



# Cover (catch) crops



## Definition

Growing of a second non-commercial crop in the gap between two commercial crops.

## Catch, Cover and Green Manure

### CATCH CROP

– capture free nutrients in the soil & prevent leaching into ground water.

### COVER CROP

– cover the ground with green material to prevent soil erosion.

### GREEN MANURES

– bulk-up and release nutrients for the benefit of the following crop.

All essentially the same

## Why are they important?

### FARM SYSTEM

- 1 Improve soil health – increase soil organic matter, improve soil structure and enhance soil biology
- 2 Improved seed beds and crop establishment.
- 3 Potential to reduce base fertiliser needs for subsequent crops.
- 4 Provide over-winter grazing to livestock
- 5 Cultural control of grass and broad leaved weeds

### ENVIRONMENT

- 1 Reduce GHG emissions by up to 1.33 t CO<sub>2</sub> eq/ha/yr.
- 2 Reduce risk to water quality – reduce N leaching and prevent P runoff.
- 3 Reduce winter erosion



Eligible for additional payments under agri-environmental schemes such as ACRES, Farming for Water EIP, and some tillage sustainability schemes.

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## Steps to Incorporating Cover Crops

### Step 1: Choosing the correct cover crop type

#### What do you need the crop for?

|                            |                                                                    |                                                                      |                                                                 |                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Overall objectives:</b> | Forage for grazing in early spring.                                | Improve soil structure and increased soil organic matter.            | Provide N for the following spring crop.                        | Cultural control of grass weeds.                                                                                                                         |
| <b>Goal:</b>               | Produce a large, bulky autumn/ winter biomass for grazing          | Deep rooting to break compaction and add organic mater.              | Reduce fertiliser need by biologically fixing N.                | Use species to flush and/or suppress weeds, lowering herbicide reliance.                                                                                 |
| <b>Best choices:</b>       | <b>Brassica species:</b><br><br>Forage/fodder rape<br>Leafy turnip | <b>Deep-rooting species:</b><br><br>Tillage raddish<br>Smart raddish | <b>Legume species:</b><br><br>Vetch<br>Peas<br>Beans<br>Clovers | <b>Often species that allow weed germination and flush:</b><br>Vetch Phacelia<br><br><b>Allelopathic or suppressive species:</b><br>Oats, Rye, Buckwheat |

**Note:** Consider winter hardiness and the 2023 lie-back rules when planning grazing.

#### Cover Crop Species Groups

| Cereals/Grasses | Brassicas          | Legumes        | Others    |
|-----------------|--------------------|----------------|-----------|
| Oats            | Mustard            | Vetch          | Phacelia  |
| Rye             | Tillage Radish     | Peas           | Buckwheat |
| (Wheat)         | Forage/fodder rape | Beans          | Linseed   |
| i(Barley)       | Leafy turnip       | Crimson clover | Sunflower |
| Black oats      | Smart radish       | Berseem clover |           |

#### Rotation and Disease/Pest Considerations

*Avoid species that increase risk in your rotation:*

|                                        |   |                                                                                                   |
|----------------------------------------|---|---------------------------------------------------------------------------------------------------|
| If you grow oilseed rape on the farm   | → | Avoid brassicas in cover crops to reduce clubroot risk.                                           |
| If peas or beans are a main break crop | → | Avoid legumes in cover mixes.                                                                     |
| If oats are an important crop          | → | Avoid using oats in the cover mixture to reduce the chance of building oat mosaic virus problems. |



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Seed

Only source seed tested by  
Irish Seed Trade Association's (ISTA's)  
Higher Voluntary Standard (HVS) Scheme



## Recommended seed rates

| Catch crop species | Seed rate (kg/ha) | Catch crop species | Seed rate (kg/ha) |
|--------------------|-------------------|--------------------|-------------------|
| Buckwheat          | 30-40             | Rye                | 60-75             |
| Crimson clover     | 10-15             | Tillage radish     | 4-6               |
| Berseem clover     | 10-15             | Vetch              | 15                |
| Forage/fodder rape | 4-5               | Leafy turnip       | 4-6               |
| Mustard            | 8-10              | Peas               | 40-50             |
| Oats               | 60-75             | Beans              | 70-90             |
| Black oats         | 30-40             | Linseed            | 15                |
| Phacelia           | 4-5               | Red clover         | 8-10              |
| Sunflower          | 10-15             |                    |                   |



Be aware of seed compatibility and establishment characteristics to avoid one species dominating or failing to establish.



If making a custom mix, get advice from your adviser — complex mixes may not always be better than simple two- or three- species mixes.

