WINTER FORAGE CROPS: 
MANAGEMENT DURING GRAZING

When grazing winter forage crops to maintain 
or improve stock condition, it is important to 
correctly feed animals to meet their nutritional 
requirements. Winter grazing also has high stock 
numbers in a confined area and is a relatively 
intensive land use. This may lead to increases in 
surface runoff which can carry increased loads 
of sediment, nutrients and micro-organisms. It is 
essential to consider how to reduce nutrient and 
contaminant losses to streams and waterways as 
well as minimising damage to soils and paddocks.

Key points for grazing

• Ensure stock have adequate feed and are 
  transitioned to crop appropriately
• Use narrow breaks with long faces that are moved 
  more frequently to improve feed utilisation.
• Graze from the top of a paddock to the bottom.
• Backfence regularly.
• Keep stock out of damp areas in paddocks such as 
gullies and swales.

Research findings

Research undertaken by AgResearch in South Otago, 
as part of the Pastoral 21 Programme, found that 
implementing good crop grazing management, as 
detailed in this factsheet, resulted in:

• Reduced phosphorus and sediment losses by 80-90%. 
The cost of lost topsoil and nutrients from winter 
grazing may be up to $50-$60/ha per year.
• Reduced soil compaction in susceptible parts of 
paddocks, leading to a reduction in surface runoff.

Crop allocation and additional supplement

• Beef + Lamb New Zealand’s FeedSmart tool can help 
determine feed requirements and help plan grazing.
• Make a feed management plan that considers the 
nutritional needs of the grazing animals to achieve the 
required weight gains or condition scores. Consider 
the dry matter content, nutrient composition and 
metabolisable energy in different feeds.
• Allocate feed based on ‘feed down the throat’; 
  so account for any feed wastage in your feed 
  management plan – and take steps to reduce 
wastage and increase utilisation.
• A gradual transition to crops is important to ensure 
good animal health and allows the gut time to adjust to 
the new feed. This may take 7-10 days for brassicas and 
up to three weeks for fodder beet. Seek advice from a 
vet or other professional for the appropriate grazing 
transition management for your stock.
• Supplements such as hay, silage or baleage should be 
  included as part of your feed plan if they are to be used.
• Feed offered should be adjusted in wet and cold conditions 
because demand will be higher and utilisation lower.

Grazing management to maximise feed 
utilisation of winter forage crops

• Crop tends to be utilised more efficiently by cattle 
  when long narrow breaks are offered rather than short 
  wide breaks (as shown in Figure 1).
• Where practical, to reduce wastage due to cattle 
  trampling, move the fence once or twice daily rather 
  than offering a few days feed at a time.
• Fence off a narrow strip along the length of the paddock 
  to access gateways as this will stop stock remobilising 
sediment and nutrients over a whole paddock.
• Use a catch fence in front of the feeding face to 
  minimise the impact if stock break out.
• If offering other supplements such as hay, silage or 
baleage, use feeders where possible to reduce the 
  amount of waste.

![Figure 1: Diagram showing long, narrow breaks compared to 
short, wide breaks. Crop utilisation will be better on long, narrow 
breaks that are moved frequently. There will also be less chance of 
dominant cattle stopping smaller animals from feeding.](image1.jpg)

Image 1: Sheep breakfeeding on winter crop.
Protecting soil and waterways

Critical Source Areas (CSAs)

- Critical source areas are vulnerable areas in a paddock or on a farm that can contribute to relatively large amounts of nutrient and sediment losses to waterways (Image 2). They are often wet areas such as gullies and swales.

Figure 2. Strategic winter grazing to minimise environmental losses. Start grazing at the top of a slope and move breaks downhill. The gully at the bottom of this paddock is a Critical Source Area (CSA) that is dry in summer but gets wet in winter and after heavy rain. It should be left ungrazed if possible or only grazed when conditions are dry.

Good management practice

- Create a grazing management plan that will reduce environmental losses by following strategic grazing principles and good management.
- Start planning before the crop is sown to select paddocks that are appropriate and suitable for winter forage crop grazing with considerations of soil type, slope and critical source areas.
- Place water troughs in a position that is relatively dry and minimises stock movements.
- Make sure stock have adequate feed as underfed stock wandering in search of feed can add to potential soil losses through physical damage and sediment entering waterways.
- Reduce the amount of time heavy machinery is used on a paddock once it is wet to reduce soil damage. If baleage is being used, place in the paddock before grazing if possible.

Strategic grazing

- Keep livestock out of critical source areas, waterways and wet areas of a paddock by temporary or permanent fencing.
- Where practical, begin grazing paddocks at the point furthest from the waterway to keep the crop as a buffer area between animals and waterways or critical source areas. A buffer of at least three metres width should be maintained near waterways; larger buffers are required on sloping land.
- Break fences should be fenced across the slope with grazing starting at the top of a slope. The breaks should move in a downhill direction (Figure 2).
- Where possible, leave potentially sensitive areas ungrazed (Image 3). However, if this is not possible, graze these areas during periods when weather is settled and soils are not too wet; ideally this would occur as late as possible in the season. Stock should only graze these areas for a few hours and then be moved off to minimise potential soil damage.

- Regularly backfence stock off land that has already been grazed. Whilst this will require provision of a portable water trough, it will also help minimise the extent of soil treading damage and thus runoff risk.

Image 3: A grazed winter crop paddock with the critical source area in the gully left ungrazed.

Additional information and acknowledgements

Beef + Lamb New Zealand’s resources available on our website www.beeflambnz.com:

- Farm Environment Plan
- Land Environment Plan
- A guide to feed planning for sheep farmers
- Management practices for forage brassicas
- FeedSmart User Guide

www.feedsmart.co.nz – app to calculate feed requirements for animals, allowing you to calculate pasture/crop usage when moving animals to paddocks.

Podcast: Good management practice for winter grazing - Ross Monaghan, Soil Scientist, AgResearch - https://beeflambnz.podbean.com/


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