



Are multi-species swards an option for your farm?



By Liam Quinn
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Multi-species swards have gained much attention in recent years because of the crops ability to improve profitability while also increasing environmental sustainability.

How do multi-species swards work?

Multi-species swards contain a mix of plants including grasses, legumes, herbs and brassicas. Where established the root level of each plant will vary, allowing for more access to nutrients and moisture which in turn will promote better soil health.

Benefits of Multi-species swards

Legumes such as red and white clover are key components of these swards as they can fix atmospheric Nitrogen and make it available for plant growth. Plantain and chicory are common in the seed mix, which are more resilient to drought because they have deep rooting properties.

Impact at Farm level

Research carried out by Teagasc has shown that multi-species swards have the ability to produce higher dry matter yields from lower nitrogen fertiliser input, and cows maintained the same milk production as if grazing perennial ryegrass swards. The use of clovers in the mix will reduce the requirement for chemical Nitrogen fertiliser and so improve profitability at farm level.

Impact on Environment

Because of lower fertiliser use, there is less environmental impact from multi-species swards. Less leaching of nitrogen will aid in improving water quality, while less nitrous oxide emissions from chemical Nitrogen will help reduce greenhouse gas emissions. The more species in a sward the greater potential to benefit insect populations and pollinators, so multi-species swards are higher from a biodiversity perspective than perennial ryegrass monocultures.

Site Preparation

Soil fertility is important when selecting paddocks for multi-species swards to ensure yield and persistency. Target a pH of 6.2-6.5, an index 3 or higher for Phosphorous and an index 3 or higher for Potassium. When choosing paddocks for multi-species swards it is important to target paddocks that have a low weed burden. Post-emergence herbicide cannot be used after establishment, as there is no herbicide safe for both legumes and herbs.

Methods of Reseeding

1. Plough / Till / Sow

- Spray-off the existing sward as per a normal reseed



Multi-species swards being grazed on Arrabawn Signpost Farmer Ned Kelly's farm in Ballycommon, Nenagh, Co. Tipperary

- Cultivate the soil to establish a fine bed.
- Apply Lime as required. If using min-till apply 2 tonne of lime per acre before cultivation. If ploughing, address any lime requirement before ploughing.
- Apply fertiliser at sowing based on soil test results.
- Sow the multi-species seed mix at a rate of 12kg/acre (30kg/ha) at approximately 1cm deep.
- Roll to get fine firm seedbed and good soil and seed contact.
- Allow six to eight weeks before the first grazing to let herb roots establish.
- Only graze when new plants are strong enough to withstand grazing.

2. Direct Drilling

- Spray-off the existing sward as per a normal reseed
- Sow at approximately 1cm deep
- Roll to ensure good soil and seed contact.
- Apply fertiliser and lime as required.
- Allow six to eight weeks before the first grazing to let herbs establish strong taproots.
- Only graze if new plants are strong enough to withstand grazing.

3. Over-sowing

- Typically, over-sow with seeds of herbs and N-fixing legumes (grass seed omitted as already in sward)
- Light competition from the existing sward will affect seedling growth, so over-sow after a tight grazing or after a silage cut.
- Each species should be over-sown with at least 2kg/ha of seed as it is cheaper and takes fields out of production for a shorter duration and offers better protection for soil carbon.
- When done correctly (and with favourable

conditions) it can be very successful

- Over-sowing is less reliable than a full reseed.

Management post sowing

- Use a maximum rate of 80kg - 100kg N/year where there is 25% clover in the sward.
- No post-emergence spraying.
- Graze to 4cm in the first grazing to allow light to reach the base of the sward.
- Where managed correctly multi-species swards can last up to 5 years
- Rotation length may need to be extended to 25 days.

Summary

Multi-species swards have a key role to play in agriculture meeting its climate change obligations, while also improving water quality and enhancing biodiversity. If you want to reduce your chemical nitrogen input, reduce your carbon footprint and increase biodiversity on your farm multi-species swards may be the option for you.

Plant Species	Weight per pack (kg)
Perennial Ryegrass (PRG)	6.6
Timothy / other non-PRG grass	0.7
White Clover	1.5
Red Clover	1.5
Plantain	1.0
Chicory	0.7
Total	12.0

