

Enhancing the floral diversity of semi-improved grassland

Flower-rich grassland in Lincolnshire, 12 years after band-spraying and strip-seeding

Semi-improved grassland contains a reasonable variety of fine-leaved grasses, such as Red Fescue, Common Bent, Meadow Foxtail, Sweet Vernal-grass and Crested Dog's-tail.

There may be some herbs present, such as Buttercups, Dandelion and Common Sorrel. However, herbs will be scarce if the sward has been treated with a broad-leaved herbicide or artificial fertiliser in the past.

Damper grasslands may also contain patches of rush, sedge and Tufted Hair-grass.

Grasslands with a high proportion of False-oat Grass, Cocksfoot, Yorkshire Fog, Perennial Rye-grass and White Clover are unsuitable for floral enhancement using the methods described in this note.

Bringing back the meadows

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The flora of the site should be surveyed between May and July (when grasses and herbs will be in flower). As the existing sward already has some species diversity, the aim should be to retain this as far as possible. The botanical survey will identify areas where seed introduction could be beneficial and indicate the target community to be restored, but may also suggest that the sward could be restored without seed introduction.

If green hay is to be used, ground preparation should be completed during July (prior to the hay cut). If processed seed is to be used, the site should be ready to sow by the end of August or in early September.

Patch- or strip-spraying method using no soil disturbance

This method involves no soil cultivation so minimises nitrate leaching and disturbance that could lead to a flush of perennial weeds. It can be done using equipment readily available on the farm, and as an "inoculation" technique does not require a large quantity of seed (so is cost-effective if seed has to be purchased).

Seed will be sown (or green hay or foraged seed strewn) over killed areas of the sward. Herbicide should be applied to the sward when there is sufficient leaf area to absorb the chemical, but not on tall or tussocky grassland, or if thick grass mats are present.

Prior to spraying the sward should be grazed or mown, and harrowed if there are any grass mats. Areas should be chosen to patch- or strip-spray with a total-kill herbicide. The size and number of patches or strips to be sprayed will depend on the size of the area to be enhanced and the available equipment (knapsack, atm-mounted, tractor-mounted boom). The total area killed should not exceed 30% of the site, and the patches should be well-distributed across the field.

After the grass has been killed, an appropriate seed mix containing Yellow Rattle should be spread over the killed patches, by hand, using a spinner or by drilling seed on to the soil surface.



Herb-poor amenity grassland prepared for inoculation with wild meadow seed. Strips were knapsack-sprayed with Glyphosate

Additional Yellow Rattle can be broadcast into the untreated areas of grass. Wild seed should not be buried as it requires light to germinate.

The treated areas should be sown at a rate between 10–20kg/ha (1–2g/m²). If green hay or forage is used the material should be strewn at a ratio of 1:2–1:3 (area of donor:receptor site).

Whole-field treatment using mechanical preparation methods

This technique is not suitable for sites with a history of Dock or Creeping Thistle infestation, or for highly improved swards that have been regularly fertilised.

- ✿ Create 30–50% bare ground across the whole field prior to sowing by power harrowing or discing.
- ✿ Using a sowing rate of 10–20kg/ha broadcast the seed across the whole site (if possible avoiding any large areas that have not been discing).

For further advisory notes, case studies, guidelines for planting projects in the countryside, training opportunities and suppliers of native flora, go to www.floralocale.org



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