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 29-06-2020

Farm Details:
Area available: 15.61 ha (1.82 ha out for reseeding)
Current Stocking Rate (MP): 3.65
Farm Cover: 712kg DM/ha
Growth Rate: 93kg DM/ha/day
Demand: 66kg DM/ha/day
Average Concentrate Supplement: 4kg/head/day
Average DIM: 134 days

Current Daily Feed Budget: With an increase in growth rates, cows are once again being offered concentrates based on their DIM. Cows that are >90 DIM (1/57 cows) are offered 7.5kg, cows that are 91-120 DIM (7/57 cows) will be offered 6kg and cows >120 DIM (49/57 cows) will be offered 3.5kg. Therefore, cows are receiving on average 4kg of concentrates each day. The herd have been split into three groups and are being offered 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. Estimated grass intake was 18kg DM/cow.

Grazing Plan: The AFC on 29th June was 712kg DM/ha (range: 50-1600 kg DM/ha) with cover/LU of 195kg DM/cow. The increasing covers and growth rates are the result of recent rainfall. Using data from the nearby Met Eireann weather station at Casement Aerodrome, 17mm of rain fell in the last week. SMD has decreased slightly this week to 32mm on 29th June. Four paddocks (3.68 ha) are due to be mowed for bales on Tuesday 30th June. Current grazing rotation is set at 21 days.

Milk Production: The average milk production from 22nd-28th June was 28.2 kg/cow at 4.54% milk fat, 3.49% protein, 2.22 kg MS and 30,000 SCC based on milk recording on 18th June. Average milk production this time last year was 28.7 kg/cow at 3.65% fat, 3.43% protein (2.03 kg MS) and SCC at 47,000.

Breeding season 2020: On 2nd May, the breeding season began. It will last for 12 weeks; 10 planned weeks with an additional 2 weeks, if necessary, based on scans. The three-week submission rate was 91% (49/54 cows in the breeding herd) and the 24-day submission rate (2nd-26th May) was 98% (53/54 cows in the breeding herd). In the 8th week of breeding (20th-26th June), two cows that were first served in week 1 and 2 received a repeat serve. At a recent 30-day scan, 41 of 44 eligible cows were scanned pregnant (93.2%).

	No. of cows submitted	Total % of breeding herd submitted
Week 1	15	28
Week 2	19	63
Week 3	15	91
Week 4	4	98
Week 5	0	98
Week 6	1	100
Total	**54**	**100**

As all cows have been inseminated with dairy bulls during the first 6 weeks of the breeding season, selected beef bulls will now be used for the remainder of the breeding season. The beef bulls that will be used are AU4309 (Deerpark Kevin), AU4563 (Johnstown Loyd 1039), AA4235 (Gabriel Mossy 1727), LM2014 (Ewdenvale Ivor) and BB4286 (Ideal De Petit Waret).

The weighted DBI averages (May 2020 evaluation) of the beef bulls are:

DBI €	Calving €	Beef €	Gestation Length PTA	Carcass Weight PTA
120	10	110	-0.37	18.7

Heat detection is being done using scratch cards and Moo Monitors which are being read in the collecting yard.