

 Shepherd Seeds AB9: Grey Partridge Mixture



Suggested Sowing Rates
50kg/ha 20kg/acre 5g/m2

Description
Once mature the contents of our 2 year Ab9 Grey Partridge mix will drop high quantities of small seed, helping provide a vital food source for farmland birds throughout the winter and into the early spring. The species used in Ab9 will quickly create good nesting cover enabling many farmland birds the opportunity to breed close to a reliable food source.

Where To Establish
This option may be established in blocks or strips of at least six meters in width and a minimum of 0.4ha. The maximum individual plot size allowed under this agreement is five hectares. Careful consideration should be given to plot locations to help maximize their benefit to both target and non target species. It is important that once these plots have been established they are managed correctly with plots containing annuals being renewed every year and perennial mixtures every two years.

Sowing
AB9 should be sown between the 1st of March and 15th of June. To comply you must establish a mixture containing cereals, brassicas and other seed producing species that will provide an abundance of high energy small grain seeds throughout the winter months to meet the needs of farmland birds.

Mixtures must be sown into warm, well drained soils in spring and allowed to establish. It is important that correct agronomy is used if needed to prevent the ingress of aggressive weed species.

Mixtures are best drilled between 1.5cm and 2.5cm to allow fast and even germination. It is important that adequate soil warmth and moisture is available. After drilling it is recommended that the seed bed is then rolled to ensure good seed to soil contact.

Composition
AB9 contains: 50% Spring Triticale, 30% Spring Barley, 5% White Millet, 5% Kale, 5% Linseed, 5% Fodder Radish – (ingredients may vary)

Ref:
<https://www.shepherdseeds.co.uk/products/countryside-stewardship-seed-mixtures/grey-partridge-mix-ab9-countryside-stewardship/>

 Grazing grassland underneath panels, such as Cotswold Seeds: Solar Park Long Term Grazing Mixture



Suggested Sowing Rates
32.5kg/ha 13kg/acre

Description
This mix is a dual purpose ley, which provides a tough green cover around the panels and a high quality grazing ley for sheep. It includes a larger amount of perennial ryegrass to aid establishment and produce a bulky sward that will benefit livestock. It will need to be over-seeded after year 5 to renew the quality of the ryegrasses and reduce invasive species which are lower quality. This ensures the sward remains nutritious and beneficial as a livestock grazing ley. This mix has a higher sowing rate to compensate for the livestock grazing pressure on the sward.

Sowing
Mixtures should be shallow sown, especially if the mixture includes clover to a depth no deeper than 15mm. The surface mixtures can be shallow drilled or broadcast before the panels are installed (areas may need to be patched up after installation if damaged by machinery). Alternatively it can be sown between the rows of arrays after installation, issues can arise when trying to seed directly beneath the arrays.

Management
More productive mixtures containing high levels of ryegrass may be grazed by sheep, lower yielding mixtures may be topped or mulched periodically several times a year to keep the sward height low.

Ref:
<https://www.cotswoldseeds.com/products/1904/solar-park-long-term-grazing-mixture>

Plant schedules

Solar Fields					
Trees					
Number	Species	Girth	Height	Specification	Density
80	Acer campestre	40-60cm	10-12cm	300-350cm 2x; Selected Standard; clear stem minimum 200cm; 4 breaks; RB	Counted
83	Crataegus monogyna	12-14cm	350-425cm	Heavy Standard; 5 brks: 3x: RB: Clear Stem 175-200cm	Counted
14	Prunus avium	12-14cm	350-425cm	Heavy Standard; 5 brks: 3x: RB: Clear Stem 175-200cm	Counted
14	Quercus robur	12-14cm	350-425cm	Heavy Standard; 5 brks: 3x: RB: Clear Stem 175-200cm	Counted
10	Salix caprea	12-14cm	350-425cm	Heavy Standard; 5 brks: 3x: RB: Clear Stem 175-200cm	Counted

Native Hedge Mix					
Number	Species	Height	Specification	Density	Percentage Contribution
370	Acer campestre	40-60cm	1+1; Transplant - seed raised; B	0.25Ctr Double Staggered at 0.3m offset	10%
1102	Corylus avellana	60-80cm	Branched; 3 breaks	0.25Ctr Double Staggered at 0.3m offset	30%
370	Crataegus monogyna	60-80cm	1 + 1; Transplant - seed raised; branched; 4 breaks	0.25Ctr Double Staggered at 0.3m offset	10%
370	Ilex aquifolium	60-80cm	Leader with laterals	0.25Ctr Double Staggered at 0.3m offset	10%
735	Rosa canina	40-60cm	Branched; 5 breaks	0.25Ctr Double Staggered at 0.3m offset	20%
735	Sambucus nigra	40-60cm	Branched; 3 breaks	0.25Ctr Double Staggered at 0.3m offset	20%
Total :3682					

 Wildflower grassland Cotswold Seeds: Cotswold Wild Flora mixture



Suggested Sowing Rates
25kg/ha 10kg/acre 2.5g/m2

Description
A very colourful mixture of native perennial and annual wild flowers and grasses. This is our most popular wild flower mixture. We include annual species in the mixture to give an exceptional show of vivid colour during the first year. From the second year the perennial flower species begin to increase and just get better year by year. Sow between March and early May, or August and early October at 10 kg per acre or 25 kg per hectare. Species included vary occasionally. Pictured here, Gordon Crouchs farm in Devon showing the benefit of the first year annuals.

