Sowing Multi-Species Swards

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

DEVENISH™
Beyond Nutrition

eagasc
Agriculture and Food Development Authority

UCD DUBLIN

Site selection

Choose grazing paddocks over silage paddocks.

Choose paddocks which are known to have a low weed burden.

Excluded from the Department of Agriculture, Food and the Marine (DAFM) scheme are commonage and land designated as Natura 2000.

To protect biodiversity, avoid replacing areas of existing biodiversity (naturally diverse permanent pasture that is not designated) or unused land on the farm, with new multi-species swards.

Sowing Multi-Species Swards

Site preparation

1. Soil fertility

Soil fertility is critical for multi-species swards

6.2-6.5
Soil pH

Index 3+
Soil phosphorous (P)

Index 3+
Soil potassium (K)

Inadequate soil fertility → Poor establishment → Direct reduction in persistency of certain species

Areas that are lower yielding due to poor nutrient status will still be lower-yielding after reseeding if the soil fertility issues are not addressed.

2. Seed mixture

For details of the seed mixture recommended for this measure see: gov.ie - Multi Species Sward Measure (www.gov.ie). Or scan the QR code here.

3. Weed management:

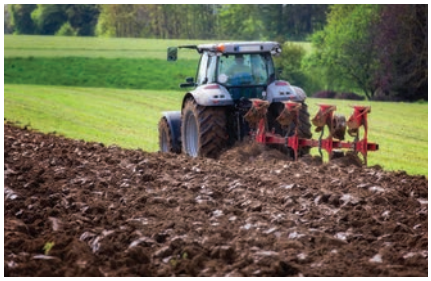
- address weed issues with herbicide before sowing;
- once a multi-species/clover sward is established, no post-emergence spray can be applied to the whole field (there is no herbicide formulation that is safe for both legumes and herbs);
- after reseeding, the only methods for weed control are either spot spraying/weed licking/wiping (using a spray that targets the most prevalent weed, e.g., for thistles use Thistlex), mechanically picking/removing weeds, or regular topping to reduce annual weeds;
- when there is good establishment of multi-species swards, there is very strong evidence to show that they can strongly suppress weeds – although some annual weeds may occur after reseeding, these typically disappear after the first cutting/grazing; and,
- direct drilling results in lower weed emergence at establishment in comparison to ploughing/tilling/sowing methods of reseeding.

Sowing Multi-Species Swards

Methods of reseeding

Similar to grassland reseeding, the best conditions for sowing are without drought or frost, and ideally a warm, moist seedbed (~10°C) between April and August.

Method 1 – plough/till/sow



Step 1: Spray-off the existing sward as per a normal reseed.

Step 2: Comply with the interval between spraying and grazing/cutting prescribed on the herbicide label, then cut the existing sward as tightly as possible.

Step 3: Cultivate the soil how you like (harrow/plough).

Step 4: Lime should be applied, if necessary, as per a normal reseed. If using minimum cultivation, apply five tonnes of lime per hectare to the desiccated sward pre-cultivation. If ploughing, address any lime requirement post ploughing.

Step 5: Apply normal seedbed fertiliser at sowing (P and K, with nitrogen (N)) based on soil test results.

Step 6: If the field has a history of weeds, prepare the field for sowing and then wait for the soil to green up. Consider the weed species present. If a post-cultivation, pre-sowing herbicide application is required to deal with problem weeds, spray with an authorised glyphosate product labelled for use in ground preparation, pre sowing or pre planting. Follow the herbicide label instructions set out for ground preparation, pre sowing or pre planting. If herbicide treatment is required at this stage aim to minimise soil disturbance between the second spraying and sowing while also following the herbicide label instructions.

Step 7: Sow the multi-species seed mix at a rate of 12kg/acre (30kg/ha) at approximately 1cm deep (choose seeder carefully to avoid seed separation).

Step 8: Roll to get fine firm seedbed and good soil and seed contact.

Step 9: 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.

Method 2 – direct drilling into stale seedbed/minimum cultivation

Direct drilling is environmentally beneficial because it retains more soil organic matter than a full reseed.

Step 1: Spray-off the existing sward as per a normal reseed.

Step 2: Comply with the interval between spraying and grazing/cutting prescribed on the herbicide label, then cut the existing sward as tightly as possible.

Step 3: Sow at approximately 1cm deep (choose drill carefully to avoid seed separation).

Step 4: Roll to ensure soil and seed contact.

Step 5: Apply seedbed fertiliser and lime as normal for a reseed.

Step 6: 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.

Sowing Multi-Species Swards

Method 3 – over-sowing into an existing sward

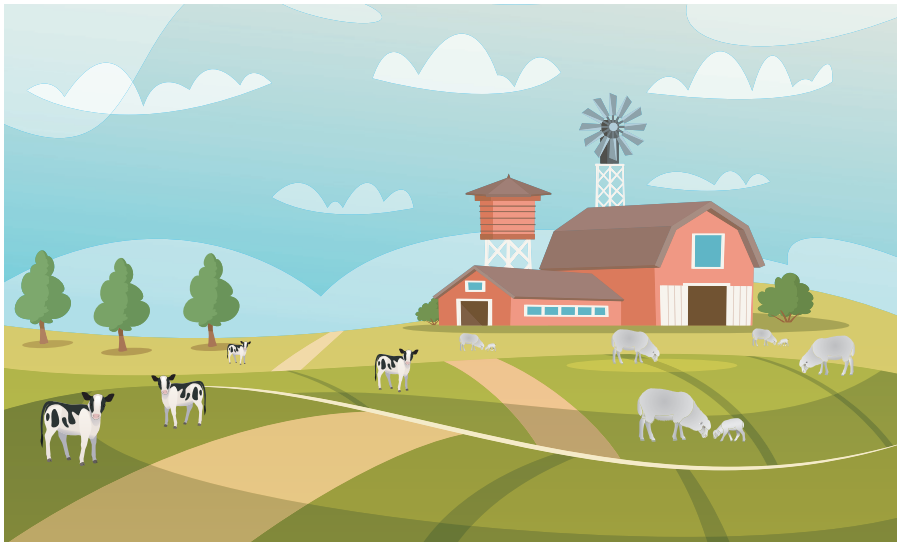
For the DAFM Multi-Species Sward (MSS) scheme, the grass component must be included as part of the seed mix, so over-sowing will be a less relevant option.

For other farmers who may wish to over-sow, the following advice should assist:

Mix type	Typically over-sow with seeds of herbs and N-fixing legumes (grass seed omitted as already in sward).
Existing sward management	Light competition from the existing sward will affect seedling growth, so over-sow after a tight grazing or after a silage cut.
Seed rate	Each species should be over-sown with at least 2kg/ha of seed.
Advantages	It's 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.
Disadvantages	Less reliable than full reseed.

Note that the principles are almost identical to those for over-sowing of clover into a grass sward.

Management post sowing:



- allow eight weeks before grazing;
- a maximum rate of between 80kg and 100kg N/year should be applied to multi-species swards with a good clover content of ~25% clover cover averaged over the whole year – clover cover is typically lower in the spring and increases over the year until about October;
- no post-emergence spraying; and,
- graze to 4cm in the first grazing after reseeding to allow light to reach the base of the sward.

Further information:
https://www.teagasc.ie/media/website/publications/2022/Clover-Management-2022.pdf
https://www.teagasc.ie/crops/grassland/grass10/clover/

The Signpost Programme is a collaborative partnership of farmers, industry and State agencies, working together for climate action.
For more information please visit: www.teagasc.ie/signpost.