

# FEEDING GARDEN BIRDS

BEST PRACTICE  
GUIDELINES



**UK Pet Food has brought together current evidence and practical advice to present this guidance in an accessible way, helping more people to feed garden birds safely and responsibly while supporting bird welfare.**

## **PREFACE**

Interest in feeding garden birds has grown substantially in recent years, with estimates suggesting that around 250,000 tonnes of food are provided annually. As humans have increasingly converted land for housing, industry and agriculture, supplementary feeding can help support birds alongside natural food sources. Alongside the enjoyment it brings and the connection it fosters with nature, feeding garden birds can make a positive contribution to their welfare and conservation.

However, it is essential that food is provided hygienically and responsibly. Poorly managed feeding stations and water sources can increase the risk of disease transmission among wild bird populations.

In 2003, the bird feeding industry, NGOs and leading experts, led by the Universities Federation for Animal Welfare, established the Garden Bird Health Initiative (GBHi). The GBHi aimed to identify research priorities, support further study and develop best practice guidance for garden bird feeding, with the goal of maximising benefits for bird welfare and conservation while minimising potential risks.

Since then, further research has been undertaken, alongside reviews and recommendations from a range of organisations, including the Canadian Wildlife Health Cooperative. This guidance draws on that body of work to reflect current understanding in a clear and accessible format.

This booklet outlines different food types and feeding approaches, considers how feeding practices can be managed responsibly, and highlights practical steps to reduce potential risks.

While knowledge in this area continues to develop, these guidelines reflect the best available evidence at the present time and are intended to support safe, responsible and informed feeding of garden birds.



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## WHO ARE UK PET FOOD

UK Pet Food (formerly the Pet Food Manufacturers' Association, PFMA) is the leading trade body for the UK pet food industry, representing more than 100 member companies and covering around 90% of the UK market. One of its member groups specialises in wild bird care.

The organisation works to promote high standards in nutrition, product safety, and animal welfare, collaborating closely with NGOs and government bodies such as the Animal and Plant Health Agency (APHA) and the Food Standards Agency.

## INTRODUCTION

### Background

Interest in feeding garden birds has increased markedly in recent decades. It is estimated that a substantial proportion of UK households now feed birds regularly. UK Pet Food research shows that 54% of the population regularly feed wild birds. Most of the UK's land is intensively managed, with very little remaining as truly natural habitat. Of the land that is not built upon, around 90% is used for agriculture in some form. In many cases, land management priorities have focused on human needs, with wildlife considerations receiving less emphasis.

Historically, farmland supported a rich diversity of wildlife. However, over the past century, increasing pressure for agricultural productivity and efficiency has led to widespread intensification, often to the detriment of biodiversity (e.g. Fuller et al. 1995; Robinson & Sutherland 2002; Shrubb 2003).

While there are now greater efforts to balance food production with environmental stewardship, the long-term outcomes remain uncertain. Populations of many farmland bird species have declined significantly. Some of these species also occur in gardens, which can collectively support important proportions of their breeding populations. As such, gardens have the potential to play a meaningful role in their conservation.

Encouraging supplementary feeding and wildlife-friendly management of gardens can support conservation in two key ways:

- By providing direct assistance to species.
- By increasing public engagement with, and support for, wider wildlife conservation efforts.

Supplementary feeding can benefit bird welfare and, potentially, conservation. However, it is essential that it is carried out responsibly and hygienically to reduce the risk of disease transmission.

As the global human population continues to grow (now exceeding 8 billion), competition for resources such as food, space, and habitat is intensifying. This places increasing pressure on wildlife, threatening the survival and quality of life of many species. It is therefore crucial to find ways of meeting human needs while minimising impacts on the natural world. Feeding garden birds has become an important element of modern wildlife management, and it is vital that it is undertaken in accordance with best practice.

## AIM OF THESE GUIDELINES

The aim of these guidelines is to provide clear, evidence-based information to help maximise the benefits of feeding garden birds while minimising potential risks and unintended negative impacts.





# FEEDING WILD BIRDS

## A QUICK GUIDE TO BEST PRACTICE



www.ukpetfood.org

**FACT SHEET**



# FEEDING WILD BIRDS

## SIMPLE TIPS FOR HEALTHY BIRDS

Feeding wild birds is a simple and rewarding way to enjoy wildlife and support birds in your local area. It can be especially helpful when natural food is harder to find, and it also brings more nature into your everyday life.

### BIRDS BENEFIT FROM FEEDING ALL YEAR ROUND, NOT JUST IN WINTER

With a few simple habits, you can help keep visiting birds safe and thriving year-round. Providing fresh food and water, keeping feeders clean and avoiding overcrowding all help create a safe and healthy feeding environment.

