

Grassland Farmer of the Year 2018 Beef Winner

John & Shirley Watchorn, Scullabogue,
Newbawn, New Ross, Co. Wexford
Friday 22nd March 2019



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine



FBD
INSURANCE



Grass10 Campaign

Introduction

Grazed grass is the cheapest and most available feed for beef production systems in Ireland. As an abundant natural resource, grass provides Irish farming with a significant competitive advantage for beef production. Grass enables low-cost animal production and promotes a sustainable, high quality green image of meat production across the world. Recent industry reports (Food Harvest 2020 and Food Wise 2025) have highlighted the important role grass can play in a profitable meat production industry. Through a combination of climate and soil type, Ireland possesses the ability to grow large quantities of high nutritive value grass which can be converted through grazing animals into high quality grass-based meat products.

Our competitive advantage in meat production can be explained by the relative cost of grass, silage and concentrate feeds. Therefore, increased focus on grass production and efficient utilisation of that grass should be the main driver for profitability of the livestock sector. A recent financial analysis by Teagasc demonstrated increased profit of €105/ha for every 1 tonne DM/ha increase in grass utilised. Additionally, environmental sustainability (carbon footprint, nutrient use efficiency, etc.) is also improved by increased grass utilisation.

Future profitability in grass-based beef production in Ireland will depend on an effective grass-based system. However, currently Irish farmers are not using grass to best effect and there is a need to increase grass production and ensure efficient utilisation of that grass.



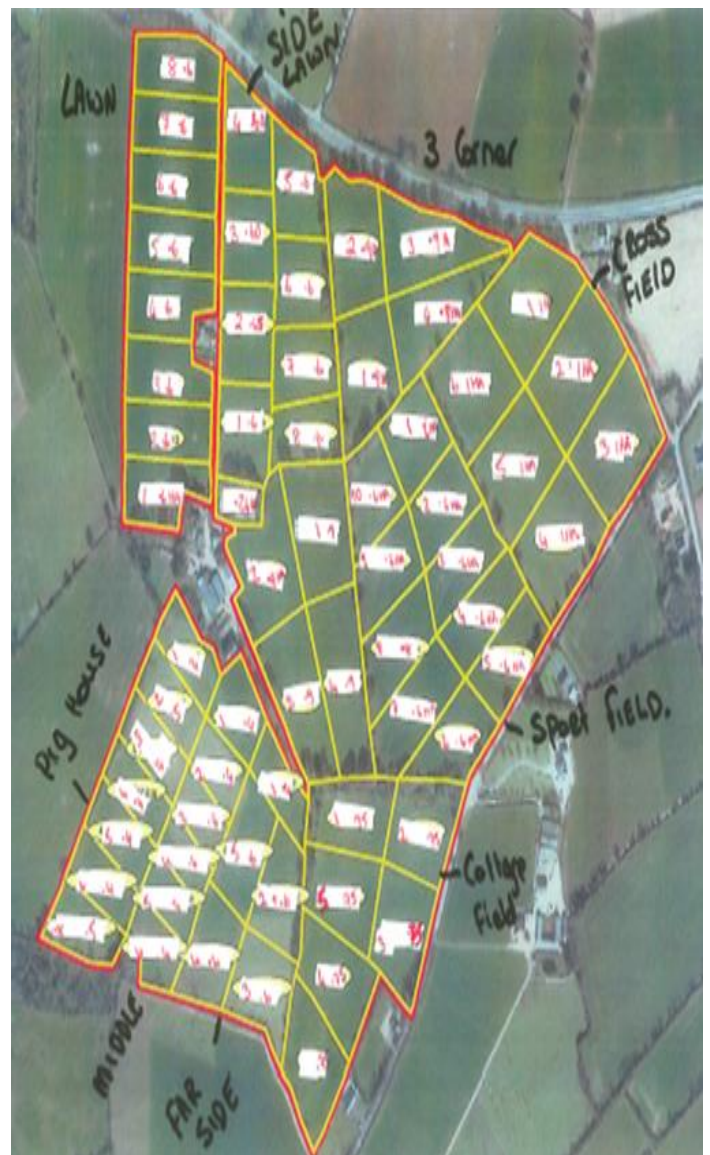
Welcome to the Watchorn Farm

Scullabogue, Newbawn, New Ross, Co. Wexford

John Watchorn

I would like to welcome everyone here to Scullabogue and I hope you find your visit to our farm informative. I am married to Shirley and we have two boys, Adam and Graham.

