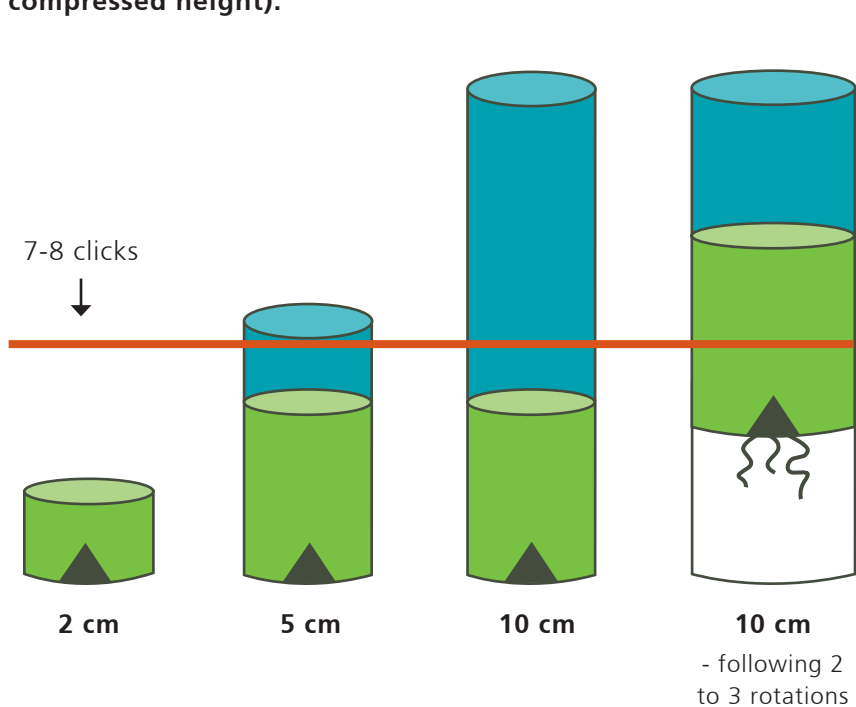



Grazing residuals



Why graze to a consistent post-grazing height?


These cylinders represent grass tillers that have been grazed to different heights (actual height not compressed height).



The ▲ represents the growing point. These are normally at ground level to prevent being grazed.

The  is the stubble, where the majority of plant energy reserves (water-soluble carbohydrates or WSC) are stored.

The  is the rest of the plant remaining after grazing (stubble + leaf). There will be some WSC in here, but much less than in .

The  is stem produced by the plant as it pushes the growing point up towards the light after several rotations of long residuals.

Actual height (cm)	RPM (Rising platometer) clicks (approximate)	kg DM/ha ¹ (approximate)
2	4	1060
5	7-8	1480-1620
10	16-18	2740-3020

The diagram shows what happens to an individual plant when the grazing residual increases. In a paddock with a post-grazing height of >8 clicks on a RPM, there will be some clumps of pasture. This can lead to plants producing more stem to push their growing point towards the light (i.e. 4th cylinder in diagram above).

A consistent post-grazing height of 7-8 clicks (1480-1620 kg DM/ha¹) from spring to autumn will maximise pasture growth and quality.

Note 1 Based on winter formula: pasture mass = clicks x 140 + 500

Grazing lower than 7 clicks reduces WSC:

- If this happens between spring and autumn reduced pasture growth results for that paddock
- However, this may be necessary to ration feed and slow the rotation down to maximise pasture growth over the whole farm, not just the individual paddock
- During winter, WSC levels in the plant are higher due to slower growth and less respiration. Therefore, pastures can be grazed lower than 7 clicks once during winter without reducing pasture growth.

Grazing higher than 8 clicks leaves enough WSC for pasture growth:

- An increased height of the pasture reduces the amount of light that gets to the base of the pasture
- Tillers will die if they do not get enough light resulting in reduced pasture growth and persistence
- After 2-3 rotations of lax grazing, plants will produce more stem and push their growing point towards the light (i.e. 4th cylinder in the diagram)
- Stem production reduces pasture quality and milk production
- If growing points lift above ground level they may be grazed by cows that are grazing to lower residuals in summer. If this happens the tiller will die. A high growing point can also result in the death of any new tillers as their roots will not be in contact with the ground (aerial tillering) resulting in reduced pasture growth and persistence.

Summer Management

Grazing to a consistent post-grazing height is important. Increasing residuals coming into summer is not a good idea because:

- Higher residuals increase the risk of facial eczema as does changing grazing height and grazing into the base of the sward
- Ungrazed leaf dies and is less efficient at capturing sunlight reducing feed utilisation and the amount of feed grown
- When it rains poor quality feed at the base of the sward rots and is lost.

When cows graze to a lower residual after a period of higher residuals:

- The pasture they eat will be of lower quality (more stem and dead material) which reduces the cow's energy intake and total dry matter intake, reducing milk production
- If growing points have risen above ground level pasture growth and persistence are reduced.

More Information

If you have any further questions please contact your local Consulting Officer or Julia Lee, DairyNZ scientist (julia.lee@dairynz.co.nz)

References

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