### THE GOLDEN RULES...

#### PROVIDE A VARIETY OF GOOD-QUALITY FOODS

Different bird species eat different foods, so offering a range will support more birds and allow them to choose what they need.

#### KEEP FOOD FRESH AND DRY

Only put out as much food as birds are likely to eat quickly. Remove wet, mouldy or spoiled food.

#### KEEP FEEDERS AND BIRDBATHS CLEAN

Clean feeding and watering equipment regularly, ideally at least once a week and more often if you see signs of illness.

#### SPREAD BIRDS OUT

Use several feeders or feeding areas where possible. This helps reduce crowding and lowers the risk of disease transmission.

#### PROVIDE FRESH WATER

Clean, fresh water is just as important as food, especially in dry or freezing weather.

#### WATCH FOR SIGNS OF DISEASE

If birds look fluffed up, lethargic, reluctant to move or have difficulty swallowing, take extra care with hygiene and review your feeding setup.

#### CHOOSE FEEDER LOCATIONS CAREFULLY

Place feeders where birds can feed safely, with access to nearby cover, but not so close to dense cover that predators such as cats can ambush them.

#### CREATE A BIRD-FRIENDLY ECOSYSTEM

Wildlife-friendly gardening, including planting for insects, berries and seeds, can help provide natural food and shelter.



### WHAT TO FEED

Not all birds eat the same foods, so offering a variety will help attract a wider range of species to your garden.

Offer a mix of foods, such as:

- Sunflower seeds or hearts.
- Peanuts (only in appropriate feeders).
- Suet or fat-based foods.
- Seeds and seed mixes.
- Fruit, such as apples or berries.
- Live or dried insects.

### WHAT TO AVOID

Avoid feeding human foods such as desiccated coconut, salty foods like crisps or salted nuts.

Never feed milk, and avoid offering any spoiled or mouldy food.

For more guidance on feeding different species, visit: [Feeding Guides for Wild Birds | UK Pet Food](#)

With these simple steps, you can support wild birds all year round. From colder months when natural food is harder to find, to spring and summer when birds are nesting and raising young, thoughtful feeding can make a real difference. As the seasons change, so do their needs, and by feeding responsibly and keeping areas clean, you can help birds thrive while reducing the risk of disease



Full guidance and more detail behind our quick tips is available at the link below, or simply scan the QR Code from your mobile phone:

<https://www.ukpetfood.org/pet-care-advice/bird-care-nutrition/understanding-wild-birds.html>

FURTHER FACTSHEETS AND EDUCATIONAL POSTERS CAN BE FOUND AT [WWW.UKPETFOOD.ORG](http://WWW.UKPETFOOD.ORG)



## POTENTIAL BENEFITS AND RISKS OF FEEDING GARDEN BIRDS

### THE BENEFITS

Attracts birds into gardens, allowing people to observe and enjoy them.



In some cases, it can help support bird populations.



Provides a reliable food source during periods when natural resources are limited, supporting bird welfare.



Helps raise awareness of environmental issues and encourages understanding and concern for wildlife.



Contributes positively to human health and wellbeing.



### POTENTIAL RISKS THAT IT IS IMPORTANT TO BE AWARE OF

- Any food or water, whether natural or provisioned is a likely location for infectious disease transmission.
- Potential for local populations to become reliant on supplementary feeding.
- Possible spread of disease to other animals (e.g. cats, dogs, and other wildlife).
- Greater exposure to predators around feeding sites.
- Unintended ecological effects - for example, if feeding increases the numbers of one species, it may negatively affect others through competition or displacement.

The good news is most of the risks can be reduced by taking a few simple best-practice steps



## GARDEN BIRDS' DIET

Garden bird species are adapted to a range of diets. Some, such as finches and house sparrows, are primarily granivorous (feeding on seeds and grains), while others, including robins, song thrushes and blackbirds, are mainly insectivorous (feeding on insects and other invertebrates). However, most species are flexible and will exploit a variety of food sources when their preferred options are scarce.

Providing a range of foods is the best approach, allowing different species to feed and enabling birds to select what they need.



