



Background: It is widely recognised that grass-based systems offer a competitive advantage and will predominate in Ireland. However, grazing systems that have been developed to utilise large quantities of grazed grass have in the main been based on low-output per cow. In this scenario, high levels of profitability are possible through avid cost control and comparatively high stocking rates for grazing systems. There are now reasons to consider the development of grazing systems that are based on high-output per cow. These reasons include (i) concerns about increasing dairy cow numbers and environmental emissions, (ii) land limited and fragmented farms, (iii) lack of available skilled labour on farms to deal with expanding animal numbers. The rationale for this research is that a high output grass-based spring milk production system can be profitable and sustainable when built on a foundation of good grassland management and meeting both milk and fertility targets and has a place in the Irish dairy industry.

For more details on the High Output Systems Research Herd visit <http://www.ucd.ie/agfood/welcomemessage/systemsresearchherd/>.

Lyons Systems Research Herd Notes Week 28-06-2021

Farm Details:

Area available: 15.37 (2.06ha out for reseed)
Current Stocking Rate (MP): 3.71 LU/ha
Cover/LU: 153kg DM/LU
Farm Cover: 566kg DM/ha
Growth Rate: 34kg DM/ha/day
Demand: 33kg DM/ha/day
Average Concentrate Supplement: 6kg/head/day
Average DIM: 125 days



Current Daily Feed Budget: Usually the amount of concentrates each cow is provided with is based on DIM. However, due to the shortage in grass supply, all cows have been offered 6kg of concentrate since 25th June regardless of DIM as a short-term strategy to compensate for lower than expected grass growth. Cows are being offered one of four experimental concentrates; a 14% protein concentrate with non-native ingredients, a 12% protein concentrate with non-native ingredients, a 12% protein concentrate with native ingredients or a 12% protein concentrate with native ingredients supplemented with methionine. These diets will be offered as part of our 2021 nutrition trial until the start of the final grazing rotation in October. Cows are also allocated 9kg of grass DM and 4kg silage since 25th June. The higher level of concentrates and the provision of silage will continue until grass growth rates improve. Grass DM is 24.5%.

Grazing Plan: The current AFC is 566kg DM/ha (range 110 – 880kg DM/ha) and cover/LU is 153kg DM. The soil type at UCD Lyons is prone to drought conditions if an extended period of reduced rainfall is experienced. This month has seen 17.8mm of rainfall and the soil moisture deficit is currently 46mm (data from nearby Casement Aerodrome). Due to this, growth has remained low at 33kg DM/ha/day. As the grass DM % is high, grass quality is being closely monitored. Providing silage will slow the grazing rotation and increase pre-grazing average covers. Cleanouts as residuals and post-grazing conditions continue to be good.

Milk Production: Average production from 21st-28th June was 28.0 kg/cow at 4.34% milk fat, 3.56% protein, 2.21kg MS and SCC was 51,000. Milk production from this time last year was 28.2 kg/cow at 4.54% milk fat, 3.49% protein, 2.22kg MS and SCC was 30,000.



Lyons Systems Research Herd Notes

Breeding season 2021: The breeding season started on May 1st and will last for 10-12 weeks; 10 planned weeks with an additional 2 weeks, depending on scan results. Breeding is all by A.I and is done twice daily. Bulls selected are FR5860 (Saintbrigid Frank Joseph), FR6139 ((Ig)Lisduff Perception), FR5857 (Olcastletown Tiernan), FR6061 (Munta Mystic), FR5668 (Peak Chilton-Et), FR4573 (VH Praser), FR5971 (Viaductview Fiveo), FR2400 (S-S-I Headway Alltime-Et) and FR5239 (Hanrahan Olympus). This year we will be breeding 55/57 cows. Two cows are being omitted from breeding due to poor udder confirmation and locomotion and consistent SCC issues.

The weighted EBI averages of the bulls are:

EBI €	Milk SI	Fert SI	Calv €	Beef €	Maint €	Manag €	Health €	Milk kg	Fat kg	Prot kg	F+P kg	F%	P%
281	116	108	44	-9	4.1	2	17	360	22	18	40	0.13	0.09

These bulls were selected for high milk fat and protein milk PTA to ensure the milk fat and protein % stay positive in addition to selecting for a good health and high fertility sub-index values. Nine bulls were selected to increase bull team reliability. Heat detection is being done using Moo Monitors and scratch cards which are read in the collecting yard.

In the eighth week of the breeding season (19th-25th June), there were three repeat serves. As all cows have been inseminated with dairy bulls during the first 7 weeks of the breeding season, selected beef bulls will now be used for the remainder of the breeding season. The beef bulls that will be used are AU4460 (Dauphin), AU4563 (Johnstown Loyd), LM2014 (Ewdenvale Ivor) and SA2189 (Ulsan).

The weighted Dairy Beef Index (DBI) averages (May 2021 evaluation) of the beef bulls are:

DBI €	Calving €	Beef €	Gestation Length PTA	Carcass Weight PTA
144	31	112	-0.39	20.6