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 03-05-2021

Farm Details:
Area available: 15.58ha (1.85ha out for silage)
Current Stocking Rate (MP): 3.66 LU/ha
Farm Cover: 567kg DM/ha
Growth Rate: 47kg DM/ha/day
Demand: 62kg DM/ha/day
Average Concentrate Supplement: 7.5kg/head/day
Average DIM: 68 days

Current Daily Feed Budget: Cows are being fed 8 kg of a 14% crude protein concentrate in the parlour. Cows at ≤60 DIM are offered 8kg/day (16/57 cows), cows at 61 - 90 DIM are offered 7.5kg/day (40/57 cows) and cows ≥91 DIM are offered 6kg/day. This year's nutritional treatments include a 14% protein nut with non-native ingredients, a 12% protein nut with non-native ingredients, a 12% protein nut with native ingredients and a 12% protein nut with native ingredients supplemented with methionine. This feed will be offered from this week onwards. Cows are being offered 17kg of grass DM and grass DM is 21.6%.

Grazing Plan: The current AFC is 567kg DM/ha (range 60 – 1500kg DM/ha).. Between 26th April – 2nd May, the average soil temperature at 100mm was 7.4ºC and 5.7mm of rain fell (rain data from the nearby Met Eireann station, Casement Aerodrome). Despite this, cleanouts are still good with post grazing heights of 4cm being consistently achieved during the last week. This cold spell has led to a decrease in grass growth rates of late seeing a fall to 47 kg DM/Ha from the previous weeks 69kg DM/Ha. Two paddocks (1.85ha in total) have been closed off for silage and their average cover is 1530kg DM/ha. 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. On 29th April, 110kg/ha of KaN + S (38%N 7.6% S) was spread on 9.54 Ha (9 paddocks) post grazing. This equates to 41.80kg N/ha.

Milk Production: Average production from 26th April – 2nd May was 36.5 kg/cow at 4.17% fat, 3.56% protein (2.82kg MS) and SCC is 80,000, based on milk recording results from 29th April. Four cows are on OAD until their condition improves. Milk production from this time last year was 33.1 kg/cow, 4.57% fat, 3.46% protein, 2.79kg MS and SCC was 40,000.

Breeding season 2021: On May 2nd, 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.

Pre-breed scans: On Tuesday 27th April, pre-breeding examinations on 18 cows were carried out. Of these 18 cows, 11 were not scanned at the previous examination as they had recently calved. The remaining seven were cows that needed to be re-checked due to the previous scan's results (high uterine scan grade and luteal cyst) and had not displayed a heat with the pre-breeding heat checks on the Moo Monitors. Of these seven cows, two cows were identified as having not observed heats and having no sign of cyclical activity on their ovaries, so they were put on a PRID program. This targeted approach was taken with these two cows to increase submission of cows that may have not been cyclical.