



WATSON SEEDS



REJUVENATION



INTRODUCTION

A full re-seed is not always possible due to factors such as stocking pressures or thin top soil not permitting deep cultivation. For thin or badly poached pastures, pasture rejuvenation should be considered a viable alternative to a complete reseed.

Weeds are low yielding and unpalatable, with very low response to nitrogen. You cannot afford to tolerate more than 30% weed grasses in your swards. It is the weeds that invade the pastures and gradually replace the existing sown grass ley that cause the most damage to productivity and this can lead to a huge reduction in yield. Pasture rejuvenation should not be considered for old pastures infected with

creeping bent and other grass weeds as any new grass would struggle to compete.

Successful pasture rejuvenations occur when competition from existing sward is minimal, these conditions occur during early spring before the grass is growing too quickly or after second cut silage/early autumn when the soil temperature is still high.

First you need to assess the condition of the sward before deciding how to improve it. Your local Watson Seeds seed specialist will be happy to visit you and advise a course of action.



Aitchison drill in action at Duirinish, Lochalsh



PREPARATION

For successful pasture rejuvenation the existing grass sward should be removed or retarded, either by grazing hard after silage cut or by spraying with a suitable herbicide. Moisture is most important for rapid establishment of newly sown grass seed.

With increasing numbers of farmers choosing to rejuvenate a grass sward as opposed to a full reseed the techniques and equipment available to make this a success has greatly advanced in the last few years.

The application of slug pellets when drilling in rows can be very beneficial.

There is a range of equipment available for pasture renovation for example:
EINBOCH/OPTICO GRASS HARROWS: Work ok if adequate moisture in the soil or immediately after taking a crop of hay or silage.

MOORE UNI-DRILL/GUTTLE: Drills the seed into the soil and achieves good soil and seed contact. Closer row spacing than the Aitchison or Duncan drills.

AITCHISON/DUNCAN DRILL: Ideal for use when there is a risk of dry, cold conditions and competition from existing sward.

AGRISEEDER FROM ERTH ENGINEERING: Modified version of a Duncan drill. Can cope well with uneven ground.

VREDO: An effective slit seeder used by some contractors.

We are currently conducting a trial demonstrating the performance of a range of the above drills at our grass trial site in the Borders. We are monitoring in particular the clover population from a range of establishment techniques. Billy Rae's Moore Unidrill is pictured below, at the trial site, drilling CAST coated clover seed into a young sward of Mingary May 2012.





SEED MIXTURES

Varieties that establish rapidly and have early vigour are vital to successful pasture rejuvenation. Seed rate is dependent on the condition of the existing sward. We would recommend a seed rate of 8-12kgs/acre.

Our rejuvenation mixture includes a mix of intermediate and late heading tetraploid ryegrass varieties, ensuring good summer production. Tetraploids have a larger endosperm and are more vigorous than diploids at establishing. Top yielding varieties with excellent density and persistency. The hybrid content included in rejuvenation encourage quick establishment.

Rejuvenation mixtures are available with or without CAST clover blend.

Demonstration of the Duncan Drill with the SAC at Willowford Farm, Gisland, Nr Brampton, Cumbria. By kind permission of Liam & Lauren McNulty.



CASTLE REJUVENATION

Variety	Type	%
Hymer (T)	Hybrid Ryegrass	10.0
AstonBonus (T)	Intermediate Perennial Ryegrass	40.0
Calibra (T)		
AberPlentiful (T)	Late Perennial Ryegrass	50.0
Twymax (T)		

An economy version of the above is available as Saltire 12.

Short term mixtures based on hybrid/italian ryegrass can be formulated for your specific needs.



KEY POINTS

-  Subject to adequate temperature, moisture is the single most important element needed for germination.
-  Check soil fertility status, pH should be 6-6.5, this will certainly support better clover growth.
-  Discuss with your seed specialist an appropriate mixture for sowing
-  Depending on strategy adopted, mow, graze or spray existing sward to minimise trash in the seedbed and competition for new seed.
-  Pay close attention to pest control - slugs can often attack new grasses so slug pellets may need to be considered. Frit fly and leatherjacks often build up on old pastures.
-  Post drilling husbandry - rolling is usually advisable to ensure the seed is covered and to lock in moisture, other than when using a drill with an inverted-T slot system. Stock should be kept out of the field whilst the seedlings establish - especially sheep which are selective grazers.
-  Do not apply fertiliser 3-4 weeks pre-rejuvenation and only apply fertiliser post seeding once the new seedlings are visible and will compete with the existing sward when fertiliser is applied.
-  Do not try to rejuvenate silage swards at the beginning of the season. The young seedlings will be shaded out under a tall crop. Rejuvenation of any conservation grass is best carried out later in the season and grazed post sowing, when interplant competition is less severe from the existing mature plants.
-  Check for soil structure problems and compaction as this may have been a reason for the need for rejuvenation in the first place. If compaction is an issue subsoiling must be carried out. (For more information on soil compaction see page 7).
-  **For any technical information or a site visit please contact the office on 01368 840655**

