

## **WINTER GRAZING POLICY**

### **OBJECTIVE**

To ensure the whole herd is effectively fed over the winter period to meet calving body condition score (BCS) targets of 5.0 for mature cows and 5.5 for second calvers and heifers.

### **PRE-WINTER PREPARATION**

#### **R2yr Incalf Heifers.**

These are grown to industry targets and will be at calving CS of 5.5 at the start of winter when they return to the dairy herds.

#### **Milking Herds**

Drying cows off at the right condition pre winter is crucial to achieving BCS targets by planned start of calving (PSC). The majority of the herd needs to be at BCS of 4.5 or better with the second calvers getting close to 5.0 CS so they can make their target of 5.5

Cows that are dried off at 4 or less are likely to calve down light resulting in more health issues, lower production, and reproductive performance. A cow calving at 4 rather than 5 will produce on average 10-15 kg MS less.

To meet a pre-winter target of 4.5 or greater, light cows and R3yr olds need to be identified early and allowed time to put required weight on while on the dairy farm. For example, an early calving mature cow with a condition score of 3.5 will need to be dried off early April along with any R3yr old cows who are under 4.0. R3yr animals are often at the bottom of the herd pecking order and can miss out on their share of the winter feed. Follow the directions laid out in the Autumn Management Plan.

To help with identifying cows early it is useful to mark cows into calving groups and all R3yr olds during early April. This will allow the farm to utilise days in milk with late calving light cows as well as ensuring early lights are dried off early. The following colours can be painted onto the cows backs and refreshed monthly.

**Green** - Day 0 to 14 (0-2 weeks)

**Orange** - Day 15 to 28 (2-4 weeks)

**Blue** - Day 28+ (4+ weeks)

**In addition mark** – all R3yr olds **RED**

Having cows clearly marked into their calving group will allow re-mobbing up into calving groups in early July.

## MOBS

The size of a mob is not to exceed 300 cows to ensure that competition is reduced for less dominant cows. For example, a farm with 1000 cows will need to run a minimum of 4 mobs over the winter period.

There are 2 distinct periods that will require cows to be mobbed up. The first being between the start of June and early July is the critical condition gain period

The second period, early/mid-July onwards, will be preparing for calving and mobbing cows up on expected calving dates. Having cows marked up prior to dry off into calving groups will make this process much easier. Additionally, having late cows marked up will allow farms the benefit of leaving those cows at a runoff if surplus feed is available.

The make-up of mobs during this period is governed by condition and age. Younger and light cows need to be separated from older and better conditioned cows which will likely be more dominant. Having these cows separated into specific mobs will allow operators to target feeding to meet condition goals. Light cows will need to be offered higher total energy diets. Meanwhile lower energy diets can be offered to cows that do not require significant weight gain.

The following example is for Kale

Farm - 750 Cows Wintered	Condition at 1st June	Feed offered (Kale)	Energy supplied	Surplus energy for condition gain	Condition gain per month	Condition at 30th June
<b>Target Feeding</b>						
Mob 1 - 120 2nd calvers	4.9	12 kg green + 2 kg straw	150 MJME/day	48	0.6	5.5
Mob 2 - 300 Well conditioned cows	4.9	10 kg green + 2 kg straw	116 MJME/day	3	0.1	5.0
Mob 3 - 250 Lighter conditioned cows	4.1	14 kg green + 1 kg straw	174 MJME/day	52	0.7	4.8

\* Energy supplied by kale and straw assumed at 11.5 and 6 MJME/kg DM

\* Utilisation at 85%

### For Beet comparable allocations to match this would be;

Mob 1; 2<sup>nd</sup> calvers at 4.9 need 9 kgs DM of Beet plus 2kg straw

Mob 2; Well-conditioned mature cows at 4.9 need 6 kgs DM Beet plus 3 kg straw

Mob 3; Light cows at 4.1 need 12 kgs DM Beet plus 1 kg straw.

At low allocations of Beet or Swedes – cows do not feel full and need careful management to prevent breakouts which if occur can result in cows gorging and as a result dying of acidosis.

**Swede allocations** would be similar to Kale because of the colder wetter environments in which we use Swedes



## Winter Crop Allocation.

Crop paddocks on wintering blocks are allocated based on the expected yield in the paddock on 1 June.

Every effort is made to assign dairy herds to their closest wintering block. Where available each dairy farm will be allocated both Kale (for fat cows) and Beet (for thin cows)

To allow the planning time required, all crops (grass for transition, Kale, Swedes and Beet) are formally assessed in early May. A sample of paddocks are assessed by independent accredited assessors. All other paddocks are ranked against these sample paddocks.