Sowing
It is important to control any weeds in the area to be sown before the seeds are broadcast. Problem weeds are docks, thistles and nettles as these cannot be removed easily once the meadow area is sown.

Stale seedbed technique - prepare the seedbed as usual then wait a few weeks for weeds to germinate, then cultivate again to destroy the weeds. Then sow your seed.

Black plastic sheeting can work well on small areas.

Once weeds have been dealt with, prepare a fine, but firm and well-worked seedbed and give it a roll. Then broadcast the seeds by hand or using a spinner. Once this is done, harrow or rake the area, then roll it again to ensure the seeds are in good contact with the soil.

Annual wild flowers should be spring sown into bare soils to get the best results, they should be sown by May for a late spring/early summer sowing.

If an existing meadow starts to look thin, then it is possible to overseed with just wildflower seeds, although to do this successfully the area must be cut and harrowed well, beforehand to ensure the seeds reach the soil.

Management
Wildflower mixtures contain fine, non-aggressive grasses, excluding the more competitive grasses such as ryegrasses, cocksfoot and agricultural forms of timothy. Heavy, clay-rich or fertile soils will encourage grass growth, so meadows are most successful on lighter, drier, free-draining soils.

Any perennial weeds should be cut out or spot treated. Annual weed varieties will disappear after the first season.

Wild flower meadows, once successfully established, should be permanent, and will improve and evolve with age.

Wildflowers prefer infertile soils, so do not thrive in areas of high fertility. Some enthusiasts remove fertile topsoil exposing less fertile subsoil.

If established correctly on the right type of soil, the balance of species should be harmonious. Any imbalance normally means the soil is too heavy, too wet or too fertile, so favouring grasses.

Composition
EM2 is a complete mix composed of 15% native wild flowers and 85% slow growing grasses (by weight). The flower and grass components are also available to order separately as EM2F for the flower component and EG1 for the grass component.

Ref: <https://www.cotswoldseeds.com/products/416/cotswold-wild-flora>

 Riparian habitat corridor such as Emorsgate Seeds EG8: Meadow Mixture for Wetlands



Suggested Sowing Rates
25kg/ha 20kg/acre 5g/m2

Description
EG8 contains species suitable for seasonally wet soils and is based on the vegetation of traditional floodplain and water meadows. Soils in wet meadows may flood for short periods in winter, but are usually well drained in summer.

Ground Preparation
Ideally select ground that is not highly fertile and does not have a problem with perennial weeds (especially grass weeds like couch). Good preparation is essential to success so aim to control weeds and produce a good quality seed bed before sowing.

To prepare a seed bed, first remove weeds using repeated cultivation. Then plough or dig to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll or tread to produce a firm surface.

Sowing
Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution, and avoid running out, divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good soil/seed contact.

First Year Management
Growth and establishment of wild grasses may be slow initially, especially at low sowing rates (2-5g/m2). There will often be a flush of annual weeds from the soil in the first growing season. This weed growth is easily controlled by topping or mowing.

Mow all plant growth (sown grasses and weeds) regularly to 40-60mm throughout the first growing season to prevent weeds smothering the slower-growing grasses. Remove cuttings if dense, more frequent and regular topping will minimise the amount of toppings produced each time so they can be left to disperse.

Management Once Established
In the second and subsequent years grass sowings can be managed in a number of ways which, in association with soil fertility, will determine the character of the grassland. Regular mowing or continuous grazing will produce a short turf or lawn.

The sowing can be managed as a meadow allowing the grasses to grow tall, flower and seed from May through to July/August. The grass meadow should be cut back and mowing resumed in late summer.

Grassland which is not cut or grazed each year will eventually become coarse and tussocky in character.

Wild flower seed can be added after the grasses have established and weed problems have been dealt with. The sward will need preparation for sowing into existing grass. Flower establishment will not be as good as compared with sowing the grasses and flowers together on to bare soil, as the grasses have a 'head start'.

Composition
EG8 is a 100% grass seed mixture which can be sown alone or sown with wild flowers eg EM8F or EP1F. EG8 is available premixed with these flower mixtures as complete meadow mixtures EM8 and EP1. Generally when sowing EG8 grasses without wild flowers the sowing rate may be increased to 10-15g/m2 without compromising the development of diversity.

Ref: <https://wildseed.co.uk/product/mixtures/grass-only-mixtures/meadow-grass-mixture-for-wet-soils/>

 Hedgerow and woodland grass mix such as Cotswold Seeds: Buffer Strip Grass Margin Mixture.



