

# Cultivated Margins and Plots

Cultivated, uncropped, arable field margins or plots provide an ideal habitat for rare cornfield flowers. The species that benefit from this management will in turn provide for a range of beneficial pollinating and predatory insects and other farm wildlife. Managing an area separately from the harvested area also ensures that there is no direct impact on the commercial value of the crop.

It is vital for the conservation of rare and threatened arable plants that perennial grass margins are not established on the remaining field margins where they occur. These plants need regular cultivation as well as protection from herbicides and fertilisers. Careful management of these margins will ensure there is no significant weed burden at the edge of the crop.

This is one of the most effective measures to conserve arable plants in the farmed environment, and also has wide-ranging benefits for other farmland wildlife, such as invertebrates that feed on the arable plants, and associated farmland birds and small mammals that also eat the seeds.

- Habitat for arable plants ★★★★★
- Habitat for farmland birds ★★★★★
- Habitat for invertebrates ★★★★★☆
- Habitat for small mammals ★★★★★

### Where should cultivated margins be located?

Cultivated margins or plots can be sited around any arable field, indeed many of our rare arable plants are now confined to the edges of fields. The best sites are generally in the open away from heavy shading, and with a sunny, south-facing aspect, particularly at the top of slopes. These areas often tend to be the lowest yielding area for arable crops. Generally, rare plants are usually not found on nutrient-rich soils dominated by competitive grass weeds and cleavers, preferring lighter or thinner soils, but there are some cornfield flowers, such as Corn Buttercup and Spreading Hedge-parsley, that usually grow on heavy soil which may be nutrient rich.



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The presence of priority or associated indicator species are a clear sign of where best to place margins or plots on your farm, but other factors such as soil type, nutrients and depth should also be taken into consideration. If a rare plant does occur in an area with a weed burden, particularly autumn germinating species that have a life-cycle that may also encourage the presence of autumn germinating grass and broad-leaved problem weeds, control measures such as rotating management and targeted herbicide, may be required.

### What benefits will cultivated margins and plots deliver?

The objective of cultivated margins is to create an area rich in annual plants adjacent to a crop or, if applicable, in a grass field that has undergone reversion to maintain the annual disturbance that arable plants require. The margin should have a diversity of plants to encourage the greatest range of arable wildlife.

### Management of cultivated margins and plots

To achieve a cultivated margin, annually cultivate at least a 3 m wide margin or larger plot with a fine tilth to about 4-6 inches depth (10-15 cm). The cultivation should take place in either spring or autumn depending on the target species. Extra working may be required on heavier ground to break-up clods of soil and create suitable conditions for germinating plants to root. For ease of management, this can be done when preparing the adjacent cropped land, but may need to be undertaken specifically within a grass field on an annual basis. The area is then undrilled and left to regenerate naturally. Ploughing is preferable to a minimal tillage system as is likely to bring up buried seed from the seed bank. In addition, long term minimum tillage tends to result in a build up of vigorous weeds and grasses, reducing the amount of bare ground, which is often required by arable plants.

The margins should not receive any fertiliser applications as fertiliser encourages

undesirable weeds, so applications would have an adverse effect. Take steps to prevent spray drift onto the uncropped areas which would also limit the



growth of nutrient-loving plants.

Annual cultivations not only encourage germination of the rarer arable species but can also prevent the build up of perennial weeds. However, rotating margins or plots may be necessary to prevent the build-up of problem species, and if the density of problem plants becomes too great a targeted herbicide control could be used. Herbicides should not be applied to the margins until the arable plants have set seed as they will directly affect rare arable plants. High topping of any problem weeds, such as thistles, can be undertaken before they set seed. If the area is part of an agri-environment agreement, additional advice should be sought before such management is undertaken.

Rotation of margins is preferred over herbicide spot treatment of problem weeds and invasive species. This rotation or the application of herbicides will not benefit the target species, but previous positive management will have replenished the seed bank of the rarer species. Most species can withstand several years in the seed bank under conventional cropping before reviving under cultivated margin management.

If there is a species present that has short seed longevity in the soil seed bank, such as Corn Buttercup Spreading Hedge-parsley or Shepherd's-needle and possibly Pheasant's-eye, particularly on soils with slow drainage leading to seeds rotting, cultivation of soils should be undertaken on a more regular basis to provide the conditions for these plants to grow.