

GROWING ORGANICS

Supporting & Increasing Organic Production



An Bórd Teicneolaíoch,
Eolaíocht Mairbh
Département of Agriculture,
Food and the Marine

Organic Farm Walk



on the farm of
Joe Nolan,
Fenagh,
Co. Carlow.

Supporting & Increasing Organic Production



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Introduction

Joe Nolan is farming in Kilconnor, Fenagh, Co. Carlow along with his wife Clair and their son Ciaran. Joe began his conversion to organic farming in March 2022 and has reached full organic status in March 2024. The farm which is 98.23 ha's comprises of 32.27 ha's of tillage and 63.91ha's of grass/red clover/multispecies (MSS) and 2.05 ha's of Riparian Buffer Zone.

The grazing platform carries 550 main flock ewes along with the 100 pedigree charollais flock and rams, which gives a stocking rate of 1.1 Lu/ha on the grazing area.

Table 1 – *Land Use Details 2024*

Land Use	Hectares	Use
Barley/Peas/Oats	15.39	Contract Grown & Winter Feed
Spring Oats	16.88	Contract Grown & Winter Feed
Grass/White Clover/MSS	60.22	Ewes & Lambs
Red Clover Silage	3.69	Silage & grazing
Riparian Buffer Zone	2.05	Habitat
Total	98.23	

Sheep Enterprise

Table 2 – *Stock Details 2024*

Stock Type	2024
Mid-season Lambing Ewes	550
Pedigree Charollais Ewes	100
Rams	14

Breeds

Ewes

- Mules, Llyns, Belclare, Highlander X's
- Pedigree Charollais

Rams

- Highlander
- Belclare
- Llyns
- Charollais

Breeding Management

The main breeds of sheep on the farm are Mule/Lleyn/Belclare/Highlander X ewes. The rams used are Belclare/Lleyn/Highlander & Charollais. The rams are introduced to the flock at the end of October and left with them for 4 - 6 weeks. The ewes are then lambed outdoors from the middle to end of March. Joe finds this eases the workload and also the later lambing date ensures a better supply of grass to the newly lactating ewes.

Lamb Sales

The target weights of lambs for slaughter are 42 – 44 Kg's with 50% of the lambs being finished in July/August and sold to Irish Country Meats in Camolin, Co Wexford. The remainder are held over the winter and fed according to their weights on winter cover crops of stubble-turnips/rape/vetch/kale and MSS. This grazing is supplemented with arable and red clover silage along with an oat, pea/barley grain mix that is fed to store lambs if necessary, with the aim of having lambs ready for slaughter in January.

Grazing Management

Sheep are grazed on a rotational basis around the farm using a paddock system. Joe has introduced Multispecies herbal leys since 2019 and is very

happy with the performance of the lambs on MSS. The grazing ground is made up of permanent pastures which will be re-seeded on rotation around the farm over the next 5 years. A new Gutler seeder has been recently purchased and will be used to over-sow grass into Arable Silage crops and to stitch clover into existing grass leys in order to increase the clover content around the farm.

Winter Feed Management

Ewes are out-wintered, the twin and triplet bearing ewes feed on the forage crops over winter and they get additional feed from the beginning of February. The ewes carrying singles are fed red clover silage only prior to lambing.

Joe makes red clover and arable silage to meet his winter feeding requirement along with growing Oats and Combi-crops. No concentrate feed is purchased for his flock. Joe has expanded his tillage enterprise since his conversion to organics. He now grows Oats for Whites Oats, Armagh and is also growing feed crops for other organic farmers and is very interested in building up farm to farm trading relationships. As part of the Acres Scheme Joe sows 15 ha's of cover crops which are made up of Leafy Turnip, Rape, Kale and Vetch which is mixed himself. He will sow cover crops into all the tillage land in 2024 - 32.27 ha's.

