

Phenomenal performance achieved in 2020, on a high output grass-based system in Co. Cavan.

In the April 2020 edition of the Lakeland Agri Technical notes, we covered an article written by Professor Finbar Mulligan in UCD. In the article, Finbar gave a very brief outline of the high output grazing system currently being trialled in UCD. He communicated the rationale for examining such a system in Irish context - the issue of farm fragmentation in certain counties and environmental pressures going forward. He also outlined the targets UCD's farm were working towards in the areas of milk solids output/cow (625 kgs/cow), grass grown (15 t grass dry matter/ha), 6-week in calf rate (75 % +) and concentrate usage/cow (1.5 tonnes) in this type of high output grazing system.

During a recent conversation with brothers John and Charles Smith, who are valued Lakeland Dairies milk suppliers and feed customers, we identified strong similarities between the Smith's farm and UCD's farm. Both systems are aiming to push the boundaries when it comes to milk solids output/cow on a grass-based system, grow and feed as much grass as possible and target concentrate usage to bridge the gap between what grass can supply in terms of energy requirements and what the animal requires for maintenance and production. The only significant difference between the two systems is that UCD are letting their animals out to grass, whereas the Smith brothers have a Zero Grazer to bring the fresh grass into the cows daily.



Pictured left to right, brothers Charles & John Smith.

When speaking to John and Charles, it is very evident that both men are clear on the type of system they are working towards. They make the point that the type of cow in their system requires more attention when compared to a lower yielding animal, but if you can get it right, it is impressive what can be achieved in terms of annual output.

When we reviewed the performance of the farm in 2020 several key figures stood out. 41 % of animals milked in 2020 were heifers and the herd averaged an impressive 7,163 litres (577 kgs milk solids) into Lakeland Dairies for processing. The grass growth figure was an equally impressive 14.5 tonne of dry matter/ha.

When we asked John what the contributing factors to the improved performance in the system over the last number of years were, he said. **"It's a team approach. Conversations are ongoing daily between Charles and me and we rely on the expertise of three external resources to guide us with the correct information in the areas of animal health, nutrition and breeding. Namely, Smith and Foley veterinary practice in Kells, our Lakeland Agri Nutritionist Alan Hurst and our Lakeland Dairies Breeding advisor Adrian Mc Keague. It's essential we get it right on all three components. You have to start with a healthy cow, you must have the correct genetics in the herd for high output, and you must feed the cow correctly to meet her requirements on energy as you move through the various stages of the lactation."**

When asked to comment on current performance John said, **"Cows were in perfect condition on the run up to calving with an average body condition score of 3.25 to 3.5. The calving season has gone very well for us so far this year with most cows calving unassisted and without complications, the only exception being a handful of cows carrying twins."**

John went on to say, **"Our lift today on 25th March 2021 was 3,285 litres and with 112 going into the milk tank we're hitting over 29 litres on average. Our last milk quality result on 22nd March 2021 gave us a reading of 4.32 % butterfat, 3.26 % milk protein and a milk urea reading of 25. Average yield of just under 2.3 kgs milk solids/cow/day."**

Smith's current milking cow diet

- 45 kgs fresh zero grazed grass (7 kgs dry matter/day approx)
- 12 kgs first cut grass silage
- 6 kgs maize silage
- 0.25 kg straw
- 3 kgs milking cow blend
- In Parlour: blanket feed of 5 kgs/head/day Lakeland Agri Supercream 15 (2 in 10)

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As John and Charles look to the future, they have plans to invest in new dairy cow accommodation, a new 24-unit milking machine with 3-way drafting, automatic cluster removal and feed to yield in the parlour, to help manage the expanding cow numbers.

To find out more about how Lakeland Agri can help you reach the targets you have put in place for your farm, please contact your Lakeland Agri Technical Sales Representative or call our Customer Services Centre today on 1890 47 47 20.

Farm Performance 2020 & Future Targets

Parameter	Smith Farm 2020	ICBF Dairy Herd Performance Report	Future Targets
Cow numbers	120	N/A	170
Fat + protein (kg/cow)	593	*****	630 +
Average litres/cow (Jan - Dec 2020)	7,363 (Including 200 litres for calves / waste milk)	*****	7,500
SCC (,000cells/ml)	141	****	100
Calving interval (days)	374	****	370
Spring 6-week calving rate	81%	*****	>80%
Zero grazing area (ha)	37.22 ha	N/A	53 ha
Stocking rate (on zero grazed area)	3.22 cows/ha	N/A	3.2 cows/ha
Grass grown (t/ha)	14.5 t/ha	N/A	15.0 t/ha
Grass utilised (t/ha)	13.0 t/ha	N/A	13.5 t/ha
Concentrate usage/cow (milking + dry period)	1.80 tonnes	N/A	1.75 tonnes
Milk from forage	3,763	N/A	4,000

Derogation Farms – change to crude protein levels in concentrate feed.