### Common Garden Birds and the Foods they Eat

BIRD SPECIES	SEEDS	PEANUTS	SUNFLOWER HEARTS	FAT/SUET	FRUITS	BERRIES	INSECTS
ROBIN	-	NOT WHOLE	✓	✓	✓	✓	✓
DUNNOCK	✓	NOT WHOLE	✓	-	-	-	✓
WREN	-	NOT WHOLE	IF SMALL	✓	-	✓	✓
BLACKBIRD	-	NOT WHOLE	✓	✓	✓	✓	✓
BLUE TIT	✓	✓	✓	✓	-	-	✓
GREAT TIT	✓	✓	✓	✓	-	-	✓
COAL TIT	✓	✓	✓	✓	-	-	✓
LONG-TAILED TIT	-	NOT WHOLE	✓	✓	-	-	✓
HOUSE SPARROW	✓	NOT WHOLE	✓	✓	-	-	✓
STARLING	✓	✓	✓	✓	✓	✓	✓
WOODPIGEON	✓	✓	✓	✓	✓	✓	-
COLLARED DOVE	✓	✓	✓	✓	✓	✓	-
CHAFFINCH	✓	✓	✓	✓	-	-	✓
GOLDFINCH	✓	NOT WHOLE	✓	-	-	-	✓
GREENFINCH	✓	✓	✓	-	-	-	✓
BULLFINCH	✓	✓	✓	✓	✓	✓	✓

## FOOD TYPE AND PREFERENCES

No single food type provides a complete and balanced diet on its own. For example, some foods particularly fruits and certain invertebrates do not contain enough calcium to meet birds' long-term nutritional needs.

The intention of supplementary feeding is therefore to complement natural diets, rather than replace them entirely. The additional energy provided by supplementary feeding is one of the most consistent nutritional benefits throughout the year.

There is no evidence that dietary imbalances lead to disease in garden birds that are regularly fed. This suggests that birds are generally able to regulate their intake and select appropriate amounts from the range of foods available to them.

## IMPORTANCE OF FOOD QUALITY

As illustrated in the table above, the types and quantities of food required will vary between gardens; however, there are a number of common good practice principles that should always be followed.

**Avoid ingredients birds tend to leave.** If you notice birds discarding certain seeds from a mix, it may be worth switching to a higher-quality blend. Discarded food can increase the risk of disease transmission if other birds consume it. Wheat is commonly left uneaten, but barley, rye and kibbled peas are also examples of components you may wish to avoid.

**Choose husk-free foods where possible,** as birds will remove and discard husks while feeding, creating mess and potentially increasing the risk of disease transmission.

**Make sure bird food is dust-free.** Dust can make it harder to maintain good hygiene and may allow harmful pathogens to build up.

**Store food correctly.** Keep bird food in a cool, dry place and ensure it's protected from moisture, as damp conditions can encourage the growth of mould and harmful organisms.



## SHOULD THE TYPES OF FOODS PROVIDED VARY WITH SEASON?

Nutritional requirements vary throughout the year. For example, females need more calcium during the egg-laying period to support shell formation, and nestlings require higher levels of calcium than adults to enable rapid bone development.

However, because garden bird feeding is intended to supplement, rather than replace, natural diets, it is generally not necessary to adjust foods to match these seasonal nutritional changes.

Research comparing breeding performance in blue tits found that birds receiving supplementary food began laying earlier than those that were not fed, and those given cooked egg assumed to provide key nutrients for egg formation produced eggs around 7% larger (Ramsay & Houston 1997). This suggests that food type can influence breeding outcomes, although there is currently insufficient evidence to translate such findings into practical feeding recommendations.

Nestlings grow very rapidly compared with other warm-blooded animals of similar adult size. Even in species that consume little animal matter as adults, chicks are typically fed a diet rich in invertebrates, which provide high levels of protein.

A practical approach is to provide a wide variety of foods, allowing birds to select what best meets their needs and those of their young. The apparent rarity of diseases linked to nutritional imbalances in wild birds suggests they are well adapted to choosing a balanced diet provided a suitable range of food is available.

## HOW MUCH SHOULD I FEED AND SHOULD IT VARY WITH SEASON?

Several factors influence how much food garden birds are likely to consume:

- The number of birds present;
- The species using the garden;
- The daily energy needs of each bird, which vary with climate, season, and breeding status;
- The availability of natural and supplementary food sources in the surrounding area, including neighbouring gardens.

Estimating garden bird populations can be challenging, as the number of birds present often exceeds those visible at any one time. In addition, many species are migratory or partially migratory, leading to significant seasonal fluctuations. Populations also change as birds move from winter flocks into breeding pairs during spring.

Nutritional needs vary throughout the year. Birds require different levels of energy, protein, and other nutrients for thermoregulation, moulting, egg production, and rearing young, with peak demands occurring at different times.

For example, although birds may need to consume more energy to stay warm in winter, their activity levels are generally lower. Shorter daylight hours can also increase feeding intensity during the time available. In contrast, during spring and summer, longer days coincide with the demands of raising young, meaning adult birds must gather food both for themselves and for their nestlings.

Research has shown that supplementary food can form a meaningful part of garden birds' diets. In one study of great tits and blue tits in suburban gardens, foods such as bread, fat, and peanuts made up an average of 15% of the diet fed to nestlings, with some pairs providing up to 30% from feeders (Cowie & Hinsley 1988).

