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) facilitating farm expansion post EU-milk quota removal for 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 when built on a foundation of good grassland management and meeting both milk and fertility targets and has a place in a sustainable 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 10-05-2021

Farm Details:
Area available: 15.58ha (1.85ha out for silage)
Current Stocking Rate (MP): 3.66 LU/ha
Farm Cover: 737kg DM/ha
Growth Rate: 60kg DM/ha/day
Demand: 62kg DM/ha/day
Average Concentrate Supplement: 7.3kg/head/day
Average DIM: 75 days

Current Daily Feed Budget: The herd are being offered on average 7.3kg of 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 ≤60 DIM are offered 8kg/day (12/57 cows), cows at 61 - 90 DIM are offered 7.5kg/day (37/57 cows) and cows ≥91 DIM are offered 6kg/day (8/57 cows). Cows are also allocated 17kg of grass DM and grass DM is 25%.

Grazing Plan: The current AFC is 737kg DM/ha (range 160 – 1450kg DM/ha). Cleanouts are good with post grazing heights of 4cm being consistently achieved during the last week. Better weather conditions have led to increased growth rate of 60kg DM/ha/day, 13kg DM/ha/day higher than last week. Two paddocks (1.85ha in total) have been closed off for silage and their average cover is 1825kg DM/ha (1530kg DM/ha last week). These paddocks will be oversown with clover post baling. They will be rolled and covered in a light washing of slurry to increase seed to soil contact. Target rotation length is set at 21 days.

Milk Production: Average production from 3rd - 9th May was 33.8 kg/cow at 3.93% fat, 3.42% protein (2.48kg MS) and SCC is 80,000, based on milk recording results from 6th May. Four cows are on OAD until their condition improves. Milk production from this time last year was 33.7 kg/cow at 4.13% milk fat, 3.47% protein, 2.56kg MS and SCC was 35,000.

Breeding season 2021: On 1st May, the breeding season began. It will last for 12 weeks; 10 planned weeks with an additional 2 weeks, if necessary, based on scans. Breeding is done by AI and will be done twice a day. 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 will be read in the collecting yard.

In the first week of the breeding season (1st - 7th May), 16 cows were submitted for breeding (29% of breeding herd).

BCS: The average BCS of 57 cows that were assessed for BCS on Wednesday 5th May was 3.02. Of these cows, no cows had a BCS of ≤2.5 and 1.8% (1/57) had a BCS of ≥ 3.5.