



## 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 22 <sup>nd</sup> -28 <sup>th</sup> May 2023	
Stocking rate on MP (LU/ha)	3.7
Farm Cover (DM/ha)	951
Growth Rate (DM/ha/day)	71
Demand (DM/ha/day)	50
Average grass DM (%)	20
Average Concentrate fed (kg/day)	6.33
Average DIM	97

Cow Details Week 22 <sup>nd</sup> -28 <sup>th</sup> May 2023	
Yield (kg/cow/day)	28.83
Fat (%)	4.16
Protein (%)	3.44
MS (kg/day)	2.37
SCC	104,982



### Grassland Management:

Two paddocks were reseeded on the 18<sup>th</sup> of April with a tetraploid mix (Abercyle, Abergain, Gracehill) and white clover (Buddy and Aberherald). The establishment was good; however, it has slowed down significantly due to lack of rain for the past 3 weeks.

Cows are being offered an average allocation of 14.5 kg DM/day of grass. Average DM of the grass this week was 20%. Cows are being fed on average 6.33 kg/day of a 14% crude protein concentrate in the parlour which is formulated with native ingredients. Cows > 120 DIM are at 3.5 kg/d (1/57), cows at 91 - 120 DIM are on 6 kg/day (47/57), cows at 61 - 90 DIM are on 7.5 kg/day (7/57 cows) and cows ≤ 60 DIM on 8 kg/day (2/57).

### Comments:

Cows were weighed on the 26<sup>th</sup> of May and averaged 603 kg (504 kg for 1<sup>st</sup> lactation cows, 566 kg for 2<sup>nd</sup> lactation cows, 602 kg for 3<sup>rd</sup> lactation cows and 653 kg for 4<sup>th</sup> + lactation cows).

The breeding season started on 2<sup>nd</sup> of May for 12 weeks. Heat detection is being done using automatic activity monitoring and scratch cards which 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.

54/56 cows were submitted for first service in the first 24 days of the breeding season.

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>.

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