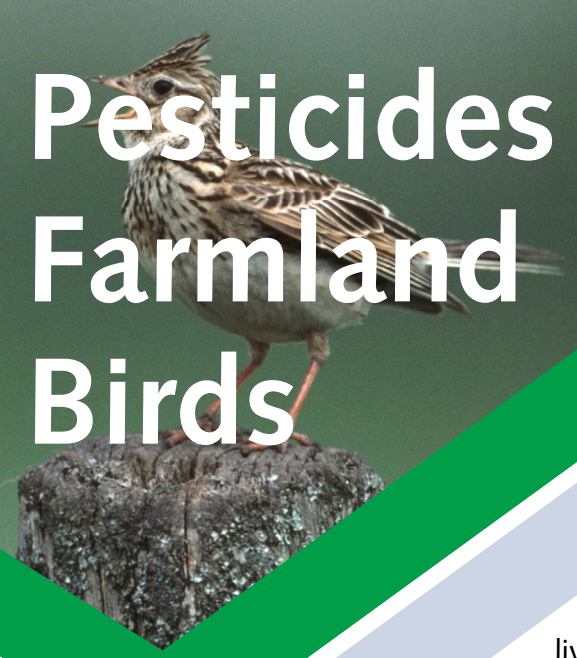
Pesticides and Farmland Birds



Advice

from The Voluntary Initiative

Farmland is a key habitat for birds

Farmland provides an environment for birds and other wildlife to live in, feed and reproduce. Changes in the management of arable farmland are known to affect the populations of some farmland birds, especially those that specialise in using arable habitats. The increased use of pesticides over recent decades is just one of the factors contributing to the declines in farmland birds. However, these effects can be reduced by using pesticides responsibly and by ensuring that important wildlife habitats are maintained or created on farms.

Indirect effects of pesticides on birds

When used correctly pesticides pose minimal direct risk to birds but there are indirect effects which limit the food availability by:

- reducing the number of target invertebrates (insects) and weeds within the treated areas (crops);
- reducing the availability of non-target and beneficial species as a food source, through reducing the abundance of insect food, weed seeds and the plants that support insects.

Four steps for farmland birds

You can follow four easy steps to minimise these effects and encourage wildlife on your farm:

Grey partridge populations have declined for a number of reasons including reduced sources of chick food following the use of insecticides and herbicides

The Four Steps

1. **Integrated Farm Management**
2. **Responsible pesticide use**
3. **Providing field margin habitats**
4. **Offering in-field options**

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1. Integrated Farm Management

Follow Integrated Farm Management principles; consider the whole farm landscape and ensure there is a diversity of habitats across the farm.

2. Responsible pesticide use

- Consider all control methods (cultural and chemical) and their impacts on the environment with your BASIS qualified adviser. Choose options with minimal adverse environmental impact.
- Use treatment thresholds where available.
- Choose crop varieties with resistance to pests.
- Use selective herbicides (e.g. graminicides to control blackgrass, brome and wild oats) whenever possible, as these can leave sources of seeds and insects for birds.
- Minimise insecticidal treatments between 15 March and harvest (also helps beneficial insects which may reduce the need for future spring insecticide use).
- Avoid spraying when broad-leaved crops or weeds are in flower unless absolutely necessary to provide insects in the summer and seeds for birds over-winter.
- Always minimise spray drift to protect water, hedges and field margin habitats.

CAMPAIGN FOR THE FARMED ENVIRONMENT

In England, almost all the habitat measures listed in this advice can contribute to the Campaign for the Farmed Environment (CFE). Many of these measures are also supported by Entry Level Stewardship (ELS). However some CFE measures are voluntary and are not available in ELS while other ELS measures are only of value to CFE if they are part of an ELS agreement. **More info: www.cfeonline.org.uk**

3. Field margin habitats

Non-cropped areas can provide alternative food-rich habitats on the farm. For example, provision of conservation headlands can increase grey partridge brood sizes nearly three-fold.

Field margin habitat	Example of wildlife this can help:
Rough grass margins and field corners - ELS & CFE	Grey partridge, yellowhammer, predatory insects
Wild bird seed mixtures - ELS & CFE	Corn bunting, Grey partridge, linnet, tree sparrow, yellowhammer
Pollen and nectar mixtures - ELS & CFE	Yellowhammer, bumble bees, butterflies
Wildflower-rich margins - ELS & CFE	Bumble bees, butterflies, linnet
Uncropped, cultivated margin - ELS & CFE	Annual wild flowers, turtle dove, predatory beetles

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4. In–field options

In field options are essential for some species; they may be more costly but are rewarded more generously through agri-environment schemes. A mixture of field margin and in-field agri-environment options is particularly beneficial to offset the effects of pesticides for farmland birds.

