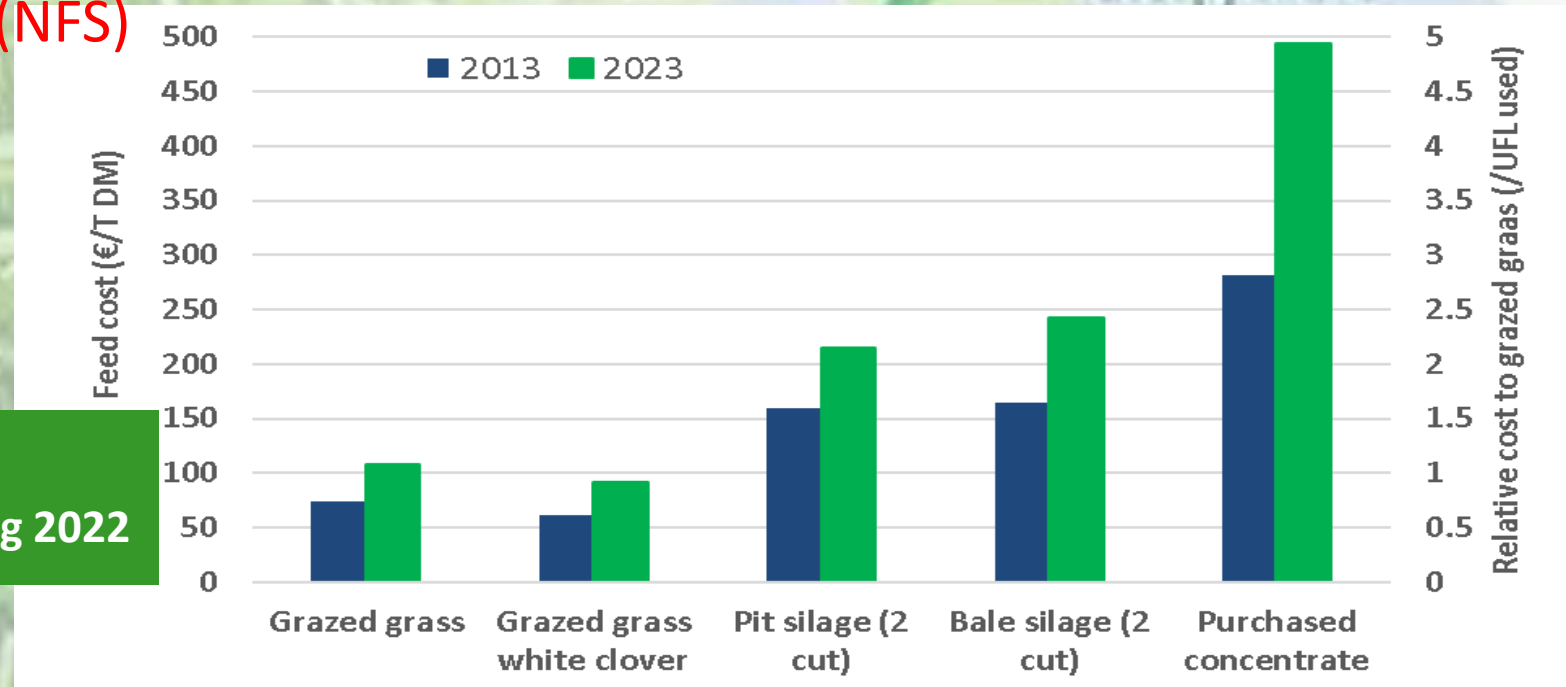
AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

Grass10

# Grazing management has never been more important

- 54% increase in feed costs on Irish farms since 2021 - alternatives to grazed pasture increasingly unaffordable (NFS)

Figure 1. Actual feed costs (€/tonne) during 2013 and 2023. [Adapted from Finneran et al. 2011, Doyle et al., 2023]



€ Feed and fertiliser accounted for 15 c/l on Irish dairy farms during 2022

- Dairy system feed requirements have increased by 40%

National stats	2012	2017	2022
Milk fat plus protein (kg/cow)	352	401	441
Overall SR (LU/ha)	1.9	2.1	2.1
Milking platform (LU/ha)	2.0	2.4	2.7