In winter, blue tits, great tits, and coal tits were estimated to obtain between 10% and 60% of their energy from feeders, highlighting the importance of supplementary food (Fitzpatrick 1995).

There is also evidence that such feeding can improve body condition (Grubb & Cimprich 1990).

Natural food availability also varies seasonally. Even when food is present, severe weather such as snow and ice can make it inaccessible. Birds can withstand very low temperatures provided food is available, but when resources are covered, they may quickly succumb to energy depletion, sometimes within hours or days depending on their size (Ore 1989).

**In summary, there is no fixed amount of food that should be provided. A practical approach is to offer small amounts regularly, ensuring that food is eaten quickly and does not accumulate or spoil.**



## THE IMPORTANCE OF DENSITY, TIME AND VIABILITY

### DENSITY

The risk of disease transmission generally increases as population density rises and oasis of food and water become rarer, this becomes a more salient consideration.

By providing food and helping birds survive periods of scarcity, you may support larger local populations. While this can be beneficial, it may also lead to increased competition for resources such as nesting sites, greater predation pressure, and a higher risk of disease.

This reflects the principle of 'limiting factors' in nature: as one constraint is reduced (food), others may become more influential. As with many forms of conservation, these trade-offs can be complex and sometimes controversial.

If your efforts contribute to an increase in bird numbers, it is important to be mindful of how birds congregate. Higher densities around feeding areas can elevate disease risk. This can be mitigated by spreading food across multiple locations and maximising the space available, allowing birds to feed more naturally and reducing close contact.

### TIME

Some diseases are caused by organisms that cannot survive for long outside a bird's body, sometimes only minutes, and their persistence depends heavily on environmental conditions.

Reducing how often birds come into contact with the same feeding point in quick succession can help lower the risk of transmission.

This can be achieved by lowering the number of birds using any single feeder and by choosing appropriate feeder designs. Providing multiple feeders, each with many feeding ports or larger feeding surfaces (such as mesh or trays), helps reduce the chance of birds feeding at exactly the same spot in quick succession.

In practical terms, increasing the time between birds using the same feeding spot can help reduce the likelihood of disease spread.

### VIABILITY

The survival of disease-causing organisms is strongly influenced by environmental conditions. There is clear evidence that water can play a role in the transmission of trichomoniasis, while the role of birdseed has also been investigated (McBurney 2017).

This research found that trichomonads did not survive on dry commercial birdseed beyond 60 minutes. However, on moist seed, such as naturally damp food or seed that has been poorly stored, and allowed to get wet, organisms were able to survive for up to 24 hours. Where seed was both moist and contaminated with organic debris (which can act as a food source for protozoa), survival extended to up to 48 hours.

**These findings underline the importance of keeping food dry and feeding areas clean.**

Not all feeders keep seed dry, and inadequate cleaning can lead to a build-up of organic matter that may harbour disease.

While it is not possible to control moisture or contamination in natural food sources, these risks can be managed effectively in garden feeding.

Applying basic hygiene and food storage principles, keeping food dry, using appropriate feeders, and cleaning them regularly, can help ensure that gardens remain relatively safe environments for birds.



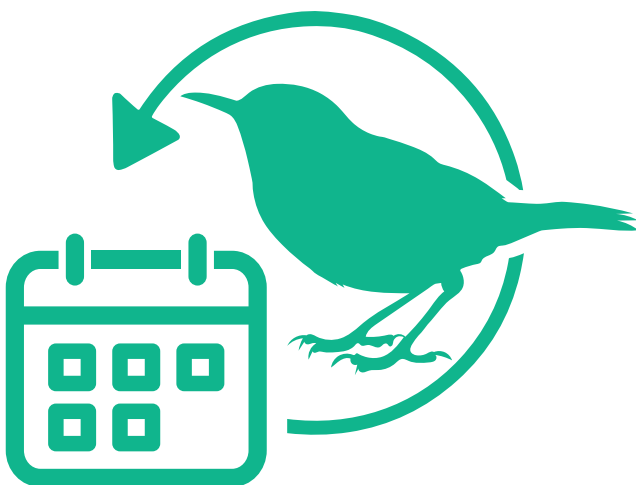
## DON'T SUDDENLY STOP FEEDING

In 2015, Willcoxon led one of the most comprehensive studies examining the benefits and risks of garden bird feeding. The research demonstrated clear nutritional advantages, showing that provision of food can improve birds' condition, overall health, and immune function. This is particularly important, as in wild populations natural immunity is the only long-term defence against many diseases.