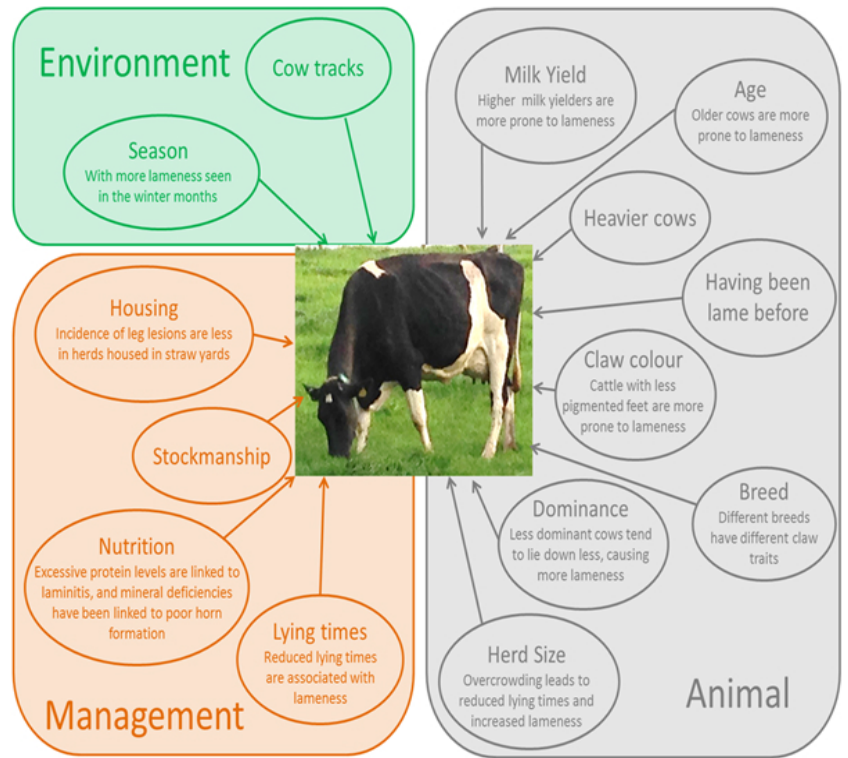
Example of a multi-species seed mixture

Lameness in Dairy Cows

The cost of dairy cow lameness could be up to €300 per case, not to mention reduced animal welfare and the hassle factor of lame cows. Recent research by Teagasc Moorepark has shown a lameness rate of 4% in spring, and over 7% in autumn across a group of dairy herds. Feed intake will be reduced along with restricted mobility due to the pain. The end result for farmers is a decreased milk yield and solids, dumped milk, veterinary bills, labour, reduced fertility and net margins. Rapidly changing weather conditions can affect cows feet more than you think!

The main lameness causes are mechanical/injuries (bruising, white line disease, ulcers, overgrown digits), as opposed to infectious (Mortellaro, foul in the foot) in nature. The priorities for grazing herds are therefore related to surfaces and managing cow flow around milking times. Now is a good time to address issues on the farm before we move into the high-risk time of year.

Lameness has 3 factors, as explained below:



Arrabawn Staff at the Nenagh show on the August Bank Holiday.

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Fuel Bonanza sale weekend in September. *More details to follow on social media.*

Mastitis and SCC control involves knowing your cows and their SCC levels and managing milking to control this

Acting as soon as you notice SCC rising is key. This indicates that infection levels are rising, which is a negative for cow health and milk value and processability.

Teagasc research shows that:

- 100,000 to 200,000 cells/ml indicates approximately 20% of the herd are infected.
- 200,000 to 300,000 cells/ml indicates approximately 30% of the herd are infected.
- 300,000 to 400,000 cells/ml indicates approximately 40% of the herd are infected.

So, if you have elevated SCC on farm, the next steps are to milk record, use the CMT to identify infected quarters, and then carry out some culturing and sensitivity on milk from the infected quarters. That will give insights into which cows, which quarters are infected and then you can review your options for:

- The Herd
- The individual cows

Once you have identified your infected cows from your uninfected cows you should be able to prioritise the management of both groups. You should be able to milk the uninfected cows as normal – but it is key to protect these from infection. However, cows can vary quite a bit in SCC and infection status so milk recording on a regular basis and using a CMT will be key to preventing infection of this group of cows. Focus on:

1. Teat Disinfection
2. Grouping of animals based on SCC readings.
3. Clean Gloves/Aprons while milking.
4. Clean and fresh clusters

With the infected cows it is critical to not allow cross-contamination between this group of cows and the uninfected group of cows. This can be



managed by treating cows (consult with your vet), use of the CMT and drying off with long-acting treatments.

The new Cell Count Solutions consultation is available free of charge for anyone whose SCC is >

200,000 cells/ml and allows you to take advantage of a DAFM funded consultation with a specialist vet and advisory team. Enrol here Cell Check TASA Cell Count Solutions Consult Registration · Custom Portal (animalhealthireland.ie).

Teagasc Grass10 & Arrabawn Clover Farm Walk

Many thanks to Liam and Mark Feehan for opening their farm to us and hosting a clover farm walk on July 26th. The farm event was very well attended with the attendees being provided with some very important tips around clover management. Many thanks to Joseph Dunphy (Teagasc) & Sean Heffernan (Galway Grassland Services) for organizing the event.



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For more details contact your local sales representative

Cellcheck Tip of the Month

By Animal Health Ireland

Are you winter-ready?

All of a sudden August is upon us and as workload eases at this time of year, it is a good opportunity to review your housing for the winter period and to carry out any necessary repairs or perhaps plan for greater stock numbers. The importance of having adequate housing and space to ensure healthy animals during the winter period cannot be overemphasised. Cows are also more productive when they have adequate space, so while it may seem expensive to increase housing capacity, in the long term it will save you money. Here are some key questions to ask yourself, to determine what maintenance needs to be done while time allows.