Suggested Sowing Rates
25kg/ha 10kg/acre 2.5g/m2

Description
An ideal mixture for buffer strips on cultivated land. It is suitable for all soil types and creates habitat for small mammals, invertebrates and birds. Its main purpose is to protect vulnerable areas, such as water courses, from agrochemicals and fertilisers.

Sowing
Sow between March and early May, or August and late September. Later sowings are slower to establish and can be vulnerable to slugs.

Many of the species included have small seeds and should therefore be surface sown onto a fine, firm seedbed at not more than 1-2cm. If broadcasting it is best to lightly harrow and roll twice after sowing.

Management
Once established, Buffer Strips only need to be cut once a year after mid July. If sowing a six metre margin we recommend leaving the outer two or three metres uncut to provide tussocky cover for insects and wildlife.

Beetle Banks may be cut two or three times in the first year for annual weed control but, once established, are cut only to prevent the encroachment of woody and suckering weeds.

Recreating Grassland may be mown for hay (or silage) in late June and can also be grazed or topped if needed. Species Rich Parkland Grassland is less productive and may be grazed occasionally or topped to keep the sward down.

Ref:
<https://www.cotswoldseeds.com/articles/364/resource-protection-and-grassland-sowing-and-growing>

Planting notes

The handling of plants to be in accordance with National Plant Specification 'Handling and Establishing Landscape Plants'. All plants and planting operations are to comply with the requirements and recommendations of all current relevant British Standard specification including but not limited to:

- BS 8545: Trees: From Nursery to Independence in the Landscape
- BS 3936-1:1992. Nursery stock. Specification for trees and shrubs
- BS 3882:2015 - Specification for topsoil
- BS 4428:1989. Code of practice for general landscape operations (excluding hard surfaces) (AMD 6784)
- BS 5837: 2012 Trees in relation to design, demolition and construction. Recommendations

All planting to be carried out during appropriate climatic conditions from mid-November to mid-March. Existing topsoil and/or imported, clean/inert horticultural ameliorants from sustainable sources. Contractor to satisfy themselves with measurements on site and the full extent of works before pricing.

Clearance

For construction and/or temporary facilities only:

Cut back grass and all other vegetation to an initial height of 150mm and then, following a period of 24 hour period, cut back to ground. Refer also to the recommendations provided in the Preliminary Ecological Appraisal.

Vegetation clearance shall be undertaken in a directional manner towards areas of retained vegetation.

For areas of proposed seeding, clear all grass and perennial vegetation including brambles, suckering and epicormic growth to ground level, apply herbicide and cultivate to a fine tilth in preparation of seeding. All rubbish, debris and existing **redundant** infrastructure to be removed. Stone picking of all stones and debris over 25mm to be undertaken. All trees and shrubs to be retained to be protected during works in line with BS5837:2012.

Topsoil

Existing topsoil must be cultivated in accordance with BS 3882:2015 outside RPAs of existing trees. No cultivation should take place in wet/ waterlogged conditions and within the RPAs of existing trees.

Trees

Excavate planting pits to the following dimensions:
Feathered Trees: 500 x 500 x 500mm depth
Selected Standard Trees: 1000 x 1000 x 500mm depth

Supply and plant, incorporating slow release fertiliser N:P:K - 4:19:10 ENMAG or similar approved at the following rates:
Feathered Trees: 100g / tree pit
Selected Standard Trees: 100g / tree pit
Shrubs: 70g / m²

Provide and fix tree stakes and ties to the following dimensions:
Feathered Trees: overall length 1250mm; height above ground: 600mm
Selected Standard Trees: overall length 1500; height above ground: 750mm

Proposed tree species are not to be substituted. Should stock at the specified sizes be unavailable, use next available size.

Native shrub planting

Species to be planted randomly throughout and in groups minimum of 5no. and maximum 8no. species. Mixture of plant species to be as per the percentage contributions in the schedules below.

Native Hedgerow

Planting native hedge to be with bare-root transplants via slit planting - cutting a slit in the ground and holding it open with a spade whilst the roots of the plant are carefully inserted and spread downwards. These are to be planted with centres of 0.3m in double staggered lines offset at 0.25m. Mixture of plant species to be as per the percentage contributions in the schedules.

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Specifications

L200

Mulch

Native planting
Plants to receive a minimum of 200mm (radius) and 75mm (d) of bark mulch to the base of each plant.

Hedge
Hedge to receive a minimum of 600mm (w) and 75mm (d) of bark mulch along the length of proposed hedge.

Plant position

Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers. Allow for location of service information prior to work commencing on site.

Planting Season

Bare-root shrubs to be planted between mid-November and mid-March dependant upon the planting season.

General notes

Substitutions, if made, should be similar in size, form and water demand. Plants shall be arranged to avoid straight lines and geometric patterns.

Rabbit guards

Biodegradable spiral rabbit guards are to be installed around transplants.