24 to 28% increase in total input costs

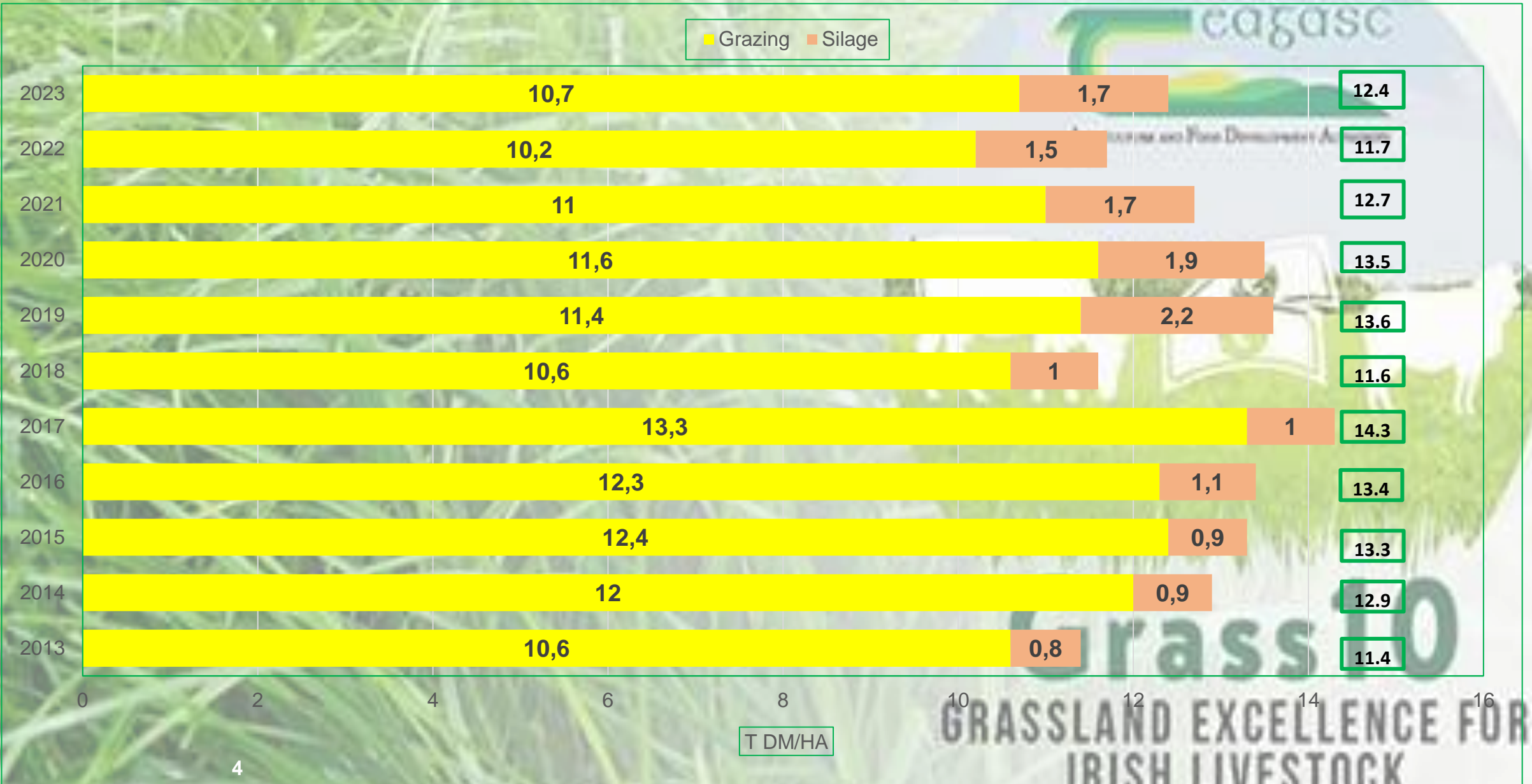


Grass 10  
GRASSLAND EXCELLENCE FOR  
IRISH LIVESTOCK

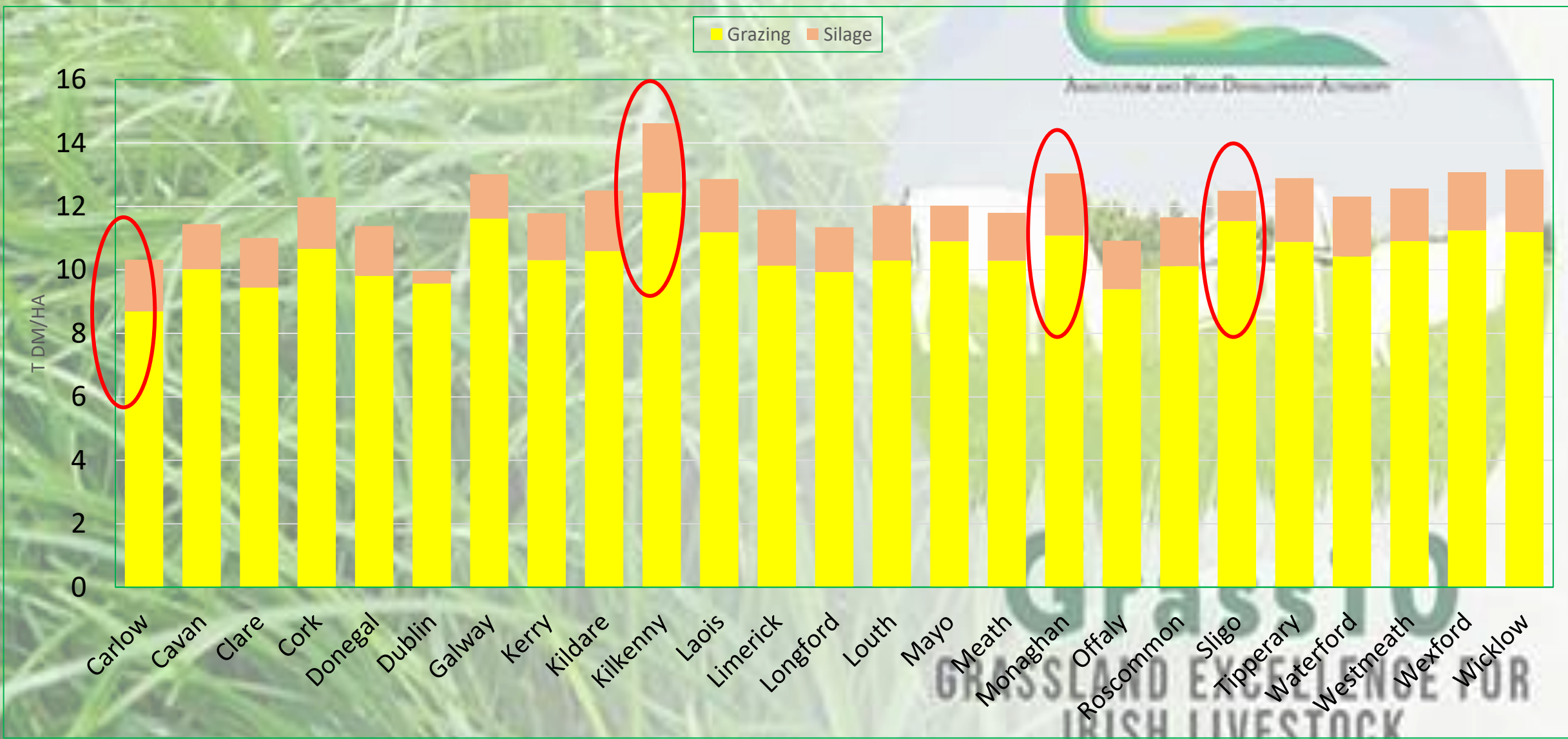
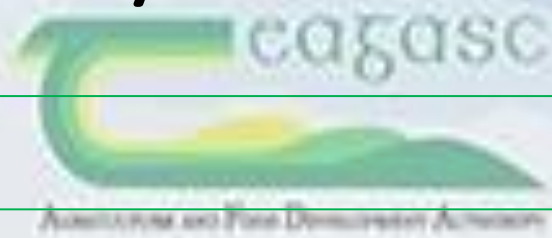
# PastureBase Ireland

- National grassland database and decision support tool
- Includes modules to aid with animal feeding decisions & feed conservation, fertiliser applications, milk production records and pasture productivity
- 3,500 farmers recording >10 covers in 2022
- Increase in the number of farmers recording more detailed data e.g. nutrient applications
- Data available on annual, month and week basis for researchers, farmers and industry