We farm 44.7 ha here in Newbawn in Co. Wexford. The farm is mostly dry with only 9A, 9B and 9C 8.8 ha being partially wet. The fields surround the farm yard and there is a road all the way through from the avenue gate right back to the last field. This is invaluable in the management of grassland.



I have a trading system buying in weanling bullocks and bringing them through to finish at two years of age. I mostly buy Friesians, Aberdeen Angus and Hereford off the dairy herd. I may buy other cattle if they are value in the mart. I have reared dairy calves in the past and have found it a good system. However, I like going to the mart and can buy value. This removes the work involved in calf rearing. My sheds are empty in the summer and if I see good value bulls, close to 450 kg's that I can finish in the shed I will buy them and have made money from them.

I aim to finish 150 cattle every year, which puts me at a very high stocking rate. In 2018 it was 3.22 livestock units per ha or 243 kg's of Nitrogen per ha which puts me in derogation. This means I am selling a lot of kilos of beef per ha, see my beef output report below.

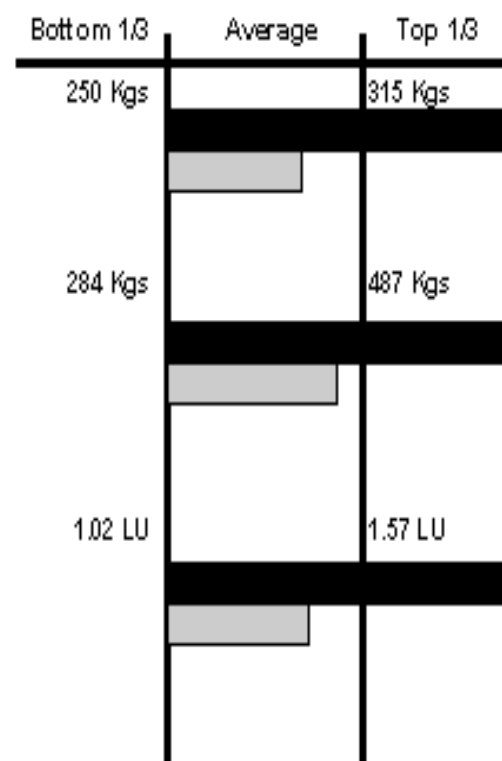
Beef Output Report
01/01/2018 - 31/12/2018



Herd Owner: JOHN WATCHORN

2. Key Performance Indicators (KPI's)

A. Beef Output per Livestock Unit. (LU)	Your Herd	444 Kgs
Total beef output (82,889) ÷ Total livestock units (141.5)	National Average	294 Kgs
B. Beef Output per Hectare.	Your Herd	1429 Kgs
Total beef output (82,889) ÷ Total Hectares (44)	National Average	455 Kgs
C. Stocking Rate per Hectare.	Your Herd	3.22 LU
Total Livestock units (141.5) ÷ Total Hectares (44)	National Average	1.41 LU



In order to produce this beef profitably I must make the best use of grass. To me this means being out to grass as early as possible, grazing the fields as often as possible and housing as late as possible keeping in mind I need

grass for the spring. My motto is I need to grow more grass to feed more cattle to put more money in MY pocket. Most years I let cattle out in mid to late January and house the last of my stock in the first week of November, this is a huge cost saving.

I have been a member of a Discussion Group for a long time and 5 years ago I joined a Grass Group with my local Teagasc advisor Martina Harrington. Since then I have really focussed on 4 main areas:

1. Grazing infrastructure
2. Soil fertility
3. Grassland management
4. Reseeding

Grazing Infrastructure:

- a. I increased the number of **paddocks** from 35 to 66, each being approximately 0.6 ha giving me one and a half day paddocks. Many of the paddocks are temporary. As you will see walking the farm I have an excellent boundary fence, I then run a permanent fence down the middle of the field along the longest length and from this fence I can run temporary fences and split the fields.
- b. In order to do this I had to put in **water troughs** so I could easily split the fields and as I went I learned from my mistakes. I now zig zag the troughs so each drinker can serve more paddocks.
- c. I have one main **roadway** through the farm; this has been invaluable in moving stock. I have plans to add in more roadways to make the fields at the end of the farm more accessible. These do not have to be full roadways, a few stakes and wire can make a roadway in a drystock situation. I won't be driving cows on them every day.

