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 22/04/2019

Farm Details:
Area available: 17.53 ha
Current Stocking Rate (MP): 3.37 LU/ha
Farm Cover: 705 kg DM/ha
Growth Rate: 70 kg DM/ha/day
Demand: 53 kg DM/ha/day
Average Concentrate Supplement: 7.7 kg/hd/day
Average DIM: 63 days
Cows Calved: 59

Image © Zoe McKay

Current Daily Feed Budget: Cows are being allocated 18 kg DM of grass and an average of 7.7 kg of a high energy concentrate (cows > 60 DIM on 7.5 kg, cows < 60 DIM on 8 kg). From now until the start of the last rotation, half of the group will be fed an 18% crude protein concentrate while the other half will be fed a 14% concentrate. This research is focussed on improving nitrogen efficiency and along with cow performance data, we will also look at pasture intakes and nitrogen excretion. Estimated grass intakes last week were 16.95 kg DM/hd/day.

Grassland: The current AFC is 705 kg DM/ha (range 123 to 1611 kg DM/ha). Average daily growth rate was 70 kg DM/ha this week and grass DM was 19.1% on average. So far, the milking platform has received on average 80 kg N/ha, 7 kg P/ha and 14.1 kg K/ha. The next round of fertiliser application is due this week.

Milk Production: Average production is currently 32.5 kg/cow at 3.75% fat and 3.49% protein (2.35 kg MS). SCC is 205,000., protein and SCC figures are based on milk recording results from the 10th of April. Milk production from this time last year was 31.4 kg/cow at 4.55% fat and 3.38% protein (2.49 kg MS). SCC is 96,000

Locomotion scores: Last Wednesday (17th April) the cows were assessed for locomotion (scale of 1 to 5 with 1= normal, 2= mildly lame, 3= moderately lame, 4= lame, and 5= severely lame). Of the 59 cows scored, 49 cows scored 1 (83%) and 10 cows scored 2 (17%).

Breeding Season 2019: The breeding season will start on Monday 29th of April and will continue for 12 weeks. Breeding is all by A.I. and is being done twice daily. Bulls being used

across the herd are as follows: FR4513 (Ballygown Albert), FR2460 (Nextgen PHC Eimer 557), FR2298 (Olcastletown Ronaldo), FR4600 (Clorane Dandyman), FR4481 (Monabrogue Ebony), OTS (Ballintosig Ring O), FR4378 (Monamore Riptide), FR5085 (Lars-Acres Super Nerd), FR4379 (Ballydehob Adam), FR2035 (Crefogue Spider), and FR4187 (Westcoast Persus).

The weighted EBI averages of these bulls are as follows:

EBI €	Milk S.I	Fert S.I	Calv €	Beef €	Maint €	Mmgt €	Hlth €	Milk kg	F kg	P kg	F+P kg	F%	P%
282	107	106	55	-7	3	8	10	235	18.2	15.4	33.6	0.15	0.13

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, scratch cards and crayons. with scratch cards and crayons being read in the collecting yard.