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 27/05/2019

Farm Details:
Area available: 13.60 ha (3.99 ha skipped for baled silage)
Current Stocking Rate (MP): 4.34 LU/ha
Farm Cover: 752 kg DM/ha
Cover/LU: 173 kg/LU
Growth Rate: 105 kg DM/ha/day
Demand: 78 kg DM/ha/day
Average Concentrate Supplement: 6.3 kg/hd/day
Average DIM: 97 days
Milking cows: 59

Current Daily Feed Budget: Cows are being allocated 18 kg DM of grass and an average of 6.9 kg of a high energy concentrate (cows < 60 DIM on 8 kg, > 60 DIM on 7.5 kg, and >90 DIM on 6kg). 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. Estimated grass intakes last week were 16.9 kg DM/hd/day.

Grassland: The current AFC is 752 kg DM/ha (range 55 to 1380 kg DM/ha). Average daily growth rate was 105 kg DM/ha this week and grass DM was 16.7% on average. We have skipped 3 paddocks (3.99 ha) for baled silage with the plan to cut these paddocks as soon as weather conditions allow.

Fertiliser: Last week, 0.64 bag/acre (36.8 kg N/ha) of protected urea 46% was spread on the MP. To date, the MP has received 137 kg N/ha, 10.23 kg P/ha and 20.5 kg K/ha.

Milk Production: Average production is currently 32.4 kg/cow at 3.98% fat and 3.47% protein (2.41 kg MS). SCC is 90,000. Fat, protein and SCC figures are based on milk recording results from the 15th of May. Milk production from this time last year was 29 kg/cow at 4% fat and 3.5% protein (2.2 kg MS).

Breeding Season 2019: The breeding season started on Monday 29th of April and will continue for 12 weeks. The results so far are as follows in the table below. So far 6 cows have repeated.

	% of cows submitted
Week 1	42% (24/57)
Week 2	84% (48/57)
Week 3	95% (54/57)
Week 4	100% (57/57)

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.

May E.B.I evaluation:

E.B.I	Milk S.I	Fert S.I	Calv	Beef	Maint	Mmgt	Health
175	65	62	42	-8	5	4	5
Milk kg	**Fat kg**	**Protein kg**	**Fat %**	**Protein %**	**Calving Int.**	**Surv %**	
104	12.1	8.7	0.13	0.09	-2.9	2.1	