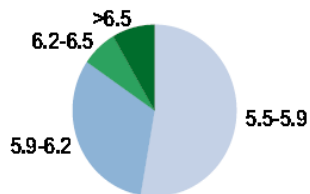


Soil Fertility:



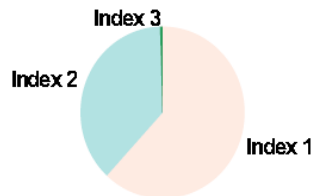
In 2015 I took a set of soil samples for the whole farm and I was disappointed with the results. The pH and phosphorous levels were very low. The potassium levels were okay. No field on the farm had optimum soil fertility.

Lime
Soil pH > 6.2



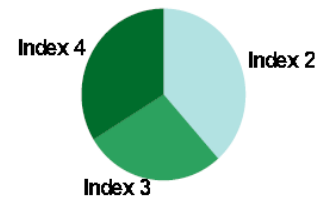
pH	Ha's	%
<5.5	0.00	0%
5.5-5.9	23.62	53%
5.9-6.2	14.24	32%
6.2-6.5	3.15	7%
>6.5	3.76	8%

Phosphorus
P Index



Index	Ha's	%
1	27.71	62%
2	16.84	38%
3	0.22	0%
4	0.00	0%

Potassium
K Index



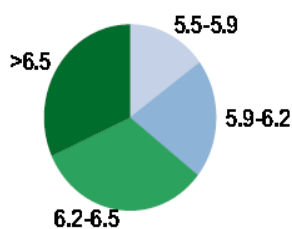
Index	Ha's	%
1	0.00	0%
2	17.20	38%
3	12.46	28%
4	15.11	34%

If I wanted to increase my stocking rate and grow more grass I needed to improve the soil fertility.

- a. I started with my pH as this would automatically help to increase the availability of phosphorous in the soil. I applied two tonnes per acre over the whole farm in the coming 4 years. As you will see below in my 2019 results this really did help. I will now continue and spread another two tonnes where needed over the next four years.
- b. I concentrated on my Phosphorous (P) levels. I started to apply compounds and more importantly I started to apply compounds with higher levels of P and earlier in the year for earlier grass. If most of my grass is grown by the end of May / early June I wanted to feed it to get more out of it. I started a regime of spreading Urea in January/February. In 2017 I followed the urea with 2 bags of 15 -10 -10. In 2018 I used 1.5 bags of 18-6-12 and will do the same in 2019. I then spread urea or CAN and came back with 1.5 bags of 18-6-12 in May/June. Looking at my soil samples everything was index one and two so they needed 3 bags at the very least. Any index one soils got a further bag of 18-6-12 in September. My new set of soil samples says my plan is working.

Lime

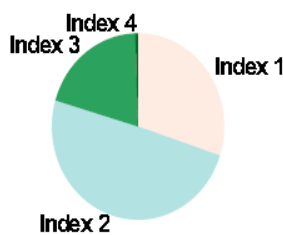
Soil pH > 6.2



pH	Ha's	%
<5.5	0.00	0%
5.5-5.9	6.67	15%
5.9-6.2	9.23	21%
6.2-6.5	14.57	33%
>6.5	14.18	32%

Phosphorus

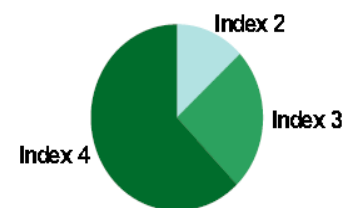
P Index



Index	Ha's	%
1	13.42	30%
2	22.09	49%
3	8.92	20%
4	0.22	0%

Potassium

K Index



Index	Ha's	%
1	0.00	0%
2	5.84	13%
3	11.04	25%
4	27.77	62%

- c. I apply slurry to silage ground as much as possible to keep the Potassium (K) levels up. My silage fertiliser is 3,000 gallons of slurry, 1 ½ bags of 18-6-12 and then 2 bags of sulphur CAN. The rest of the slurry goes to grazing ground with low indexes.

I have completed the building Phosphorous course with Teagasc and updated my Nutrient Management Plan so in 2019 I plan to increase the level of phosphorous applied to grow more grass and build a reserve of silage for next winter.

Grassland management:



I break the year up into three blocks, the spring when I am trying to get the whole farm grazed off in rotation from mid-January to the first week in April, from April to October when I am rotationally grazing and from October to Mid-November when I am closing up paddocks in rotation for the following spring.

Spring: I do a farm cover, put that into PastureBase and then do a Spring Rotation Planner. This basically plans the number of stock I let out that will graze off the covers on the farm including silage ground over the number of days they are out from Jan to April 4th.

I do this in pencil as it is likely to change several times over the spring with changing weather conditions. However over the years I have learned to change and adapt. For instance if January is dry I will go to my wet ground first and leave the drier ground for later when weather maybe more challenging.

