



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) 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 and sustainable when built on a foundation of good grassland management and meeting both milk and fertility targets and has a place in the 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 12-07-2021

Farm Details:

Area available: 15.37 (2.06ha out for reseed)
Current Stocking Rate (MP): 3.71 LU/ha
Cover/LU: 218kg DM/LU
Farm Cover: 807kg DM/ha
Growth Rate: 58kg DM/ha/day
Demand: 52kg DM/ha/day
Average Concentrate Supplement: 8kg/head/day
Average DIM: 139 days



Current Daily Feed Budget: Usually the amount of concentrates each cow is provided with is based on DIM. However, due to the shortage in grass supply, all cows have been offered 8kg of concentrate since 30th June regardless of DIM as a short-term strategy to compensate for lower than expected grass growth. Cows are being offered one of four experimental concentrates; a 14% protein concentrate with non-native ingredients, a 12% protein concentrate with non-native ingredients, a 12% protein concentrate with native ingredients or a 12% protein concentrate with native ingredients supplemented with methionine. These diets will be offered as part of our 2021 nutrition trial until the start of the final grazing rotation in October. Cows are also allocated 14kg of grass DM and 4kg silage DM. Silage will no longer be provided from 13th July onwards. A plan is in place to reduce concentrate feeding as grass growth rates improve. Grass DM is 23.3%.

Grazing Plan: The current AFC is 807kg DM/ha (range 242 – 1405kg DM/ha) and cover/LU is 218kg DM. Recently, the lack of rainfall led to drought conditions at UCD Lyons Farm. In the last week, 38.2mm of rain has fallen which has led to the soil moisture deficit reducing to 11mm (data from nearby Casement Aerodrome). Consequently, growth levels are slowly increasing with higher levels expected later this week. Now that silage is no longer provided to the herd, the grazing rotation will increase in speed. As the grass DM % is high, grass quality is being closely monitored.

Fertiliser: On 9th July, 71.9kg/ha of Protected Urea (38-0-0-7.6) was applied to 2.83ha. This is the equivalent of 18.2kg N/ha.



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Milk Production: Average production from 5th – 11th July was 27.2 kg/cow at 4.26% milk fat, 3.65% protein, 2.15kg MS and SCC was 39,000. Milk production from this time last year was 26.2 kg/cow at 4.05% milk fat, 3.50% protein, 1.97 kg MS and SCC was 78,000.

Breeding season 2021: The breeding season started on May 1st and will last for 10-12 weeks; 10 planned weeks with an additional 2 weeks, depending on scan results. Breeding is all by A.I and is done twice daily. Bulls selected are FR5860 (Saintbrigid Frank Joseph), FR6139 ((Ig)Lisduff Perception), FR5857 (Olcastletown Tiernan), FR6061 (Munta Mystic), FR5668 (Peak Chilton-Et), FR4573 (VH Praser), FR5971 (Viaductview Fiveo), FR2400 (S-S-I Headway Alltime-Et) and FR5239 (Hanrahan Olympus).

This year we will be breeding 55/57 cows. Two cows are being omitted from breeding due to poor udder confirmation and locomotion and consistent SCC issues.

The weighted EBI averages of the bulls are:

EBI €	Milk SI	Fert SI	Calv €	Beef €	Maint €	Manag €	Health €	Milk kg	Fat kg	Prot kg	F+P kg	F%	P%
281	116	108	44	-9	4.1	2	17	360	22	18	40	0.13	0.09

These bulls were selected for high milk fat and protein milk PTA to ensure the milk fat and protein % stay positive in addition to selecting for a good health and high fertility sub-index values. Nine bulls were selected to increase bull team reliability. Heat detection is being done using Moo Monitors and scratch cards which are read in the collecting yard. From the 8th breeding week onwards, selected beef bulls will used for the remainder of the breeding season. The beef bulls that will be used are AU4460 (Dauphin), AU4563 (Johnstown Loyd), LM2014 (Ewdenvale Ivor) and SA2189 (Ulsan).

In the 10th week of the breeding season (3rd-9th July), there were one repeat serve. Cows that were approximately 30 days in calf were scanned on 9th July. A total of 47/48 eligible cows (98%) were scanned as pregnant. The remaining 7 cows have been bred and they will be scanned at a later date. The 6-week in calf rate is 87% (48/55 cows). The breeding season concluded on Friday 9th July as the 10 weeks had been completed.