

GRASSLAND DEVELOPMENT CENTRE CANOLFAN DATBLYGU TIR GLAS

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SWARD SURFACE RENOVATION

Renovating swards by methods such as oversowing or stitching in seed is attractive as a lower cost method of pasture improvement. Results can be disappointing and this factsheet deals with the 'Whys' the 'Hows' of renovation as a guide best application of these methods.

WHY RENOVATE?

- Where you have:
 - A need to keep grass in production
 - Open swards - to prevent weed ingress and increase tiller density
 - Sward damage - eg on poached swards
 - Land conditions that prevent ploughing or other cultivation
- Where you want to:
 - Introduce clover or increase clover content
 - Introduce new varieties to gain benefits of extra yield or early season growth

Advantages over ploughing /cultivation

Faster and cheaper
Doesn't take land out of production for as long
Can operate on thin soils and steep land
Won't stir up trouble – stones, dock seeds
Soils are not at risk of erosion

Disadvantages over ploughing

Less reliable establishment rates
Existing grasses will compete with seedlings
Limited weed control
Won't remedy soil compaction

WHEN TO RENOVATE

Before considering renovation it is important to identify the reasons why the sward deteriorated. If any underlying problems are not corrected then establishment and persistency of any new grass will be restricted.

- What condition is the soil in?
Check pH, P and K indexes, soil compaction and drainage. Surface renovation is not appropriate where soil compaction or drainage is the problem.
- Can better grazing or cutting management improve the sward?
- Do you need to adjust nitrogen applications to encourage clover growth?
- Is it the amount of weeds that are lowering production?

Control weeds before considering renovation. Seeding should be delayed following selective herbicide treatment in line with manufacturer's recommendations.

SEED RATES AND VARIETIES

Use:

Ryegrass/clover mixes at 8-10kg/acre

White clover at 1.5-2kg/acre

Hybrid ryegrasses and tetraploid perennial ryegrasses have bigger seeds and will tend to germinate faster and be more aggressive than diploid varieties.

Using harrows and rakes as a sward conditioner without introducing seed is an excellent way of managing your swards. Removing weed grasses and moss from the base of the sward will encourage ryegrass to tiller. Avoid excessive harrowing where there is a need to encourage clover as it can damage weak clover stolons.

GUIDELINES FOR OVERSOWING

1. Graze area hard - until sward height is down to 3 – 4 cm.
2. Harrow or rake area in two directions until the sward is open and most of the weed grasses and trash in the bottom of the sward have been removed (normally between 2 and 6 passes).
3. Modern grass harrows produce excellent results, although suitable conditions can be created using traditional spiked harrows. The aim is to achieve at least 25% bare soil surface for good soil-seed contact.
4. Spread seed immediately after harrowing or on the last pass if using a machine with a seed box.
5. If using a fertiliser spinner it is wise to bulk up seed with P and K fertiliser or sand.
6. If broadcasting clover it is vital to mix the seed in the hopper frequently, as it will settle to the bottom very quickly.
7. Apply P and K if needed but **NO** nitrogen.
8. Mob stock to trample in seed or roll with flat rollers.

MANAGEMENT AFTER SOWING

1. Continue to graze quite hard until the seedlings emerge (normally 7-10 days)
2. Remove the stock and rest the area for 4-5 weeks.
3. Graze hard (mob stock) to a sward height of 3-4 cm and rest again.

Repeat this process for the rest of the season until grass growth finishes. It is a balancing act between not overgrazing and removing seedlings and not allowing the existing sward to smother the new seedlings

SLOT SEEDING

Another popular method of sward renovation is slot seeding or 'stitching in'. A range of direct drills is available which have slightly different methods of introducing seed to the soil. Some cut a simple slot into which the seeds are dropped, others create a wider slot cutting away a section of turf and some (Strip Seeders) rotavate a narrow strip of ground in front of each drill coulter.

Ground preparation, fertiliser requirements and post sowing management are the same as for oversowing.

The advantage of direct drills is that they ensure a good contact between soil and seed, producing higher germination rates than oversowing techniques. The Strip Seeders are particularly well suited for use on very dense swards that are difficult to open up with harrows.

Problems can arise from drills placing seed too deep and from sheep selectively grazing out lines of new seedlings. Costs of using a slot seeder are normally greater than for oversowing. Slug pellets are usually needed with these techniques and can be applied with the seed.

TIMING OF OPERATIONS

Spring – there is plenty of moisture in the soil and a long growing season ahead. This will not be an ideal time if there is high pressure on early season grazing. Low soil temperatures can mean slow establishment and it then can be difficult to keep on top of competing grass during peak growing times

After silage – swards are open and require less harrowing to create the right conditions. The risk of prolonged dry conditions is less after later cuts (July/August). This is often the best timing. Clover seed needs to be sown

Use renovation techniques strategically to correct swards before you lose production:

- 1) If weather conditions force a long, late silage cut – introduce some seed as tiller densities will be low and aftermath recovery will be slow.
- 2) If a wet spring has meant stock damaging ground – renovate as soon as possible, rather than allowing weeds and weed grasses to move in and fill the gaps.

FURTHER INFORMATION

Web: <http://www.grassdevcentre.co.uk>