

CM 7c: Cover crops by undersowing grass into maize

This option will establish a grass cover crop between rows of maize before the maize canopy closes to reduce nutrient runoff and leaching from land that would normally be left bare or down to stubbles during winter. When the maize is harvested the grass continues growing providing overwinter ground cover and reducing surface runoff and the risk of potential pollutants, such as sediment, pesticides and nutrients, being leached to groundwater or carried to nearby watercourses. Forage crops grown for grazing (such as stubble turnips or kale) and cash crops grown to be harvested are **not** eligible. Cover crops already funded by any other scheme (such as Countryside Stewardship) are **not** eligible. However, cover crops that only claim the Sustainable Farming Incentive (SFI) soil protection payment are eligible, subject to review by Defra in 2023.

Length of Nature-based Project Agreement available

1st June until 31st March (10 months)

Where to use this option

On land where maize is being grown and that will be followed by another spring crop the following year.

Where this option cannot be used

Cover crops cannot be funded in situations where the management of the field is in breach of the Farming Rules for Water or Nitrate Vulnerable Zone rules (if applicable). Successful applicants are required to sign the declaration described in the 'Keeping Records' section below.

Cover crops after maize cannot be funded in high-risk fields which are not appropriate for growing maize in. **Please note** that if your application for this option is successful, your scheme advisor can assess the risk of soil erosion and run-off on your maize ground and can make recommendations on how to mitigate these risks. Scheme advisors are also able to provide site specific advice on maize variety maturity group selection to help ensure the deadlines below are met. Please contact your Scheme advisor to discuss. Also see 'Keeping records' section below.

Do not choose this option for fields that are intended to be kept as grass leys after 31st May.

Do not choose this option if the residual effect of the maize herbicides you use are likely to result in partial or total failure of the undersown crop, for instance where barnyard grass is a problem. Pendimethalin may be used pre-emergence and mesotrione post-emergence without risking poor establishment of the undersown grass crop. Please consult your agronomist and contact your scheme advisor to discuss.

Requirements

- Establish a fast-growing grass cover crop between rows of maize by 10th July to provide dense groundcover and protect the land from overwinter soil erosion and nutrient runoff / leaching.
- Retain the cover crop until at least 15th January if the following crop is combinable and until at least 1st March if the following crop is maize. Once destroyed, aim to establish the following spring crop within 6 weeks.
- If severe soil compaction has occurred at the time of harvest, for instance if there are deep wheel ruts in places, those areas of the field should be assessed to determine whether post-harvest cultivation should be carried out and a post-harvest sown cover crop established instead of leaving the undersown grass with areas of soil compaction. In this situation please contact your scheme advisor.
- Estimates of the nutrients released by the cover crop should be used in nutrient planning for the following crop to ensure there is no over application or excess availability of nutrients, which may subsequently leach or runoff.

Choice of cover crop

- If undersown at or after the 6-leaf stage of maize growth, the main grass species used should be Italian ryegrass but other species such as perennial ryegrass, fescues, vetch and clover may also be included in the mix. For undersowing before the 6-leaf stage of maize growth, fescues such as creeping red fescue and tall fescue are recommended as they are less likely than Italian ryegrass to compete with the maize crop.
- Sow at a suitable seed rate to provide a dense overwinter groundcover and to prevent soil erosion. For Italian Ryegrass sown in June this will be in the range of 10-20kg/ha.

How to establish the cover crop

- The undersown cover crop must be interrow drilled and not broadcast.
- If the undersown grass fails to establish, or is patchy, then additional grass seed or another cover crop must be established (at the farmers cost) within 2 weeks of the maize being harvested.

Buffer strip requirement

- A grass buffer strip of at least 6m width must be in place against all watercourses (including ditches), roads, tracks and neighbouring properties, or where there is an identified run-off flow pathway. If a buffer strip is not already in place it must be established by the time that the cover crop is drilled. Where buffer strips do not currently exist, establishment and retention of new buffers to accompany cover crops may be eligible for funding through the scheme.

Corn Borer

- For effective control of the corn borer pest the maize stubble should be intensively shredded or flail topped after harvest. This will also encourage tillering of the undersown grasses, thereby increasing sward density and growth.

Do Not

- Do not graze the undersown crop before 15 January. Grazing after this date is acceptable.
- Do not apply any organic manures or artificial fertiliser for the benefit of the undersown crop, either after its establishment or after the maize has been harvested. No organic manures for the following spring crop should be applied before 14th February.
- Do not cultivate the field after the maize has been harvested unless the undersown grass has failed to establish or if areas of soil compaction need to be remediated.
- Do not establish the following crop without calculating the nutrient content of soil, any manures applied and the available nutrients from the cover crop residue. Apply no more nutrients than the crop requires.

Keeping Records and Contract Terms

Agreement holders will need to keep the following records and supply them with their payment claim. Payment will be made in February of the year following establishment subject to satisfactory receipt of all the following records:

- Photographs of each undersown field taken on any day in December of the year of establishment, from which the time and location of the photo can be identified. The EnTrade app can be downloaded and may be used for this purpose.
- Soil analysis results (pH, P and K as a minimum) for the relevant fields dated within the past 3 years.
- Farm and field information needed to run a phosphorus loss tool for the farm and calculate the reduction in phosphorus loss to water arising from this work. This will include farm data relating to livestock numbers, crop areas and fertiliser and manure inputs.
- Successful applicants are required to sign a declaration confirming that:
 - reasonable precautions are taken to prevent nutrients and soil from the relevant field getting into watercourses or from being leached to groundwater to an extent that could cause pollution.
 - the relevant fields have not been (i) the source of a recorded pollution incident which could have been prevented by the farmer taking reasonable precautions to prevent that pollution and/or (ii) the subject of a warning, fine, prosecution or BPS deduction issued to the farmer by the Environment Agency or RPA for a breach of NVZ rules or Farming Rules for Water in the past 5 years.

Agreement holders will need to keep the following records and supply them on request:

- Field operations at the field parcel level, including associated invoices



*Italian Ryegrass drilled into
a maize crop near Lyneham,
Wiltshire at the 4-6 leaf
stage with no reduction in
maize yield.*