Red Clover on the Farm

There are 3.69 ha's of red clover on the farm (variety Magnum) and this makes up the bulk of the silage requirements and it offers a highly digestible silage with a high protein content. This red clover was sown in 2022, it was cut 3 times and grazed twice in 2023 – February and September (due to wet weather a 3rd cut was not possible). The silage is tested every winter to determine the DMD% and protein content. This is fed to single bearing ewes and mixed with the barley/pea grains to make up the required diet for the twin and triplet bearing ewes.

The red clover swards demand significant organic nutrients, these are supplied through applications of FYM in October. Joe can import organic manures according to his most recent NMP and this will be considered into the future.

Herbal/Multi-species Ley

Herbal leys contain a diverse range of grasses, herbs and clovers. Its aim is to produce a well-balanced forage and not just large volumes of grass. Many of the species used are deep rooting and have the ability to unlock nutrients from deeper in the soil profile. The herbal mixture does not demand high fertiliser inputs and is therefore ideally suited to organic farming. These leys provide increased levels of minerals and vitamins to livestock. Also, when herbal leys are grown for several years, they have the ability to naturally improve soil structure with their deep roots. Joes' farm suffers from drought in the summer months and the MSS is playing a very important role in maintaining grass growth in prolonged dry periods.

Table 3 – *Multi-species mix 2023*

Multi-species Mix – Needs Derogation Seed Variety Kgs	
Chicory	0.7
Plantain	1
Red clover	1.5
White clover	1.5
Ryegrass	6.6
Timothy	0.7
	12 kg per acre

Organic Cereal Enterprise

Joe is growing 12.99 ha's of Barley/Peas/Oats on contract for an organic farmer and he is growing 2.4 ha' of Barley/Peas for his own use along with 16.88 ha's of Spring Oats. He has a contract with Whites Oats, Armagh for 60 tons and the remaining oats will be used for his own use and any

excess will be sold to organic farmers. The tillage area has doubled in 2024 as Joe sees a strong demand for organic feed and he is embarking on a new system of farm to farm trading. He is enthusiastic that this will increase profitability on the farm and work well with bringing rotations onto the farm. A second hand dryer was also purchased which is invaluable after a wet harvest to aid safe storage of feed.

Table 4 – Combi Crop Details

Barley/Peas/Oat Combi Crop	
Area:	12.99 ha
Variety:	Morgan
Sowing Date:	23/4/2024
Sowing Rate:	250kg/ha

Table 5 – Combi Crop Details

Barley/Peas/Oat Combi Crop	
Area:	2.4 ha
Variety:	Herald
Sowing Date:	23/4/2024
Sowing Rate:	250kg/ha

Table 6 – Oat Details

Spring Oat Feed	
Area:	4.73 ha
Variety:	Isabelle
Sowing Date:	26/4/2024
Sowing Rate:	188kg/ha
Spring Oats for Whites, Armagh	
Area:	12.15ha
Variety:	Merlin
Sowing Date:	26/4/2024
Sowing Rate:	188kg/ha

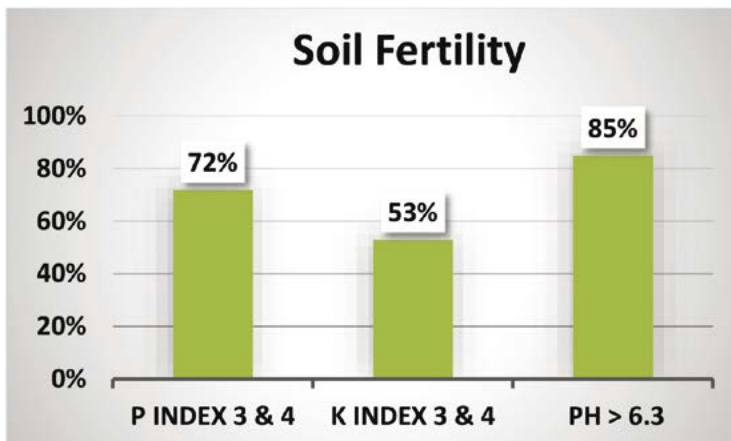
Organic Regulation for Seed Usage

- Organic seed database with details of suppliers and available organic seed www.organicxseeds.com
- Must seek permission (derogation) to use un-treated non-organic seed from your Organic Certification Body (OCB) prior to sowing.
- Conventional treated seed is not permitted to be used.

