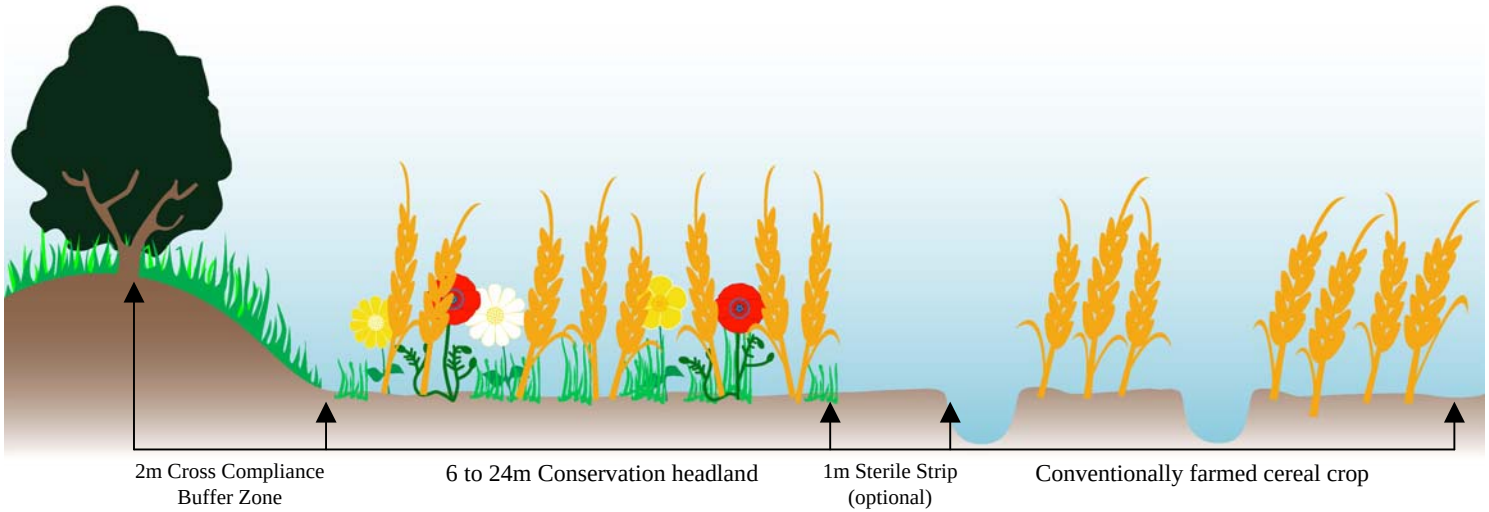
Conservation Headlands

EF9 Conservation headlands in cereals fields (100 points/ha)
EF10 Conservation headlands in cereal fields with no fertilisers or manure (330 points/ha)
HF14 Un-harvested, fertiliser-free conservation headlands (£440/ha)
HF19 Un-harvested, fertiliser-free conservation headlands preceding enhanced set-aside (£400/ha)



Value to plants & other wildlife

- Conservation headlands are 6 to 24m headlands of cereal crops that are managed with a very selective spray programme and ideally no fertiliser or manure to provide a safe haven within the crop for rare arable plants.
- The rare arable plants that have survived in the seed bank are usually restricted to the outer margins (4 to 6 metres) of the field where they have escaped inputs and often where the crop is thinner. The seed bank of arable flowers lies waiting for favourable conditions.
- Arable plants require the firm, fine tilth that is produced annually with seedbed preparation, and the lack of herbicides mean that the germinated seedlings have the opportunity to flourish.
- As the most threatened group of UK plants, rare arable species are themselves very important to conserve but they are also vital for insects, farmland birds and mammals. For example, the increased invertebrate population associated with conservation headlands, has been shown to increase Grey Partridge chick survival rates.
- The lighter soil on the margins and the lack of inputs will result in a thinner crop, which will reduce competition for the broadleaved plants. The open headland also provides very good feeding ground for many farmland birds including Grey Partridge, Turtledoves, Corn Buntings and Tree Sparrows.

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

EF9: Conservation headlands in cereals fields (100 points/ha)

- Manage a 6 to 24m [6/12/18/24 metre] wide headland along the edge of cereal crop
- Do not apply insecticides between 15 March and the following harvest
- A restricted herbicide programme is permitted to control unwanted pernicious grass and broadleaved weeds
    - For broadleaved weeds (cleavers) only: amidosulfuron (only between 1 February and 31 March)
    - For grass weeds only sprays with the following active ingredients can be used: tri-allate, fenoxaprop-P-ethyl, dicloflop-methyl and fenoxaprop-P-ethyl, tralkoxydim or clodinafop-propargyl
- Where weed growth threatens harvest, a pre-harvest desiccant may be used.
- This is a rotational option, which allows the headland to be moved around the farm with the cereal crop rotation. This enables the headland to be in both spring and autumn crops. The changes in cultivation depth and timing will help control grass weeds.

