

CUT AND CARRY

An alternative way to feed home-grown forages

Cut and carry, sometimes referred to as zero grazing, is a feeding system where fresh grass is cut daily and fed to housed cows throughout the grazing season. Over recent years, many dairy farmers have implemented a cut and carry system to increase the proportion of fresh grass included in the diet and as a management tool for fragmented grazing land, expanding herd sizes and robotic milking systems.

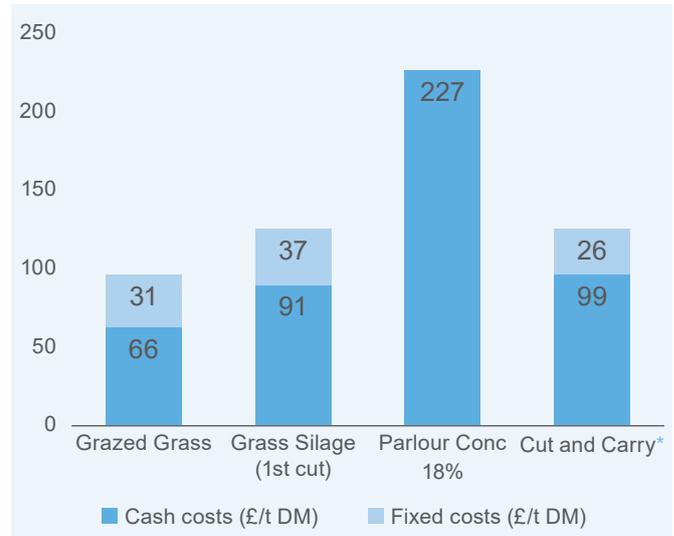
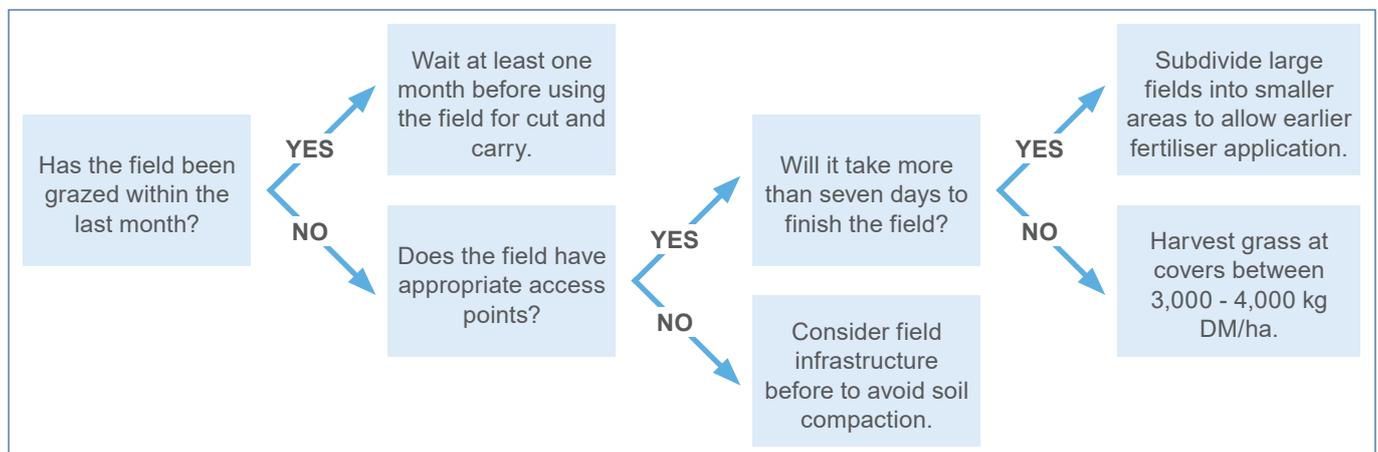
Cut and carry provides an alternative way to increase the amount of home-grown, high-quality forages used during the growing season compared with grazing supplemented by grass silage or Total Mixed Ration (TMR). Typically, fresh grass is cut standing in the field by one machine, which then transports the grass to the cows.