Sources of Nutrients Used on the Farm 2023

- Farm-yard manure (FYM) applied in autumn on grazing, silage ground and ploughed in for crops.
- Lime is spread where required.
- As there is a limited supply of FYM produced on the farm, importing of slurry or dairy sludge is being considered and may play a role in soil fertility maintenance in the future.

Soil Fertility



Animal Health on the Farm

Vaccinations are given for clostridial diseases as they are confirmed medical issues on the farm. Vaccinations for Enzootic and Toxoplasmosis abortions for purchased hoggets are also administered and once vaccinated they are quarantined for 7 days after arrival. There is a pre-determined liver fluke issue on the farm which has been identified in the flock health plan, so dosing for liver fluke is carried out in the autumn. Faecal egg tests are taken to determine the presence of stomach and lung worms and animals are only dosed if worm burdens are high. The practice of grazing clean pastures for lambs is used on the farm to ensure ingestions of worms are kept to a minimum and this works well. Treatments for foot problems and fly strike are carried out when necessary and are detailed in the flock health plan. The necessary withdrawal requirements are then adhered to.

Housing

There are Loose Houses available for housing of the ewes if required, but they are mainly all out-wintered on forage crops, red clover swards, MSS and grass/clover swards. As the lambing date is mid- March, Joe likes to lamb all the ewes outdoors as he finds it much less labour-some.

Investments in new Equipment/ Machinery

Joe hires a contractor to plough, till, sow and harvest his crops, however he has recently purchased a new Güttler Seed drill which he will use to over sow grass and clovers into existing crops of Pea/Barley/Oats and it will also be used to stich in clover seed in fields where clover is dying out.

A new mower was also purchased recently, this enables the mowing of heavy paddocks for top quality silage bales. Both these machines were purchased under TAMS 3 and received a 60% grant. As mentioned earlier a second hand dryer has been purchased which was not eligible for TAMS 3 funding due to being second hand.

Financial Performance

Table 7 – Sheep Enterprise Financial Performance

Mid-Season Lambing	NFS 2022 Mid-Season	Joe Nolan 2023
Sheep Ha's	45	82.9
Org N/Ha	143	118
Ewes to Ram	133	550
Gross Output/Ha	€1498	€1148
Variable Costs/Ha	€637	€541
Fixed Costs/Ha	€730	€463
Net Profit/Ha	€131	€144
OFS Payment/Ha	€0	€300

Key Observations on Joes' financial performance on Sheep enterprise

Table 7 compares Joe Nolans' financial performance in 2023 with national average figures from the Teagasc National Farm Survey (NFS) of 2022. As Joe has become fully organic in March of 2024, there is no premium organic price achieved in the figures for 2023 lamb sales. All the lamb sales for 2024 will be sold organically and will command the organic premium. The stocking rate on this farm is low for 2023 and this obviously impacts on the output/ha which is €1148 v €1498 for the average sheep farm in 2022 according to the NFS. Even with the low stocking rate on the farm and given that there was no organic premium price paid, the Net Profit/ha is very similar to the average from the NFS. This is mainly due to the lower variable costs when fertiliser is taken out and the fact that all the feed is being produced on the farm – even though the sheep enterprise figures have a cost attributed to purchasing the feed from the tillage enterprise. The additional payment of the OFS payment of €300/ha gives a significant boost to the profitability of the farm.