In-field habitat	Examples of wildlife this can help:
Over-winter stubbles - ELS & CFE	Skylark, corn bunting, grey partridge
Skylark plots - ELS & CFE	Skylark, yellow wagtail
Fallow plots - ELS & CFE	Lapwing, annual wild flowers
Undersown spring cereals	Grey partridge
Beetle banks - ELS & CFE if in an ELS agreement	Grey partridge, corn bunting, predatory beetles
Conservation headlands (unfertilised cereal headlands within arable fields) - ELS & CFE if in an ELS agreement	Grey partridge, annual wild flowers
Low-input cereals (selective use of spring herbicides) - CFE	Grey partridge, corn bunting, annual wild flowers

Effects on individual species

Research has shown that pesticides indirectly affect the following bird species:

Yellowhammer

Over-winter survival is the main factor limiting yellowhammer numbers, however insecticide applications have been shown to reduce insect food for chicks, chick condition and brood survival during the breeding season.

Grey Partridge

Declines have been clearly linked to the indirect effects of pesticides. Use of insecticides and herbicides has reduced chick survival, by decreasing insect food availability, resulting in population declines.

Skylark

There is limited evidence of the indirect effects of pesticides on skylarks. Chick food, number of nesting attempts and chick diet and survival are affected by pesticides, however, most of these were only observed during poor weather.

Corn Bunting

Declines have been attributed to a fall in over-winter survival, as a result of the loss of winter stubbles and the destruction of nests. Pesticides have been found to reduce insect food, and this in turn reduces chick mass and chick survival.

Buntings in winter

Most research has studied effects of pesticides during the breeding season. However, a recent study showed that over-wintered stubbles following on from low-input cereals support higher numbers of buntings, such as yellowhammers.

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VI Advice

Grey Partridge—Biodiversity Briefing - Four page A4 briefing sheet
Insecticides -16 page A5 booklet
Margins Mixtures and Management - 2page A4 Best Practice Guide
Skylark Plots - 2page A4 Best Practice Guide
Pesticides and Conservation - 2page A4 Best Practice Guide
Pesticides and Farmland Birds -12 slide presentation

Websites

www.cfeonline.org.uk - Campaign for the Farmed Environment
www.farmwildlife.info - Case studies of wildlife-friendly farming and a discussion forum
www.gwct.org.uk - Advice sheets on grey partridge management and field guides to beneficial insects
www.leafuk.org - Advice & support on Integrated Farm Management
www.pesticides.gov.uk - Information on pesticide approvals and the UK regulatory process
www.rspb.org.uk/farming - Advice sheets on management for bird species and farm habitats
www.saffie.info - Skylark plots, field margin management
www.voluntaryinitiative.org.uk - Advice on the responsible use of pesticides

England
www.naturalengland.org.uk - Environmental Stewardship Schemes in England

Scotland
www.scotland.gov.uk/Topics/Rural/SRDP- Rural Development Contracts in Scotland –
For information on grants in Scotland, contact the SEARS customer service number - 08452 30 20 50 or visit the SEARS website http://www.sears.scotland.gov.uk/

Wales
www.wales.gov.uk - Glastir and agri-environment schemes in Wales

Northern Ireland
www.dardni.gov.uk - Countryside Management Scheme in Northern Ireland

Acknowledgements

Prepared by the Chemicals Regulation Directorate of HSE with the assistance of the RSPB and The Voluntary Initiative. This advice is based on research into the effects of pesticides on specific bird species which was undertaken by the RSPB for the Chemicals Regulation Directorate of the HSE. The work was sponsored by the Department for Environment Food and Rural Affairs. The full report "Review of indirect effects of pesticides on farmland birds" can be accessed on the CRD website.

Photographs

Page 1 Skylark Chris Gomersall (rspb-images.com); Grey Partridge Peter Thomson/GWCT
Page 2 Buffered hedgerow - Goldsworthy Associates
Page 3 Yellowhammer and Corn Bunting–Tom Marshall (rspb-images.com), Grey Partridge Roger Wilmshurst (rspb-images.com), Skylark Andy Hay (rspb-images.com)
Page 4 Skylark Plot—ADAS/SAFFIE

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