**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 18/04/2022**

**Farm Details:**
Area available: 17.43 ha
Current Stocking Rate (MP): 3.27
Farm Cover: 522 kg DM/ha
Growth Rate: 32 kg DM/ha/day
Demand: 52kg DM/ha/day
Average Concentrate Supplement: 8 kg/head/day
Average DIM: 58 days

**Current Daily Feed Budget:** Cows are being fed on average 8kg of a conventional 18% crude protein concentrate in the parlour. Concentrate intake is built up gradually over two weeks post-calving. With the commencement of the second grazing rotation (April 15th), the 18 % crude protein concentrate was replaced with a 14% crude protein concentrate (formulated with native ingredients) whilst the feeding rate remained unchanged. The concentrate formulation is part of this year's nutritional study. Cows at 60 - 89 DIM are on 7.5 kg (39/57 cows) and cows <60 DIM on 8 kg (18/57 cows). Cows are being allocated 16 kg DM grass.

**Spring Grazing Plan**: The current AFC is 522 kg DM/ha (range 80 to 1000kg DM/ha). Average daily growth rate is 32 kg DM/ha this week. Between 11th April and 17th April, the average soil temperature at 100mm was 10.3 ºC and 13.1 mm rain fell (rain data from the nearby Met Eireann station, Casement Aerodrome). Growth has improved over the last week due to the increase in soil temperature coupled with intermittent periods of sunshine. Paddock cleanouts have been good, with a post grazing height of 4 to 5 cm achieved even with heavier covers coming into the end of the first round. The second round of grazing commenced on April 15th. Demand for grass is currently at 52kg DM/Ha meaning magic day will most likely be around the start of May this year. Average DM for the week was 20.3%. This will fall as the second round progresses on the back of lighter covers and fresh grass.

**Calving:** Calving started on 30th January, and finished on 12th April. One calved in January, 46 in February, 9 in March and 1 in April. The average gestation of the calved cows is 279 days. To date, 29 heifer calves and 28 bull calves have been born.

**Milk Production:**

Average production from April 11th to April 17th was 35.38 kg/cow at 4.08 %fat, 3.50 % protein (2.67kg MS) and SCC was 35,000. Milk production from this time last year was 37.6 kg/cow at 4.15% fat, 3.45% protein (2.86 kg MS) and SCC was 45,000.