



- Conservation Headlands were devised by the Game Conservancy Trust in the 1980s to provide an opportunity for farmers to help declining farmland wildlife on arable land.
- Less intensive management of field edges is the basic principle of the conservation headland.
- By reducing pesticide and fertiliser inputs to the edge of the crop, a greater variety of plants, insects, birds and mammals are able to survive in arable areas.
- Payments under the agri-environment schemes enable Conservation Headlands to be implemented without reducing the income from the land.
- Recent research has extended the principle of conservation headlands to grass fields

Introduction

The populations of many farmland birds, including game species such as Grey Partridge, have declined dramatically in recent years. The young of many of these birds are dependent on insects as a food supply, while many other birds, mammals and invertebrates feed on weed seeds. The widespread use of insecticides and herbicides in intensive arable farms means that the supply of insects and weed seeds has declined. Research by the Game Conservancy Trust revealed that restricting pesticide sprays around the edges of cereal crops could help reverse this trend and make a substantial contribution to the recovery of populations of many birds, as well as butterflies, beneficial insects and rare cornfield plants.

Management requirements for arable conservation headlands

The basic requirements for a conservation headland in an arable field are as follows:

- Do not spray insecticides on the outer strip of crop (usually 6 metres wide, depending on boom width) after 15 March.
- Do not spray broad-leaved herbicides on the 6 metre strip, although selective herbicides for grass weeds or cleavers can be used.

Usually this management can be achieved by switching off the outer boom of the sprayer at the field edge. If the headland is receiving payments under an agri-environment scheme, it must be at least 6 metres wide and extend around the total perimeter of the field, and the use of *any* insecticides or herbicides requires the consent of the local SEERAD office. Further measures that can be taken to enhance the value of a conservation headland include the following:

- Establish the headland alongside a grass bank or strip that will provide nesting cover for birds such as Partridges, Skylarks and Yellowhammers and an over-wintering site for beneficial insects (See Technical Note 513 Grass Margins and Beetle Banks).
- Reduce fertiliser, particularly nitrogen, applications to the headland. This will reduce crop yield, but will also discourage aggressive weeds and allow a wider variety of species to flourish.
- Maintain a sterile strip (up to 1 metre wide) by cultivation or winter herbicide application between the field boundary and the conservation headland. This will reduce invasion by weeds such as cleavers, barren brome and couch grass, as well as providing an area for game birds to dry out after rain.
- Ensure that pesticides from the rest of the field do not drift into the conservation headland and consider reducing pesticide use in the rest of the crop by integrated crop management (crop monitoring, spraying thresholds, use of narrow-spectrum and reduced dose compounds).

Benefits and costs of arable conservation headlands

Apart from the benefits to wildlife, conservation headlands have other environmental and commercial advantages:

- If the headland is alongside a watercourse it can be used to meet pesticide buffer zone requirements.
- Enhanced game bird populations may lead to increased income from shooting.
- Beneficial invertebrates such as ground beetles and spiders that thrive in the headland may help to control populations of aphids and other crop pests.
- Payments for conservation headlands are available through the Rural Stewardship Scheme (current annual payment rate ranges from £70 per hectare to £150 per hectare)

The main cost of conservation headlands is likely to be reduced crop yield. However, crop headlands often produce low yields anyway and arable area subsidy payments can still be claimed on the conservation headland. If agri-environment payments can also be accessed, there is likely to be a net financial benefit.

There is a risk that the headlands may harbour difficult weeds such as barren brome and cleavers, but careful application of selective herbicides (with SEERAD approval if necessary) should reduce this risk. If there is an existing problem with such weeds, it is probably best not to situate a conservation headland in that specific area.

Grassland Conservation Headlands

Half of the UK's agricultural land is grass, and as with arable land, increased management intensity has put pressure on the birds, insects and broad-leaved plants that live in grassland. However, in grassland it is generally fertiliser inputs, grazing and mowing, rather than pesticide use, that have increased in intensity, so the existing management prescription for arable conservation headlands does not apply.

SAC, in collaboration with the Game Conservancy Trust, undertook a three year study between 1996 and 1999 to develop the following management requirements for conservation headlands in grass fields. As with the arable prescription, the management aims to ensure that the grassland conservation headland remains a working part of the farm, while benefiting birds, plants, insects and small mammals.

- The headland should be a strip of at least 6 metres width around improved or semi-improved grassland.
- It would be beneficial to site the headlands adjacent to semi-natural habitats such as hedgerows, woodland or water margins.
- The headland should not be grazed or mown between 15 April and August each year.
- The headland must be grazed down (or mown and the

cut vegetation removed) between September and March.

- Fertiliser including slurry or FYM should not be applied to the headland.
- Pesticides should not be used within the headlands, except with the consent of SEERAD.
- Supplementary feeding of livestock should not take place on the headland.
- In temporary grass, each headland should be maintained for at least two years.

Under this prescription, a late hay cut could be taken off the headland. In a field that is grazed through the summer, there will be a requirement for fencing (either temporary, or permanent with gates) to keep livestock off the headland, while allowing grazing or cutting in the autumn or winter.

As with their arable equivalent, grassland conservation headlands may offer considerable economic benefit in the form of game shooting revenues, in addition to the benefit to wildlife conservation. There will obviously be some loss of productivity associated with these headlands, and for the majority of farmers, widespread uptake of this management prescription will only be achieved if financial support is made available through agri-environment schemes.

Further information:

Boatman, N. (1994) (ed.). *Field Margins: Integrating Agriculture and Conservation*, BCPC Monograph No. 58. BCPC Farnham, Surrey.

Sotherton, N.W. (1991). *Conservation Headlands: A practical combination of intensive cereal farming and conservation*. In: Firbank, L.G., Carter, N., Derbyshire, J.F., Potts, G.R. (eds.). *The Ecology of Temperate Cereal Fields*. 32nd Symposium of the British Ecological Society, Blackwell Scientific Publications, Oxford.

Headlands for Wildlife and Game (Booklet). Davy McCracken, SAC Environment Division. SAC, The Game Conservancy Trust, Dumfries and Galloway European Partnership, SEERAD

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