The 1st June yield of the crops will differ from the test taken in early May. This is because of the continuing growth of the crops including an increase in Dry Matter %. This will mean that while most crops are close to their expected yield some will be more and other less. Very careful management is needed where there is either more than expected or less than expected.

Higher yielding the crops – particularly beet – are very difficult to assess because they can be very variable across the paddock. Under certain winter conditions most of the green top can quickly disappear.

Using animal grazing time to assess crop yield is a recognised tool for crops like grass or Kale, but is very inaccurate for a crop like beet. Animals who have previously eaten beet will consume their allocation of beet in a very short time compared with cows who are new to this crop – even after both groups are fully transitioned.

Once paddocks are assigned to dairy farms those paddocks must be allocated to last the whole winter period.

If the yield is lower than expected, and your supervisor agrees action is required, the most important step is to keep the area of crop allocated each day so that the crop lasts for the whole winter. Using extra supplement to resolve any crop deficit issues. This will most likely either be silage (if available) or purchased straw.

Weekly drafting out cows as they approach target calving condition score and putting them into a “fat” mob getting less, will save feed and make sure that the crops last much longer. This should be started about mid-June.

Some cows do not transition to eating crop. These need to be identified early and put back onto grass or they will remain thin. This is an essential practice for a successful wintering.

Under no circumstances should cows be returning to the dairy units early.

## WASTAGE AND ENERGY REQUIREMENTS

For cows to put on weight they will need to waste a proportion of feed. Therefore lighter cows will need to have lower utilisation rates to ensure they are getting enough feed down the throat to put on weight (e.g. utilisation of 80-85%). Better condition cows can be worked harder and utilise more crop (e.g., utilisation of 85-90%).

The DHL wintering plan is based on cows requiring to put on an average of 1/3<sup>rd</sup> of a Condition Score to achieve target calving condition score.

One month prior to calving intake is restricted by the foetus so most weight gain must be targeted prior to this period especially for cows on grass or Kale. Therefore June is the main period over winter that cows have the opportunity to gain condition.



It is a useful strategy to use better conditioned cows (those at or near target) to clean up after light mobs. This could be a different mob or the same cows later in the winter when they have achieved the target weight gain.

### Transitioning cows to crops.

Some key transition issues;

- 1) Kale of Rape – green fibre energy sources like grass but not the same
  - High nitrate levels can occur (get test done) and if present are not a problem if the cows are slowly transitioned to this situation or have access to other feed before they eat the crop.
  - Bloat – again this is an issue solved both by treatment with bloat drench and slow transition.
- 2) Swedes and Beet – rapidly fermentable sugar / starch feed.
  - These require a slow transition to allow a different group of microbes in the rumen to develop as well as changes to the rumen and intestine wall to cope with the different acids that are produced.
  - Cows who have eaten these crops before will eat into the bulbs more aggressively even early in transition than cows who have never eaten this feed. Be especially careful of this when the herd is a mix of the two groups of animals because at even low allocations experienced cows can gorge and get acidosis.
  - During transition use of time and locking cows away from the crop can be essential strategies.
  - Beet is such a high yielding crop that correct area measurement is critical.
  - Always have the feed face along the rows of beet.
  - Allocate at least 1 m of feed face / cow in the mob.
  - Feed out any other feed an hour or two before then are put onto the crop.
  - Start at a total allocation on 10 kgs DM and steadily replace other feeds with the crop.
  - Recommended Transition schedule for cows

Day	Allocation Kg DM	Time	Comments
1	1 to 2	20 min	Opening the break is not easy so a larger break and strictly using time is essential.
2	2	20 min	
3	3	30 min	
4	3		Do not increase the allocation if bulbs are being left behind. Look out for cows avoiding bulbs.
5	4	40 min	
6	4		This next week is called the “death Zone” because the team is getting sick of the time requirement to do this transition and cows look like they are all into the crop and look well. It is also the time when cows are really starting to get a taste for the bulbs. <b>Do not allocate any faster than this schedule.</b> <b>Some cows are only just starting to eat bulbs</b> <b>Highest risk of breakout</b>
7	5		
8	5		
9	6		
10	6		
11	7		
12	7		
13	8		
14	8		
15	8.5		
16	8.5		The other feeds in the diet are now at a minimum. Cow grazing behaviour now has to change from gorge to small often feeds to be safe. Excellent weight gain in occurring.
17	9.0		
18	9.0		
19	9.5		

