

Seeding the B-Lines: Selecting Species and Seeds



Wildflower meadow © Paul Evans

What are B-Lines?

Buglife is promoting the restoration and creation of large areas of wildflower-rich grasslands through its [B-Lines](#) Initiative. This ambitious project aims to secure the restoration, creation and management of at least 150,000 ha of wildflower-rich habitat, which will help sustain bees, pollinators and other biodiversity, and enable them to adapt to climate change. B-Lines are wide strips of meadows, pastures and other wildflower-rich habitats which will join up to create a network of habitat across the country.

Within B-Lines the highest priority is to protect and enhance our existing wildflower grasslands, as these areas will already be rich in insects and plants. However we also need to create large area of new wildflower-rich grassland to replace some of the hundreds of thousands of hectares lost in previous decades. Guidance is provided in Fact Sheets 2 & 3 (see below) to help you decide when you should try and restore grasslands and when you may need to create new ones.

What kinds of grasslands should I create?

New grasslands rich in native wildflowers are likely to be of more value to insects and other wildlife if you choose to re-introduce wildflower species which are found in your local area.

What seeds or plants should I be using?

We advise that only native plant species should be used to create wildflower-rich grasslands in the countryside (see [planting for biodiversity](#)). Both cultivated/ garden varieties and non-native plants can be a threat to our native wildflowers; they can both interbreed with, and out-compete native species.



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Where do I source wildflower seed?

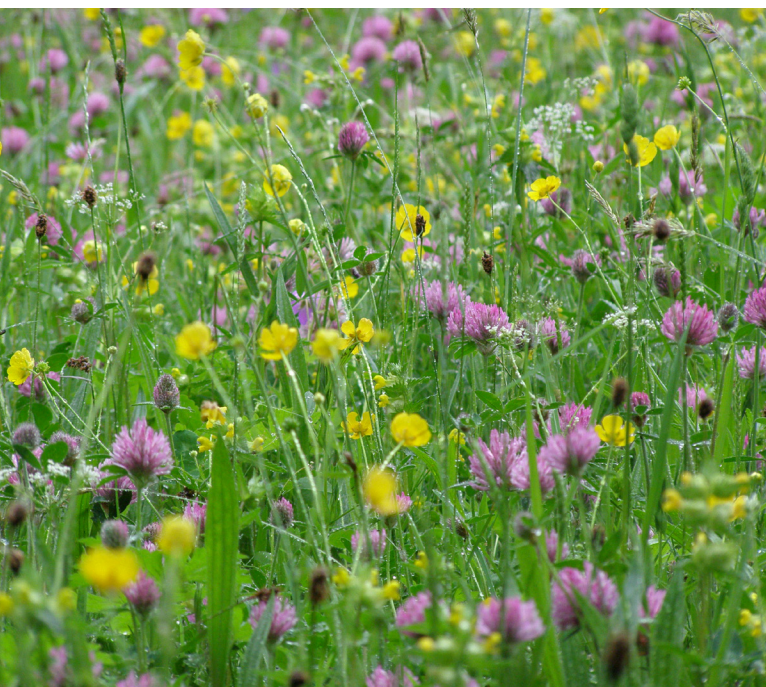
We recommend the use of British native-origin planting stock and wherever possible seed of regional or local origin (see [sourcing seed](#)). You may be able to obtain locally sourced wildflower seed by harvesting seed or green hay from local grasslands. Alternatively some companies will produce seed from plants grown on from locally collected seeds (see [selecting appropriate seed sources](#)).



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How do I decide what species to seed in?

- The easiest way to select a seed mix is to make a visit to local wildflower-rich grasslands found on similar soils and aim to copy this. If you are not confident that you can identify enough wildflower species, ask a wildlife group for information on local native wildflower grasslands; this will provide you with a good list of species which you can consider using. A useful guide to plant species likely to be



Wildflower meadow © Paul Evans

found in your locality can be found at [The Postcode Plants Database](#)

- To be sure you are using the most appropriate species it is always worth asking an expert (a local authority ecologist, Wildlife Trust officer, Natural England etc)
- Use a range of plant species with different flowering periods. This will ensure you create a grassland with a long flowering season which will benefit a large number of insect pollinators
- Remember it is not just the flowers which are important. Many insects and other wildlife also feed of the leaves and shoots of plants, so native grasses should also be included

Which wildflower species are best?

Grasslands can contain a very large number of different wildflower species – the richest grasslands can contain over 150 different plant species! However, some species are very difficult to establish, so it is therefore sensible to keep things simple. Do not try and plant too many species – this is both expensive and many are likely to fail (see [key species](#)). It is often better to stagger seeding, using a smaller number of more easily established species first and then introducing other species at a later stage.

