



Lyons Systems Research Herd Notes

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 01/04/2019

Farm Details:

Area available: 17.53
Current Stocking Rate (MP): 3.29
Farm Cover: 814 kg DM/ha
Growth Rate: 35 kg DM/ha/day
Demand: 56 kg DM/ha/day
Average Concentrate Supplement: 8 kg/head/day
Average DIM: 42 days
Cows Calved: 58 (out of 60)



Image © Zoe McKay

Current Daily Feed Budget: Cows are being fed 8 kg of an 18% crude protein concentrate in the parlour (this is built up gradually over two weeks post-calving) and being allocated 18 kg DM of grass. Estimated average grass intake last week was 15.1 kg DM/day. This was measured by calculating pre grazing herbage mass minus post grazing herbage mass using a rising plate meter.

Spring Grazing Plan: The current AFC is 814 kg DM/ha (range 0 to 1579 kg DM/ha). Average daily growth rate was 35 kg DM/ha this week and grass DM was 16.4% on average. To date, 88.5% of the milking platform is grazed and we aim to start the 2nd rotation on Wednesday (2nd of April). The paddocks that were grazed first in early February have an average cover of 1550 kg DM/ha. The current pre-grazing yield is 2884 kg DM/ha. As of the 1st of April, we grew 1.68 tons DM/ha so far this year on the milking platform. This is up by +790 kg DM/ha from the same period in 2018 and an increase of +560 kg DM/ha (1.12 tons DM/ha) from the corresponding period in 2017. Last week the milking platform received its 2nd round of fertiliser. Paddocks that are in a low index for P got an application rate of 2.3 bags/acre of 18.6.12+sulphur (51.3 kg N/ha, 17.1 kg P/ha, 34.2 kg K/ha) the remaining paddocks receive an application of 1.05 bags/acre of 40% + sulphur protected urea (Alzon neo-N). So far, the milking platform receive on average 80.13 kg N/ha, 7.04 kg P/ha and 14.08 kg K/ha.

Pre-breeding scan: On Monday, pre-breeding examinations on the cows that calved >25 days took place. In total there were 52 cows examined. Each cow was checked for endometritis using a Metrichick device which was also combined with ultrasonography of the uterus and ovaries. The mucus was scored on a 0-3 scale, as seen in *Figure 1*, with cows scored 2 or greater deemed to have endometritis. Likewise, the uterus was graded on a scale of 0-4 with cows scoring 2 or greater deemed to have endometritis (Savc *et al*, 2016). Using this combined method, the prevalence of endometritis in the examined population was 15% (8/52). Cows deemed to have endometritis were treated, the type of treatment was based on



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whether a CL (corpus luteum) was present on the ovaries or not. Cows with a CL present received an injection of prostaglandin. Cows with no CL present were given an intrauterine infusion of cephalosporin. All treated cows will be re-checked to see if further treatment is warranted. Based on the presence of a CL as an indication of the resumption of cyclicity, 85% (44/52) of those examined had at least one CL. One cow was diagnosed to have a follicular cyst and was treated with gonadotropin-releasing hormone (GnRH) analogue and will be rechecked to see if further treatment is warranted.

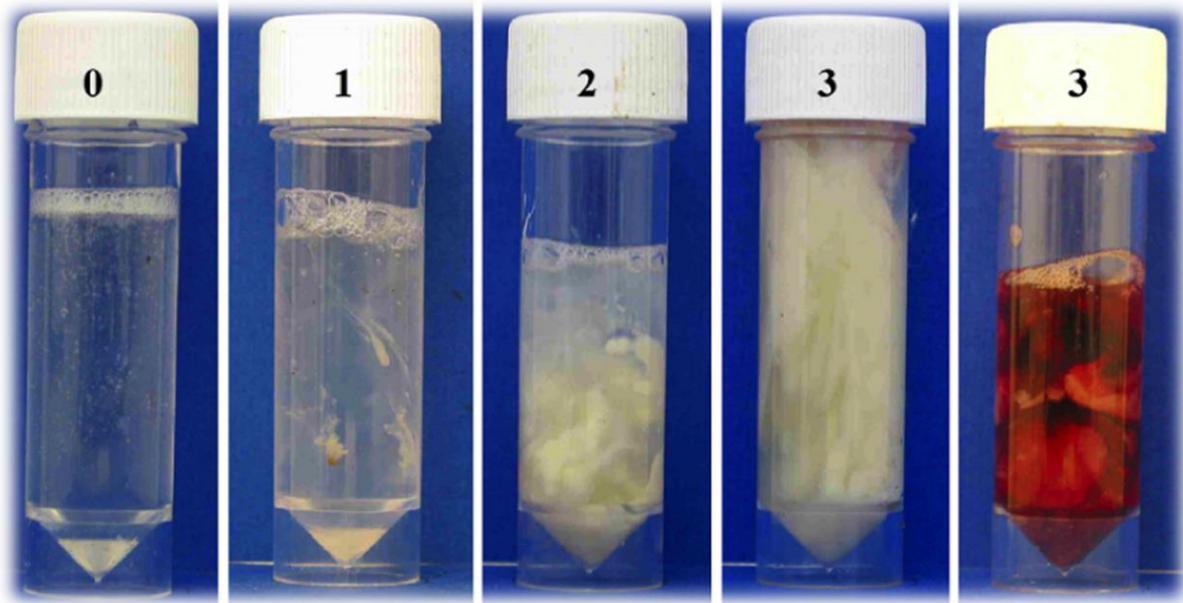


Figure 1. Vaginal discharge scoring for Metrichick (Sheldon et al., 2005)

- Score 0 = clear or translucent mucus;
- Score 1 = mucus containing flecks of white or off-white pus;
- Score 2 = discharge containing $\leq 50\%$ white or off-white mucopurulent material;
- Score 3 = discharge containing $\geq 50\%$ purulent material, usually white or sanguineous

Milk Production: Average production is currently 32.6 kg/cow at 4.45% fat and 3.34% protein (2.52 kg MS). SCC is 133,000. Fat, protein and SCC figures are based on milk recording results from the 20th of March.

BCS: Last Friday (29th of March) the herd was assessed for BCS. Average BCS of the milking cows (56/60) was 2.84 with 23% (13/56) with a BCS of ≤ 2.5 and 3.6% (2/56) with a BCS ≥ 3.5 . Average BCS of the dry cows (4/60) was 3.38 with no cows with a BCS of ≤ 2.75 and 50% (2/4) with a BCS ≥ 3.5 . Currently there are 17 thin milking cows on OAD (once a day) milking.