# Grass production – Dairy ≥ 30 covers recorded

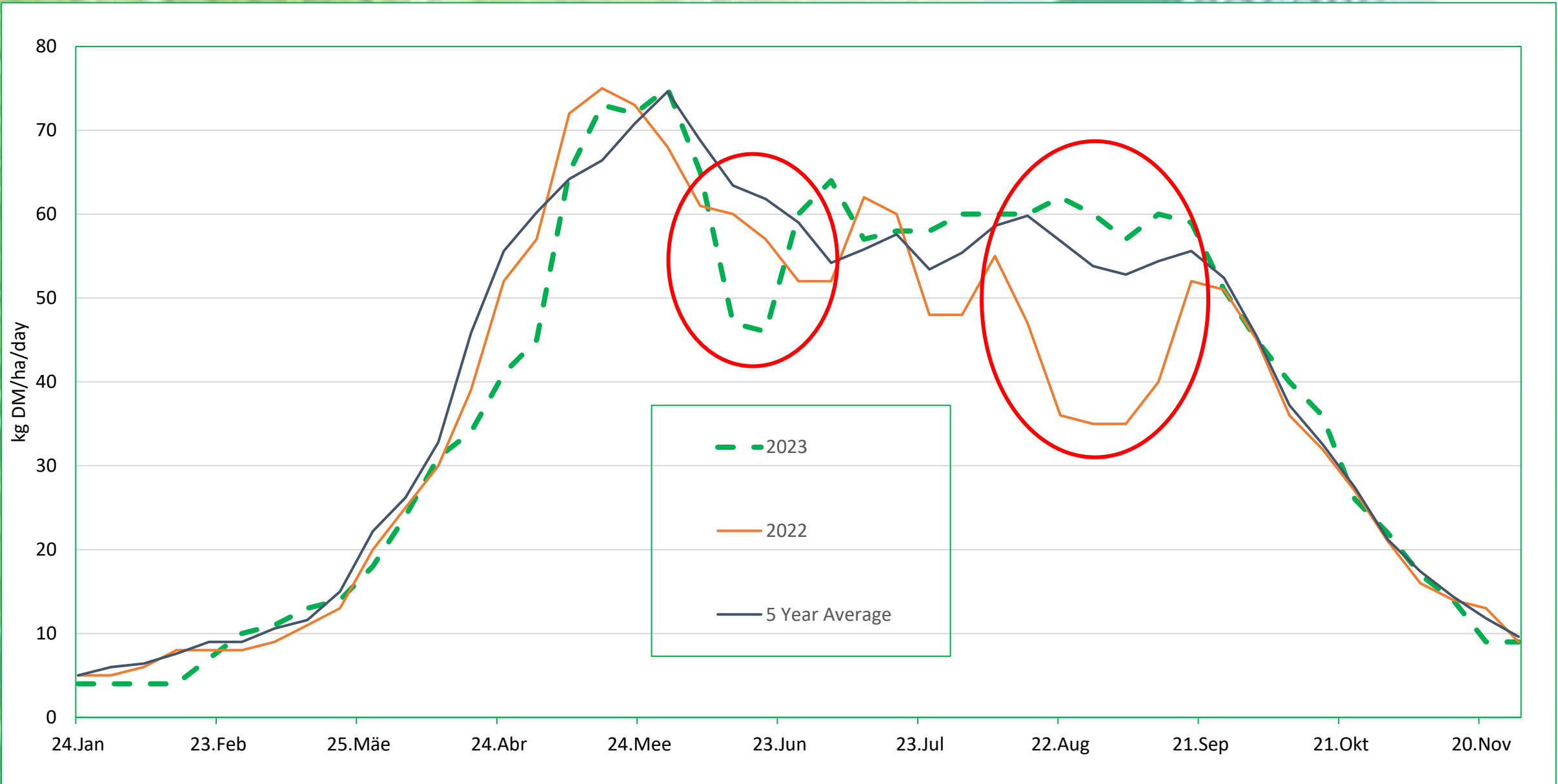


# Grass production by county

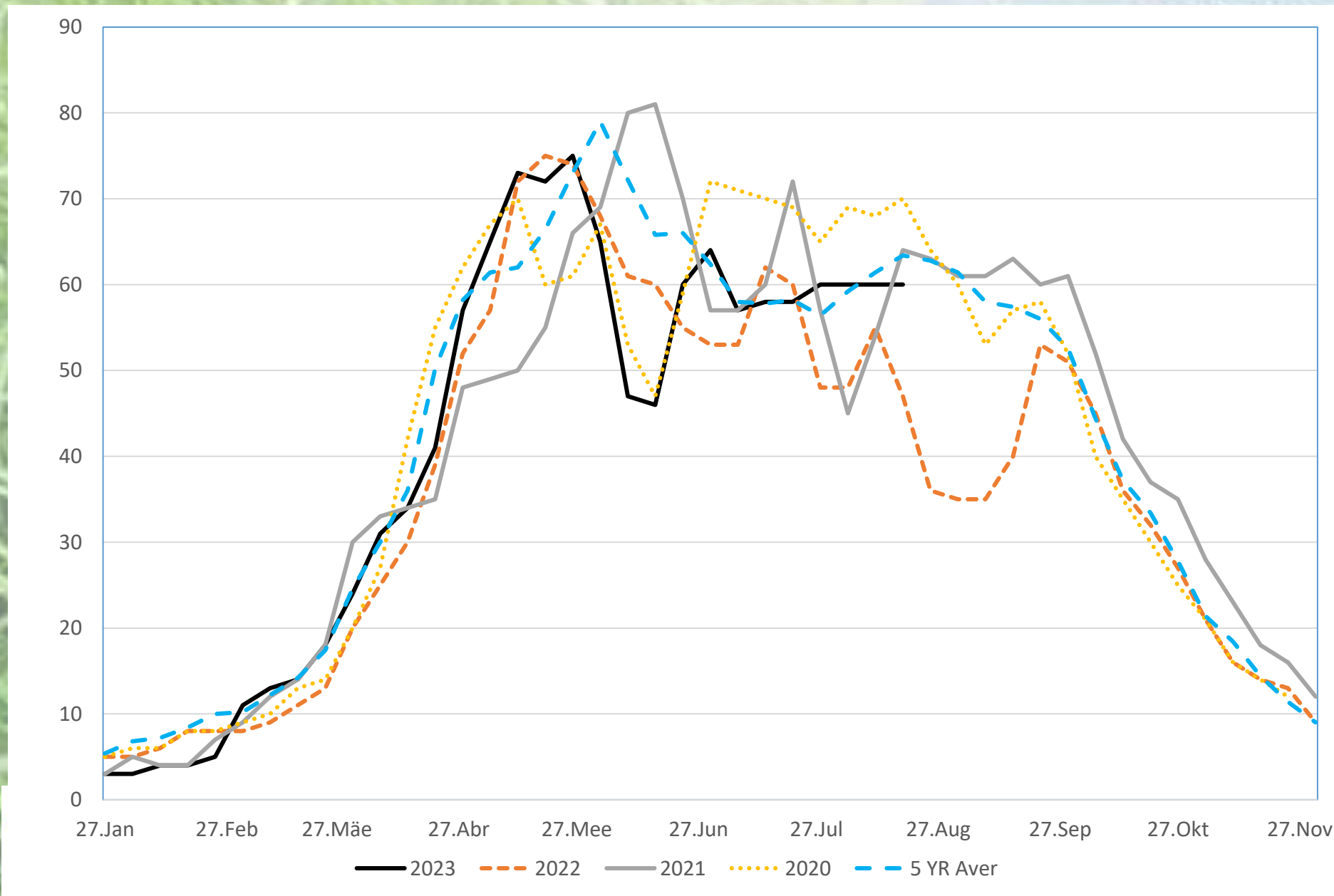


GRASSLAND EXCELLENCE FOR IRISH LIVESTOCK

# National Grass Growth Curve



# National Grass Growth Curves



0  
ICE FOR  
K

# PastureBase Ireland

- PastureBase – grassland management decision support tool
- Farmers need to have sufficient feed quantity and quality
- Decisions need to be made around grassland management to maximise each of these depending on the time of year
- Spring and autumn are low growth periods – quantity
- Summer is high growth – quality



# Pasture Measurement

- Tools are now available to all farmers for accurate grass measurement
- Challenge now to increase number of farmers and number of walks per farm
- PastureBase Ireland can help to meet this challenge



