

Big cash gains from spring grass

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The benefits of spring grass in the dairy cow diet include: improved animal performance, lower feed costs and reduced workload all of which add up to extra profit of €2.70/cow per day.

The spring grazing season starts in the previous autumn, early October to be precise, when paddocks are closed for the winter to ensure there is adequate grass on farms for the following spring. This is certainly the case for dairy farmer, Noel Hurley, who farms in Kildorrery, Co Cork.

"I place a huge emphasis on spring grass," says Noel. "It's certainly the most valuable feed for freshly calved cows in February." Noel is set to calve more than 150 cows this spring, with over 70% (100 cows) calving in the first three weeks. With a stocking rate of 3.3 cows/ha on his milking platform, there is a high feed demand from the onset of calving.

With that in mind, Noel closed his farm in mid-November with a farm cover of 700kg DM/ha. On 29 December, farm cover was 842kg DM/ha. Noel says: "If the grass continues to grow at 4kg to 5kg DM/day, I expect to open with a cover in excess of 1,000kg DM/ha." Noel will use the Spring Rotation Planner to budget this grass during the first two months of the grazing season.

Approximately 25% of Noel's farm is classified as heavy so spring and autumn can prove difficult grazing periods on the farm. Despite this, cows get out to grass in early February. When conditions are poor, Noel adopts on-off grazing and back fencing to minimise poaching damage.

"I aim to get cows out full-time in February. I have seen benefits in terms of milk quality and cow condition in early lactation," says Noel. "When I look back at co-op figures for the month of February, the advantage

of grazed grass in the diet is clear."

February co-op reports from 2015-2017 are presented in Table 1. Fat has increased by 0.18% (4.50% in 2015 to 4.68% in 2017) and protein has increased by 0.09% (3.40% in 2015 to 3.49 in 2017), while SCC has declined (278 in 2015 to 201 in 2017) over the last three lactations.

On Noel's farm, on-off grazing is considered an effective strategy to get cows out to grass during the spring on heavier soils and during periods of inclement weather.

Emer Kennedy carried out a comprehensive investigation of the effects of on-off grazing on production, feed intake and grazing behaviour over a 31-day period in early lactation at Teagasc Moorepark.

In short, cows were assigned to one of four treatments:

- Grazed full-time (22h).
- 4.5 hours access to grass after each milking (2x4.5h).
- Three hours' access to grass after each milking (2x3h).
- Three hours' access to grass after each milking plus 4kg silage by night (2x3h + S).

Feed allowance and grass intakes are presented in Table 2. Cows are able to graze as much during 2x4.5h or 2x3h as with full-time grazing (22h). This was evident from the similar levels of grass utilisation (grass intake ÷ grass allowance) in the 22h, 2x4.5h and 2x3h treatments.

Where grass supply is sufficient on farm, like in this experiment, there is no justification for feeding silage to cows when they return indoors. In this experiment, the inclusion of silage in the diet (2x3h + S) had a negative effect on grass utilisation, reducing utilisation by 20% compared with the other treatments.

Silage is a bulky fibrous feed that results in high degree of rumen fill, depressing the cow's appetite during grazing. Furthermore, silage is an inferior feed compared with spring grass and therefore, its inclusion reduces the overall quality of the diet.

If we consider the feed costs for the





Teagasc advisor Sean Cooney and Noel Hurley discuss fertiliser planning.

Table 1: February co-op milk fat %, protein % and SCC from 2015 to 2017

	2015	2016	2017
Fat %	4.50	4.47	4.68
Protein %	3.40	3.47	3.49
SCC (,000)	278	266	201

Table 2: Feed allowance and grass intake over a 31-day period in early lactation

	22 h	2x4.5h	2x3h	2x3h + S
Feed allowance (kg DM/cow per day)				
Grass	14.6	14.0	14.6	14.5
Concentrate	3	3	3	3
Silage	0	0	0	4
Grass intake	11.8	11.7	12.2	9.6
Grass utilisation (%)	81	84	84	66
Feed costs (€)	1.77	1.73	1.77	2.37


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The breeding season for 2018 starts now...



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four treatments (valuing grass at 7c/kg DM, silage at 15c/kg DM and concentrate at 25c/kg DM), the inclusion of silage in the 2x3h + S treatment increased the cost of the diet by 61c/cow per day (+35%) compared with the grass and concentrate diets.

Despite the 2x3h + S cows having a higher feed allowance, no additional milk production was achieved. There was no difference in daily milk yield (28.3 kg) or milk fat (4.17%) across the four treatments, while protein % was greater for cows that grazed full-time (22h; 3.37%) compared with the cows that had silage in the diet (2x3h + S; 3.22%).

Spring

According to Noel, "spreading fertiliser in January has been the driver of spring grass growth. I have seen a huge response to nitrogen in the early months of the year." Critically, Noel already has the fertiliser in the yard, ready for the spring. Early fertiliser application helps to kick off growth in the spring once soil temperature hits 6c.

Slurry at a rate of 2,500 gallons/acre, should be targeted at 30% of the farm with the lightest covers. Twenty-three units of urea should be applied to the remainder of the farm. Urea is the cheapest source of nitrogen available and typical spring weather (damp and overcast) presents ideal conditions for application.

Slurry can be spread on the first paddocks grazed, allowing sufficient time for nutrient uptake before the beginning of the second rotation. A further 40 units of urea should be spread in early March.

Spring Rotation Planner

Noel uses the Spring Rotation Planner to track the area of the farm grazed at various time points during the spring. "The Spring Rotation Planner sets out the area of the farm to graze weekly. From this, I can identify the feed deficit and I can supplement," he says.

Spring rotation grazing targets include:

- **1 March:** 30% grazed.
- **17 March:** 66% grazed.
- **5 April:** start second rotation.

It isn't easy for Noel to comply with the targets due to the high feed demands of his compact calving herd: "We can get tight on grass at the end of March on this farm. I supplement cows with up to 6kg concentrate to get through this period and I have a reserve of high-quality bales that I can use at this time." It is important to hit 30% of farm area grazed target by



Emma Louise Coffey and Noel Hurley study his Spring Rotation Planner.

1 March to allow paddocks adequate time to regrow for the start of the second rotation in early April.

Let's take a step back and look at Noel's grass story. Noel began grass measuring in early 2016 and consequently achieved a more intensive level of grassland management on his farm. "At that time, I became actively involved in two grass discussion groups, one of which was a Teagasc grazing coaches group, and gained the confidence to make decisions around the grass wedge."

In the last two years, the farm has grown in excess of 14 tonnes of grass DM/ha. According to Noel, "the farm is capable of growing more grass. Soil fertility is currently below optimum. I am spreading lime, P and K to correct this, but it's a continuing effort."

Through knowing the amount of grass the farm is capable of growing, and improving grassland management and soil fertility, Noel has been able to increase cow numbers from 114 in 2015 to 145 in 2017 while maintaining high milk output (455kg MS/cow, 1,500kg MS/ha) from the same annual concentrate (1t/cow).

More significantly, Noel has produced an additional 250 surplus bales as well as closing 15% of the milking platform for first-cut silage. The story doesn't stop there. "I'm sure we can do even better," concludes Noel.

- If you would like to meet Noel there is a Grass 10 Event (a spring grass walk at his farm on Wednesday 24 January at 11am.