If I am behind in my rotation I go into lighter covers and make ground up that way. My whole aim is to graze the ground and get the grass plant growing again after the winter. I take a few measurements to make sure I am on track. This year I let out 66 weanlings on the 15th of January and they are still out. This is a saving to my system of 66 animals x 67 days x €2 per day = €8,844. I weighed them on the 7th of March and they had an average daily gain of 0.98kgs per day.

From April on: I measure grass weekly as things change rapidly from here on in. I use PastureBase to look at my growth, my demand, my days ahead and my whole farm cover. I look at these figure in conjunction with what fertiliser I have spread and the weather conditions, is it cold, wet, dry, warm etc. and I then make decisions to put out fertiliser, take out paddocks, how many paddocks to take out etc. The one and a half day paddocks give me huge flexibility here and my ability to move cattle easily from one area of the farm to the other. I try to get as many grazings as possible from each paddock and I think this is the key to growing 14 tonnes of grass dry matter (DM).

Autumn: I close the fields from the 1st of October to 15th of November in rotation as to how I would like to graze them in the spring. Once closed that's it, I do not go back in and graze.

Implementing all of this I grew 14 tonnes of Grass DM in 2017.

I believe that the key to profitable beef farming lies in excellent grassland management. When I joined the Grass Group I was a novice, but working with the other Group members who had more experience and through meeting often and discussing our grass wedges and what to do next my confidence has grown. I would recommend PastureBase Ireland and a Grass Group to all of you.

Reseeding:



Reseeding is hugely important to get cattle out to grass early and to get that grass to grow back for the second grazing rotation. I reseed 10-15% every year and have reseeded 70% of the farm in the last 10 years. I use the grass seed Top Five Extend for the most part which has Abergain, Aberchoice, Dunluce, Drumbo and Aberherald. Last year I used a monoculture of Abergain for the first time, it has worked very well so far and I will use more of these in the future on the drier ground if it fits into the system and is not too hard to manage.

I don't plough as there are a lot of stones on our land, you will see rock outcrops on our farm plus I don't want to plough down all the nutrients in the top 10 cm of the soil that I have been trying to build up. My procedure is:

- Spray off the old sward
- Graze off the old sward after 4-7 days to minimise trash
- Power harrow twice
- Apply lime
- Sow grass seed at 14kgs per acre with 3 bags of 10-10-20
- Roll well after sowing
- Apply fert again 4-5 weeks later
- Graze often
- Avoid silage in the first year.



With all of these factors working together I can grow 14 tonnes of grass and more. I hope from today that you can see how easily I implemented these changes on my farm and you can do the same on your farm to grow more grass, to feed more cattle and make more money.

Thank you for coming,

John and Shirley Watchorn



Current Grazing Performance on Beef Farms

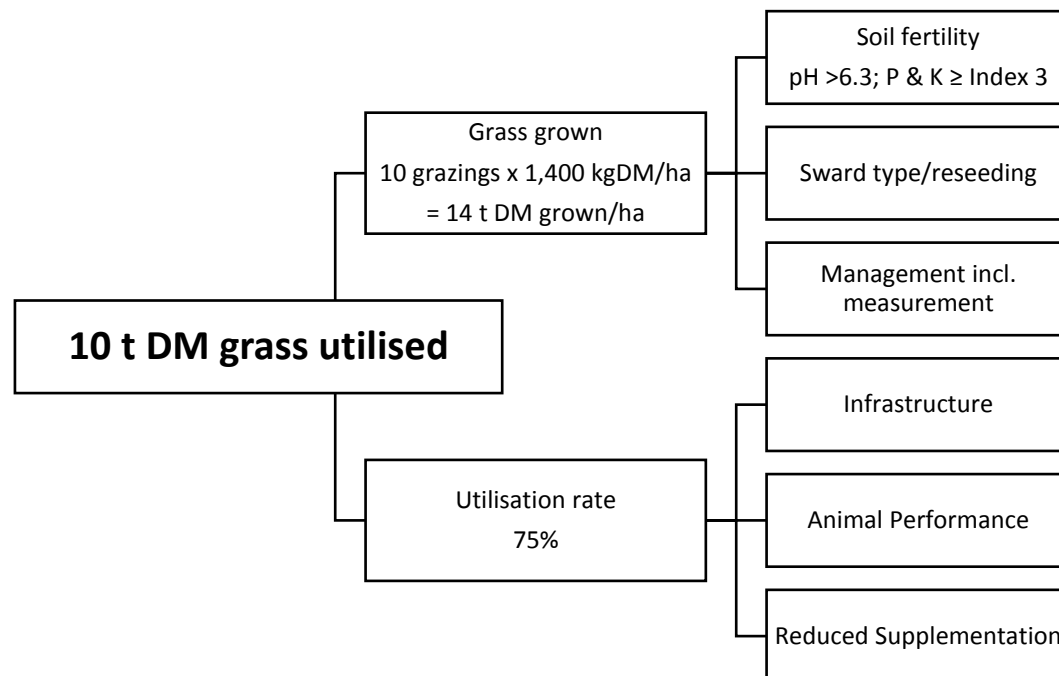
Currently, it is estimated that about 5.6 tonnes grass DM/ha/year are utilised nationally on drystock farms (Teagasc National Farm Survey data). There are major improvements required in the areas of grass production and utilisation. Data from the best commercial grassland farms and research farms indicate that the current level of grass utilised on drystock farms can be increased significantly, to greater than 10 t DM/ ha (i.e. 14 t DM/ha grown with a 75% utilisation rate).

