

System Moore® UNIDRILL



THE LATEST MOORE UNIDRILLS HAVE BEEN DEVELOPED AS A DIRECT RESULT OF CUSTOMER FEEDBACK

Their requirements were, close row spacing, so that true one pass seeding could be made into grass/cereal stubble, or a conventional seedbed. A compact 3 point linkage chassis, for quicker headland turn performance in smaller field's, and a central seed metering system, for high speed accurate sowing combined with the ability to sow down to the very last seed quantity with all seed types.

The soil engaging unit is from the proven grassland unidrill, on a trailing rubber suspension arm. We have extensively trialled the system in 2010, with, as expected, first class results. Nothing in our 45 years of experience, places small seed in contact with soil at the correct depth, as well as a single disc and seedtube coulters arrangement, so the percentage of seed to germinate is very high.

By using the Unidrill, new seeds can be introduced into existing swards, either by seeding directly into glyphosate sprayed off grass stubbles, or by stitching in without chemical, using cultural control of the existing sward. Seeding into cereal/pulse stubble's, or conventionally tilled seedbeds can be easily achieved with absolutely minimal changes in set up.

With the professional contractor in mind, the machine is heavy duty, with quality components, and is relatively maintenance free. The narrow row spacing, makes the same machine very suitable for over seeding into grass based sports playing surface's.



Trailed Unidrill with 480/45-17 floatation tyres and soft ride suspension



Mounted Unidrill with markers, tramliner and hopper extension.



Side view showing disc clearance, perfect for stubbles.



Optional packer rollers available, picture showing Otico Rubber 24 row.

- Contractor Spec 32 rows at 90mm close spacing disc seed coulters, 33% closer than the model it replaces, for true ONE PASS seeding or
- Farmer Spec 24 rows at 125mm close spacing disc seed coulters, all models available trailed or mounted.
- Cat 3 linkage mounting for convenience and QUICKER headland turns.
- 700 litre Kverneland ACCORD hopper for proven high speed drilling, quick and easy calibration, convenient emptying, and individual row accuracy, with the ability to sow to the last quantity of seed, with all seed types, perfect for all small seeds ie. kale, stubble turnips, rape and grass.
- 1000rpm PTO fan drive (Hydraulic Optional)
- Seeding depth controlled off rear packer roller, with standard hydraulic adjustment.....seeding coulters can be totally suspended off the ground with all the weight on the packer roller, or all weight can be put on the discs to give up to 94kg/coulter with an empty hopper, the same as the model it replaces. Total weight with optional 700kg standard ballast is 3000kgs.
- Weight can be reduced to 2300kgs for working in conventional seedbeds, or softer conditions.
- 3 metre transport width, with a drive wheel, which is quickly set inside frame for road transport, working width is 2.9 metres
- Heavy Duty 100mm x 100mm x 10mm Powder coated chassis.
- Low maintenance trailing arm rubber suspension, offset to achieve close row spacing.
- Proven MOORE UNIDRILL sowing disc/coulter arrangement
- 410mm x 5 mm boron discs
- LONG LIFE Tungsten carbide tipped coulters
- Maintenance free European sourced sealed bearings.
- Folding rear filling safety step with safety rail
- LED Road lights
- Full width GUTTLE GREENMASTER self cleaning packer roller. Optional otico rubber or single row guttler on 240 row models.
- Optional equipment: hydraulic markers, hopper extension, tramliner, low hopper sensor, additional weights (35Kg), hydraulic fan, 32/16 head shut off.



The unique Guttler self cleaning roller has two Guttler cast iron Prisma rings working together, on a 45/50 cmØ roller. The smaller ring fits snugly on the shaft whilst the larger ring runs on the inner shoulder of the smaller ring giving a cleaning action to the outer surface.

Techniques

The Moore unidrill prepares its own mini seedbed by using an angled disc and seed tube coulter tine. All seeds are planted at a constant depth. The points of the guttler roller slit the ground 305 times per square meter, to give good seed soil contact, however in some conditions another pass with a flat roll is necessary. In all conditions, drilling should be conducted in reasonably straight lines as turning with the drill engaged in the ground, can cause premature bearing failure, and blockages, by pulling disc away from seed tube coulters.

