



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 01-07/05/23	
Stocking rate on MP (LU/ha)	4.13
Farm Cover (DM/ha)	661
Growth Rate (DM/ha/day)	80
Demand (DM/ha/day)	54
Average grass DM (%)	17.2
Average Concentrate fed (kg/day)	7.44
Average DIM	77

Cow Details Week 01-07/05/23	
Yield (kg/cow/day)	33.76
Fat (%)	4.05
Protein (%)	3.40
MS (kg/day)	2.51
SCC	60,240



Grassland Management:

One paddock (1.59 ha) has been closed off for silage and the cover was 2000 kg DM/ha on the 5th of May. Cows are being offered an average allocation of 13.5 kg DM/day of grass. Average DM of the grass this week was 17.2%. Cows are being fed on average 7.5 kg/day of a 14% crude protein concentrate in the parlour which is formulated with native ingredients. Cows at ≥ 91 DIM are on 6 kg/day (6/57), cows at 61 - 90 DIM are on 7.5 kg/day (47/57 cows) and cows ≤ 60 DIM on 8 kg/day (4/57).

Comments:

The breeding season started on 2nd 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.

33% (18/57 cows) of the cows were served during the first week of the breeding season in line with the expected targets (33% of the cows served in the first week, 33% in the second week and the remaining 33% in the third week 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 5th.

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