It is important to recognise that improvements in soil fertility, grazing infrastructure and a level of re-seeding are required to achieve higher levels of grass production and utilisation. To achieve greater change in the amount of grass utilised, farmers will need to upskill their grazing management practices. This means regular measurement of grass supply using specialised grassland focused software to analyse grass production.



Grass10 Campaign

Grass10 is a new four-year campaign recently launched by Teagasc to promote sustainable grassland excellence. The Grass10 campaign will play an important part in increasing grass growth and utilisation on Irish grassland farms, thereby improving profitability at producer level and helping to ensure the long term sustainability of Irish beef, dairy and sheep production. Significantly, it can provide the platform or framework to enable various industry stakeholders to collaborate for collective action. Given the current performance in terms of grass growth and utilisation, the need for 'collective action' should be clear.



Objective

The objective of the campaign is to achieve **10 grazings/paddock/year** utilising **10 tonnes** grass DM/ha. In order to achieve this objective, we will need to achieve significant changes in on-farm practices, specifically:

1. Improved grassland management skills
2. Improved soil fertility
3. Improved grazing infrastructure
4. Improved sward composition
5. Increased grass measurement and usage of PastureBase Ireland

Grassland Farmer of the Year Competition

With a proven link between increased grass utilisation and increased profitability, the Department of Agriculture, Food & the Marine, in collaboration with numerous industry stakeholders including Teagasc, launched a competition as part of the Grass10 initiative to find the Grassland Farmer of the Year. Teagasc research indicates that grass utilisation can be increased significantly on farm.

With this background Grass10 has launched a grassland competition to recognise those farmers who are achieving high levels of grass utilisation in a sustainable manner. Practises used by these farmers to increase grass production and utilisation, include soil fertility management, sward renewal, grassland measurement and improving grazing infrastructure.

The objective of the Grassland Farmer of the Year Competition is to promote grassland excellence for all Irish livestock farmers.

The Watchorn family is the Beef winner of the Grassland Farmer of the year Competition 2018.

Congratulations John, Shirley and Family!!!!



Grassland Management



PastureBase Ireland: Technologies to assist grassland management

Technologies which enable data-informed decision-making on the farm can help to increase farmers' confidence and greatly improve grassland management. Huge leaps have been made in developing decision support tools to improve resource farm efficiency, profitability and sustainability. The primary objective of most of these tools is to increase the information available to assist in farm-management decision making as well as to collect and collate large amounts of data in a centralised database.

Teagasc launched PastureBase Ireland (PBI) – an online grassland management decision support tool – in January 2013 and Grass10 will see the roll-out of the new PastureBase Ireland website as a key component of the campaign. Upon entering data from their own farm (e.g. grass measurements), the platform provides real-time and customised grassland management advice to the farmer to assist their decision-making. These reports are developed in such a way that allows farmers to benchmark their individual farm with farm in their discussion group or in their region. The data accumulated to date indicate that PBI participating farms have achieved improvements in grass DM production and grazing management.

PastureBase Ireland is informing us that farmers need to have a good control of current grass supply in order to manage grass well. Grass cannot be managed correctly without knowledge of farm cover, grass demand and grass growth. The crucial point on any farm is utilising the feed resource produced on the farm.

The average number of grass measurements completed per year by John over the last 2 years is 32.

This shows that John is constantly monitoring grass growth and supply which enables him to graze grass at the right cover which in turn allows them to grow more grass as re-growths are faster.

