



pasture renovation



by **slot seeding**

Pasture Renovation by Slot Seeding

Introduction

It is not always possible, or desirable, to carry out a full re-seed operation. Sometimes rocks will be near the surface or the top soil may be very thin, making deep cultivation impossible. Or maybe stocking pressures are such that the land cannot be taken out of production for long enough to establish a new ley.

Whatever the reason, a rapidly increasing number of farmers are finding that the solution for their unproductive pastures lies with the techniques of pasture renovation and slot seeding in particular.

Along with the popularity of slot seeding there has been a parallel growth in "know how" and technology to perfect it. Seeds with higher vigour, seed treatments that improve establishment and specialist drills have all contributed to the success of slot seeding.

Why renovate pastures?

All of us can readily recognise a field that is full of docks or other obvious broad-leaved weeds, but the weeds that do the most damage to your profitability are far less obvious. These are the weed grasses that invade pastures and gradually replace the sown species.

This can lead to a massive reduction in yield even over a relatively short period of time; more than 5 tonnes after the first year and as much as 8 tonnes in 5 years!

This is not the worst of it. If you are applying expensive nitrogen fertiliser to your swards you could be wasting your money. Compared to Ryegrass, Yorkshire Fog will only give you a 40% yield response to nitrogen, Creeping Bent about 37% and

Rough-stalked Meadowgrass a mere 20% (yield response to an increase from 50 to 150 units of N).

And that's not all. Even if your livestock eat the weed grasses, and the chances are that they will not as they are pretty unpalatable, their digestibility is so low that very little will be converted to milk or meat.

So are your grass swards in need of renovation? If you are achieving yields of 22 tonnes (total yield) per acre don't bother - you're doing fine. If you're getting 16 tonnes then that is about average and slot seeding would certainly reap benefits. If you are only getting 10 tonnes we hope you have better fields elsewhere or the chances are you are bankrupt!

Assessing your pastures

Unfortunately not all worn out pastures are suitable for renovation. Our technical staff have inspected pastures that were full of matted prostrate creeping bent that would present great resistance to herbicides, and even if one could break through the mat to place the seed in soil it would have great difficulty competing in such adverse conditions. For this type of situation the plough is the best solution.

However, most worn out pastures can be renovated, and the means of repair can vary depending on the condition of the pasture. For example a pasture that has become thin and open, with not too many weed grasses, could be renovated simply by "roughing" up the surface with a set of harrows, spinning the seed on with a fertiliser spreader and then rolling. The majority of pastures are not that easy to deal with and require more specialised equipment to achieve successful establishment.

If you are not confident that you can assess the level of weed grasses or determine

whether your field is suitable for renovation your local Sinclair McGill seed specialist will be happy to walk your fields for you.

Preparation

Although it is often regarded as a shortcut the same good husbandry applies to slot seeding as it does to a full reseed. Always check the pH status and if necessary apply lime to achieve a pH of 6 - 6.5.

Soil fertility should also be considered and ideally attended to well prior to pasture renovation. We don't generally recommend applying fertiliser at the time of seeding as this usually results in stimulating the existing sward to grow and out-compete the new seedlings.

Pay close attention to pest control; leather-jackets and fritfly can often build up in old pastures. Slugs will often attack new seedlings so you may consider incorporating slug pellets with the seed.

Before slot seeding the existing grass should be mown or grazed tightly and trash in the seedbed minimised. If slot seeding is an alternative to a full reseed the existing sward can be sprayed off. Alternatively a low rate of roundup can be applied to "check" the existing sward.

Timing of the operation is important. Early spring before the grass is growing too strongly, but not too early, after 2nd cut silage or late summer, when soil temperatures are still high are good times. Avoid drought periods and always try and seed before a good rain. Mid-summer reseeds usually work well if sufficient moisture is available.

Seeds and Seed Mixtures

Compared to a full reseed where the only competition comes from other seedlings the slot seeding environment is a pretty hostile one. Rapidity of establishment and early vigour are the keys to success.

We strongly recommend that a normal seed rate of about 13 kilos per acre is used - don't

short cut the short cut!