0  
NCE FOR  
K

# Decision support requirement

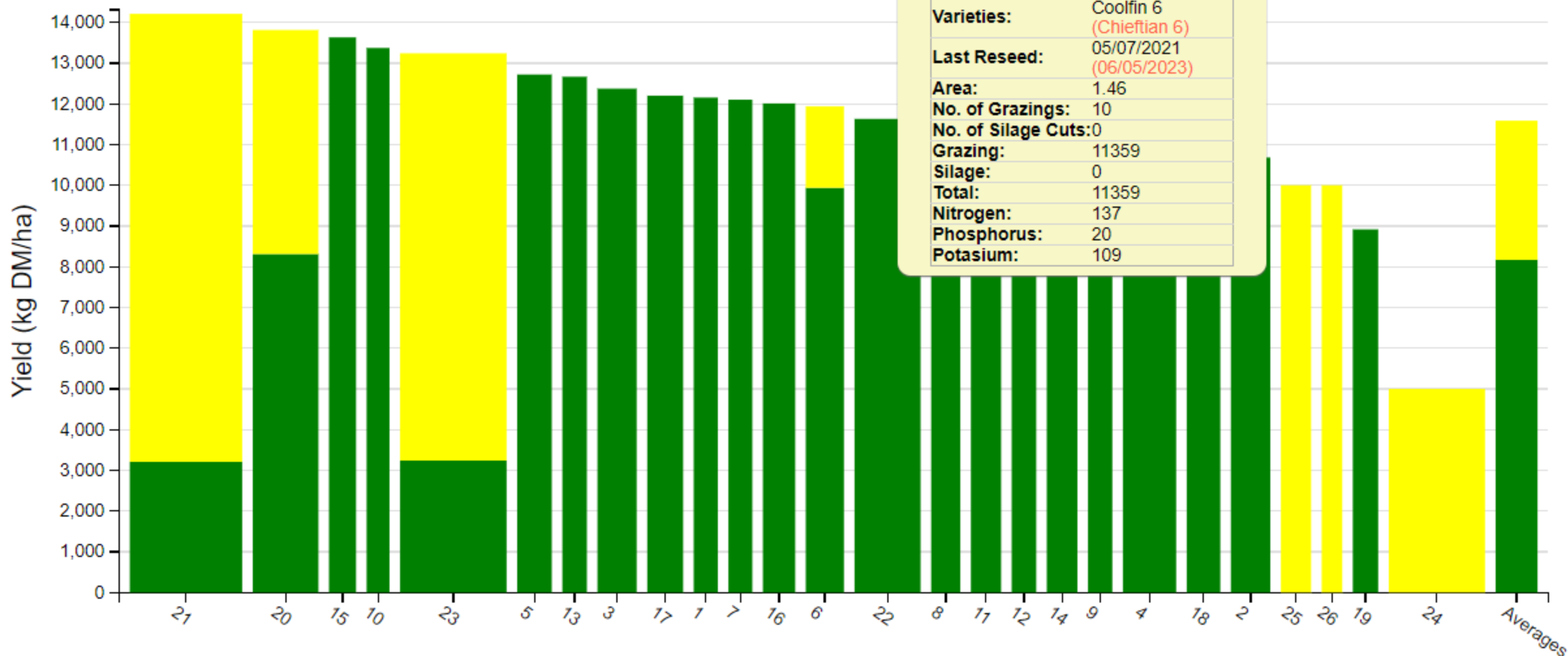
- Farmers need to have sufficient feed quantity and quality
- Decisions need to be made around grassland management to maximise each of these depending on the time of year
- Spring and autumn are low growth periods – quantity
- Summer is high growth – quality



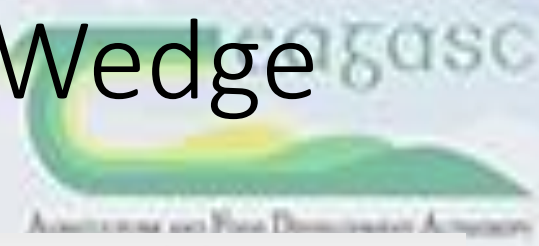
### Cumulative Paddock Yield to 31 Dec 2023

■ Silage Yield
 ■ Grazing Yield

<b>Code:</b>	14
<b>Name:</b>	Back of new shed
<b>Varieties:</b>	Coolfin 6 (Chieftian 6)
<b>Last Reseed:</b>	05/07/2021 (06/05/2023)
<b>Area:</b>	1.46
<b>No. of Grazings:</b>	10
<b>No. of Silage Cuts:</b>	0
<b>Grazing:</b>	11359
<b>Silage:</b>	0
<b>Total:</b>	11359
<b>Nitrogen:</b>	137
<b>Phosphorus:</b>	20
<b>Potassium:</b>	109



