

Cover crops

Cover crops are a valuable tool for soil protection particularly with the high rainfall of the South West. Over winter cover of soils reduces soil particle run off and leaching of nutrients. Clay particles washed off in overland water flow can be attached to phosphates and potash as well as other plant nutrients. Nutrients leached through water percolating through the soil are dominated by mineral nitrogen.

There are a wide range of species that can be used as cover crops, even winter weeds! For the Sustainable Farming Incentive, 70% soil cover must be achieved from December to February on arable fields.



Rye and phacelia cover crops

Overview

The selection of species to cover your soil must be dictated by:

Rotation: Ensure that the cover crop does not provide a disease or pest bridge e.g. mustard should be avoided before or after oil seed rape.

Establishment: The soil temperature affects which species germinate: legumes and phacelia require a warm soil (May/August); and brassica and grass family species can germinate in cool soil (October/November).

Cost: No direct financial return will be gained from cover crops. Therefore the seed and mode of establishment needs to be cheap. Longer term, financial gains may be achieved through improved soil health and nutrient use efficiency.

Destruction: The time and mode of destroying a cover crop varies with the following crop, climate and available machinery. For some cover species, they can be grazed off, others are susceptible to winter kill and in hotter, drier periods even a crimp roller can kill them.

Soil health

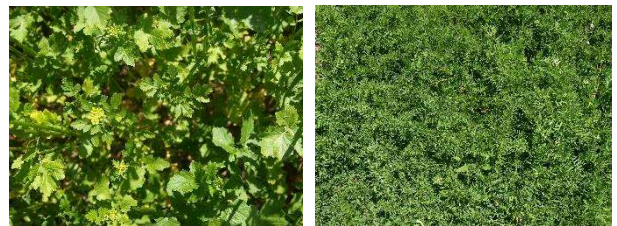
The breakdown of dead cover crop residues will release nutrients and add soil carbon. However, the economic benefits are inconclusive and are likely to be farm and soil specific due to:

- Unique decomposer communities in your soil
- Soil structure including aeration
- Soil temperature
- Weather conditions as well as climate
- Soil depth and soil type
- Cover crop residue composition.

Ground rules

Do not let the cover crops flower or get 'woody'. If the residues are tough they will take a long time to break down and draw nitrogen temporarily away from your crop.

- Start in one small field or trial part of a field.
- Have a clear plan of how the covers are going to be destroyed.
- Destroy the cover crops usually 4-6 weeks before sowing the next crop*
 - *less vital for legumes
- Consider cover crop mixtures, they can offer multiple benefits to soil microbial communities.



Oil radish and winter vetch cover crops

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