To reflect typical household behaviour, the study deliberately did not include regular cleaning of feeding stations, despite this being widely recommended. Under these conditions, higher levels of disease and parasite load were observed. This was added to as sick birds visited feeders more often as they were less able to forage for natural food, due to their sickness.

These findings highlight an important balance: while supplementary feeding provides clear nutritional benefits, the way in which food is offered is critical in determining disease risk.

Simply removing food is not necessarily the solution, it could reduce body condition and weaken immune responses, potentially limiting birds' ability to survive infection or develop natural immunity.



**The key message is to continue feeding, but to do so responsibly, following good hygiene and best-practice guidance.**

When food is provided consistently, there is a possibility that local bird populations may become partly reliant on it. Concerns have been raised that sudden withdrawal could affect birds' ability to forage naturally.

However, research (Brittingham & Temple 1992) found no evidence that feeding creates dependency. Even so, where possible, it is best not to stop feeding abruptly. If feeding cannot be maintained for example, during holidays, it may be better to avoid establishing a highly regular feeding routine.

Bird use of feeders can vary considerably, sometimes increasing or decreasing without an obvious cause. This reflects the fluctuating availability of natural food sources, which is one reason why gardens can play such an important supporting role. Temporarily consumption could drop off as a natural food source becomes available, with birds not returning until the other preferable food is consumed.

Disease risks are often higher in spring and summer, partly due to limited natural food and water sources in some conditions.

It is important to avoid excessive concentrations of birds in a single location. Stopping feeding altogether can sometimes worsen the situation, as birds may then congregate more densely at fewer remaining food sources, increasing the likelihood of disease transmission at remaining sites.

During the summer months, a better approach is to provide smaller quantities of food across multiple feeding sites.

Maintaining food availability is particularly important once birds begin nesting. Many species are territorial and select breeding sites where they can reliably find food. Removing a key food source at this stage may lead to increased competition.

Although newly hatched chicks are typically fed insects, many species introduce seeds within a few weeks as their nutritional needs change. Adult birds often rely on feeders to support their own energy needs while foraging for their young as they make up to 400 flights per day to the nest.

## WHAT IS MEANT BY THE HUNGER GAP?

There is a common misconception that birds require the most nutritional support during winter. This view typically focuses solely on temperature as the main driver of energy needs.

While temperature is important, it is only one of several factors influencing birds' requirements.

In cold conditions, small birds may need to consume up to half their body weight in food each day to survive. The smallest species, such as goldcrests, can need to eat the equivalent of their body weight in insects daily. Something that can be particularly challenging in winter.

A key challenge is surviving the night. Small birds have limited fat reserves and lose heat quickly. After a cold night they must find food within a few hours or risk starvation.

Winter is not always the most challenging period. In the UK, for example, snowfall is actually more likely in March than in December, and some of the coldest weather can occur in early spring – coinciding with the increased demands of the breeding season.

Another important factor is the 'hunger gap.' It is often assumed that warmer weather brings abundant natural food, but this is not always the case – particularly for granivorous species such as finches and sparrows.

Many seeds, fruits, and berries flower in spring but do not ripen until summer, typically between July and October. This creates a period throughout spring and early summer when natural food supplies are at their lowest, often leading to increased use of garden feeders, particularly in June and July.

The timing of food shortages varies between species. For insectivorous birds, the most challenging period is often early spring, before invertebrate populations have peaked.

For these reasons, it is important not to base feeding decisions solely on the calendar or the weather. Instead, observe the species visiting your garden and respond to their needs.

Providing a variety of foods and monitoring what is taken can help ensure birds receive appropriate support throughout the year.

**Unless you are confident that natural food is readily available, it is generally advisable to continue providing food.**

## LOCATION OF FEEDER

It is generally advantageous to avoid situations where large numbers of birds congregate at high densities while feeding. However, there is currently no firm evidence to define the optimal number of feeders per unit area.

As a general principle, using several smaller feeders is preferable to a single large one, as this can help reduce the risk of disease transmission and make it more difficult for individual birds to dominate access, allowing a wider range of species to feed.

Spreading feeders out across the garden is also beneficial, as it reduces crowding in any one location.

Regularly moving feeding sites can help keep the ground beneath them clean and minimise the build-up of waste in areas where birds gather or queue to feed.

To further reduce the risk of contamination from droppings, feeders should not be placed beneath branches, wires or other structures where birds frequently perch.

A useful guide is to observe bird behaviour, if you see bird queuing or feeders in constant use, it may be helpful to provide additional feeding points.



## PROXIMITY OF GLASS WINDOWS OR DOORS

Birds may sometimes collide with glass windows or doors when attempting to escape predators or when they perceive a clear flight path through aligned panes of glass. This is a relatively common cause of death in garden birds.