The table below outlines the average grazing performance of the Watchorn farm, Beef winner of the Grassland Farmer of the Year Competition.



Grazing performance of Watchorn farm

Grazing Performance	
Grass production (t DM/ha) (2017 & 2018)	13.8 & 9.2
No. grass measures completed/yr (2017-2018)	32
No. of grazings/paddock/year (2017/2018)	6
Days at grass (2018)	315

The average number of grazings being achieved was 6 including the paddocks cut for silage as well as grazing. Maximising the number of grazings achieved on each paddock is a very effective method of increasing farm grass utilisation. Every extra grazing/paddock achieved increases annual grass DM production by 1.5 t DM/ha PastureBase Ireland enables the farmer to keep track of grass growth per paddock, the number of grazings per paddock and the quantity of grass being consumed at each grazing. This highlights poor performing paddocks and deficiencies in grazing management. The length of the grazing season in 2018 was over 300 days. The grazing season runs from mid-January to late-November.



Investing in Grazing

In order for farming to be successful, there will be a requirement for investment on many farms. The available capital for this investment will be scarce. Therefore, investment on farm should be prioritised at areas that increase efficiency and reduce the exposure of the business to external shocks such as lower price of product or higher price of inputs etc. All investments that give the highest returns should be prioritised.

Every ton of additional grass eaten by the grazing animal will add €105/ha additional profit to a beef farm. Therefore it is important that investment in grazing is prioritised to give the maximum return. The table below summarises the potential return on investment for different investments in a beef farm business. Bottom Line: The level of return to these investments is high because it is investing in grazing. These investments will either enable the farm to grow more grass or lengthen the grazing season or both.

Investment	Cost	Impact	Annual Return (€/ha)
Increase soil P & K levels	P & K application of 20 and 50kg/ha (€100/ha)	+1.5 t DM/ha/year grass growth	120
Improve grazing infrastructure	€300/ha for fencing and water	+ 1.0 t DM/ha/year grass eaten/utilised	80
Reseed full farm in eight year cycle	€650/ha	+ 1.5t DM/ha/year grass growth	120



Soil Fertility Management

Good productive soils are the foundation of any successful farming system and key for growing sufficient high quality grass to feed the herd. Therefore, the management of soil fertility levels should be a primary objective of every farm. A recent review of soils tested at Teagasc indicates that the majority of soils in Ireland are below the target levels for pH (i.e. 6.3) or P and K (i.e. Index 3) and will be very responsive to application of lime, P & K. On many farms sub-optimal soil fertility will lead to a drop in output and income if allowed to continue. Teagasc is highlighting 5 steps for effective soil fertility management.

1. Have soil analysis results for the whole farm (soil sampling every 2 years).
2. Apply lime as required to increase soil pH up to target pH for the crop
3. Aim to have soil test P and K in the target Index 3 in all fields
4. Use organic fertilisers as efficiently as possible
5. Make sure the fertilisers used are properly balanced

For those farmers aiming to improve soil fertility on their farms, following these 5 steps provides a solid basis for success.

Phosphorus (P)

The proportion of soils tested with low soil P fertility (i.e. P Index 1 and 2) has increased to approximately 62%. This overall trend reflects the soil P fertility status on many farms, and indicates a serious loss in potential productivity. Recent research has shown that soils with P index 3 will grow approximately 1.5 t dry matter (DM)/ha per year more grass than soils with P Index 1. Most of the DM yield response in these experiments took place in spring and early summer.

Potassium (K)

Soil analysis also shows that the trend in soil K status, across dairy and drystock enterprises, broadly mirrors that for P. Despite no legislative limits on K fertilisers, K usage dropped in line with P fertiliser applications. Consequently soil test results indicate a sharp increase in soils with low K status between. Over half of the soil samples tested by Teagasc had very low to low soil K status (i.e. K Index 1 or 2)

Increasing Soil Nutrient Availability-Lime

Lime is a soil conditioner and corrects soils acidity by neutralising the acids present and allowing the micro-organisms and earthworms to thrive and break down plant residues, animal manures and organic matter. This helps to release stored soil nutrients such as nitrogen (N) phosphorus (P) potassium (K) sulphur (S) and micro-nutrients for plant uptake. In addition, ryegrass and clover swards will persist for longer after reseeding where soil pH has been maintained close to the target levels through regular lime applications.

Liming acidic soils to correct soil pH will result in the following:

- Increased grass and crop production annually
- Increase the release of soil N by up to 60 units N/acre/year
- Increase the availability of soil P and K and micronutrients
- Increase the response to freshly applied N, P & K as either manures or fertiliser

Ground limestone is the most cost effective source of lime and can be applied throughout the year when the opportunity arises. Lime is the foundation of soil fertility and is a primary step to take when correcting soil fertility.