1. Are your sheds clean before housing?

At this time of year, the most important task is the cleaning and disinfection of the sheds to reduce contamination and any possible carry over of environmental contamination from the previous winter. This reduces environmental contamination for all disease sources. The use of approved disinfectants from DAFM Approved Disinfectant List is important. Ensure that all organic matter (dried out manure, discharges, soil etc) is removed by scraping or power washing before applying disinfectant, as organic matter can make many disinfectants ineffective. Allow maximum contact time to ensure that the disinfectant works.

2. Are your cows comfortable during housing?

A cow should be able to lie up to 12-14 hours of the day, but cubicle discomfort can reduce lying time to below 9 hours. The use of a cow mat greatly improves the cow comfort and the length of time they will lie in the cubicle. The mat condition should be checked to ensure that the surface is not breaking down which can make the cubicle difficult to clean and leads to a build-up of dirt and bacteria. Cubicle design is also important; they should be 7.5 -8' long and 4' wide, depending on the size of cow. There needs to be a 4' forward lunging space in front of the cubicle to allow cows to lunge forward when getting up, and for neck extension to ruminate. The distance from brisket board to kerb and the height and location of the neck rail are extremely important. These measurements vary depending on cow type so it is important to discuss in more detail with your advisor or veterinary practitioner as they can often be easily adjusted.

3. How many cubicles are needed?

We must account for normal cow behaviour, when making sure that every cow has a place to lie comfortably. Hence there should be 110 cubicles for every 100 cows.

4. Feeding space?

Adequate feeding space and easy access to clean water are essential to avoid



competition between cows and build-up of dung in the passageways, as cows queue to feed or drink.

5. Is there adequate ventilation?

Good ventilation and natural light in the dry cow house provides a dry atmosphere, reducing the chance of bacteria surviving and multiplying in the shed. Do repairs need to be made to existing roofs?

The Winter Housing Checklist available on the AHI website is a very useful reference to look at cow hygiene as well as housing and management practices on your farm. It is really important to maintain a clean, dry and comfortable environment for cows during the entire dry period no matter what type of housing you have.

Don't forget about Summer Mastitis!

Autumn calving herds especially, need to be aware of the risk of summer mastitis at this time of year. Summer mastitis occurs in the non-lactating udder. It is a serious condition and can be fatal if not treated promptly. Flies are considered central to its transmission and hence the association with summer. Damage to the teat, trauma and irritation of the udder are also important risk factors.

Prevention measures

The importance of having good fly control measures in place cannot be over-emphasised. Flies should be controlled from early in the fly season and depending on the product used it may need to be repeated regularly, as often as every 2 weeks during the summer season. Also, the application of fly repellents around the udder area, such as traditional Stockholm tar and teat spray may help reduce the number of flies attracted to the cow's udder. Avoid grazing cows or in-calf heifers in fields that are near rivers or marshy areas or where there is a high density of trees or hedges, where flies tend to populate. More exposed pastures are preferable, as high winds inhibit fly activity. Observing and checking animals and teats on a regular basis is essential, as the earlier the mastitis is detected the better the prognosis. Good teat condition will reduce the risk of infection. Good hygiene at drying off and the use of teat sealers are essential control measures to minimise disease.

Notice to Liquid Farmers

Anyone who has a liquid contract that wishes to receive correspondence in relation to the proceedings of the Liquid Committee please contact the committee chairperson on 0879684472

National Fertiliser Database

As of the 1st of September, this year the National Fertiliser Database comes into effect.

For more details regarding the legislation and how it affects farmers contact your local Arrabawn Sales Representative.

Top 5 Tips for TBC and Thermoduric control this August

- **Bulk tank** - The bulk tank should be cooling milk to under 4°C to minimize bacteria growth within 2 hours of milking. Are compressors working correctly? Have you enough gas in the system? Is water flow to your plate cooler adequate? This will lower your energy costs. Put a clean filter sock in before washing to keep the plate cooler free from debris and in turn bacteria.
- **Detergents**- A good strength caustic needs to be used while rotating in your acid washes often enough. If you are in a hard water area a water softener may be required or your detergents will not be effective. We recommend writing a weekly routine on a chart containing all the necessary hot and cold washes along with which ones are caustic and which are acid. Finally keep an eye on your detergents that they are still fresh and in date.
- **Hot water**- One of the most common problems found at farm level is hot water is not hot enough. Use a thermometer to check that it is reaching 75-80°C. This will ensure you have enough hot water going through the system at the start to be dumping at 55°C after 8-10 mins.
- **Vacuum line** - There should be no milk residue in the vacuum line. This is a key area for thermoduric control. This is one of the key areas for thermoduric bacteria control.
- **Clusters** - liners should be changed every 2000 milking's and checked that the rubber is not rough. Claw piece should be checked by feeling around on the metal and plastic to ensure no biofilm build up is present
- **Auto washers**- check that pipes are not kinked or that detergent has not crystallized inside them particularly if you are changing over detergents as the new and old products can react and form crystals. Ensure the correct amount of product is being taken up.



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