



Uncropped Cultivated Margins

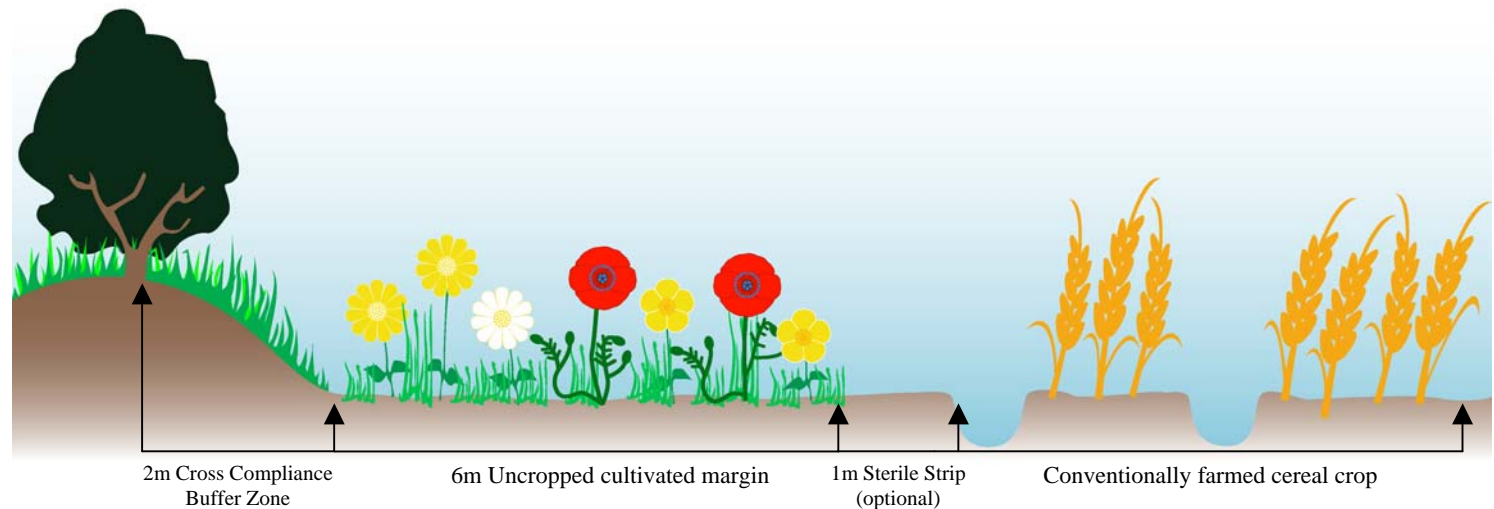


PLANTLIFE

EF11 6m uncropped cultivated margins on arable land (400 points/ha)

HF20 Cultivated fallow plots or margins for arable flora (£440/ha)

HF16 Cultivated fallow plots or margins for arable flora as an enhanced set-aside option (£80/ha)



Value to plants & other wildlife

- Uncropped, cultivated margins or plots provide the best environment for arable plants to thrive:
 - o Rare arable plants are likely to have found refuge in the narrow marginal zone (outer 4 to 6m) where herbicide and fertiliser application is less effective.
 - o The majority of rare arable species are annuals therefore ground disturbance is required each year to allow seed to germinate. This is why grass margins are not beneficial to arable plants. Matching cultivation time with specific species requirements is important, although the ability of most arable species to persist in the soil seed bank means one or two years of unfavourable conditions will do little harm.
 - o As the margin is unsown the arable plants do not have to compete with the cereal crop.
 - o It is important that fertiliser is not applied to the conservation margin as it favours the growth of highly competitive weeds (Cleavers, Black-grass, Wild Oats and Barren Brome).
 - o A lack of herbicides is crucial management practice for conserving arable plants – it is widely recognised that as soon as the spray booms are turned off arable plants can regenerate rapidly from the seed bank.
 - o If rare species have been identified then margins should be located where they occur and the appropriate cultivation timing and depth adopted.

- The regeneration of broad-leaved plants on cultivated margins also provides a habitat for a wide range of insects, birds and mammals throughout the season. Grey Partridge and other farmland birds feed on the attracted insects, and Linnets and Turtledoves feed on the seeds produced throughout the summer, the open ground cover providing access to this food source when the crop becomes too dense. The Brown Hare will graze the various plants within the margin and this source of food could be important at certain times of the year such as harvest time. Locating margins and plots next to hedgerows and grass banks can provide added environmental value.

