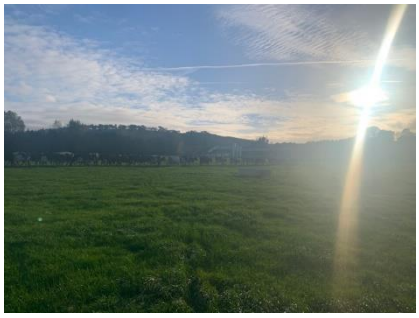
Background: It is widely recognised that grass-based systems offer a competitive advantage and will predominate in Ireland. However, grazing systems that have been developed to utilise large quantities of grazed grass have in the main been based on low-output per cow. In this scenario, high levels of 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
https://www.ucd.ie/agfood/about/lyonsresearchfarm/lyonsdairyherd/

Lyons Systems Research Herd Notes Week 14/03/2022

Farm Details:
Area available: 17.43 ha
Turnout: 9th February
Current Stocking Rate (MP): 3.16
Farm Cover: 1244kg DM/ha
Growth Rate: 11kg DM/ha/day
Demand: 25kg DM/ha/day
Average Concentrate Supplement:7.8kg/head/day
Average DIM: 27 days
Cows Calved: 53/57 cows



Current Daily Feed Budget: Cows are being fed on average 8kg of a conventional 18% crude protein concentrate or a 14% crude protein concentrate formulated with native ingredients in the parlour (this is built up gradually over two weeks post-calving). The concentrate formulation is a part of this year's nutritional study. Cows are fed 8kg concentrates from calving to 60 DIM with the amount incrementally increased during the first week post-partum. A breakdown of the cow's diet is as per the following:

- Grazing fulltime = 15kg Grass + 8 kg concentrate
- Indoors by night = 6kg Grass; 8 kg DM of first cut 79% DMD Grass silage + 8 kg Concentrate
- Indoors fulltime = 15 kg DM of first cut 79% DMD Grass silage + 8 kg Concentrate

Grazing residuals will be monitored over the coming week to determine if grass is being utilized efficiently.

Spring Grazing Plan: The current AFC is 1244kg DM/ha (range 100 to 2250 kg DM/ha). Average daily growth rate was 8kg DM/ha this week. By 6th March, 25% (4.36 ha) of the milking platform was grazed by using on/ off grazing. Between 7th March – 13th March 4.8mm of rain fell and the average soil temperature at 100mm was 6.6 º C (data from the nearby Met Eireann station, Casement Aerodrome). The herd have been grazing outdoors full time since

the evening of 2nd March but they came back indoors on the nights of 11th – 13th March. Grazing paddocks are being selected on ground condition and grass cover between 800-1200 where possible. As only 25% of the platform is grazed to date, lighter covers are being selected in order to graze more of the platform in a shorter space of time.

Calving: Calving started on 27th January and there is currently 53 of 57 (93%) of the cows calved as of 13th March. One calved in January, 46 in February and 6 in March. The average gestation of the calved cows is 279 days. To date, 26 heifer calves and 27 bull calves were born.

Milk Production: Average production from 7th March - 13th March was 32.0 kg/cow at 5.49% fat, 3.40% protein (2.85kg MS) and SCC was 96,000. Milk production from this time last year was 35.4kg/cow at 4.00% fat, 3.51% protein (2.66kg MS) and SCC was 79,000.