20	9.5		Recommendation is to increase allocation at a slower rate.
21	10		Very high weight gain.
22	10		
23	10.5		
24	10.5		
25	11		Safe zone. Bulbs always left behind. Cows graze quietly all day.
26	12		

- Other notes
  - If the bulbs are lower than normal % DM they will be much easier for the cows to eat even though the total energy is about the same.
  - Crops can be very variable across the paddock
  - Beet grows well all winter (unless it loses its leaves) – between 20 and 50 kgs DM /day to can be putting on a ton or more every month.
  - Bulb dry matter increases during the winter.
  - Allocate on an area basis to make the crop last the winter.

### Mineral supplementation on Beet

Beet is high in Calcium and low in Phosphorus the opposite of almost all other feeds. Because Calcium is usually low in feeds, the cow's body systems are designed to suck up Calcium and in doing this they also usually get enough other minerals like Phosphorus or Magnesium. When they are eating beet there is plenty of Calcium and so the cow does not need to take much of it up and in doing so it does not get enough Phosphorus.

Cows need good reserves of Phosphorus (and Calcium) at calving and this comes from the bones. Because Phosphorus is not absorbed well we need to supplement 5 gm of Phosphorus to cows on beet for most of the winter as either DCP or MCP. Once the cows are on grass there is enough phosphorus in their diet to meet their needs.

This requires either 50 gms of DCP / cow / day or 30 gms of MCP / cow /day.

The recommended method of giving this is to make a thin slurry of the powder, which is then spread over the straw or baleage that is fed out to the cows before they go into the crop.

All cows need to get this so it is important that the straw/ baleage is well spread out so all the cows can get at the same time. Bale feeders are good for minimizing waste but they stop all cows getting the required daily dose of phosphorus.

Once cows are in the springers mob dust with both DCP/MCP and Mag Oxide (MgO) at the usual rates.

Once calved and on grass cows that have been properly supplemented with phosphorus during the winter will not require additional supplementation of phosphorus.

### Treatment of down cows on Beet or Swedes

#### Swedes

- As long as they are sitting up drench with a mix of 250 kgs of Mag Oxide and 250 gms of Baking Soda to help buffer the acids in the rumen.
- Put on bag of GluCalMag slowly into the vein and another under the skin.
- Shelter the cow and make sure they have easy access to water.
- Repeat in 6 hours if required and seek vet advice.
- Once up either put them onto grass or slowly introduce them to the crop again.

## **Beet**

- As long as they are sitting up drench with a mix of 250 kgs of Mag Oxide and 250 gms of Baking Soda to help buffer the acids in the rumen.
- Put on bag of GluCalPhos (brown bag) slowly into the vein and another under the skin.
- Shelter the cow and make sure they have easy access to water.
- Repeat in 6 hours if required and seek vet advice.
- Once up either put them onto grass or slowly introduce them to the crop again.

## **The problem of overly fat cows of cows.**

Mature cows over 5.0 BCS and R2yr and R3yr cows over 5.5 BCS are fat cows.

Once they get fatter than this they get more and more at risk of;

- Ketosis
- Reduced reproductive performance

Overly fat cows rapidly mobilise this fat after calving, this lead to loss of appetite and ketosis.

These cows can easily lose 1 to 2 BCS and still look well-conditioned because they are still over BCS 4.0.

These cows often will cycle as normal but their uterus is inflamed (not infected) and conception rates are much lower.

The only solution is to actively draft out cows as they reach their calving BCS target and putting them onto a lower energy (maintenance) diet. This could be less beet or it could be a change to Kale or grass.

## **The problem of not properly transitioning off high energy intake crops.**

When cows are on these diets their metabolism is all about depositing fat and minerals.

This means that;

- They are not set up to cope with calving
- They have a poorer reproductive result.

To set a cow up for calving we need to get a cow's metabolism to shift from depositing fat and minerals to mobilising fat and minerals.

To do this cows need to be;

On a restricted diet of about 90 ME for ideally two weeks prior to calving.

We also supplement the cows with CausMag to trick the cow into mobilising Calcium from the bone to meet their needs so greatly reducing the incidence of Milk fever.

Recent research has also shown that cows on a high energy intake to calving end up with an inflamed uterus (not infected) which results in reduced conception rates.

This makes it very important to reduce cow energy intakes leading up to calving even if this means leaving winter crop uneaten.

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