



## GREEN MANURES

### What are they?

Traditionally used in farming, green manures are crops grown purely to improve and protect the soil when it is not in use.

### Benefits

- As with well-rotted manure and compost, they add organic matter to the soil.
- This, in turn, increases the populations of micro-organisms that will be breaking them down.
- As the micro-organisms die, compounds – gums, waxes and mucus – are released into the soil.
- These compounds help to bind the soil into particles.
- Particles benefit light soils by holding onto water, and clay soils by aerating them.
- The end result after several years of everything rotting down together is *humus* – the magic ingredient for soil fertility.

### ALSO:

- The roots of green manures hold the soil together and so prevent heavy winter rains leaching the nutrients out.
- Those in the pea family (legumes) are ‘nitrogen fixers’, adding nitrogen to the soil – excellent if you are following them with a leafy crop.
- The leafy types (e.g. mustard and phacelia) will shade out weeds.
- Green manures with hefty roots (like grazing rye) break down heavy soils.

### How to go about it

Green manures are agricultural crops. They are strong, fast growing, well adapted to our climate and don't need much attention. Prepare the ground by clearing the weeds and raking it over to a fine tilth. Scatter or cast the seed at the recommended rate. Rake over. A top dressing of well-rotted manure or compost will give it a kick-start. Keep watered after sowing and in dry spells. Before it flowers (or when you want the ground if sooner), cut the top growth off with shears. Leave the foliage to wilt for a few days and then dig (or rotavate) it along with the roots back into the soil. Leave it to rot down for up to a month before planting the next crop. If you need the ground before, compost it and apply it later.

### Which green manure?

Choose by the season and how long you want the green manure to stay in the ground. Some, like mustard, can be turned around in six weeks while others, like clover, can be left in for two years. Check their soil preferences and their family groups. Avoid sowing family relatives of your crops as they will be prone to the same pests and diseases. Field beans and clovers following a pea or bean crop (legumes) or mustard where there were cabbages (brassicac), for example, could lead to a build up of soil-borne pests.

## GREEN MANURES FOR SUMMER

	SOWING TIME	LENGTH OF TIME IN SOIL	SOIL TYPES	NITROGEN FIXING	COMMENTS
Buckwheat	April – Aug	2 – 3 months	Can take poor soil.	No	Fast grower, pretty plant. Leave a few flowers for hoverflies.
Mustard	Mar – Aug	2 – 8 weeks	Moist & fertile. A brassica so avoid planting before or after cabbage family.	No	Fast growing leafy crop, good for shading weeds. Easy to dig in.
Alsike clover	Apr – Aug	2 – 3 months or up to 2 years	Damp, acid.	Yes	Hardy perennial. If growing over long period cut back before flowering.
Crimson clover	April – Aug	2 – 3 months or over one winter	Prefers light soil, but not fussy.	Yes	Hardy annual. Needs to be sown by end June if to be over-wintered. Keep a few back to flower for the bees.
Phacelia	April – Aug	2 – 3 months	Virtually any. Very tolerant.	No	Half hardy annual. Fast growing leafy crop. Good for shading out weeds. Leave a few flowers for insects.
Fenugreek	April – Aug	2 – 3 months	Well drained and fertile.	No	Half hardy annual. Fast growing leafy crop. Good to shade out weeds.

## GREEN MANURES FOR WINTER

	SOWING TIME	LENGTH OF TIME IN SOIL	SOIL TYPES	NITROGEN FIXING	COMMENTS
Winter tares or common vetch	Jul – Sep	Over winter	Heavy, not too acid.	Yes	Very hardy annual. Ideal to be followed by a leafy crop. Dense cover, easy to dig in.
Grazing rye	Aug – Nov	Over winter	Almost any. Keep well watered.	No	Very hardy annual. Fibrous roots good for breaking up heavy soil but tough to dig up.
Field beans	Sept – Nov	Over winter	Damp, heavy. Dislikes dryness.	Yes	Cut down in spring and allow more growth before digging in if there is time. Leave a few to flower for the bees. You can eat the young beans.

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