Sinead Brady, Nutritionist, Lakeland Agri

From 1st April to 15th September all farmers in nitrate derogation will be required to lower the crude protein level of the concentrate feed component to a maximum of 15%. Derogation provides farmers an opportunity to farm at higher stocking rates, above 170 kg/ha, subject to additional conditions designed to protect the environment. If higher levels of crude protein are required, this needs to be certified by an appropriate feed advisor/Nutritionist. It is the responsibility of the farmer to observe this legal requirement of derogation and the crude protein percentage of the concentrate feed must be recorded on annual nitrates records. Lakeland Agri is available to support farmers in adhering to the new change in legislation.



Grass Watch 2021

Alan Hurst, Technical Manager, Lakeland Agri

In a further effort to provide our feed customers with the most cost effective and environmentally sustainable solutions on spring and summer feeding strategies, Lakeland Agri have enlisted two of our milk supplier/feed customers in a new grass quality monitoring initiative which is now being carried out in both ROI and NI.

How it works:

Through this new initiative, 14 farms will collect and supply a sample of fresh grass from the paddocks being grazed every Monday morning, which in turn will be analysed for the following important grass quality parameters; dry matter, energy density, crude protein, fibre and oils.

The information from the 14 farms will then be combined to generate a weekly report which will detail a minimum and maximum range and a mean value for each of the important parameters that should be considered when trying to maximise output from grazed grass.

It will also detail a useful maintenance plus (M+) guide figure for the grass being fed which will be driven by predicted intake in that specific week (influenced by dry matter, grass quality, grazing conditions and daylight hours).

Together with the milk data generated on our milk supplier farms on butterfat, milk protein and milk urea's, this new information will further enhance Lakeland Agri's ability to provide the correct and most appropriate advice to our milk suppliers/feed customers when it comes to ration selection and appropriate feeding levels. **It will also help identify opportunities to reduce crude protein levels in concentrate feed at grass and help provide solutions where farms are under pressure from a milk composition perspective.**

To find out more information about how this information can be used to improve performance on your farm, please contact your local Lakeland Agri Technical Sales Representative or call our Customer Services Centre today on 1890 47 47 20.

Lakeland Agri Grass Seed Mixtures

Formulated using the highest performing varieties on DAFM 2021 Recommended List. Delivery can be organised onto farm for orders of 10 bags or more.

For more details on our latest grass seed mixtures, please visit www.lakelandagri.ie

Understanding how soil fertility affects grass growth.

David Corbett, Product & Marketing Manager,
Grassland AGRO

The role of phosphorus (P)

P is an essential macro nutrient in the growth cycle of a plant and is required in relatively smaller quantities in comparison to N and K. It has a crucial role in energy transfer and in aiding photosynthesis. It is the driving force behind the tillering of a plant. It ensures the maturity of a crop and seed production, aids in the development of deep strong roots and plays an important role in the development of protein in the plant. P deficiency is difficult to diagnose, however it causes stunted plant growth and often appears as dark blue green or purple colour on foliage of older leaves.

The challenges of phosphorus (P)

1. Soil Type

P concentration varies between soil types. The quantity of available P for plant uptake as a proportion of total P is less than 1%. The potential of a soil to buffer P is largely dictated by soil type and soil texture.

Aluminium and iron cations have a great affinity for P and cause large quantities of P to be fixed in **high clay content and acidic soils**. Increasing P availability is difficult on these soils as they require large quantities of P to reduce the P fixing capacity before soil P indices begin to increase. Applying lime and reducing soil acidity counteracts the concentration of aluminium and iron cations, therefore increasing nutrient availability, particularly phosphorus.

Alkaline soils overlying limestone for example have high calcium concentration. Alkaline soils have a naturally high soil pH and calcium concentration that cannot be altered; therefore, the availability of plant P is continuously being reduced due to the affinity large concentration of calcium have for P.

High organic and peat soils have a reduced ability to hold onto applied P, increase soil P fertility and reserves due to the absence of mineral matter (sand, silt and clay). It is advised to drip fed P to peat soils to feed the growing plant and reduce loss potential.

2. Animal Health

P plays a key role in energy utilisation, DNA, cell division and cell structure in both plants and animals. A deficiency in P (aphosphorosis) can result in poor bone formation, deprived appetite, poor fertility, and poor live weight gain. P deficiency is often recognised in animals that have the desire to eat things with no nutritional value such as stones or chewing on tyres and water hosing.

3. Offtakes

It takes 4kg of P and 30kg of K to grow 1t of grass DM. In a grazing situation 60% of the P and 90% of the K is returned to the soil through excretion from the animal, typically in urine.

If a farmer were to grow 15t DM/ha and utilise 12t DM/ha, the offtake is only 19kg P/ha and 36kg of K/ha. However, in a silage situation all the P and K is removed from the field.

The P and K content per tonne of DM in silage swards is slightly lower due to a higher fibre content, at 3.5kg of P and 25kg of K per tonne DM. As part of the Lakelands Grassland Agro Soil Sustainability Programme participating farmers will have their silage crop yield measured.

