

Beet Can't be Beaten!

(Diarmuid Lynch)

Christine and I, along with our three children farm in Minane Bridge which is in South Co. Cork. We milk over 300 cows in high milk solids/ha, low labour and a low cost spring calving system.

We originally operated a winter milk system but changed over in 1996 as our major goal was to have an easier and more profitable farming system.

We wrote the following missions statement over 15 years ago which tied into the changes we were making:

Granig Farm Mission Statement

“To have a highly profitable, labour efficient, grass-based, compact spring calving herd, with a strong emphasis on fun and job satisfaction with a zero tolerance of stress.”

We changed to spring calving and in due course turned our focus to the whole wintering side of our business which was still highly labour intensive and incurring high costs of production.

On reviewing and trying difference types of out-wintering systems and with our high stocking rate in mind (3.6 on the grazing platform), we felt that fodder beet was an option that would really suit us, our herd, our farm, and our pocket!

We began out-wintering 11 years ago on beet, and over the years we have learnt many lessons about growing beet and out-wintering 300 cows successfully on it year-after-year.

We now grow 22 hectares to fully out-winter all cows, with in-calf heifers and yearlings getting beet as some part of their diet during the winter and we include beet in the milking cows diet daily from the end of September every year.

In our experience, the feeding of fodder beet is the cheapest and most successful out wintering system there is for our farm.

Growing Fodder Beet

Beet is our primary winter feed so we put a lot of care and attention into the growing of the crop because if anything goes wrong it is like having empty silage pit.

Beet is grown for two years in any given field.

The field is sprayed off with Round-Up on approximately 1st April (NZ 1 Oct) , then ploughed down and a fine seed bed prepared.

375kg of beet compound and 150kg of bagged lime/acre are put out, always before the last harrowing. Beet thrives best with high lime content as this inhibits root rot fungus.

The crop is set between 12th and 22nd April (12th to 22nd Oct in NZ) depending on the weather.

Cold conditions are not ideal for the germination of beet so we prefer to wait until conditions are suitable as opposed to sowing by the calendar. We have found no difference in yield between crops sown in the first three weeks of April but after 25th April yield will be adversely affected.

When sowing make sure it is set flat with no ridges. This helps if you get hit with dry weather as it retains moisture better. It also makes it more comfortable when travelling on it with a tractor during the winter and when you are grazing it

Choose higher but not the highest dry matter varieties of beet see, for example see use Jamon, Blaze, and Bolero. Stay away from low dry matter varieties.

It is vital that Draza is put out at sowing and rolled after sowing to conserve moisture.

Beet shoots should emerge two weeks later (3rd May) with four leaf stage within ten days later again (14th May).

Once you get to the four leaf stage the plant is established (barring drought) and from here on it is down to weed control along with fertiliser application.

This year we sprayed for weeds on 21st May and 5th June (normally ten days apart).

Weeds are the enemy so timing is vital.

If done properly, two sprays will control all weeds and ensure a healthy clean crop. If it is not done correctly, it will mean three sprays will be required but certain weeds will not be controlled by this third spray as they will have become too strong.

To achieve high yields a lot of nitrogen fertiliser is required. We spread 100 units of nitrogen per acre in two splits (29th May and 21st June). (Urea if conditions are favourable/otherwise Can is used.)

In early-mid June, an examination of the crop will reveal if it requires more lime.

My own personal benchmark is that the rows of beet join together with leaves touching by the longest day of the year.

In early August (no later than 12th August) it is **imperative** that the beet is sprayed with Punch and an Aphicide. This spray will keep the leaves green and strong during the winter regardless of ice and snow thus protecting your crop of beet.

Yields

We measure our beet regularly from 1st September onwards (every two weeks).

We measure beet two ways:

- Management measurement – Pull a square metre, weigh the complete beet (including leaves which account for up to 40% of the total weight), get total yield per hectare. Dry matter of beet is approximately 12%.
- Cow measurement – Cows soon tell us if we have under or over fed them. Observe and react accordingly.