# Mid Season- PastureBase Grass Wedge



GRASSLAND EXCELLENCE FOR IRISH LIVESTOCK

# PastureBase tools



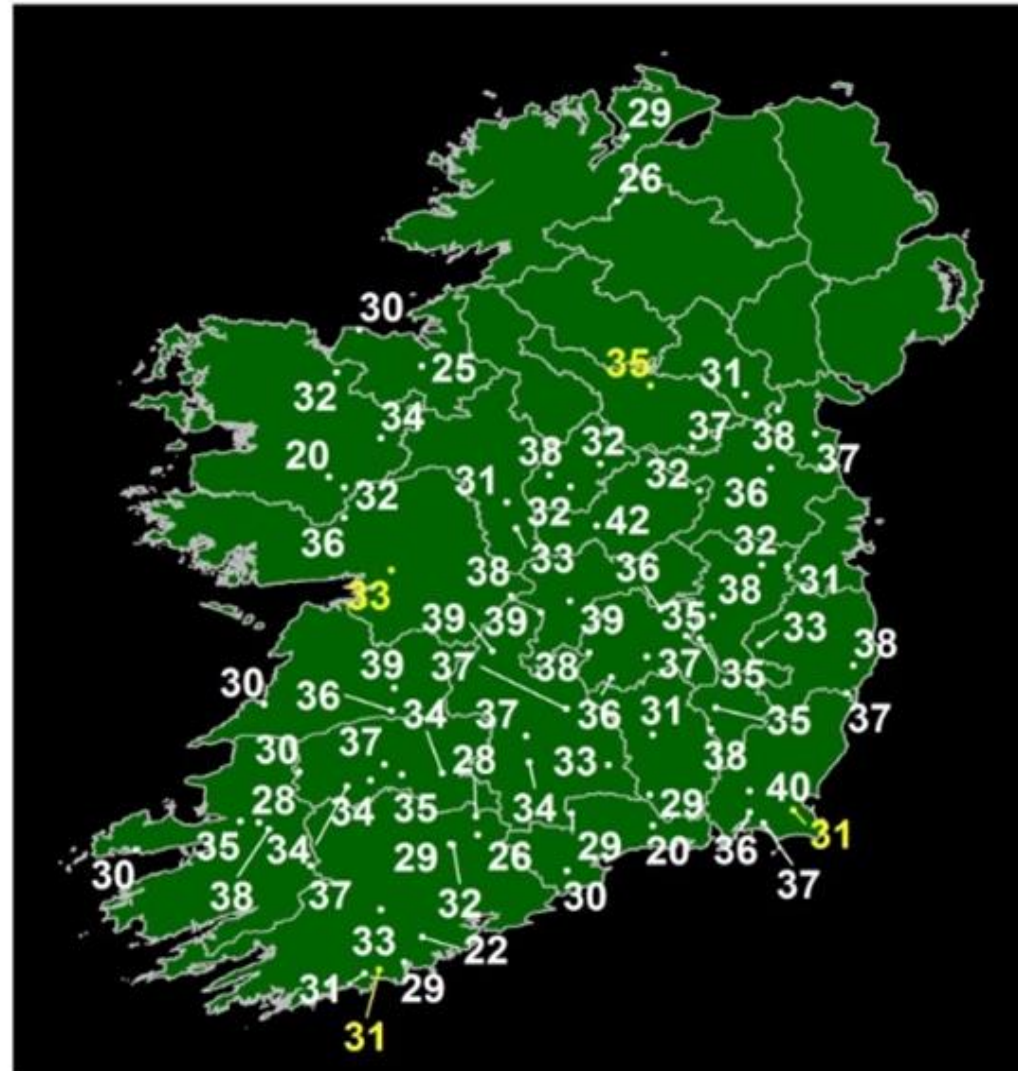
- Recording grass walks
- Grass wedge
- Rotation planners
- Feed Budget
- Nutrient planning & recording

Farm		Paddock Usage: Grazing		No. of Paddocks: 9		Area of Paddocks (ha): 7.5		Percentage of Farm Area: 38		Available Slurry (Gallons): 62031	
ADD		TOTAL AMOUNT OF CHEMICAL N	JAN/FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
		150									
Select Paddocks for Slurry			Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)	Paddocks (0 selected)
Organic Application Method		Select...	Select...	Select...	Select...	Select...	Select...	Select...	Select...	Select...	Select...
Gallons per Acre											
kg N / ha											
Units of N / Acre											
Total Organic kg N/ha YTD Based on 7.5ha		0	0	0	0	0	0	0	0	0	0
Chemical Fertiliser		Select...	Select...	Select...	Select...	Select...	Select...	Select...	Select...	Select...	Select...
% of N											
% of Total Chemical N to Apply		11	11	14	16	15	12	8	13		
Target kg N/ha		16.5	16.5	21	24	22.5	18	12	19.5		
Target Units N/acre		13.4	13.4	17.1	19.5	18.3	14.6	9.8	15.9		
Number of bags/acre											
Total Chemical kg N/ha YTD		16.5	33	54	78	100.5	118.5	130.5	150		