Grazing infrastructure

Grazing infrastructure in relation to roadways, paddock layout and water supply systems will be important in terms of overall herd performance as it can allow more days at grass and therefore greater profitability. Proper subdivision of grazing land into paddocks is essential to be able to successfully manage pastures and achieve desirable rotation intervals.

On a high proportion of drystock farms the number of paddocks is inadequate leading to a small number of large paddocks. The net result of this approach is long residency times (up to two weeks) and the productivity of these paddocks can be significantly reduced. A number of issues arise in these situations, regrowth's are continually being regrazed, proper grazing heights are not achieved, nitrogen application is irregular and in many cases pre-grazing yields are too high, which results in swards needing to be topped on a number of occasions across the season.

There is a strong relationship between the number of paddocks per farm and the total number of grazings achieved per farm. PastureBase Ireland data has identified that the advantage of creating one new paddock on a farm will give five extra grazings from the farm annually. The creation of additional paddocks makes management of pasture more streamlined and leads to better control of grass, especially during periods of high growth. A key finding from the grazing performance of drystock farms recording on PBI showed the greater the number of grazings achieved, the higher the grass DM production produced. Every extra grazing achieved increased annual grass DM production by 1.5 t DM/ha.

Maximising the number of grazings achieved on each paddock is a very effective method of increasing farm grass utilisation. Paddock residency should be no longer than three or four days on drystock farms during the mid-season. It is critical that all drystock farms sub-divide existing paddocks into smaller areas with three or four day residency time. Grow the grass in 3 weeks and graze it in 3 days.

Calculate paddock size: (April–June)

Step 1: Establish animal numbers (Plan for long term)

Step 2: Establish daily demand. e.g. 60 heifers (average weight 400kg)

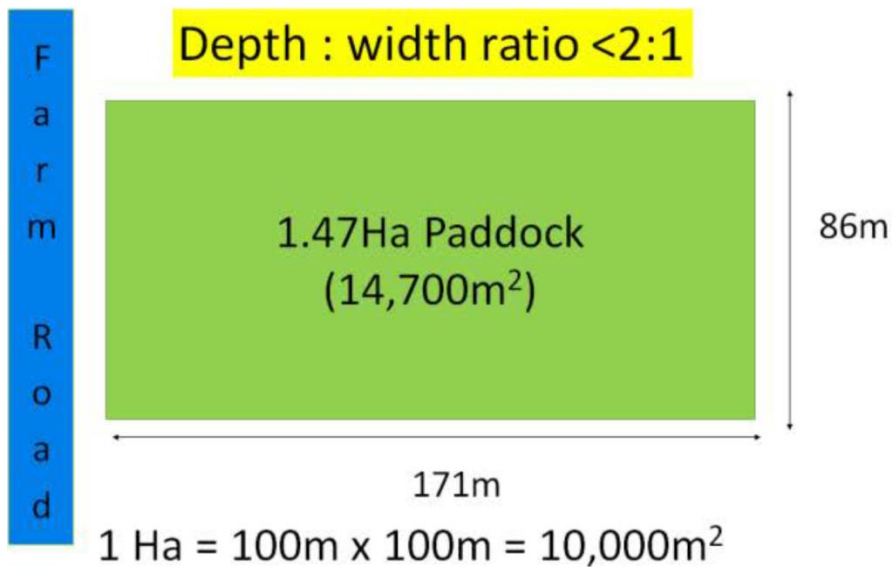
60 animals X 8kg DM= 480kg DM for 24 hours

Step 3: Ideal pre-grazing yield is 1,500kg DM/ha in mid-season

Step 4: To calculate paddock size:

3 days in a paddock = 3 x 480 = 1440 kgs DM

- If paddock has 1400-1500 kg DM/ha
Then 1 ha is needed to keep 60 400kg heifers for 3 days



Fixed or Flexible Paddocks

A fixed or flexible system of paddocks can be used for grazing – flexible paddocks should be considered by some farmers who are either constructing new paddocks, trying to develop paddock grazing or reorganising their existing systems. If we examine the advantages and disadvantages of both paddock systems, farmers should be able to decide which system best suits their own farm and management ability. Both paddock systems have advantages and disadvantages (see table).