In some cases, the impact is seen or heard, and faint marks from feathers may be visible on the glass. Often, however, birds are simply found dead beneath or a short distance from a window or door.

The risk of window strikes can be reduced by making glass more visible, for example, by applying decals or stickers (such as bird-of-prey silhouettes).



Placing decals on windows and glass can help reduce potentially fatal strikes from garden birds.



Placing feeding areas close to suitable cover can help provide escape routes for feeding birds.

Although such incidents do occur, they are not so frequent as to require avoiding feeding near windows or glass doors altogether. In fact, positioning feeders very close to a window may be safer than placing them several metres away, as birds take off at lower speeds and are less likely to sustain serious injury if a collision occurs.

It is also important to consider feeder placement carefully, taking into account nearby glass surfaces, likely predator approach routes (such as those used by sparrowhawks), and the availability of nearby cover or escape routes for feeding birds.



## HOW MANY FEEDERS SHOULD I PUT OUT?

There is no practical way to recommend a specific number of feeders, as this will depend on a range of factors, including:

- The size of the garden.
- The quality and type of food provided.
- The number and species of birds using the space.
- Weather conditions.
- The availability of natural food and feeding in neighbouring gardens.

**As a general guideline, providing more feeders is often beneficial.**

While it can be enjoyable to see large numbers of birds gathered in one place, this can increase certain risks and may favour more dominant species and individuals.

To maximise benefits, it is better to offer a variety of foods across multiple smaller feeders, spread throughout the garden. This approach increases feeding opportunities, reduces crowding, and allows even more timid species to feed safely.

It is important also to consider ground-feeding species as some birds are not adapted to feeding from hanging feeders. Providing food at ground level, where appropriate, can help support these species.

## HOW MUCH FOOD SHOULD I PUT OUT?

The challenge of determining how much food to provide is similar to deciding how many feeders to use, as it depends on multiple factors.

However, there are some additional considerations. To a degree, the amount of food provided can influence the size of the local bird population. If food is a limiting factor, increasing supply may support more birds – either by reducing mortality or by attracting individuals from surrounding areas (e.g. Källander 1981).

However, if other resources such as nesting or roosting sites are limiting, simply adding more food will not continue to increase numbers. In these cases, providing nesting sites or water may be more beneficial.

There are also potential risks associated with supporting very high densities of birds. In general, higher densities increase the likelihood of infectious disease outbreaks.

Where large quantities of food are provided, such as 2 kg or more per day, this may encourage and could increase disease risk (Kirkwood 1998). In such cases, additional feeding sites may be needed to spread birds out more safely.

Although it is not possible to give precise recommendations on quantities, the following general principles can help guide feeding:

- Provide amounts that are consumed quickly, reducing the risk of food becoming mouldy or contaminated. As a rule of thumb, offer no more food than will be eaten inside a day (but the deterioration in conditional of the seed is the key determinate).
- Avoid leaving uneaten food to accumulate, as this can attract unwanted scavengers such as rats.
- Adjust quantities based on bird activity, increasing or decreasing as needed.

**The condition of the food is more important than the exact quantity provided. Keeping food fresh and uncontaminated should always be the priority.**

## INFECTIOUS DISEASES

Like humans and other animals, garden birds are susceptible to a wide range of infectious diseases. Among the most common causes of disease outbreaks are two bacteria – salmonella typhimurium and escherichia coli – and a single-celled parasite, trichomonas gallinae (Kirkwood & MacGregor 1997).

These diseases can affect a variety of species, although some birds are more susceptible than others. For example trichomonas is particularly common in collared doves, pigeons, and finches.

In wild bird populations, long-term resilience to disease relies largely on natural immunity. Birds are likely to encounter infectious agents through natural behaviours such as flocking and migration. Trichomoniasis provides a clear example of how disease can spread rapidly through bird populations. It has affected species such as the passenger pigeon and collared dove, and more recently has had a well-documented impact on greenfinches, whose populations declined by around 66%, a fall largely attributed to the disease, before showing signs of recovery in recent years.

Some species, such as pigeons and doves, may carry infection without showing obvious symptoms. These species can act as reservoir hosts, meaning they can pass infection to more susceptible species. The natural behaviours of these birds, including flocking in large numbers, and migration, combined with transmission at shared feeding and drinking sites, are thought to have facilitated the rapid spread of the disease across Europe within just a few years.

It is also notable that, in many European countries, garden bird feeding is less common, particularly during the summer months, than it is in the UK. This suggests that feeding sites are only one part of a wider picture, and that disease can spread through natural bird movements as well as through feeding.