# MoSt grass growth model & prediction

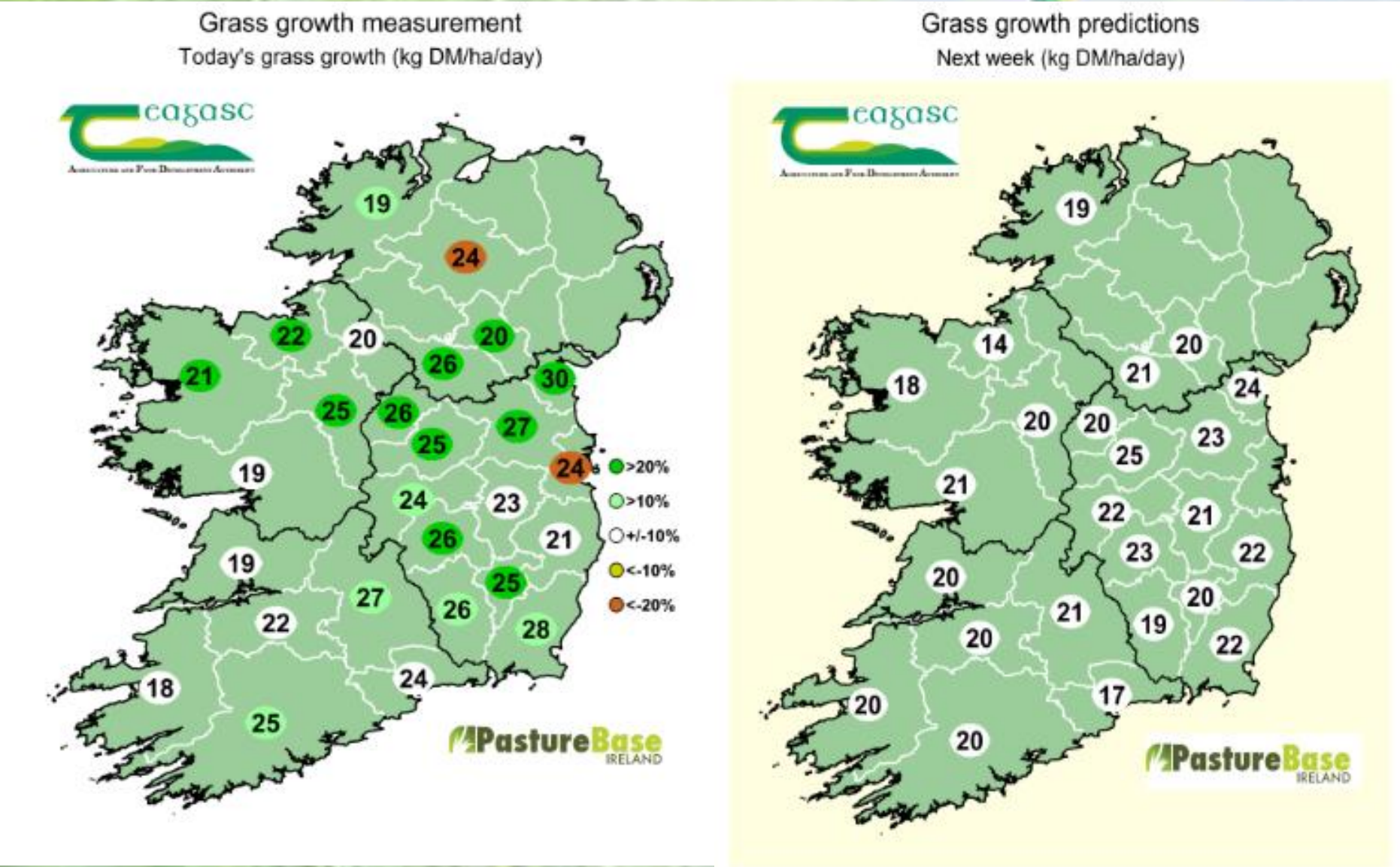
- Model developed between researchers at Teagasc Moorepark and St. Giles INRAE to predict grass growth based on weather, fertiliser applied and historical data from PBI
- Changing climate - more important
- Based on 87 farms -> National Representation

Grass growth prediction (kg DM/ha/day):  
13/10/2021-19/10/2021



0  
ICE FOR  
K

# MoSt - On farm grass growth predictions



0  
ICE FOR  
K

# Future challenges

- Optimise integration of PastureBase modules
- Keeping ahead of on-farm trends e.g. zero grazing, liquid fertiliser
- Integrate MoSt growth prediction model
- Develop a nutrient balance calculator for optimal soil fertilisation
- Enhance the notification system to get real time information to farmers
- Explore more options for utilising PastureBase data and ensuring good feedback to researchers





“You cannot manage what you don't measure”

Grass10  
GRASSLAND EXCELLENCE FOR  
IRISH LIVESTOCK

THANK YOU! – Any Questions??

Grow More,

Graze More,

Earn More!



GRASSLAND  
IRISH

FOR