

Heavy snow response

Feeding to manage animal stress and maintain as much condition as possible is critical in a heavy snow situation.

Here is some key information which will help you manage feed through tough winter weather.

Energy and protein requirements

- Average diet ME needs to be at least 9.5, with at least 12% crude protein. Prolonged feeding of diets lower than 12% CP will result in poor utilisation of energy in other feeds and loss of body condition. A diet of straw and cereal silage will be deficient in crude protein
- When cows are protein deficient their intake will drop off
- Dry cows require an ME intake of at least 20% of empty liveweight e.g. a 500 kg cow needs 100 MJME/day
- 2.5% of body weight is about the maximum dry matter intake cows can achieve with conserved feeds e.g. silage, hay. When crop makes up 60-70% of the diet, dry matter intakes up to 3 % of the body weight are achievable
- Provide additional supplement, at least 2 kg DM/cow to account for the additional energy required to keep warm
- Cows with wet feed require an additional 0.5 kg DM/cow/day to keep warm
- Straw it is normally only 6-7 ME/kg DM so you need to be adding high quality feeds, especially if feeding over a longer period of time
- **Don't forget your young stock!** – They are your future so make sure they are not being penalised.

Brassicas – Kale/Rape/Chou

Quality

- Approximately one third of the value is in the leaves, so even if the plants are stripped after snow there is still value in the crop. The exact amount is dependent on the cultivar sown and the sowing rate
- Newer varieties have a higher leaf to stem ratio than older varieties. The amount of leaf will also be affected by sowing rate, higher sowing rates will decrease the amount of leaf
- Damage to green-feed crops by the snow is generally commensurate with the amount of DM present before the snow e.g. heavier crops results in more damage
- Modern varieties are more prone to damage
- The DM content of kale could have dropped to as low as 8-10% compared to 10-14% prior to the snow, so this needs to be factored into your feed budget
- Under the snow the crops are basically preserved because they are frozen, so they will not be losing energy or protein

- It is important not to panic and try to get them fed off while still under the snow
- Once the snow has gone any detached leaves will start to rot and decline in quality, the speed of this will be dependent on the conditions post thaw. If conditions stay cold they could maintain quality for up to 3 weeks after. However, harvesting them will be difficult
- If the leaves are still attached and the roots secure, then the plant will survive

Nitrates

- Nitrate levels are unlikely to have changed while the plant is under the snow
- When testing remember the **levels are highest in the morning (8am)** and lowest in evening
- If you were grazing the crop prior to the snow then it should be safe to resume but with caution, because it is early in the season and nitrate levels in crops are higher
- Once thawed, if the plants are taking up water they will be accumulating nitrate and this combined with dull days and frosts means nitrates can accumulate again
- If in doubt invest in a nitrate test kit from your vet

Grazing management

- Don't feed while still completely under snow. Cows fossicking for food will create a lot of damage and result in poor utilisation
- Feed from long thin faces with on/off grazing. If necessary move the fence a metre per hour so the cows are basically grazing under the fence
- Use a 4WD quad bike to create a line for the fence rather than a tractor that will do more damage
- If the paddock is long and narrow feed from the centre out along two long faces
- To get good utilisation you need to be prepared to put in the time
- Feed straw/silage/baleage prior to putting cows onto the crops so they will be less likely to gorge themselves. Don't put hungry cows on kale
- You cannot feed too much straw. However, if cows are eating lots of straw their energy and protein intakes will be restricted. Silage, baleage or hay are better supplements for the next couple of days, if you can work it
- Nitrate poisoning is a rate of intake problem. If you can slow the rate of intake then cows can cope with higher levels of nitrate but be careful.

Fodder beet and Brassicas – Swedes/Turnips

- Will suffer very little damage under snow

- Can be fed off under a foot of snow with reasonable utilisation as cows will forage for them
- Use thin faces as per kale/rape
- If you decide to include swedes with your kale next season (as snow insurance) then fill the drill with half of each seed and sow in a North/South direction (not east-west) to minimise shading of swedes by the kale
- When planting swedes pick a paddock with very low/zero DDT levels

Greenfeed Oats, barley, short rotation ryegrass

- Priority should be given to grazing these once the snow thaws
- Have a window of about 3 weeks to feed off before rotting will occur. However, this is very dependent on the conditions following the thaw
- Frequent frosts after thawing will increase the damage and speed up rotting
- Paddocks with higher cover will have more damage
- Do not offer while the snow is still on it
- Use the smell test – if you get down into the base of the pasture and it smells like compost it needs to be grazed ASAP.

Pasture

- Under snow there will not be much happening to the pasture but the snow will not kill it
- If the pasture is under snow for more than 7 days then problems can arise – shorter pasture will come out with fewer problems
- It is more difficult to generalise with longer pasture as the outcome will be dependent on the weather conditions following the thaw
- Long pasture flattened under snow will be crushed and very wet so, if the thaw is followed by wet weather or frosts it will rot
- If the thaw is followed by fine weather with wind the longer grass will fare better
- Important to get longer grasses grazed off quickly after the thaw to promote re-growth. Italian ryegrasses will grow at soil temperatures of 2-4°C
- It is really important to get a handle on what is happening on the farm and do a feed budget
- If longer pastures are starting to rot you need to graze what you can of them
- We do not recommend using blades/snow ploughs to expose the grass for stock, as this will cause more damage than letting the snow melt away

- You basically will not know what you have until the snow has gone
- Plants that have had autumn nitrogen applied will be healthier and will have more protection against frost burn. However, there is a limit to how much stress plants can cope with
- Try to minimise pugging damage and use sacrifice paddocks, if it fits with your system e.g. if you are planning to renovate some paddocks in spring get the cows to do the initial cultivation by using it as a sacrifice paddock
- Sacrifice paddocks should be reseeded at the correct time in spring. Try to nip off the tops earlier e.g. once they do not pull and before a full grazing is available to promote growth. You can get an extra 1 tonne DM/ha by taking the top off early.

Concentrates

- PKE is an alternative feed source
 - 17% protein
 - Contains fat
 - Cows will self regulate their intake because it is so dry so can be safely fed in the paddock

Animal Health

- There is a high demand on cows at present because many are in the final stages of pregnancy
- It is important to transition cows back onto crops once the snow has thawed
- Feed quality is paramount, do not feed mouldy hay/baleage to pregnant or lactating stock and if you have to feed, make sure the animals have the opportunity to pick through it
- You cannot predict metabolic disorders at this stage, more will be known in the next 3-4 weeks. However, it is important that cows within 3-4 weeks of calving are receiving adequate magnesium supplementation
- Be cautious of bloat when starting back on kale, feed fibre source first
- Provide animals with good shelter if there is cold, driving rain as this weather will strip condition off the cows
- There should be few mastitis problems unless cows nearing calving are dripping milk.
- Teat spraying pre-calving can be used to kill environmental pathogens on the udder and teats
- Remove any cows that abort from the main mob just in case it is contagious and do not try and pull retained afterbirth from them
- Magnesium supplementation is going to be important especially if intake is restricted and cows are within a month of calving. Mg supplementation is an insurance so could be included earlier. Recommended rates:
 - 50-70 g Magnesium oxide on silage/dusted on crop or pasture/applied as a slurry to the cut end of baleage or hay bales

- 50 g Magnesium chloride/sulphate through water