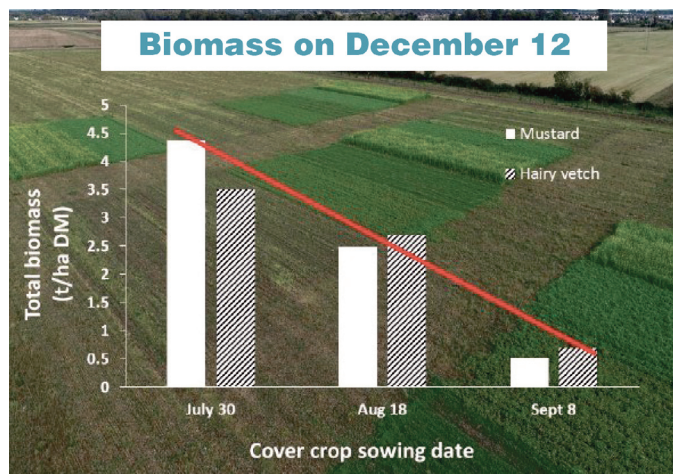


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## Step 2: Establishment

### Sowing date – *the most important factor*

- Earlier sowing gives much greater autumn biomass for all goals. Teagasc Oak Park trials showed a linear drop in biomass with delayed sowing. For example: mustard yield dropped by c. 2 t DM / ha for every three-week delay in sowing.



- Practical note: prioritise sowing as soon as the main crop harvest is finished and straw has been removed or combine sowing with straw incorporation if chopping.

### Cultivation depth and seeding:

- Keep cultivations shallow: 50–100 mm is recommended to protect seedbed moisture and soil structure.
- Consolidate immediately after sowing: roll to ensure good soil-to-seed contact and retain moisture.

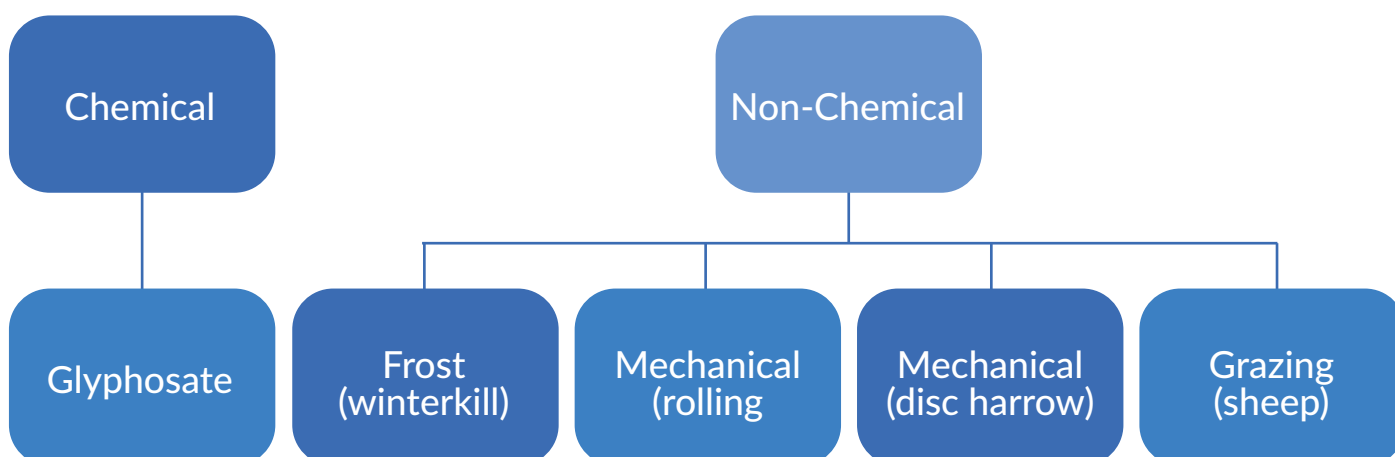
### Machine choice:

- Methods and machines vary widely; normally sown using a disc or tine cultivator with seeder; the priority is shallow cultivation and prompt consolidation after sowing.



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## Step 3: Termination and follow-on crop considerations



- Termination method and timing affect the benefit to the following crop — plan termination to maximise N release (if using legumes) and to avoid disease and pest carryover with the 'green bridge' effect.
- Farmers may see reduced fertiliser requirements in following crops after a well-managed cover crop, depending on sowing date and mix type – monitor soil and crop responses and seek advice for N budgeting.

### Quick checklist before sowing

|                                                                                     |   |
|-------------------------------------------------------------------------------------|---|
| Have you identified the primary purpose (grazing, soil structure, N, weed control)? | ✓ |
| Is the chosen mix compatible with your rotation (disease/virus risk)?               | ✓ |
| Can you sow promptly after harvest to capture maximum biomass?                      | ✓ |
| Have you discussed complex mixes with your adviser or used a simple mix instead?    | ✓ |



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](http://www.teagasc.ie/signpost). The Teagasc Climate Centre is a virtual centre to co-ordinate agricultural climate and biodiversity research and innovation across Teagasc.