CAST

COATED ABSORBENT SEED TREATMENT

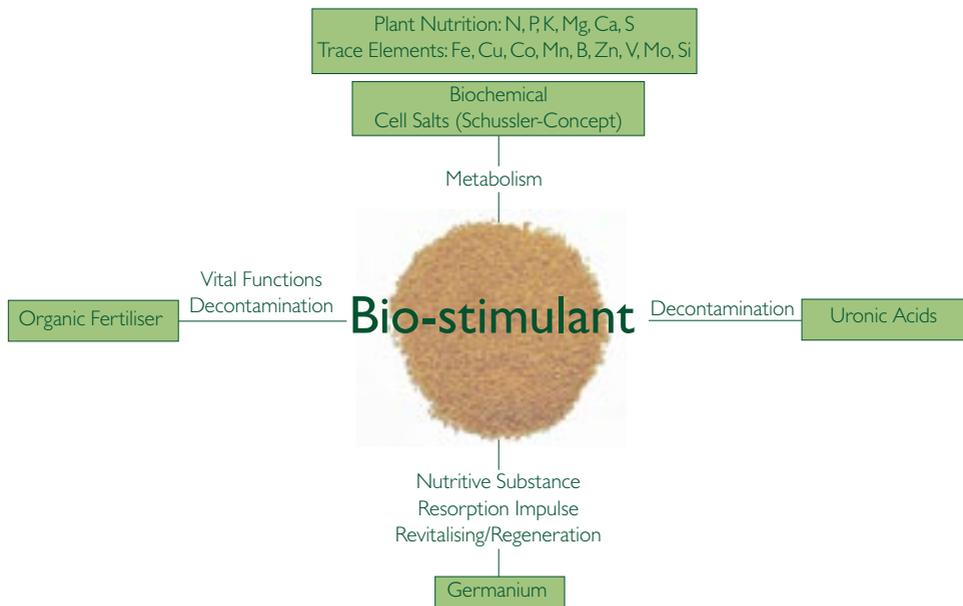
The ultimate in clover coating technology exclusively available from Watson Seeds

CAST
Water reservoir (absorber) placed around the seed
Absorber takes in 100 times more water than non-coated seed
Additional water for germination and establishment of the seedling
Overcomes stress situations

Advantages of Bio-stimulant
Greater Vitality
Quality of plant and growth will be increased
Reduction in the susceptibility to pests and diseases
Use of fungicides can be reduced
Efficient and economical usage

Humic acids as a part of the seed coating
Enhanced nutritional uptake
Faster germination
Quicker establishment
Promotes root development

Bacteria
Rhizobia bacteria for better N-nodulation (red & white clover)
Mykorrhiza on grass roots for a better nutritional uptake



CLOVER REJUVENATION

Clover can be introduced into an existing sward to improve soil fertility, increase animal performance and reduce the need for expensive fertilisers. Our clover blends are all first choice on the SAC list and are therefore selected for yield and performance throughout the growing season. Young clover plants in their first winter are quite delicate as they have not had the time to develop stolons. Hard sheep grazing should be avoided until the second season post sowing. Sheep are selective grazers and in a newly rejuvenated sward they can pick out young clover plants if they are forced to graze the reseed too hard. Herbs such as chicory and ribwort plantain are available for mixtures.

ROTATIONAL CLOVER BLEND

Designed for swards that will be cut or grazed with cattle and/or sheep. New 'flexible' varieties are ideal because of their ability to adapt to changes in management. Although generally larger leaved varieties give a higher yield under cutting, even the medium leaved varieties in this blend have exceptionally high yield for their leaf size.

Crusader	Medium	Very good clover variety, good performance in both early and late in the season.
Menna	Medium	Good early growth contributes to high annual yields.
Merwi	Medium	Productive variety better suited to light defoliation.
Alice	Large	High yielding and good ground cover.
Barblanca	Large	Good autumn growth.

PERMANENT CLOVER BLEND

Designed to withstand harsh winter conditions coupled with the rigours of hard close grazing particularly associated with sheep. A high proportion of small leaved varieties are included in the mixture because their dense network of stolons gives them good survival and persistency under hard grazing.