Common wildflowers which provide valuable pollen and nectar sources are listed below, with species which are easiest to establish during grassland restoration/creation being highlighted in blue.

What wildflower species should I use where?

The most appropriate species to choose are those which will grow well on the soils you have on your land, i.e. whether these are calcareous, neutral or acidic in nature (see [soil analysis](#)). In addition the wetness of the soil will influence the choice of species; those more commonly found in wetland habitats are likely to grow well on waterlogged soils. Some wildflowers useful to pollinating insects which can be established on different soil types include:

Wildflowers valuable to insect pollinators and suitable for neutral meadows and pastures

Common name	Species name
Yarrow	<i>Achillea millefolium</i>
Cuckoo flower	<i>Cardamine pratensis</i>
Common Knapweed	<i>Centaurea nigra</i>
Lady's bedstraw	<i>Galium verum</i>
Catsear	<i>Hypochaeris radicata</i>
Field Scabious	<i>Knautia arvensis</i>
Meadow Vetchling	<i>Lathyrus pratensis</i>
Rough hawkbit	<i>Leontodon hispidus</i>
Ox-eye daisy	<i>Leucanthemum vulgare</i>
Bird'sfoot trefoil	<i>Lotus corniculatus</i>
Cowslip	<i>Primula veris</i>
Selfheal	<i>Prunella vulgaris</i>
Meadow buttercup	<i>Ranunculus acris</i>
Yellow rattle	<i>Rhinanthus minor</i>
Betony	<i>Stachys officinalis</i>
Devil'sbit scabious	<i>Succisa pratensis</i>
Red clover	<i>Trifolium pratense</i>
Bush vetch	<i>Vicia sepium</i>

Wildflowers valuable to insect pollinators and suitable for calcareous grasslands

Common name	Species name
Harebell	<i>Campanula rotundifolia</i>
Greater knapweed	<i>Centaurea scabiosa</i>
Lady's bedstraw	<i>Galium verum</i>
Common Knapweed	<i>Centaurea nigra</i>
Catsear	<i>Hypochaeris radicata</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Rough hawkbit	<i>Leontodon hispidus</i>
Bird'sfoot trefoil	<i>Lotus corniculatus</i>
Black medick	<i>Medicago lupulina</i>
Burnet saxifrage	<i>Pimpinella saxifraga</i>
Cowslip	<i>Primula veris</i>
Selfheal	<i>Prunella vulgaris</i>
Yellow rattle	<i>Rhinanthus minor</i>
Salad burnet	<i>Sanguisorba minor</i>
Small scabious	<i>Scabiosa columbaria</i>
Wild thyme	<i>Thymus praecox</i>



Greater knapweed (*Centaurea scabiosa*) © Dr Chris Gibson



White-tailed bumblebee (*Bombus lucorum*) © Roger Key



Selfheal (*Prunella vulgaris*) © Dave Riseborough

This is one of a series of B-Lines Fact Sheets which provides guidance as to how to restore, recreate and manage wildflower meadows and pastures. Other fact sheets include:

- Sheet 1 - **Grasslands for Insect Pollinators and other wildlife**
- Sheet 2 - **Wildflower-rich grassland restoration**
- Sheet 3 - **Wildflower-rich grassland creation**
- Sheet 4 - **Management of wildflower-rich grasslands for pollinators and other insects**

Further useful guidance includes:

More comprehensive lists of important wildflower, alongside details of flowering periods can be found at [B-Lines 2](#)

Managing your land for Bumblebees (see [Bumblebee Conservation Trust](#))

Go native! Guidelines for planting projects in the countryside (see [Floralocale](#))

Buying native flora (see [Floralocale 2](#))

Seed sources for grassland restoration and re-creation in Environmental Stewardship (see [Natural England](#))

Selecting indicators of success for grassland enhancement – TIN050 (see [Natural England 2](#))

Soil and agri-environment schemes: interpretation of soil analysis TIN036 (see [Natural England 3](#))

Sward Enhancement: choice of methods – TIN062 – (see [Natural England 4](#))

Seed sources for Grassland restoration and Re-Creation in Environmental Stewardship (see [Natural England 5](#))

Arable reversion to species-rich grassland: establishing a sown sward TIN067 (see [Natural England 6](#))

Information on Environmental Stewardship is available from Natural England (see [Natural England - Farming and land stewardship](#))

Information on the Campaign for the Farmed Environment can be found at (see www.cfeonline.org.uk)



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