Table 8 – Tillage Enterprise Financial Performance

2023 Tillage Enterprise	Barley/Pea	Spring Oats
Tillage Ha	8.4	4.7
Tons/Ha	4.78	4.95
Price/Ton (In Conversion)	€425	€380
Sales/Ha	€2033	€1881
Variable Cost	€1034	€773
Fixed Costs	€307	€338
Cost/Ton	€280	€156
Net Profit/Ha	€692	€770
SIM/Protein Payments/Ha	€290	€250
OFS Payment/Ha	€320	€320

Key Observations on Joes' financial performance on Tillage enterprise

Joe is growing all his own feed on the farm and has also developed farm to farm trading arrangements with other organic farmers. The crops sown in 2024 are a mix of Barley/Pea/Oats for sale, Barley/Pea for own use along with Spring Oats grown on contract for Whites Oats, Armagh. Joe has increased his tillage area significantly since becoming organic (7 ha's in 2022 to 30 ha's in 2024) and Table 8 clearly shows the profit that can be made from organic tillage. Crop yields are giving good sales/ha figures and with the lower variable costs due to no fertiliser and pesticide inputs, the Net Profit/ha for both crops is very respectable. Maintaining good yields of 5 ton/ha crops will be dependent on crop rotations and the incorporation of legumes into crops to provide Nitrogen. The ewes are all lambed outdoors so there is a minimal straw requirement on the farm. As a result the Straw Incorporation Scheme payment adds to profitability and also helps to maintain soil fertility as the organic manure produced on the farm is limited. All the tillage work is done by contractors. Joe is very happy with the tillage profitability on the farm and is open to increasing the area further and building up contracts with other organic farmers into the future.



**An Roinn Talmhaíochta,
Bia agus Mara**
Department of Agriculture,
Food and the Marine

Organic Certification in Ireland

The Department of Agriculture, Food and the Marine is the competent authority (i.e. - the Department's Organic Unit is based at Johnstown Castle Estate Wexford) for regulating the organic sector and ensuring that the obligations and requirements of Council Regulation (EC) No. 834/2007 as amended and adhered to. The Organic Unit of the Department of Agriculture, Food and the Marine have designated Official Certification Bodies whose role is to certify organic producers, farmers and processors through and inspection process of each individual's unit or farm. Further information can be sourced from these organic certification bodies:

IOA (Irish Organic Association)

13 Inish Carraig, Golden Island, Athlone. Tel: (090) 64 33680 www.irishorganicassociation.ie
Email: info@irishoa.ie

Organic Trust,

Office A1, Town Centre House,
Dublin Rd, Naas, Co. Kildare
www.organictrust.ie

Tel: (045) 882377
Email: info@organictrust.ie



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Targeted Agricultural Modernisation Scheme Organic Capital Investment Scheme (OCIS)

A standard rate of aid of 60% on investments up to a ceiling of €90,000 for all organic farmers.

How to Apply and Closing Date:

Online applications only through www.agfood.ie facility.

Full details and T&C:

<https://www.gov.ie/en/collection/0e509-tams-3/>

Queries:

DAFM Organic Unit, Johnstown Castle: (053) 91 63400

Organic Processing Investment Grant Scheme

Grant aid of up to 60% on facilities for the processing, preparation, grading, packing and storage of organic products with minimum level of investment in excess of €3,000.

More Details:

<https://www.gov.ie/en/service/51e8d-organic-processing-investment-grant-scheme/#rate-of-payment>

DAFM Organic Unit, Johnstown Castle: (053) 91 63400

The addition of clovers or herbs to a sheep grazed perennial ryegrass sward: effects on animal and sward performance

P. Creighton and L. McGrane

Teagasc Animal and Grassland Research and Innovation Centre, Mellows Campus, Athenry, Co. Galway

In recent years there has been growing interest in the use of diverse sward mixtures for grass based ruminant production systems. Numerous studies have shown the benefits of multispecies swards relative to a perennial ryegrass only swards. These include increased animal and sward performance, reduced requirement for artificial nitrogen application and reduced need for anthelmintic drenches. Presented below is some of the results from a study in Teagasc Athenry over the last number of years. The aim of this study was to compare a perennial ryegrass sward to binary sward mixtures of perennial ryegrass and one companion forage, in terms of sward and animal performance under an intensive sheep production system. The sward types under investigation were: i) perennial ryegrass (PRG), ii) perennial ryegrass and white clover (PRG+WC), iii) perennial ryegrass and red clover (PRG+RC), iv) perennial ryegrass and plantain (PRG+Plan), and v) perennial ryegrass and chicory (PRG+Chic).