A fixed paddock system gives structure to grazing on the farm and will generally be more stock-proof. A flexible system would ensure better utilisation of grass in wet weather and less poaching damage. It would also result in quicker mechanical operations such as topping, cutting, fertiliser spreading, etc. In order to facilitate efficient grazing of silage fields in spring (before closing) and again the autumn, flexible paddocks can be operated. This would ensure no re-growths are eaten.



Advantages and disadvantages of fixed and flexible paddock systems

Fixed Paddocks	Flexible Paddocks
Advantages	Advantages
Suits inexperienced operator	Less expensive to construct
Set area	Very flexible
See quantity and quality of grass ahead	Less under or overgrazing
Achieve recommended rotations	Interchange of grazing & silage fields
No daily movement of fences	Easier for machinery to work
Good electric current transmission	No weeds under wire
	Encourages active grazing management
	Easier to graze when ground conditions are poor
Disadvantages	Disadvantages
Expensive to construct	Higher level of grassland management ability may be required
Less flexible	Daily assessment of herds needs
Risk of under-grazing or over-grazing	Daily assessment of grass supply
Doesn't allow for changing herd	Daily movement of temporary fence
Fertiliser spreading, topping/cutting & reseeding more difficult	More water troughs required to allow flexibility
Less paddock access points	Difficult to manage calves

Water System

A good water supply is extremely important for production, health and welfare of livestock. The water supply system must be good enough to supply adequate water needs in paddocks. On most farms the water system consists of a series of expansion or additions carried out over the years as requirements changed. Only when the system fails to cope, such as during a dry summer, do people realise how marginal their system has become. Common problems on most farms centre on inadequacies in areas such as, water source, pumping plant, pipe sizes, ballcocks and troughs.

Portable Water Troughs

It may be necessary to use portable water troughs in some situations e.g. strip grazing. To provide a portable trough, the use of frost-proof gate valves and good quality non-restrictive quick-couplers. Connection points should ideally be away from fixed troughs because they can be damaged and some valve types can be opened by stock, causing leaks.



Sustainability of our Grazing Systems

Climate change is one of the biggest challenges of modern times, and is hugely significant for global agriculture which must both adapt to changes in climate and find ways to reduce greenhouse gas (GHG) emissions from agricultural activity. Agriculture accounts for almost 33% of Irish greenhouse gas emissions. Even though agricultural emissions have declined by 9% since 1990, Ireland is committed to reduce GHG emissions by 20% by 2020. However, the Irish grass based beef production systems are relatively carbon efficient. While it is accepted that agricultural GHG emissions are difficult to reduce knowledge transfer is necessary to reduce them further. Farmers who adopt a number of key practices and technologies can significantly improve efficiency, improve profitability and lower GHG emissions.

The Carbon Navigator is a decision support tool to help farmers reduce their carbon footprint. This support collects a small amount of information and uses this to assess the performance of the farm against peers. It rates performance from poor to excellent. The Carbon Navigator estimates the percentage reduction in GHG emissions that can result from increasing technical efficiency in certain areas on the farm. It also estimates the improvement in profitability that will result from achieving these targets.



The carbon footprint of beef, and economic performance, are strongly influenced by farm management practices. One of the main farm management practices that is associated with improved profitability and reduced carbon footprints is extending the

length of the grazing season and increasing carcass yield/ha. However, increasing meat production through greater concentrate feeding will have a negative effect on profit and increase the carbon footprint. Increasing the grazing season length lowers GHG emissions in two ways. Having grazed grass in the diet of the animal early and late in year is a higher quality more digestible feed than grass silage – this leads to improvements in animal productivity and a reduction in the proportion of dietary energy lost as methane. The shorter housing season leads to reduced slurry, Methane (CH₄) and Nitrous Oxide (N₂O) emissions from slurry storage and spreading. Energy used spreading slurry is also reduced.

Improved Nitrogen fertiliser use efficiency leads to improved utilisation of N by plants and lowers losses to the air and water. Improving grassland management and match crop requirements with fertiliser application are key factors. Urea fertiliser requires less energy (and CO₂) to produce than CAN fertiliser and leads to lower N₂O Emissions.

Spring application of slurry reduces emissions, which are lower in cool conditions with low sunlight. The shorter storage period also reduces losses of methane. The resulting reduction in ammonia losses increases the fertiliser replacement value, thereby reducing GHG losses associated with chemical N fertiliser. Low emissions slurry application technologies also lead to reduced ammonia losses.

The objectives of the Grass10 campaign support both increased productivity of grassland and reduced agricultural greenhouse gas emissions. Irish farms have the capacity to significantly reduce GHG emissions through the adoption of better grazing practices and fertiliser use.