If normal ley mixtures are selected and this could be correct if the technique is being used for a full reseed, then you should always specify an establishment aiding seed treatment such as **HEADSTART®** or **Integral®**. The seed should have had a recent germination test (within six months) and contain a high proportion of the larger seeded and more vigorous tetraploid ryegrasses.

Sinclair McGill offer a range of mixtures especially designed for pasture renovation and treated with both **HEADSTART®** and **Integral®** as detailed below: -

PASTURE RENOVATION MIXTURES

Pasture Drill Short Term

| | | |
|---------------|------------------------|----------|
| 18.75% | Italian Ryegrass (Dip) | Davinci |
| 31.25% | Italian Ryegrass (Tet) | Salome |
| 25.00% | Hybrid Ryegrass (Tet) | Alliance |
| <u>25.00%</u> | Hybrid Ryegrass (Tet) | Hymer |
| 100% | | |

This mixture is designed to give your ley a massive boost in production for up to three years.

Pasture Drill Long Term

| | | |
|-----------|-------------------------------|----------|
| 25% | Int. Perennial Ryegrass (Tet) | Eurostar |
| 25% | Int. Perennial Ryegrass (Tet) | Niagra |
| 10% | Late Perennial Ryegrass (Tet) | Elgon |
| 25% | Late Perennial Ryegrass (Tet) | Twymax |
| 8% | Late Perennial Ryegrass (Tet) | Glencar |
| <u>7%</u> | White Clover Blend | Tweed |
| 100% | | |

Expect a dramatic increase in forage quality leading to higher intakes for your livestock as well as a boost to production. Tweed white clover blend contains top quality varieties giving both nutritional benefits and the benefit of "free" nitrogen.

Pasture Drill Long Term without Clover

| | | |
|------------|-------------------------------|---------|
| 25% | Int. Perennial Ryegrass (Tet) | Niagra |
| 25% | Int. Perennial Ryegrass (Tet) | Montova |
| 15% | Late Perennial Ryegrass (Tet) | Elgon |
| 25% | Late Perennial Ryegrass (Tet) | Twymax |
| <u>10%</u> | Late Perennial Ryegrass (Tet) | Glencar |
| 100% | | |

Quite often clover persists in old pastures longer than grass, so this mixture gives you a very economic alternative if your existing sward has retained the clover content.

White Clover Blends

White clover is very suitable for slot seeding and we offer a range of three scientifically formulated blends to suit every purpose.

Tweed - A very persistent long term blend suitable for all classes of livestock.

Cloverplus - Suits rotational systems such as cattle grazing and silage in the same field.

Cheviot - Contains mostly persistent varieties with extensive root systems and small leaves that thrive under close grazing by sheep.

Drills and Techniques

A wide range of equipment from many different manufacturers is available for pasture renovation. The simplest, and probably cheapest, options are based on grass rakes with a seed box. These are very good tools for conditioning pastures, removing chickweed, moss and trash but as a seed drill they have their limitations. Essentially success depends on the "rake" producing a sufficiently good tilth for the seeds to root in to.

In our opinion the most versatile and robust tools for pasture renovation are slot seeding drills. From a seedsman's point of view we prefer the Aitchison Seedmatic because unlike many others it incorporates a vibrating coulter that creates a tilth for the seed which is placed in the ground.

In most situations it is advisable to roll after seeding which not only ensures the seed is covered but also locks in the moisture.

Contact:

Limagrain UK Limited
Camp Road
Witham St Hughs
Lincoln
LN6 9TW
Tel: 01522 861300
Fax: 01522 869703
e-mail: sinclairmcgill@limagrain.co.uk
www.sinclairmcgill.com



Post Drilling Management

Ideally stock should be kept out of the field whilst the seedlings establish. This is especially important for sheep which are selective grazers and could graze out the rows of new grasses or clover before they are sufficiently well rooted.

Monitor the sward for pest attacks - it is not just your livestock that finds the new grass more palatable!



Seeds with higher vigour, seed treatments that improve establishment and specialist drills have all contributed to the success of slot seeding.



This photograph highlights the vigorous root system of a tetraploid ryegrass (left) compared with an ordinary diploid. This is part of the reason why tetraploid varieties feature strongly in our slot seeding mixtures.