Importantly, supplementary feeding can have long-term positive effects. Research by Willcoxon indicates that supplementary feeding can have positive effects on body condition and immune

function, which may help birds respond to disease challenges.

For this reason, the focus should be on feeding responsibly and maintaining good hygiene, rather than stopping feeding all together.

## WHERE DO THESE DISEASES COME FROM?

The most common source of infection is other birds.

Although rats, squirrels, and other animals are often suspected of causing disease outbreaks in garden birds, there is no evidence to suggest they play a significant role in spreading the infections most frequently observed.

However, feeding stations can sometimes attract larger numbers of rats, which may create other issues.

To reduce risk, avoid overfeeding and clear away uneaten food.

## CAN THESE DISEASES AFFECT HUMANS OR OTHER ANIMALS?

One of the strains of salmonella typhimurium most commonly associated with disease outbreaks in garden birds (strain DT40) is also capable of infecting humans and cats (Tauni & Österlund 2000). Although such cases are relatively uncommon, it is important to maintain good hygiene practices when handling bird food or cleaning feeders.

It is also sensible to assume that infectious diseases affecting garden birds may pose a risk to captive or cage birds, and appropriate precautions should be taken.

## WATER

Water is widely recognised as a key pathway for disease transmission.

If you provide water in drinkers or birdbaths, it should be kept clean and ideally refreshed daily. Tap water is the best option, as it already contains low levels of chlorine.



Organic matter such as dirt, leaves, and droppings can encourage the growth of bacteria and other pathogens, so containers should be emptied regularly and disinfected with a 5% bleach solution on a weekly basis.

Providing clean water can make your garden a safer environment than relying on natural water sources, particularly during dry periods.

It is also beneficial to offer several smaller water sources spread around the garden, rather than a single large one, to reduce crowding.

In freezing conditions, ensure birds have access to unfrozen water by refreshing supplies once or twice a day or by breaking any ice that forms.

Never add antifreeze, glycerine, salt, or sugar to the water. A simple tip is to place a small floating ball in the water, which can help prevent it from freezing completely.

## CHOOSING A BIRD FEEDER TO MINIMISE INFECTION RISKS

The risk of spreading infection can be reduced by choosing well-designed feeders.

These should be easy to clean and disinfect; smooth, non-porous materials such as plastic or metal.

Feeders should also allow good drainage of rainwater and be free from cracks, crevices, corners, rims or ledges where uneaten food and droppings can accumulate.

Avoid designs where perches are positioned directly above one another, as droppings from birds on higher perches can contaminate those below.

For species that do not readily use hanging feeders, hygiene can be improved by covering flat feeding surfaces with disposable materials such as cardboard, which can be replaced daily.

While this does not eliminate contamination entirely, it can help reduce it. Alternatively, removable fabric liners that can be cleaned and disinfected before reuse can also be effective.

Bird tables and suspended feeders should be designed to minimise contact between birds and the food itself. Perches should not be positioned above feeding areas, and designs should discourage unnecessary contact with food and feeding surfaces.

## HYGIENE – A PRIORITY

Hygiene is arguably the most important factor in reducing the risk of infectious disease, particularly between January and May when most deaths from salmonella and E. coli occur.

Bird tables, feeders, and birdbaths should be kept clean (Pennycott & Kirkwood 1998).

Bird tables should be brushed daily to remove droppings and uneaten food. After cleaning, they can be disinfected by washing or soaking for a few minutes in a 5% sodium hypochlorite solution (e.g. household bleach).

Always follow the manufacturer's instructions when using disinfectants and wear gloves during handling. Feeders should be thoroughly rinsed and allowed to air-dry before reuse, and care should be taken to keep bird food dry at all times.

Suspended feeders are generally less prone to contamination from droppings, so cleaning frequency can be guided by regular visual checks.

Cleaning equipment such as brushes should be kept solely for this purpose, stored outdoors, and not used for other household tasks. Gloves should always be worn, and hands washed thoroughly after handling or cleaning feeders, bird tables, or birdbaths. These items and any cleaning equipment should not be brought into the home.

The ground beneath feeders, where birds often pick up fallen food, should also be kept clean through regular sweeping. Any waste collected should be disposed of hygienically.

## PREDATORS

Providing food for garden birds can help sustain populations of songbirds, but it also inevitably attracts predators such as sparrowhawks. This is a natural part of the ecosystem.

For those wishing to reduce predation risk, feeders should be positioned at an appropriate distance from cover such as bushes or hedges: far enough away to prevent ambush, but close enough to allow birds a quick escape.



Predators such as sparrowhawks are a natural part of the ecosystem.

A distance of around 2 metres from cover is often considered a good compromise.