Details of ELS/HLS options (as stated in RDS handbooks)

EF11: 6m uncropped cultivated margins on arable land (400 points/ha)

- Cultivate a 6m arable field margin annually in spring (February to April) or autumn (August to November) to a depth of about 15 cm (cultivate the strip at the same time as the rest of the crop)
- These strips should not receive any fertiliser, organic manure or waste materials (including sewage sludge).
- Herbicides can only be applied to spot treat or weed wipe for the control of injurious weeds (i.e. creeping or spear thistle, curled or broadleaved dock, or common ragwort), or invasive alien species (e.g. Himalayan balsam, rhododendron or Japanese knotweed)
- This is not a rotational option therefore a mix of spring and autumn cropping (change of cultivation timing and depth) should be implemented to control (prevent) the germination of annual grass weeds. However if a perennial weed burden does build up, the margin can be moved to another site within the same field allowing the headland to be given a year "off" to deal with weed problems.

HF20: Cultivated fallow plots or margins for arable flora (£440/ha)

- Cultivate to establish a firm, fine tilth in the autumn (August to November) or spring (February to April) depending on the target species ([link to: species characteristics table](#)).
- The plot or margin should be retained for an agreed period without the use of fertilisers, organic manures or waste materials (including sewage sludge).
- The plot or margin should be retained until at least the following 31 July. There is allowance for biannual cultivation if required by target species.
- Pesticides should be omitted from the margin/plot if possible. Restricted herbicide use will be permitted to control injurious or invasive weeds, your RDS advisor will recommend chemicals and application methods.
- Cultivated plots and margins can either be at a fixed site or rotated around the farm. Rotation is recommended for weed control, and target species can survive in the seed bank until ideal conditions return.

HF16 Cultivated fallow plots or margins for arable flora as an enhanced set-aside option (£80/ha)

- This option has very similar prescriptions to HF20 except the cultivated fallow plots or margins are within set-aside.
- Annually create in-field cultivated fallow areas or margins by producing a firm, fine tilth in spring (February to April) or autumn (August to November).
- Do not apply fertilisers, organic manures or waste materials (including sewage sludge)
- Do not disturb fallow areas before 31 July
- Non-selective herbicides must not be applied until 15 July in the set-aside year. Undesirable species may be controlled with the agreement of your RDS officer.
- Where not overridden by these prescriptions, the general and specific requirements of the set-aside scheme must be followed in full for the area under management.
- Cultivated plots and margins can either be at a fixed site or rotated around the farm

	<ul style="list-style-type: none"> ○ Steps should be taken when managing neighbouring crops to prevent any drift of fertilisers or pesticides onto the conservation area. ○ The area must not be used for regular access, vehicle turning or storage. ○ Particularly on set-aside plots sites must be carefully monitored to make sure they do not generate erosion and provide runoff pathways for sediment.
<p>Location of option on the farm</p>	<ul style="list-style-type: none"> - If rare arable plants have already been identified on the farm then the margin(s) should be located accordingly and cultivated at a time that best suits the target species. - If rare arable plants have not been identified but a good variation of broadleaved plants occurs this is a good indication rarer species could appear if given the right conditions, and the margin(s) should be located in these areas - Characteristic indicator species of a potentially rich arable flora: on sandy soils - Thyme-leaved Sandwort, Corn Spurrey, Purple Viper's-bugloss, Common Stork's-bill and Loose Silky-bent; on chalky soils - Venus's-looking-glass, Small Toadflax, Fluellen's and Dwarf Spurge. - Locations with scarce species present, such as Prickly Poppy, Dense Silky-bent, Pheasant's-eye or Shepherd's Needle, are especially suitable areas for conservation headlands. - Other considerations (where there isn't an already identified arable flora): <ul style="list-style-type: none"> ○ Sunny south facing aspect ○ Light, well drained, low fertility sandy or chalky soil ○ No significant weed burden (particularly problem species that are pernicious and difficult to control without herbicides e.g. Cleavers, Creeping thistles, Black-grass and Barren Brome) or herbicide resistance problems. ○ Sites that have a long history of cultivation (over 100 years) are more likely to have the rarer arable species still residing in the seed bank. ○ Try not to locate options on: land that has received overly heavy applications of herbicides or fertilisers (including manure); fields that have been heavily cropped with legumes or sugar beet; or directly after a break crop as soil fertility will be higher. Volunteers can also be a problem following a non-cereal break crop (beans, OSR, sugar beet, potatoes). ○ Avoid sites with many overhanging trees ○ There may be added value for mammals and birds, particularly Grey Partridge, if these options are sited next to existing grass margins, banks and hedgerows as they provide suitable nesting cover.
<p>Working with farming systems</p>	<ul style="list-style-type: none"> - Uncropped cultivated plots or margins are simple to establish and maintain using existing farm machinery. - Margins/plots can be designed and managed to work with the existing farming system - they just require a little more planning than the standard grass margin. Cultivate with the rest of the field for ease of management. - Location should take account of the factors above but also importantly the crop rotation around the farm. Maximum diversity will be achieved by varying the timing and depth of cultivation every 2 – 3 years at each margin/plot. - A mix of spring and autumn cultivations will help with pernicious weed control, particularly with margins under ELS that can only be rotated within the same field, and also provides opportunities for both the spring and autumn germinating arable plants. - If the plots or margins have been sited for a target species under HLS it is still good practice to continue this rotation as part of weed control. Species can survive in the seed bank for a year or two until the right conditions occur, although the appropriate cultivation timing should be adopted at least two in every five years. - Topping of the plot/margin (outside the bird breeding season and after seed-set of rare-arable plants) may be necessary