Direct drilling grass or clover into grass

A healthy field of grass is one of the most valuable assets a livestock farmer can have and direct drilling can help you grow more and better grass at less cost, because there is less labour, machinery and time involved. Other benefits are reduced poaching, a reduction in the number of broad leaved weeds, and the direct drills ability to tackle even quite "difficult" land. The direct drilling of grass into either a short term or mid term sward is a simple enough matter, and even older worn out pastures can be reseeded with the direct drill provided a few precautions are observed.

A one to ten year old sward which is open, presents few problems having had no time to build up any substantial quantity of mat/thatch under the surface. As a rule of thumb, if you can sink the disc into 25mm of 80% clean soil and not root mat and thatch, then you are in business. As with all reseeding, weather plays an important part, but with reasonable moisture and heat the following methods may apply for successful seeding.

Method 1 No chemical top up.....clean (weed free) open swards following silage.

Where a final cut of silage is being taken, and the field is going to grazing, cut low to the ground and direct drill 1/2 to full rate seeds as soon as possible, whilst moisture is retained in the ground, and before the regrowth starts. There should be enough moisture retained in the ground to get the seeds germinated, and provided it doesn't dry out subsequently due to lack of rain, seed should be established before the old sward has fully recovered, and should be grazed with young stock or sheep 2 to 4 weeks later, depending on growing conditions. This grazing keeps the old grass down, stops the old sward choking the new seedlings, and allows light into the newly established grass. This sward should be grazed in 2/3 weekly intervals until the end of the season, never overgrazing as this can cause the new seedlings to be pulled out. Newly established grass often does not normally become apparent until the regrowth following first cut the following season.

- Check the Ph of ground prior to seeding and apply a quick acting bagged lime as necessary to get the ideal pH of 6.5, especially with clover.
- A light to medium coat of slurry immediately after seeding (depending on moisture) can be applied providing it contains no effluent or dairy washings.

Method 2 No chemical top up.....clean (weed free) open swards following grazing.

Graze the sward really bare, using a mob stocking rate, harrow/rake/roll the dung pats if necessary, drill the sward, and keep the stock grazing on, until the new shoots are just visible. As above re-graze in 2 to 4 weeks time, depending on growth.

- Check the Ph of ground prior to seeding and apply a quick acting bagged lime as necessary to get the ideal pH of 6.5, especially with clover.
- A light to medium coat of slurry immediately after seeding (depending on moisture) can be applied providing it contains no effluent or dairy washings.



Permanent pasture, sprayed off 3 weeks prior to sowing at 4l/ha Roundup Energy, then grazed off tight from 5 days after spraying, Ground Lime applied at 4t/ha a week before sowing, and sown on 23rd August 2011 with a Tetraploid Hybrid Mix.



3rd year italian ryegrass stubble, 6 days after silage made, and drilled with a Tetraploid Hybrid perennial ryegrass mix 34kg/ha, and sprayed off with Roundup energy at 2.5 l/ha 5 days after drilling.



24th September 4 weeks later



10th November 10 weeks from sowing

Method 3 Early Spring drilling

If the pasture has been badly poached, or there are bad patches due to frost kill, leatherjackets, pests etc, over the winter, new grass seeds should be drilled in just before growth starts in springtime.

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- A light to medium coat of slurry immediately after seeding (depending on moisture) can be applied providing it contains no effluent or dairy washings.

Method 4 Complete sward destruction

Where the old sward is very weedy, and a complete re seed is required, spray with glyphosate pre or post harvest/grazing to get a total kill off of all vegetation, and direct drill with a new seeds mixture.

Following grazing We prefer to graze tight, harrow/rake/roll as necessary after grazing, to disperse dung pats, then drill, and then leave up to a week before spraying off, or certainly before the new seeds germinate. This procedure helps get a good regrowth going to take the chemical, without affecting seed germination.

- Check the Ph of ground prior to seeding and apply a quick acting bagged lime as necessary to get the ideal pH of 6.5, especially with clover.
- A light to medium coat of slurry immediately after seeding (depending on moisture) can be applied providing it contains no effluent or dairy washings.