EF10: Conservation headlands in cereal fields with no fertilisers or manure (330 points/ha)

- This option without fertiliser is proven to be far better for arable plants as they prefer less fertile soil; it results in a less competitive crop and restricts nitrogen demanding weeds such as Cleavers. The open crop structure is good for feeding Grey Partridge chicks.
- Management of this option is as EF9, with the addition of no application of fertiliser, organic manure or waste materials (including sewage sludge) to the headland between harvest of the previous crop and harvest of the headland.
- This is a rotational option.

HF14: Un-harvested, fertiliser-free conservation headlands (£440/ha)

- Management of this option is very similar to EF10 under ELS accept it is of greater conservation value as the headland is left un-harvested until the following spring (14 February to 21 March). Then the headland can be cut and left as stubble or cultivated as part of spring crop management. This allows the arable plants that flower through until October to set seed and also means birds can feed on weed seeds and split grain through the winter.
- This option can be rotated around the farm.

HF19 Un-harvested, fertiliser-free conservation headlands preceding enhanced set-aside (£400/ha)

- This option is similar to HF14 except the conservation headland is not harvested in the following set-aside year. The headland cannot be cut nor non-selective herbicides or fertiliser (including organic manure or waste materials) applied before 15 July of the set-aside period.
- Insecticides must not be applied between 15 March and harvest of the headland.
- 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.
- This is a rotational option.

    - Steps should be taken when managing neighbouring crops to prevent any drift of fertilisers or pesticides onto the conservation area.

Location of option on the farm	- 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): o Sunny south facing aspect o Light, well drained, low fertility sandy or chalky soil o 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. o 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. o 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). o Avoid sites with many overhanging trees o 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.
Working with farming systems	- Conservation headlands under ELS can fit easily into the farming system as they can be rotated around the farm to be sited with appropriate cereal crops. A mix of spring and autumn sown crops provides good conditions for a range of arable plants as some species are specifically spring or autumn germinating. - Many arable plants are autumn germinating, however, it is generally recommended to site headlands in spring crops as often as possible. This is because winter crops receive far more inputs, for example winter wheat receives on average 60% more nitrogen than spring barley, can be sprayed with herbicides in both autumn and spring, and is normally grown on more productive soils. Therefore a spring barley field is much more likely to allow a species rich community as it is farmed less intensively. - A restricted herbicide programme is permitted which allows for Cleavers and grass weed control. - Although weed ingress into the adjacent crop is seldom a problem, many farmers have found a sterile strip between the headland and conventionally managed crop prevents any risk of weeds spreading. - When planning the location of conservation headlands within the rotation it is suggested that on any given field they occupy only one cereal in the rotation so as to limit any problem weed build up. - The crop yield from the headland is likely to be quite reduced (research suggests on average 8% less than in conventionally managed headlands [inc. fertiliser]) and the cereal grain may be contaminated with weed seeds. It is therefore advised in some situation to harvest and market the headland crop separately. Grain can be sold as conservation grade or for game feed. Stewardship payments and the reduced input cost will compensate will compensate for any reduced economic yield from the crop.

	- Conservation headlands are recommended as part of Integrated Crop Management (ICM). The increased biodiversity in the headland, from restricted pesticide use allows for more beneficial insects that move into the crop to help control aphids.
Possible problems and how to resolve them	- As herbicides are turned off, 'weeds' flourish as well as the arable plants, therefore rotation is increasingly important to prevent pernicious weed build up. Restricted herbicide use is permitted to prevent a weed burden, which would risk the economic yield of the rest of the crop. - Check conservation headlands in February/March and again in May, for any significant weed problems. If Cleavers become a problem selective treatment using amidosulfuron in February or March is permitted. - Lighter soils are best suited for conservation headlands, as the pernicious weed burden tends to be lower and seed bank diversity higher. However they can be so suitable that a build up of broadleaved weeds can occur causing difficulty at harvest. The use of Avadex may be considered in these situations, alternatively situate any headlands in spring crops where the populations of broadleaved weeds tend to be lower. - Whilst insecticides and molluscicides will obviously not affect the uncommon arable flowers, it is essential that these chemicals are restricted before, and stopped after 15 March so not to harm other farmland wildlife. Where aphid control is required, Aphox (leaving the Conservation Headland un-sprayed) is the preferred product since it is highly selective, leaving most other insects including aphid predators unharmed.
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 you 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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