Results

The addition of any companion forage significantly improved lamb lifetime average daily gain (ADG). As a result of improved animal performance, average days to slaughter (DTS) was reduced by 19, 28, 15 and 28 days respectively for lambs grazing PRG+WC, PRG+RC, PRG+Plan and PRG+Chic relative to lambs grazing PRG which took 228 days to reach the appropriate slaughter weight. Furthermore, reductions in DTS led to reduced rates of concentrate supplementation required where average concentrates consumed per lamb drafted was reduced by 6.1, 11.3, 8.2 and 10.7 kg concentrates/lamb drafted for lambs grazing PRG+WC, PRG+RC,

PRG+Plan and PRG+Chic respectively relative to PRG which consumed 14.2 kg concentrates/lamb drafted. Carcass weight, carcass conformation, fat score and kill out percentage were similar across all sward types.

Average annual herbage production was 11 t DM/ha, and was similar across all sward types. Annual grazed herbage yield was 9.1 t DM/ha and silage herbage yield was 1.9 t DM/ha, which were also similar across all sward types. For this study all sward types received the same amount of inorganic nitrogen; however, studies have shown that similar levels of herbage production can be achieved from grass and clover swards at lower nitrogen application levels, relative to a perennial ryegrass only sward receiving higher nitrogen application levels.

Challenges exist around the establishment, management and persistence of companion forages within sheep grazed swards and for that reason a number of plot based studies were carried out in Athenry to try to improve companion forage persistency within a sheep grazing system.

Post-Grazing Sward Height

Post-grazing sward height significantly affected all sward types with the exception of PRG+WC. The 4.0 cm PGSH had a negative impact on red clover content, whilst the 5.5 cm PGSH had a negative impact on plantain and chicory contents

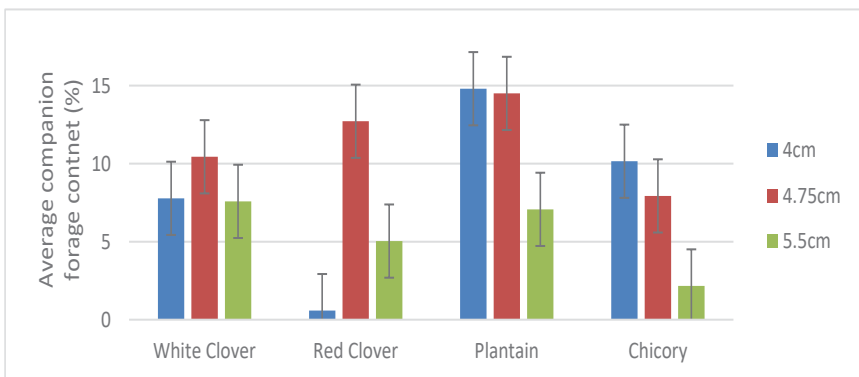


Figure 2. Companion forage content in a year 3 sward (2022) by post-grazing sward height

Seeding Rate

Table 2. Seeding rates applied in seeding rate plot trial

	Low Seeding Rate	Medium Seeding Rate	High Seeding Rate
PRG+WC / PRG+RC	2.5 kg clover/ha & 22.5 kg PRG/ha	5.0 kg clover/ha & 20 kg PRG/ha	7.5 kg clover/ha & 17.5 kg PRG/ha
PRG+Plan / PRG+Chic	2.0 kg herb/ha & 23 kg PRG/ha	3.5 kg herb/ha & 21.5 kg PRG/ha	5.0 kg herb/ha & 20 kg PRG/ha