AberPearl	Small	Good yields in mid-summer with good ground cover.
Crusader	Medium	Very good clover variety, good performance in both early and late in the season.
Menna	Medium	Good early growth contributes to high annual yields.
Merwi	Medium	Productive variety better suited to light defoliation.

RED CLOVER BLEND

We are pleased to introduce our new red clover blend with the inclusion of the Swiss type Merula, and the variety Global which has excellent yield performance. The inclusion of Merviot compliments the mixture.

Global	Early	Excellent variety with good yields in years 1, 2 & 3
Merula	Early	Better performance later in the season
Merviot	Early	Remains a very good benchmark variety



TRIALS



Andrew John Best in one of the fenced off areas of the plots at Quixwood.

On the 4th of June 2014 Scotsheep was hosted by the Macfarlane family at Quixwood in Berwickshire. We conducted a rejuvenation trial as part of the farm tour. The field was an underperforming old sward that was deemed too stony for ploughing. The 45 acres was split into 9 blocks with a different mixture being sown into each.

A Shakerator was used to elevate the compaction issue and lime was applied to take the PH to 6+. The grass was sprayed with Diquat prior to sowing and was sown in August 2013 using a Moore Unidrill. A further spray of Diquat took place two days after sowing. No bagged Nitrogen was applied.

A falling plate meter was used to gauge grass growth and there was certainly a marked increase in yield compared to the old sward, as well as highlighting interesting differences between the mixtures. The SAC carried out fresh weight analysis that highlighted that both ME and protein levels had risen significantly.

Whilst it was not a replicated trial, it did highlight differences in



Right: Johnny with Murdo McLeod, all the way from Isle of Lewis, pictured at one of the trial plots during the farm tour.

SOIL COMPACTION

The dreadful weather conditions experienced across the country in 2012 has had a serious impact on many grass and forage crops. Many fields have suffered from severe soil compaction and as a consequence the whole subject has been brought into sharp focus with a surge in demand for an array of equipment such as slitters, aerators, sub soilers and sward lifters. Compaction is where soil has been squashed into a solid, impermeable layer, either at the surface or within the topsoil. This band restricts the movement of air, water, and nutrients down through the soil profile.

This type of damage leads to poor root growth, which stresses the plant and reduces its response to nitrogen. Applying fertiliser to compacted soils is a waste of time and money, as the plant will not be able to fully utilise it. The risk of fertiliser run-off will increase by as much as 50-60%.

Compaction can also cause temporary waterlogging. Wet soils stay colder for longer reducing the number of available grazing days. They can also make harvesting difficult, which is likely to reduce the quality of the resulting silage.

ASSESSING COMPACTION



Ideally, where soil depth allows, grass roots should go down 30cm or more. Compaction inhibits root penetration, seriously reduces grass yield and increases the risk of soil and fertiliser run-off. Compaction will also lead to a reduction in the sown varieties in the sward, with weed grasses such as annual meadow grass developing in their place.

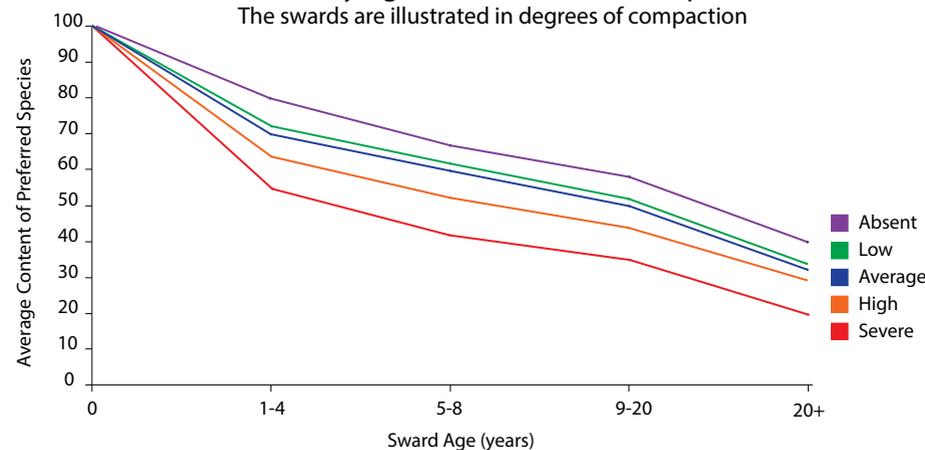
Identifying Compaction

- Dig a hole at least a spades depth, ideally when the soil is neither excessively wet or dry.
- Look for how far roots and moisture extend down the profile.
- Where there is extra resistance to the spade, that is the depth of compaction in the area.