After silage We prefer to cut the silage first rather than apply glyphosate pre harvest, at the recommended 5 days, as this prevents any wheelings from the sprayer appearing in subsequent crop, also Glyphosate seems more effective on less volume of grass. By delaying drilling up to a week after cutting, regrowth will have started, and then drill, and delay spray application up to another week, at least before the new seed germinates. This has the effect of giving another weeks regrowth to take the chemical.

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- A light to medium coat of slurry immediately after seeding (depending on moisture) can be applied providing it contains no effluent or dairy washings.

Method 5 Older leys, rough permanent grass or old worn out pastures

These need to be approached with care. Although Glyphosate deactivates in contact with soil, there is a problem with toxic phenol and acetic acids being released by old decaying sprayed off vegetation, so if there is a thick mat or subsurface mat of roots and fibre, and inevitably the seed is placed near this mat, then germination problems can occur due to localised acidic soil. This is worse in wet anaerobic conditions, before during or after seeding.

The problem with direct drilling into sprayed off grass or anything else that has a large root mat is that it is always a big gamble depending on the weather, especially after you have drilled, which is why some people say it's successful and others don't. An analogy is that silage (decaying grass) made in wet conditions is always more acidic when opened.

In a heavy mat situation, waiting for long enough for all the plants to die completely after spraying is the only way to guarantee success with direct drilling on old matted pastures, otherwise you need to either shallow cultivate and roll, to increase the oxygen levels or if you're feeling lucky take a gamble, that the sward wont lie wet after drilling. If you had a thick mat of decaying vegetation and spun bean seeds on the surface and then ploughed them in, you would get the same results. So either spray off in spring and drill in autumn, after a lime application, and probably another lower rate spray, pre drilling, or less production can be lost by spraying off in autumn, applying lime, and drilling in early spring, when a further lower rate spray is usually necessary.

In a lower more marginal mat situation, the application of quick acting bagged lime alone can help neutralize the effects of the acidic decomposition, but like all seeding techniques depend on moisture and ground heat. Get the bagged lime on a few weeks before planned drilling date, even if the ph in the field is ok. In this situation, we recommend the delayed glyphosate application techniques discussed above, that is to delay glyphosate application until after seeds have been planted, but before they germinate, so that the seeds get maximum exposure to germination, establishment, and deeper rooting before the acidic effects of the decaying plant material come to bear.

A few test sites dug with a spade, will help you decide on the subsurface mat/thatch problems that might be present.

Direct drilling after sprayed off temporary or more open leys isn't usually a problem as the root mat isn't big enough to damage seedlings with its acids and phenols.

In all the above cases use a vigorous quick establishing grass seed mixture up to 35kg/ha.

There is no doubt that a blend of 50% perennial Hybrid Tet, 25% Intermediate tet and 25% diploid works best. These are mostly larger seeds with greater energy reserves for coping with adverse situations. Italian ryegrass swards can easily be re-established at the end of their allotted production cycle, by re-drilling typically after the third season.

Pests

- Slugs. Old grass swards can harbour slugs all year round, so it may be advisable, especially on heavy soils, to sow slug pellets along with the seed, or broadcast them at a higher rate where an attack had been observed post drilling.
- Leather jackets (daddy long legs / cut worm / Tipulidae) Can be a problem, especially in spring drilling. If a field is thought to be at risk, spray with chlorpyrifos (Spannit or Dursban) on its own or with the glyphosate pre or early post drilling can give 6 weeks control.
- Frit fly (Oscinella frit) Reseeds sown after early august can be at risk from frit fly attacks. This pest is usually very localised, fields with a past history of attacks, and high risk frit fly years, should be acknowledged. Once again can be controlled by Chlorpyrifos application as above.

Sowing into ploughed, pre cultivated and looser seedbeds.

By running the packer in the highest position, and therefore least pressure on the coulters, seed can be laid on top, or shallow in ploughed or pre-cultivated seedbeds.

The guttler press wheels will make a nice job of firming the seed into the soil, without the risk of capping, and no further rolling need take place if required.

Sowing into cereal stubble

It is recommended to run at a slight angle to the existing stubble, approximately 10 to 15 degrees, so that the discs are never constantly running on a row of stubble, and are therefore running in and out of the existing stubble rows, and keep forward speed up.

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