prior to the following cultivation. Remember this must be after 31 July.

Possible problems and how to resolve them

- The biggest problem with uncropped cultivated margins is the risk of weeds. The conditions are both ideal for desirable broadleaved arable plants and also invasive weeds. Controlling pernicious weeds, notably Cleavers, Black-grass and Barren Brome, is essential to allow arable plants such as Prickly Poppy, Corn Marigold and Weasel's-snout to flourish.
 - Choosing a site without a known weed burden or herbicide resistance problem is the most important method of control.
 - Switch cultivation timing and depth according to the different weed species present. Changing cultivation depth will disadvantage certain species:
 - Black-grass: ploughing buries seed beyond germination depth; the main germination periods are September and November. Therefore to control this weed, delay ploughing and ensure established plants and remaining seed are buried to at least 15cm depth.
 - Barren Brome: Ploughing to at least 15 cm buries seed beyond germination depth. Delaying cultivations beyond four weeks after harvest can result in induced seed dormancy.
 - Particularly with non-rotational plots the steady reduction in soil fertility from nil fertiliser input should reduce the competition from nitrogen demanding Cleavers and other grass weeds.
 - Perennial weeds are more difficult to control by cultivation (in fact it can increase the problem by cutting and spreading roots and rhizomes) and may need selective application of herbicides. Herbicide use is permitted, if necessary, as either spot treatment, through wick applicator, or in certain situations on a wider scale to regain control of margins.
 - A single use of graminicide (clodinafop-propargyl – Grasp or Fusilade 5) can be sufficient to control Wild Oats (difficult to control culturally as can germinate from depth) and Black-grass.
 - A single application of broad-spectrum, translocatable herbicide (Glyphosate) in late summer early autumn can control perennial weeds without destroying annual plants. Winter applications are of limited help and spring/summer applications would be very damaging (timing is critical - for advice contact your RDS advisor).
 - It is far better for the conservation of arable plants for margins to be treated with herbicide and re-cultivated, or moved to another site in the field, rather than to be abandoned and developed into grass margins.
 - Weed ingress into the adjacent crop is seldom a problem but a 1 metre sterile strip can be maintained between the uncropped wildlife strip and the crop to prevent the green bridge effect of weeds spreading from the hedgerow or margin.

Value of arable plants to the farmer and what to do with them

- A species rich arable flora needs to be welcomed in a sustainable farming system, it provides the foundations of a bio-diverse farming environment rich in plants, insects, birds and mammals.
- The identification of UK Biodiversity Action Plan (BAP) species will help you get into Higher Level Stewardship as this satisfies a primary target on most [JCA Target Statements](#).
- Arable plants provide a food source for insects, birds and mammals, they also have strong historic and cultural importance, with species like Cornflower and Corn Marigold being perennial favourites.
- Plantlife are keen to record all sites where rare species of arable plants are identified. There is a real need for good baseline information on the distribution and occurrence of less common species coupled with monitoring to determine the

effectiveness of all attempts to conserve them.

- Plantlife are running an arable plants survey to identify important sites with either single very rare species or good assemblages of more common plants. If you think you have rare arable flora on your farm do contact us as we should be able to arrange a survey: kate.still@plantlife.org.uk Tel: 01722 342741

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