Text and photograph by kind permission of EBLEX

The graph below illustrates the negative impact that compacted soils can have on the potential production of swards over time. The faster the rate in decline of the sown species the poorer the economic return as the natural ingress of shallow rooting native grasses is accelerated.

Average Content of Preferred Sown Species in Swards Classified by Age and Level of Soil Compaction
The swards are illustrated in degrees of compaction





CONTACTS

Listed below are a selection of potential contractors:

Area	Contact	
Borders	Billy Rae	07774 163665 / 01450 860672
Perth, Tayside & Stirling	Ian Lawrie	07885 316692
	Jimmy Lawrie	07860 835400
Ayrshire	David McCubbin	07814 669429
Islay	Andrew MacMillan	01496 840590 / 01496 840238
Speyside	George Rae	07730 396773 / 01479 851334
Ross-shire	Donald Ross	07887 813528
North Preston	Richard Seed	07834 808062

Or contact your local machinery ring - some members may have drills suitable to your local conditions which would be worth finding out.



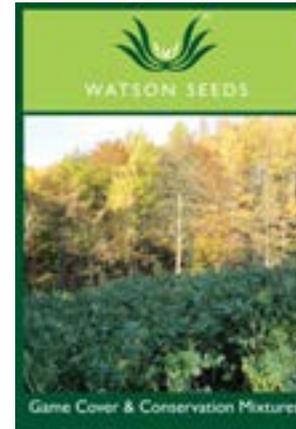
An open day highlighting the benefits of overseeding was organised by the SRUC team in conjunction with Watson Seeds at Clachan Sands, North Uist by kind permission of Donald John MacDonald.

'The event was very well received and it clearly highlighted the role rejuvenation can play in maintaining a productive grass sward. The variety of different seed mixes which were available was also of great interest and with that the importance of selecting the most appropriate mix for the growing conditions of the croft and the intended use,' Angus Ferguson, SAC Agricultural Consultant.

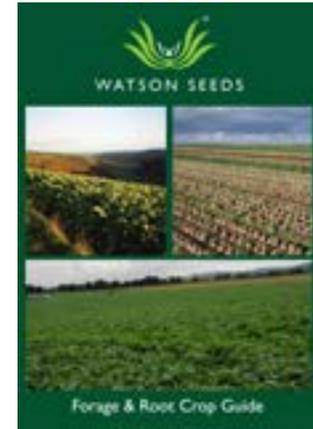
George Simon, from Suffolk, kindly brought his Aitchison drill to demonstrate on North Uist.



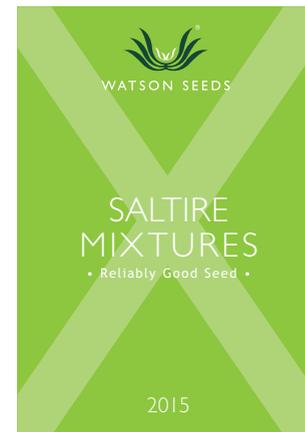
ALSO AVAILABLE FROM WATSON SEEDS



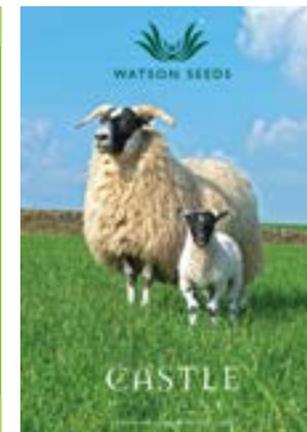
GAME COVER & CONSERVATION MIXTURES



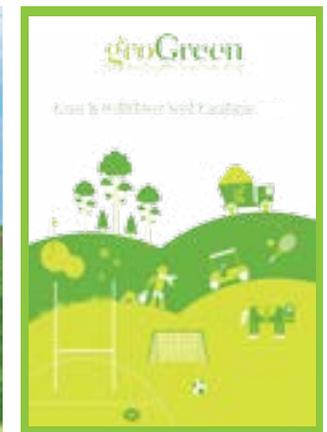
FORAGE & ROOT CROPS



SALTIRE MIXTURES 2015
RELIABLY GOOD SEED



CASTLE MIXTURES 2015
PREMIUM PERFORMANCE MIXTURES



GROGREEN 2015
AMENITY AND WILDFLOWER MIXTURES

Please contact the office, on 01368 840655, for our dedicated booklets or alternatively, visit our website at www.watsonseeds.com.



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