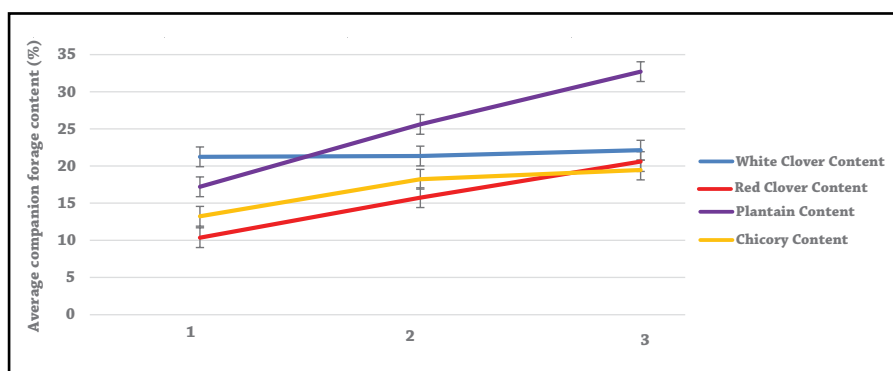


Figure 3. Companion forage content by seeding rate

The low seeding rate was sufficient for a PRG+WC sward, the medium seeding rate was sufficient for a PRG+Chic sward and the high seeding rate was needed to achieve sufficient levels of companion forage content in PRG+RC and PRG+Plan swards. Results from these plot trials illustrate that the sward mixtures respond differently to the various management practices. In conclusion, with appropriate management these binary sward types can be successfully incorporated into sheep grazed swards.

New organic research project

Building on the work investigating different sward and forage options for lamb finishing a new organics research project, Growing Resilient Organic Farming Systems – GROFarmS, has commenced. This new Teagasc led

organic farming research project is being undertaken in conjunction with University College Dublin and is being funded by DAFM. The GROFarmS project aims to address the current research gaps in organic farming and demonstrate to farmers technically efficient organic systems of beef and lamb production.

The research will develop evidence on best practice technologies to support profitable and sustainable organic beef and lamb finishing systems. The Beef trials into efficient and profitable organic-beef finishing systems will be led from Teagasc Johnstown castle and Teagasc Grange.

Research on sustainable organic lamb production will be conducted at the Teagasc Animal & Grassland Research and Innovation Centre in Athenry. Finishing options and management systems for organic hill and lowland lambs will be investigated. This work will take into account effects on animal performance, environmental impact and economic returns.

Farm Safety features

Francis Bligh, Teagasc Farm Safety Specialist

Introduction

Farming is one of the most dangerous work sectors in Ireland. Typically, about 20 workplace deaths occur in the agriculture sector annually. In 2023, the number of farm deaths was 20 with one in the 'forestry and logging' sector. Farm accidents causing serious injury, estimated by Teagasc National Farm Survey (NFS) occur at high level of about 4,500 per year. Drystock farms account for 26% of total non fatal accidents.

Farm Management

Joe puts a strong emphasis on organising and managing his farm to ensure workload is sustainable and that help is sought during busy periods. Joe has invested in livestock handling equipment to make husbandry tasks easier, quicker and safer. Joe works to keep farm buildings and machinery well maintained to reduce unplanned down time and repairs.

All Terrain Vehicle (ATV) safety

Joe uses an ATV/ quad bike to help with many tasks during his farming day. He is aware that using an All Terrain Vehicle (ATV) can very easily and suddenly cause a serious or fatal injury on impact. When an ATV turns over it can crush the chest area with its weight or cause an impact injury. Between 2013 and 2022 there have been 10 farm fatalities involving quads; two individuals were under-18 and six were over-65 years of age (HSA). Many more have been left with life-changing injuries. In terms of legal requirements, under Regulation: S.I. No. 619 of 2021, all operators using an ATV/quad for work must have undergone an ATV training course provided by a registered provider to a QQI standard or equivalent before using it. The law also places a requirement on the operator to carry out a risk assessment of ATV operation and to wear personal protective equipment (including a helmet). Before purchasing or replacing an ATV check the market to identify alternative options. There is an increasing trend towards people considering a slightly larger Utility Vehicle (UTV) with a cab or roll over protection that will carry two people.

