

Creating wild flower meadows on improved agricultural grassland sites

Improved grassland is dominated by sown species, such as Perennial Rye-grass, White Clover, Timothy and Highland Bent. There are usually very few herbs. If present they tend to be primarily Dandelion and Creeping Buttercups. The sward is of no conservation value, and will prevent wild flowers and native grasses from becoming established, so it must be destroyed. The recommended approach is the “nil-cultivation” method.

This technique can also be used on some ex-arable sites that are under long-term set-aside that have been managed by mowing, or that have overwintered as fallow and regenerated with black-grass and biennial or perennial weeds. The method is unsuitable for sites that have only been roughly ploughed prior to fallowing. Careful assessment is needed to determine whether a site is suitable for treatment by this method.

Site assessment

The site should be assessed in Spring to determine which method will be most appropriate.

Ground preparation: nil cultivation method

Using this method involves minimal ground disturbance and will help to prevent nutrients leaching into groundwater. It may also help to reduce the risk of weeds and undesirable species (e.g. Perennial Rye-grass) regenerating from the soil seed bank.



Flower-rich meadow in 2003 at Ashton Wold, Northants, created in the 1980s on an improved grassland site using the nil cultivation technique. Seed from this meadow is now used to create other new meadows. Photo: Sue Everett

Apply a total-kill herbicide, when there is some grass growth. (Long swards should be prepared by grazing or mowing to remove most of the growing biomass.) Grass cuttings must be removed.

Review the effectiveness of the weedkiller two weeks after application. A second application may be required to deal with germination of rye grass or clover from the seed bank.

Timing

Preparation times must be calculated by working back from the ideal time for sowing. For lowland sites this will be late August-early September for processed seed, mid-July for green hay or forage.

Sowing

After the sward has been killed, an appropriate seed mix should be broadcast using a spinner or drilled on to the soil surface (do not slot-seed). Green hay or grass forage-harvested from a suitable donor site can also be used.

Sowing rate: 10-20kg/ha processed seed (the lower rate may be possible, depending on the type of site and seed mix used).

Ground preparation: cultivation method

Spray the sward with a total-kill herbicide (optional), then plough and treat as ex-arable using repeated cultivations and/or herbicide applications to destroy weed, clover and regeneration of grass cultivars prior to sowing.