



## Development of a Sustainable High-Output Grass-Based Spring Milk Production System

### Project Objectives

- To develop a sustainable high-output grass-based spring milk production system
- To incorporate the most recent advances in grassland management for dairy farms into a high-output system
- Use a type of dairy cow that has good genetic indices for both milk production and fertility
- Employ the best practices from nutrition research and dairy cow husbandry
- Incorporate nutritional studies into a high-output system
- To incorporate management technologies and system attributes that enhance the sustainability of dairy production

Farm Details Week 19 <sup>th</sup> - 25 <sup>th</sup> June 2023	
Stocking rate on MP (LU/ha)	3.27
Farm Cover (DM/ha)	636
Growth Rate (DM/ha/day)	62
Demand (DM/ha/day)	49
Average grass DM (%)	25
Average Concentrate fed (kg/day)	4.25
Average DIM	125

Cow Details Week 19 <sup>th</sup> - 25 <sup>th</sup> June 2023	
Yield (kg/cow/day)	25.7
Fat (%)	4.48
Protein (%)	3.38
MS (kg/day)	2.02
SCC	76,364



### Grassland Management:

Two paddocks (2.09 ha) were topped due to poor cleans out. One paddock (1.24 ha) was closed off for silage with an average cover of 1760 kg DM/ha and will be cut later in the week. Grass quality is suspected to be below average at the moment, but . Cows were offered an average allocation of 15.6 kg DM/d of grass last week with an average DM of 25%. Cows are being fed on average 4.25 kg/day of a 14% crude protein nut in the parlour which is formulated with native ingredients. Cows > 120 DIM are at 3.5 kg/d (46/57), cows at 91 - 120 DIM are on 6 kg/day (9/57) and cows at 61 - 90 DIM are on 7.5 kg/day (2/57 cows).

### Comments:

The breeding season started on 2<sup>nd</sup> of May with a provisional plan to breed for 10 weeks. Heat detection is being done using automatic activity monitoring and scratch cards. Scratch cards will be read in the collecting yard before milking. Breeding is done by AI and is carried out twice daily. The bulls selected for this year are:



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Bull	Name
FR5857	OLCASTLETOWN TIERNAN
FR6622	BAWNGARRA BRÓD
FR8613	S-S-I URA GRASSFIRE-ET
FR8562	OCD LEGACY MASSEY-ET
FR7905	(IG)BUNACLOY ALIBI

The weighted EBI averages of the bulls are:

EBI €	Milk SI	Fert SI	Health €	Milk kg	Fat kg	Prot kg	F+P kg	F%	P%
264	123	105	16	303	24	17	41	0.20	0.11

These bulls were selected for high milk fat and protein and milk PTA to ensure the milk fat and protein % stay positive in addition to selecting for balanced milk production and fertility sub-index values.

The replacement heifers, the first lactation cows and 6 elite cows will receive HF sexed semen. The rest of the cows will receive beef semen. The replacement heifers were on an oestrus synchronisation programme and were AI'd on Friday May 5<sup>th</sup>.

In week 8 of breeding season, no cow was submitted for first service and there were 2 repeat serves. The three-week (2<sup>nd</sup> – 22<sup>nd</sup> May) submission rate is 89% or 50 cows, while the 24-day (2<sup>nd</sup> – 29<sup>th</sup> May) submission rate is 96% or 54 cows. At the 30-day scan on the 12<sup>th</sup> June, of the 36/56 eligible cows 22, or 40% of the herd, were scanned pregnant. Further scans will happen soon to inform our decision as to how long we continue breeding for.

For more details on the High Output Systems Research Herd visit <https://www.ucd.ie/agfood/about/lyonsresearchfarm/lyonsdairyherd/>