We have consistently achieved yields of 30 to 35 tonne of dry matter per hectare and our highest yield to date was 41 tonne of dry matter per hectare (2010). We have seen some individual beet weighing over 13kg.

Cost to Grow

In 2010 it cost us €1074 per hectare to grow. (This does not include a land charge.)

Cost per kilogram of dry matter to grow in 2010:

- 30 tonne – 3.58 cents per kilogram of dry matter
- 35 tonnes – 3.6 cents per kilogram of dry matter
- 41 tonnes – 2.62 cents per kilogram of dry matter

As you can see for these figures it is an incredibly cheap feed once grown properly with the best yields achieved.

How We Feed It

At our stocking rate of 3.6 cows per hectare on the grazing platform, our biggest challenge for feed comes sty the back end of the year when our demand remains high and also in the event of drought.

To achieve the cows milking up to Christmas week with no silage in the diet ad lo meal inputs, we introduce fodder beet to the milkers in a measured balanced way around the end of September.

By the first week of October the cows are getting beet every day and they get grass every night up until 22nd December when we shut down.

This system has worked extremely well for the last five years. The cows milk very well with excellent constituents (November averaged 6.12% fat and 4.88% protein giving a milk price of 49.2 cents net, with December averaging 6.18 fat and 5.01 protein.) And most importantly we have no problem hitting the correct condition scores at drying-off.

MANAGEMENT OF FEEDING DIFFERENT GROUPS OF ANIMALS

Milking Cows

It is imperative to avoid stomach upsets in the milkers so it must be introduced to their diet in phases as follows:

- Allocate 9kg of beet by day only
- Introduce it on day one after morning milking after they have had excess grass the night before so they are not hungry and wont gorge.
- Leave them on beet until the evening milking.
- No beet again until four days later.
- Then three days later.
- Then two days later. ▪ Then daily.

Dry Cows

Our dry cows are out wintered continuously, in the past 11 years we have never needed to take them off during the winter because of adverse weather conditions.

They get allocated up to 11kg of beet daily and ad lib hay.

They come off beet ten day pre-calving when they are brought home to the calving pads. The time our cows are on the calving pads is the only time that they get silage in their diet so we cut very little silage as our requirement is low.

In-Calf Heifer and Yearlings

We feed these animals beet by day only, which they get twice a week maximum during the winter. The reason for this is to get them used to beet as milkers and also it is a cheaper and better winter feed.

In all groups we have the feed face as long as possible with the wire being moved daily. We always have a second safety wire in place in case the cows break through to the next days section. Aside from the waste of beet, this poses a serious health threat to the cows as over consumption is extremely hazardous.

We never back fence the cows as we believe that they should choose where they lie down.

All groups out wintered need roughage and fibre as beet is low in roughage.

We have found hay is by far the best source of fibre to feed, with silage a poor second choice and straw a non-runner. Hay is placed once a week on top of the beet to be grazed it is fed under the wire and we don't recommend round feeders at all.

Watching the quality of the cow pats will tell you if the cows are short of fibre or not.

Always remember good management and feeding practices are essential as **BEET CAN KILL.**

Group Sizes

Group sizes are important and we have found those groups of 75 cows or less works best.

This year we have the milkers in four groups of 72 each:

- Two groups of cows are on target condition score.
- One group that need a small increase in condition score.
- One group that contain the younger, thinner and oldest cows. This bunch gets well fed at all times.

The easiest way to manage these groups is to graze the same field with two separate bunches of stock. Start the field from both ends with them moving to meet each other in the centre. This reduces the amount of time taken to feed the two bunches. Always remember your safety fence!

The average time to look after four groups of animals (290 animals) during winter is 45 minutes per day at the maximum.

Our out wintering costs last year, including labour, were **65 cents per cow per day.**

This is approximately €2 per cow per day saving when compared to a more conventional system.

100 cows over 70 days = saving of €14,000 per year **every year!**

Summary

Why fodder beet works for us:

- Very low costs out wintering system
- Natural environment for animals which results in fit healthy cos
- High quality feed
- Low labour
- Ease of management when proper guidelines are followed
- Highly profitable
- Happy cos and happy farmer