Organic Capital Investment Scheme

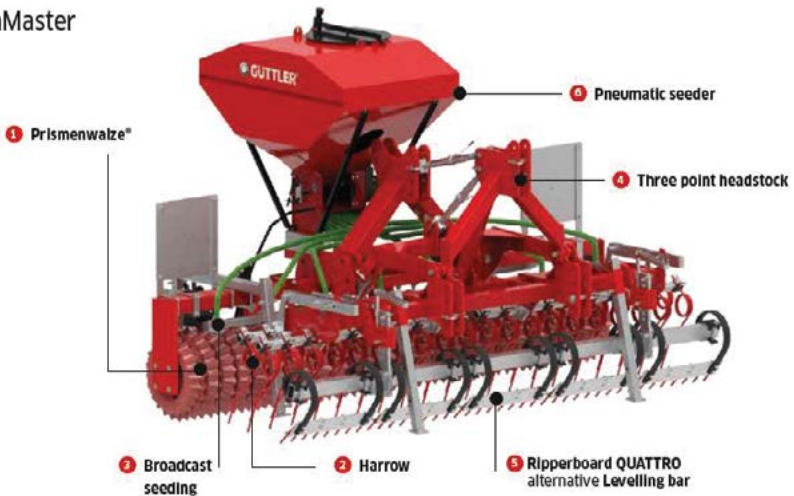
The Organic Capital Investment Scheme under the Targeted Agricultural Modernisation scheme TAMS3, is designed to financially support organic farmers to invest in facilities and equipment to improve farm efficiency, management and safety. It provides an incentive to organic farmers who are current participants of the Organic Farming Scheme to upgrade their agricultural buildings and equipment by providing an increased level of support to meet the considerable capital costs associated with the establishment of their enterprises. Grant aid is paid at the rate of 60% for licensed organic operators and participants of the Organic Farming Scheme up to the applicable TAMS 3 maximum investment ceiling of €90,000 per holding. In the case of an application by two or more eligible partners in a partnership registered on this Department's Register of Farm Partnership the maximum eligible investment ceiling shall be increased to €160,000. Multiple applications per tranche are permissible.

Guttler GreenMaster Seeder

This machine has 4 main functions;

- #5. Front Levelling/Ripper Board,
- #2. Harrowflex tine unit,
- #6. Pneumatic seeder,
- #1. Prism roller.

GreenMaster



Paddock Rotation/Over-seeding routine

- Levelling/ripper board (in relaxed position) helps to level divots and spread out dung patches to utilise the nutrients in the dung rather than let them taint the grass for the following rotations,
- Tine Unit rips out dead grass/moss & prepares a track to allow for seed to soil contact (if seed is being spread afterwards),
- Pneumatic seeder distributes a calibrated amount of seed,
- Prism roller punches the seed into the ground & helps to consolidate the surface.

Reseeding routine


- Levelling/ripper board (aggressive position) helps to level divots while providing an extra group of tines for tilling the ground,
- Tine unit further tills the soil surface,
- Pneumatic seeder distributes a calibrated amount of seed,
- Prism roller punches in the seed into the ground & helps to consolidate the surface.

The machine can also be split into 2 halves; 2 scenarios can be:

Moss/dead grass removal (wheel kit advisable to provide depth control)

- Levelling/ripper board (in aggressive position) helps to level divots, poached ground etc.
- Tine Unit rips out dead grass & moss

Clover establishment into new ground (this can be particularly useful if a predominantly clover mixture is going into tilled ground; Ideally ground rolled first, then come along with the rear of the unit only (with clover seed being so small) to avoid burying the seed too deep)

- Pneumatic seeder distributes a calibrated amount of seed
 - Prism roller punches in the seed into the ground & helps to consolidate the surface
- 

Notes




GROWING ORGANICS

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 [@teagascorganics](https://twitter.com/teagascorganics)

Supporting & Increasing Organic Production



No Rates, Subsidies,
No Agri-Menu
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