

Improve your grazing efficiency by assessing pasture cover



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In the UK, 65% of utilised agricultural land is permanent grassland which is typically grazed pastures and land that is used for hay and silage production. Due to the mild and temperate climate in Scotland, the grass growing season can be prolonged although the high rainfall can lead to saturated soils resulting in longer periods of livestock housing. Milk yields and animal liveweight gain is determined by the yield and quality of the grass available during the summer grazing months. Precision technologies have the potential to increase grass growth and utilisation which in turn will drive production levels.



On farm, grazed grassland is the least expensive feed source, therefore if the grass is to be efficiently utilised, farmers need to be accurately measuring and forecasting grass growth. Assessing pasture cover on a regular basis is a key variable as part of a profitable farm management tool, allowing more accurate feed budgeting when animals are grazing. Pasture allocation during the spring months can impact the feed budget for the rest of the year and therefore this is a critical time of the year to understand your grass coverage. Regularly assessing pasture allows for management decisions to be updated according to the availability of grass, these decisions might include rotation lengths, fertiliser requirements and supplementary feeding.

Plate meter

Using a plate meter offers independence, with farmers being able to complete weekly field walks and improve their understanding of their land. During peak growing season, the plate meter readings need to be done at least every 7 – 10 days for accurate measurements.

Benefits of a Plate Meter

- Simple and easy to use
- Annual farm grass growth rates
- Individual pasture growth rates
- Accurate information for feed budgets

The plate meter measures the grass height, which is converted into kg DM, an equation will make this conversion for you. To ensure the accuracy and reliability of each reading, it is important to regularly carry out maintenance of the plate reader. Similarly, the technique when using the plate reader needs to be consistent and ideally it should be the same person taking the measurements. Inaccurate readings will occur when the operator applies extra pressure (ie slamming the plate meter down or using it like a walking stick) causing the plate meter to reach below the soil surface giving a higher height than the grass.



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Taking Readings with a Plate Meter

- Avoid gateways, field edges or areas where troughs are placed
- Walk the field in a W shape or diagonal to get a representative sample
- To avoid bias, readings should be taken every 2 – 3 steps
- At least 30 readings should be taken per field depending on area
- The operator should not pick the best areas to take readings as this will not provide a fair representation of the field

Trailed Plate Meter

A trailed plate meter can be attached to a vehicle's drawbar and automatically records grass coverage as the vehicle is driven across a field. The trailed plate meter can record measurements at speeds of up to 18 mph, thus it will significantly reduce the time it takes to get measurements for each field compared to the traditional plate meter which requires a farmer to walk around the fields.

Benefits of a Trailed Plate Meter

- Accurate information for feed budgets
- Rapid measurement of fields
- High number of readings, up to 200 readings per second
- Readings taken every 50 cm travelled

The trailed plate meter uses an ultrasonic sensor which measure the height of the grass and convert that information into kg/DM ha. The height of the sensors is particularly sensitive; therefore, it is important to ensure tyres are not deflated or a change in weight when it is attached to a vehicle. Calibration of the trailed plate reader should occur regularly to ensure the accuracy of the sensors and therefore the readings. A Bluetooth connection between the sensor and an Android app on your smartphone will record all the readings for each field.

Features to consider when deciding on which plate meter to buy

- Cost – there is a wide variation on cost depending on specifications of the plate meter
- Investing in a plate meter that has the capability of storing separate field data and ability to download information to a computer will allow you to fully understand what is happening in each field

Using either of these technologies, the plate meter or trailed plate meter, are important tools that can improve the grazing efficiency on your farm. These tools will allow for strategic grass management decision planning to occur including fields for reseeding, placement of nitrogen fertiliser and assessing stocking density. It is vital to check your pastures regularly to ensure the grass is not over grazed which will result in slower regrowth. Post grazing sward height should be between 4 and 4.5 cm to allow for enough regrowth to occur. Managing your grass pasture cover effectively will ensure that the quality of feed available is high and improve intakes. Using plate meter technologies to consistently monitor grass cover ensures that your fields are achieving appropriate pre-grazing target yields (1,300 -1,600 kg DM/ha). Reaching these pre-grazing targets will allow milk production or daily liveweight gain (DLWG) to be maintained throughout the grazing season. These technologies have been shown to improve grazing efficiency by between 15-30%, therefore increasing profitability per kg of meat or litres of milk produced from forage.

Improving your grazing efficiency through monitoring pasture cover will reduce feed costs and improve profitability on your farm.