Research also suggests that nests located within 10 metres of feeding stations may face a higher risk of predation, likely due to increased bird activity attracting predators. Despite this, many birds still choose to nest in these areas, so it is sensible to take steps to reduce risk.

One effective approach is to provide suitable predator-resistant nest boxes for the species using your garden. As a general guideline, offering several nest boxes, approximately 6 - 8 per feeder, can help support safer breeding opportunities.

## CATS

The risk of cat predation can be reduced by positioning feeding stations where cats cannot easily approach undetected. Placing feeders at least around 2 metres from cover such as dense vegetation can help limit opportunities for ambush.

Fitting cats with collars that include a bell may also reduce predation, as it makes it more difficult for them to stalk birds without being noticed.



Limit the opportunities of an ambush with thoughtful positioning of your feeding stations.

## WILDLIFE GARDENING

In addition to providing supplementary food, gardens can be managed as valuable habitats for birds.

Planting a variety of trees, shrubs, and flowers that provide seeds, berries and shelter can support birds throughout the year. Encouraging invertebrates, for example by avoiding the use of pesticides, can also provide an important natural food source. (Moss & Cottridge 1998).

**Combining feeding with wile-life friendly gardening offers the greatest overall benefit for birds.**

## DISEASE OUTBREAKS – WHAT TO LOOK FOR

Although disease outbreaks occur each year, the overall risk in any individual garden remains low.

However, it is important to remain vigilant. Early detection and action limits the spread and the number of birds affected. In some cases, managing an outbreak may also involve coordinating with neighbours.



Birds with canker (trichomoniasis) often fluff up their feathers as a sign of being sick, weak or lethargic.

If you attract birds to your garden through feeding, there is a responsibility to minimise disease risks and to monitor for any signs of ill health.

Common signs of serious infectious diseases include:

- A fluffed-up appearance.
- Lethargy and reluctance to move.
- Partially closed eyes.
- Difficulty feeding or swallowing.

Affected birds may remain close to feeders or water sources and continue attempting to feed until shortly before death.

In some cases, birds may be found dead without any obvious prior signs of illness.

## DISEASE OUTBREAKS – WHAT TO DO

If you need to handle sick or dead birds, always wear protective gloves and wash your hands and forearms thoroughly afterwards. Pets should be kept away from any sick or dead birds.



Starlings enjoy a wide variety of invertebrates, fruits and seeds throughout the year.

If an infectious disease is suspected, it is essential to apply the hygiene measures described earlier more frequently and rigorously.

A key consideration is whether to continue feeding.

Ongoing feeding may allow infected birds to mix with healthy individuals, increasing the risk of transmission, while stopping feeding may encourage birds to disperse and feed at lower densities on natural food sources, potentially reducing disease spread.

However, if birds have become reliant on supplementary feeding, sudden withdrawal could create additional challenges or drive them to more crowded feeding sites elsewhere.

Careful judgement is therefore required and in most cases a balanced approach is appropriate:

- Reduce the quantity of food provided.
- When natural food is available, it may be appropriate to pause feeding temporarily for a few weeks to reduce crowding.
- If it is not appropriate to stop feeding, efforts should focus on spreading feeders more widely, improving hygiene, and minimising the number of birds feeding in any one location.

## TREATMENT

Efforts should focus on reducing the risk of disease outbreaks and limiting their spread at feeding sites, rather than attempting to treat birds once illness has occurred.

By the time a sick bird can be caught, it is often too unwell to recover, and the only humane option may be euthanasia to prevent further suffering.

Treating wild birds is generally not appropriate. It is not possible to control the dosage of any medication they may consume, nor to ensure that only affected individuals receive treatment. This creates a risk that birds may receive ineffective or unsafe doses.

The use of antibiotics in these circumstances can contribute to the development of antibiotic-resistant bacteria, posing risks to wildlife, domestic animals, and humans.

For these reasons, treatment of the diseases discussed here is rarely practical. Preventative measures, as outlined in this guidance, are therefore the most important and effective actions you can take.

## EUTHANASIA OF DYING BIRDS

Wild birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to intentionally kill, injure or take any wild bird.

However, the Act does allow for exceptions on welfare grounds, stating that a person is not guilty of an offence if an animal is so seriously injured or disabled that it has no reasonable chance of recovery.

In such cases, humane euthanasia is permitted to prevent further suffering.

Euthanasia should ideally be carried out by a veterinary surgeon, typically through the administration of an overdose of anaesthetic. In emergency situations, where this is not possible, there are humane methods that can be used to prevent prolonged suffering. Organisations such as the Universities Federation for Animal Welfare (UFAW) or other animal welfare bodies can provide further guidance.

**If you are unsure, it is best to seek advice from a vet or recognised wildlife organisation.**





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