

Dairy Farming on Heavy Soils

James O'Loughlin and John Maher

Why is farming on heavy soils difficult?

What are the basic principles of dairying on heavy soils?

What are the challenges to dairy farming on heavy soils?

Introduction

Over 33% of milk production in Ireland is carried out on Heavy Soils.

Why is farming on heavy soils difficult?

The problem of these soils is low permeability i.e. water is slow to pass down through the soil profile. This makes grass utilisation difficult as threading of cow's feet damages pasture. Land is also easier compacted when wet and subsequently drainage is further impaired. Often these soils occur in locations of high rainfall.

What are the basic principles of dairying on heavy soils?

The basic principles of spring calving milk production are not any different for heavy soils:

Compact calving onto grass
Maximising milk production from grazed grass

What are the challenges to dairy farming on heavy soils?

1. Calving date:

Turnout to grass is normally later on heavy soils, therefore the start of calving will also be later. Compactness of calving is more critical on heavy soils as the length of grazing season is shorter.

2. Farm infrastructure:

To maximise grass utilisation on heavy soils it is critical to have:

- Good farm roadways
- A well laid out paddock system
- Multiple water access points

Ground conditions are often marginal on farms with heavy soils. It is inevitable some damage will be done; therefore it is essential that when animals come off a damaged area they do not go in there again until next rotation. This

cannot be done without an adequate farm roadway system, easy to operate paddock system with multiple access/exit points and easy access to water for cows. Cow paths or spur roadways may need to be considered.

3. Adequate winter feed

Heavy farms have longer winter feeding requirements. The growing season will also be shorter and often a higher peak growth rate occurs. This must be harnessed to maximise the amount of quality silage harvested. Making round bale silage is very useful to keep grass supply under control and provide quality short term feed in times of deficits and/or poor grazing conditions. There should be a greater emphasis on quality silage as cows will end and begin lactation on some silage.

4. Winter housing and slurry storage.

Longer winters mean more slurry storage. Many farmers who farm on heavy soils farms would have adequate slurry storage and housing for the existing herd. However with expansion will come demands for more slurry storage and housing.

5. Ryegrass content

Levels of ryegrass are quite low on a lot of heavy farms. There are challenges in re-seeding; the window to reseed is much shorter on heavy land. It is essential that ryegrass is established to maximise grass production. Late heading diploid varieties are most suitable.

6. Grazing management practices

Severe damage to pasture must be avoided at all costs. Using grazing management practices that will limit damage to pasture need to be considered as outlined in the diagram below. In addition giving cows access to grass for a limited time only (on/off grazing for 1-3 hours) will also help. However, if the damage to pasture is so severe despite using the above techniques, then animals should be housed.

7. Drainage.

There are opportunities to improve grass production and utilization through drainage. It is costly and needs to be part of an overall business plan. Before drainage is undertaken, the basics must be right. Water courses must be opened and cleaned, existing drains examined and working or repaired, etc.