



# Fact sheet 3

## Providing brood-rearing cover for wild grey partridges

Once hatched, partridge chicks walk away from their nests following their parents in search of food. They are not fed at the nest like skylark or blackbird chicks. At this stage the parents lead their chicks into brood-rearing covers such as cereal fields, waste ground and unimproved pastures that provide both food and shelter from predators. Chicks need to feed on insects (perhaps 2,000 each per day) to grow and feather up quickly. Without this protein-rich diet in the first two to three weeks of life, chicks fail to grow and thrive. They become much more susceptible to cold wet weather and can quickly die.

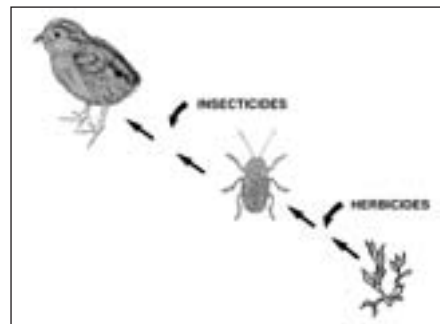
Insects are a vital part of a chick's diet in the first two weeks of life. Chicks reared artificially grow and feather more quickly when insects are added to a diet of plant matter. In the wild, chicks show a clear preference for sawfly larvae (which feed on cereal and grass leaves), moth larvae (which feed on grasses and weeds), larger bugs, weevils, leaf-beetles, small ground beetles and cereal aphids. They do not take insects that are very small (eg. thrips), very

large (eg. larger ground beetles), swift-flying insects or those found below the soil surface.

Chicks begin to hatch in early June, but the peak hatch date is in the third week of June, usually coinciding with Royal Ascot.

Historically, thinner weedier cereal crops made up such brood cover and supported large broods. Unfortunately insect numbers have fallen because both insecticides and herbicides have broken the food chain and modern intensive crops are thick, weed-free and contain few insects.

### Food chain



## What makes good brood-rearing cover?

Above all, brood-rearing cover needs to be full of slow-moving, soft-bodied insects to feed young chicks. However, other attributes of brood cover are also needed. Some insect-rich covers are ignored if their structure is not correct.

Brood habitats need to provide cover, a protective canopy of tall vegetation into which broods can be taken safely, away from prying, predatory eyes. The cover should not be too thick or too dense at the base because tiny chicks need to be able to move through it easily. If the cover is too

thick at the base this does not happen and, after rainy weather, the vegetation stays wetter for longer. This can be a problem for small chicks that can quickly chill and die. Remember that brood cover needs to be sited close to the nesting cover because young chicks, although active, do not move far in the first few days after hatching.

So, brood cover needs to be insect-rich, within a protective canopy of taller vegetation, that is not too thick at the base.

## The Game & Wildlife Conservation Trust

For over 75 years our scientists have been researching why species like the grey partridge, water vole, corn bunting and black grouse have declined. We are continually developing practical measures to reverse these declines.

Our aim is simple - a thriving countryside rich in game and other wildlife.

We are an independent charity reliant on voluntary donations and the support of people who care about the survival of our natural heritage.

## Why should you read this fact sheet?

This series of fact sheets explains how to restore grey partridges on your farm, based on the results of our practical research. Restoring these birds on farmland will help us to achieve Biodiversity Action Plan targets for this and other BAP species, including other ground-nesting birds and rare arable wildflowers. It will also allow you to achieve the best out of your wild gamebirds.

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# How to create brood-rearing cover on the farm

## 1. Use conservation headlands along the edges of cereal crops

The key features are:

- Some herbicides and summer insecticides are not applied on cereal crops along a six to 24-metre strip along the field margin.
- Fungicides can be applied as normal.
- Some selective herbicides and grass weed-killers can be applied to combat cleavers, black-grass and other noxious weeds.
- On heavy land reduce nitrogen levels.

## 2. Using the new Environmental Stewardship Schemes (ESS)

Brood-rearing cover can be created under the new ESS in England, and the Scottish Rural Development Programme in Scotland. It should be based on a cereal with two other crop types added, probably linseed and mustard. These mixes can be planted from six-metres wide, up to half a hectare in size. A six-metre wide strip of brood-rearing cover placed next to good nesting cover, will enable newly-hatched chicks easy access to a rich foraging area. The low input option is a particularly good one for brood cover. Brood-rearing crops are usually planted in March so that they are well established by June. The crop can then be left to over-winter and this will provide an extra food source. However, under the new rules this option is limited to half a hectare in every 20 hectares of land.

## 3. Summer insecticides

Don't apply summer insecticides to cereals unless there is no other choice. The deleterious effects of a large-scale application can last for several years. If treatment is necessary, use a selective product such as pirimicarb, and leave the outer 12 metres unsprayed.

## 4 Grassland areas

In grassland areas, grey partridges would benefit from the introduction of any form of arable cropping, to provide insects and brood cover. Grey partridges are often found on unimproved and semi-improved pastures that provide a greater diversity and abundance of invertebrates. Such grasslands should be managed to maintain this interest. Even on improved grass, allowing the margin to grow and seed without grazing or cutting may create nesting and feeding habitats. The diversity of plants and invertebrates will be improved by not fertilising or re-seeding these margins. Cutting or grazing between September and February will prevent the encroachment of the hedge. This should be undertaken on a rotational basis once every two or three years to allow a tussocky margin to develop.

**How much brood-rearing cover is needed?** To stabilise the population of wild grey partridges (ie. to achieve the first BAP target of halting the decline) without

predator control, 3% of the arable area needs to be insect-rich brood-rearing habitat (conservation headland, wild bird cover; ESS type cover).

To recover the population to the second BAP target (90,000 pairs in the UK) without predator control, brood-rearing cover would need to be 5% of the arable area. You will also need 6.9 kilometres of nesting cover per 100 hectares of farm (11 miles/square mile or seven miles/1,000 acres) to achieve this target (see Fact sheet 2).

**The effect of the weather.** In general terms, insect numbers in crops are determined by the weather in April and May. A cold, wet spring leads to fewer insects. In such years, insect-rich brood cover becomes all the more valuable.

Cold, wet weather after hatching also leads to lower levels of chick survival and small brood sizes. Again, insect-rich brood covers can mean that when the weather improves, a plentiful supply of food is readily available and the effects of bad weather on chick survival can be minimised. We cannot control poor British summer weather, but we can provide chicks with the best chances of survival by providing abundant food in easy reach.

Good brood-rearing cover for grey partridges.



## More information

The Game & Wildlife Conservation Trust's Advisory Service can provide further advice on feeding systems for gamebirds, and on all aspects of game management. For information, please contact 01425 651013.

