

MONITOR FARM – CASE STUDIES

Title

Move Towards Fodder Beet at Cluny

The Challenge

Cluny is a 1,140 acre (462 ha) upland tenant farming unit in Morayshire, a few miles east of Forres. The whole business is aimed towards red meat production, with a 170 strong cross-bred cow herd and 700 mule ewe flock, all stock are sold finished from the farm. The cereals grown on-farm are fed to the finishing cattle and lambs, while the stubbles provide the winter ground cover for the suckler herd. Forage crops are grown to provide winter forage for the suckler cow herd.

Due to the lack of shed space available at Cluny all spring-calving cows are outwintered on cereal stubbles and forage crops, with supplementary forage (mainly straw and some silage). The forage crops play an important role in providing most of the winter feed for the suckler cows, therefore achieving a successful crop is vital.

Over the years, there have been increasing difficulties growing swedes/turnips at Cluny as the plant protection products available to use dwindled, leaving the swede and turnip crops more open to weed and pest problems which were having a negative effect to the overall yields achieved.

What we did on farm

During the Monitor Farm project (2010 – 2013) and beyond, Robbie has previously relied on swedes for winter forage for his outwintered suckler herd. After several failed or poorer crops of swedes, he has been known to plough them down and sow stubble turnips instead to attempt to get enough yield to see the herd through winter, although this has increased costs. The lack of options for weed control and increased pressure from pests when growing swedes after chemicals and seed treatments were removed for use on swedes/turnips, led Robbie to try fodder beet instead.

Robbie began to trial growing fodder beet for the first time in 2019 to determine how it would fit with the farming system at Cluny. Now, in 2021, all of the winter forage crop area has been sown as fodder beet and it will be the first year the farm has not grown swedes/turnips for either the cattle or sheep enterprises.

The Results

Growing fodder beet at Cluny has, however, not gone without a hitch. Within the first year (2019) of growing fodder beet at Cluny the ground preparations created an ideal seedbed and the weather had been dry before and after sowing. The crop was heavy rolled and then the rain fell and when the ground dried out again the surface was capped, which limited the root growth on the fodder beet root bulbs. In the following years the fodder beet crop has not been rolled after sowing, and establishment and crop growth has been quick.

The costs of growing the fodder beet crop are much greater than growing swedes, at about £300-350 per acre for establishment, seed, fertiliser and herbicides, which would be double that of the traditional forage crops. However, the yields achieved outweigh the initial cost and the ability to have an array of options to control weed and pests within the crop reduces the risks of a failed crop.

Fodder beet yields have been good at Cluny, as the crop is eaten directly from the ground it is difficult to get a true yield measurement, but the crop has survived through harsh winter conditions and provided the suckler cows with ample forage throughout the winter period. The 2021 crops of fodder beet are currently looking promising again.

Getting the cattle onto fodder beet at the beginning of the winter must be done carefully and gradually over at least a three-week period. At Cluny the cows have access to silage in ring feeders while being introduced onto the fodder beet. Once all cows are onto the fodder beet the silage is then swapped out for straw and the electric fence is moved daily to provide enough root and leaf balance for the cows.

Keys to the success in growing fodder beet at Cluny (so far, it is still a learning process):

- Variety choice – the coloured varieties tend to have a lower dry matter content and are softer for livestock to eat. These also grow more upright out of the soil rather than most of the root being underground, allowing the cattle/sheep to utilise more of the crop.
- Seed treatment – The seed treatments available on the fodder beet currently help deter flea beetle and slugs to date. Once established the plants generally grow fast and to date have had little setbacks from pests.
- Suitable seed bed preparation to allow good seed contact with the soil (those seeds are expensive, compared to traditional forage crop seed). The crop tends to do best on the fields which have free draining soil.
- Sodium applications – to date sodium has not been applied to the crops at Cluny. However, this will be considered in future years.
- Fertiliser – in 2021 the fertiliser applications were split and applied in the seedbed and then top-dressed with nitrogen. So far this seems to be benefiting the amount of green leaf on the plants, compared to previous years where no top dress was applied at Cluny and only seedbed fertiliser applied.
- Effective weed control – there are several weed control options available for fodder beet that help achieve a higher yielding crop. The light soil at Cluny tends to have a lot of weed growth on bare ground and when the chemical armoury depleted for swedes/turnips, this heavily impacted on yields. The fodder beet received a pre emergence and post emergence herbicide to keep on top of the weeds while the crop became well enough established to out-complete.
- Gradual transition to feeding fodder beet. There needs to be commitment to ensuring electric fencing is suitable to holding cattle/sheep back from breaking into the whole crop. Allowing livestock unlimited access to the crop can quickly lead to acidosis and related complications. Once the cows are accustomed to the fodder beet ration after the transition period moving forward the winter feeding regime is fairly straightforward.

What has changed on farm?

Interest in fodder beet is growing due to the crop offering a protein and energy rich feed source for livestock farmers, while also having a range of options for controlling weeds and pests in the crop, unlike some of the more traditional forage crops.

The move to using fodder beet at Cluny has been a success to date and will now become part of the regular farm rotation on an annual basis. Robbie has stated that he has not completely moved away from swedes/turnips, but for 2021 the way crop rotations and plans landed on the farm the whole

forage crop area was sown in fodder beet. This will be the first year that finishing lambs will graze the fodder beet at Cluny, so their performance is likely to determine how much ground, if any, will be sown to swedes again in the future at Cluny.

For convenience, for anyone interested in growing fodder beet, please see the weblinks for some useful information:

<https://www.fas.scot/publication/technical-note-tn733-forage-crops-for-livestock/>

<https://www.fas.scot/livestock/beef-cattle/beef-nutrition/fodder-beet/>

Facilitator contact details

Samantha Stewart Samantha.stewart@sac.o.uk

Laura Henderson laura.henderson@sac.co.uk

SAC Consulting, 15 Hay Street, Elgin, IV30 1NQ

01343 548787