Well-managed grazed grass is the most economical feed for dairy cows, but there is growing interest in the role a cut and carry system could make to reduce feed and forage costs.

The primary benefit of cut and carry systems is an improvement in grass utilisation, offering potential to increase stocking rates and increase farm output and net margin per hectare. However, to achieve these improvements in grass production and utilisation, there are three key areas to consider:

- Field selection
- Grass variety selection
- Cutting practice

To select the most suited fields for zero-grazing follow the below decision tree:



Total production costs (£/t DM) of home-grown forages against bought in concentrates for GB farms.

Source: Kingshay forage costings report, 2017

*Based on 4 cutting rotations



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The frequent cutting used in cut and carry systems can change the structure of the grass, which may increase the risk of soil damage, particularly on wet soils.

Selecting grass varieties based on digestibility, early season growth, good ground cover and narrow heading date, for easier management.

Under cut and carry, grass may be cut at higher levels of cover than typically recommended for grazing. Pre-cutting, target cover is between 3000-4000 kg DM/ha to maximise grass and animal performance. To achieve this, aim for a rotation length of 21 days in May, increasing to around 28 days in August. When calculating rotation length, remember to take into account rate of grass growth and herd demand.

Dry matter (DM) and water-soluble carbohydrate (WSC) content of grass increases throughout the day, usually reaching a peak in early-mid-afternoon in dry conditions. Harvesting at this time will minimise the risk of grass spoilage, which is higher with low DM forages. Due to typical variability in grass composition, two key areas to consider when feeding fresh grass are:

- Infrastructure
- Feeding management

Fresh grass will encourage simultaneous feeding, so sufficient feed space for all cows to feed together is recommended. Ensuring that the feed barrier and neck rail is correctly positioned will help improve cow comfort and dry matter intake. As cows may spend longer eating a fresh grass diet, it is important to consider the standing surfaces at the feeding area to optimise cow comfort and to encourage visits for feeding.

General advice is to feed grass separately and not to mix it into the wagon with the TMR. Overmixing grass and TMR in the mixer could lead to a loss of structure in the grass and increase the risk of overheating in the feed trough resulting in refusals. If fresh grass is mixed with a TMR it is important that mixing time is short (2-3 minutes) once the fresh grass has added. Fresh grass should be cut and delivered at least once a day, and fed as often as necessary to avoid heating.

FARMER CASE

Cut and carry improves milk from forage in the lower-yielders

Farmer: Sam McElheran

High rainfall, heavy clay land and a long narrow farm layout meant cut and carry was a logical consideration for the 200 ha McElheran family farm in County Antrim. The current routine is to complete the morning milking, and cut two loads of grass for the lower-yielding group.

This has led to an increase in overall milk from forage from a herd average of 1,336 litres in 2014 to 2,338 litres in 2017. "I'd like it to be more and it's still going up, but these changes don't happen overnight," says Sam.

Concentrate use has been reduced from 3t to 2.55t/cow/year, equivalent to 0.39 kg and 0.34 kg concentrate usage per litre respectively. Stocking rate has increased from 2.20 cows/ha in 2014 to 2.72 cows/ha in 2017. Grass output also increased at Stranocum farm, which grew 12.7t of DM/ha in 2017.



For anyone considering cut and carry, Sam says: "If your farm is fragmented like ours, I would give it a go. But don't do it if you think it's going to be an easy option, because it isn't," he says. "You have to do all the fetching, carrying, bringing it up to the cows - there's a lot of labour involved."

A webinar by Dr Debbie McConnell, from AFBI Northern Ireland, gives further information on successfully managing cut and carry systems, and can be accessed through the EuroDairy website. A best practice guide is also available: [Zero grazing: best practice guide](#).