Spring P application

If weather permits, late March or early April is an ideal opportunity to apply. Early P is advantageous for perennial ryegrass plants. P

will promote spring tillering which is essential for the grazing season ahead and the development of a healthy and strong root system which can mitigate the impact of sod pull on swards and increases the accessibility of moisture and nutrients in the soils.

Late spring/summer P application

It is important P is maintained mid-season. Late spring is an ideal time to build P reserves, as soil temperatures are increasing, ground conditions are favourable and growth rates are relatively low.

During the high grass growing season from May to July, the soil cannot supply sufficient stored P to the growing plant, therefore it is important 1-2 splits of maintenance P are added mid-season.

Thereafter, the breakdown of organic matter in the soil by micro-organisms through mineralisation will be sufficient to supply adequate P to the growing plant.

Sustainability

Ensuring sufficient available P and K in the soil is crucial for the plant to achieve its maximum yield potential and nitrogen use efficiency. The nitrates directive does not limit the rate or timing of chemical K applications.

P however poses a problem in terms of leaching to groundwater but more commonly in overland sediment runoff to water bodies.

P also poses a major risk in terms of eutrophication. The nitrates directive limits maintenance P requirement based on stocking rate and limits P build-up allowances based on soil fertility P index.

Available P rates (kg/ha) for build-up on mineral soils

Soil P Index	Mineral soils ^{1,2}
1	20
2	10
3	0
4	0

1. Mineral soils are defined as soils with less than or equal to 20% organic matter

2. Peat soils (i.e. soils with more than 20% organic matter) receive only maintenance rates of P

Source: Teagasc Green Book, 2020

AVAILABLE TO OUR MILK SUPPLIERS TO HELP MANAGE SPRING CASH FLOW

PHASE 2: LAKELAND AGRI MILK REPLACER AND FERTILISER DEFERRED PAYMENT SCHEME

Full pallet purchases of fertiliser and Lakeland Agri CalfSmart and SkimSmart Milk Replacer Ranges in April/May/June are charged to a "03 sub account" and milk deducted in three equal payments in the months of August/September/October.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
			Milk Replacer & Fertiliser Purchases.				1/3	1/3	1/3

To avail of phase 2 of the deferred payment scheme, please communicate when placing your order through your Lakeland Agri sales representative or the Customer Services Centre on 1890 47 47 20.

Good to Grow - one farming family's success story using the Lakeland Agri Calf Grower Nut.

Christopher Cahill, Technical & Nutritional Support Representative, Lakeland Agri

Lakeland Agri milk suppliers, Adrian and Matthew Hill are a father and son team, milking approximately 70 Holstein-Friesian cows on a grass-based system outside Castleblayney, Co. Monaghan. Today, the cows calve in a split autumn and spring pattern; however, Matthew says they are hoping to transition to a spring calving milk production system in the years ahead.

The key to enabling this transition is having well-bred heifers, with excellent growth rates that are ready to be bulled at the required time. Over the last number of years, the Hills have achieved just that, by using a combination of the **Lakeland Agri Munchy Calf Muesli** and the **Lakeland Agri Calf Grower Nut**.



Pictured Matthew Hill

The calves are started on the **Lakeland Agri Munchy Calf Muesli** after birth and are then transitioned onto the **Lakeland Agri Calf Grower Nut**. They are fed over 1kg of this prior to weaning and fed between 1-2kg of nuts at grass throughout the grazing season.

Commenting on his experience of the **Lakeland Agri Calf Grower Nut** Matthew said, "We have been using the **Lakeland Agri Calf Grower Nut** for a number of years now and the calves have done really well. We always end up with a bunch of well-grown heifers that are ready to bull when we want them to. This is important to us as we are trying to tighten up our calving interval and move to all spring calving. There were no issues with switching from the **Munchy Calf Muesli** to the **Calf Grower Nut** among the young calves and there is always a great shine off their coats. I would have no issue recommending this product to other farmers."

The **Lakeland Agri Calf Grower Nut** is a 16 % high energy calf feed suitable for use as part of your calf rearing programme following the use of a Lakeland Agri calf starter feed. It is formulated to 16% protein, which is perfect for feeding with calves going to grass.

If you are interested in how the **Lakeland Agri Calf Grower Nut** could fit into your calf-rearing programme please contact your local Lakeland Agri Sales Representative or the Customer Service Centre on 1890 47 47 20.

New approach: Lakeland Agri invoices and statements

Over the coming months, Lakeland Agri Ltd. will be making changes in how we provide you with your trading invoices and account statements. Currently you receive an invoice for each delivery and a statement at the end of each month.

Very soon we will be moving to a single "statement / invoice document" which will be posted to you at the

end of each month. This will include details of all your transactions for the relevant period and your overall trading account balance.

If you wish to go paperless and receive your documents by email, please contact us at agrisales@lakelandagri.ie with your name, trading a/c no. and preferred email address.

For more information, contact the Lakeland Agri Sales team or our Customer Services Centre on 1890 47 47 20.



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