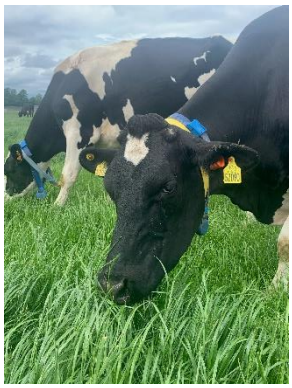
Background: It is widely recognised that grass-based systems offer a competitive advantage and will predominate in Ireland. However, grazing systems that have been developed to utilise large quantities of grazed grass have in the main been based on low-output per cow. In this scenario, high levels of 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 21-06-2021



Farm Details:
Area available: 15.37 (2.06ha out for reseed)
Current Stocking Rate (MP): 3.71 LU/ha
Cover/LU: 184kg DM/LU
Farm Cover: 684kg DM/ha
Growth Rate: 33kg DM/ha/day
Demand: 63kg DM/ha/day
Average Concentrate Supplement: 4.9kg/head/day
Average DIM: 118 days

Current Daily Feed Budget: Cows are being offered on average 4.9kg of 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 at 61-90 DIM are offered 7.5kg/day (5/57 cows), cows 91-120 DIM are offered 6kg/day (24/57 cows) and cows ≥121 DIM are offered 3.5kg/day (28/57 cows). Cows are also allocated 17kg of grass DM and grass DM is 20.6%.

Grazing Plan: The current AFC is 684kg DM/ha (range 270 – 1380kg DM/ha) and cover/LU is 184kg DM. The soil type at UCD Lyons is prone to drought conditions if an extended period of reduced rainfall is experienced. Up to 21st June, the total rainfall this month is 2.3mm (data from nearby Casement Aerodrome). This has led to the soil moisture deficit increasing by 10mm this week to 52mm. Due to this, growth has sharply decreased to 33kg DM/ha/day from 112kg last week. Grass quality and average covers will be monitored closely through PastureBase to ensure that paddocks have adequate pre-grazing covers and good quality grass. Cleanouts as residuals and post-grazing conditions continue to be good.

Milk Production: Average production from 14th-20th June was 30.0 kg/cow at 4.48% milk fat, 3.66% protein, 2.44kg MS and SCC was 32,000. Milk production from this time last year was 27.6 kg/cow at 4.54% milk fat, 3.49% protein, 2.22kg MS and SCC was 49,000.

BCS: On Wednesday 16th June, the BCS of 56 cows were assessed. The average was 3.00 with no cows being ≤2.5 and one cow being ≥3.5 (1.8%).

Breeding season 2021: The breeding season started on May 1st and will last for 12 weeks; 10 planned weeks with an additional 2 weeks, if necessary, based on scans. 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 seventh week of the breeding season (12th-18th June), one cow was submitted for breeding and there were no repeat serves. To date, all 55 cows have been served with 10 repeat serves. At the 30-day scan on 21st June, 39/52 eligible cows were scanned pregnant (75%).

	No. of cows submitted	Total % of breeding herd submitted
Week 1 (1st-7th May)	16	29
Week 2 (8th-14th May)	19	64
Week 3 (15th – 21st May)	17	95
3-week submission rate	**52**	**95**
Week 4 (22nd – 28th May)	0	0
Week 5 (29th May – 4th June)	1	96
Week 6 (5th-11th June)	1	98
Week 7 (12th-18th June)	1	100