



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 <http://www.ucd.ie/agfood/welcomemessage/systemsresearchherd/>.

Lyons Systems Research Herd Notes Week 12-04-2021

Farm Details:

Area available: 17.43 ha
Current Stocking Rate (MP): 3.27
Farm Cover: 611kg DM/ha
Growth Rate: 32kg DM/ha/day
Demand: 51kg DM/ha/day
Average Concentrate Supplement: 8 kg/head/day
Average DIM: 48 days



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). Cows at 60 - 89 DIM are on 7.5 kg (14/57 cows) and cows <60 DIM on 8 kg (43/57 cows). This year's nutritional treatments include a 14% protein nut with non-native ingredients, a 12% protein nut with non-native ingredients, a 12% protein nut with native ingredients and a 12% protein nut with native ingredients supplemented with methionine. This feed has been ordered and will be provided from next week onwards. Cows are being offered 16kg of grass. Grass DM is 22%.

Spring Grazing Plan: The current AFC is 611kg DM/ha (range 100 – 1350kg DM/ha). Average daily growth rate is 32kg DM/ha this week. Growth has slightly decreased this week due to colder and wetter weather conditions. Between 5th – 11th April, the average soil temperature at 100mm was 6.5°C and 8.8mm of rain fell (rain data from the nearby Met Eireann station, Casement Aerodrome). The pre-grazing yield average is 1129kg DM/ha (range: 800 – 1800kg DM/ha) and residual covers are set at 50kg DM/ha. On 9th April, 84kg/ha of KaN + S (38% N and 7.6% S) was spread. This equates to 31.9kg N/ha.

Milk Production: Average production from 5th -11th April was 36.8 kg/cow at 4.25% fat, 3.41% protein (2.82 kg MS) and SCC is 48,000, based on milk recording results from 8th April. Milk production from this time last year was 35.9 kg/cow, 4.26% fat, 3.51% protein, 2.78kg MS and SCC was 73,000. The six OAD cows are now once again being milked twice a day as their condition has improved.

Pre-breeding scan: On Thursday 8th April, pre-breeding examinations on the cows that calved >21 days took place. In total, 48 cows were 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 (Figure 1). The uterus was scanned



and graded on a scale of 0-4. Cows scoring 2 or greater on one or both grades were deemed to have endometritis (Savc et al, 2016).

Using this combined method, one cow (2%) met these criteria as she had a uterine scan grade of 2 but a mucus score of 0. This cow will be assessed next week alongside the unscanned cows and she will be treated if necessary. Based on the presence of a CL as an indication of the resumption of cyclicity, 79% (35/48) of those examined had at least one CL. One cow had a luteal cyst and she was treated with prostaglandin. She will also be re-checked next week to see if further treatment is warranted.



Figure 1. Vaginal discharge scoring for Metricek (Williams 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