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 11-05-2020

Farm Details:
Area available: 15.61 ha (1.82 ha out for reseeding)
Current Stocking Rate (MP): 3.72
Farm Cover: 625 kg DM/ha
Growth Rate: 71 kg DM/ha/day
Demand: 59 kg DM/ha/day
Average Concentrate Supplement: 6.8 kg/head/day
Average DIM: 86 days

Current Daily Feed Budget: Cows are being allocated 16 kg DM of grass and an average of 6.8 kg of a high energy concentrate. Cows ≥90 DIM (30/59 cows) are on 6 kg, cows ≥60 DIM but <90 DIM are on 7.5 kg (23/59 cows) and cows <60 DIM on 8 kg (6/59 cows). The herd have been split into three groups and are being offered on average 6.8kg of a 14% protein concentrate,12% protein native formulation concentrate or a 12% protein non-native concentrate in the parlour. These diets will be offered as part of our 2020 nutrition trial until the start of the final grazing rotation in October. This week grass DM was 20.4% and estimated grass intake was 16kg DM/cow.

Grazing Plan: The AFC on the 4th May was 625kg DM/ha (range: 204-1087 kg DM/ha) with cover/LU of 168 kg/cow. So far this month, only 3.7mm of rain has fallen. Due to this lack of rainfall, the soil moisture deficit is currently at 58mm as of Monday 11th May. We will do a grass walk twice per week. If AFC drops below 550 kg/ha, silage will be introduced in the diet to slow the rotation down and reduce the grass demand on the milking platform. On Monday 11th May the 1st cut silage was mowed on the outside block.

Milk Production: Average production from 4th-10th May was 33.7 kg/cow at 4.13% milk fat, 3.47% protein, 2.56kg MS and 35,000 SCC based on milk recording on 6th May. Average milk production this time last year was 33.8 kg/cow at 3.9% fat and 3.54% protein (2.52 kg MS).

Breeding season 2020: On 5th May, the breeding season began. It will last for 12 weeks; 10 planned weeks with an additional 2 weeks, if necessary, based on scans. In the first week of the breeding season, 15 cows (27% of breeding herd) were submitted for breeding.

Breeding is done by AI and will be done twice a day. Bulls being used are FR4728 (Kilfeacle Pivotal), FR5593 (Oakglen Cosmic), FR4573 (VH Praser), FR4439 (Killalough Samir), FR5239 (Hanrahan Olympus), FR4785 (Glenaboy Ronald), FR4608 (Fly-Higher Mod Cade-

Et), OPH (Olcastletown Phanthom), FR2314 (Gortcreen Sebastain), FR4686 (Mountdudley Joker) and FR5085 (Lars-Acres Super Nerd).

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%
266	105	108	41	-7.9	3.6	4	12.1	244	20.8	14.2	35	0.19	0.1

These bulls were selected based on high milk production and components while maintaining high fertility. Eleven 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.