

European Goldfinch (*Carduelis carduelis* subspecies *Britannica*)

Scientific Name Origin: The specific name *carduelis* comes from Latin, meaning Goldfinch, named for its favourite food — the thistle (*carduus*).

Collective and Common Names

The best – a Charm – it is such a fitting word for this charming species.

‘They were referred to as a Chime where I grew up’ commented one of WRENNZ board members.

They are also called a ‘Trouble of Goldfinches’, but it’s hard to imagine they are ever trouble.

Introduction

These notes focus on European goldfinches introduced and now naturalized in New Zealand. They aim to assist wildlife rehabilitators in understanding the species' natural history to improve care for birds admitted for rehabilitation.

Disclaimer: These notes give an overview of the basic needs of the species and issues rehabilitators need to consider when holding them as patients. They are not intended as a comprehensive ‘how to’ guide however, and the following informational sources will help fill in some gaps. Work with your wildlife rehabilitation community and your veterinarian and join organizations promoting professional wildlife rehabilitation.

Information sources

- NZ Birds On-line [Home page | New Zealand Birds Online](#)
- [Handbook of Australian, New Zealand and Antarctic Birds: Vol 7](#)
 - [352_European Goldfinch](#)
- *Hand-Rearing Birds*, 2nd Edition. Edited by Rebecca S. Duer and Laurie Gage. [Hand-Rearing Birds, 2nd Edition – National Wildlife Rehabilitators Association](#)
- RSPCA care notes for finches
- BirdCare Aotearoa diet sheets

Species Notes:

- **Adult weight range:** 11 – 18g
- **Legal Status in NZ:** No permits are required to rehabilitate this species. However, the Welfare Act may be invoked in cases of cruelty.
- **Natural diet:** Primarily introduced composites, occasionally invertebrates, and rarely nectar
 - **Seeds consumed:** Mainly seeds of thistles, pigweed and fat hen (*Chenopodium* spp.), dandelion, chickweed, *Poa annua*, ryegrass, paspalum, and other grasses
 - **Insects:** Small invertebrates from Diptera (flies), Hemiptera: Aphididae (aphids), and Lepidoptera (larval moths and butterflies), especially fed to chicks during the breeding season

Critical time periods to ensure natural history and biological milestones are respected while in rehabilitation.

| European goldfinch | |
|---------------------------|---------------------------------|
| Incubation - eggs | 11 - 15 days |
| Nest attendance | Female in first week, then both |
| Brooding | Approximately 7 days |
| Hatch to fledging | 11 - 17 days |
| Dependency after fledging | 14 - 21 days |

Diet Notes for Adult European Goldfinches

To meet nutritional requirements under New Zealand conditions, consider the following:

- **Cat biscuit:** Ground finely to a sandy consistency. Use high-quality brands (e.g., Orijen) with animal-sourced ingredients listed as the first 2, 3 or more ingredients. Cat biscuit is designed to meet the nutritional needs of carnivores, so we can use this to help as a substitute for any insect components in a diet.
- **Egg mix:** this base food is prepared using hard boiled eggs with the shell included, finely ground up and well-cooked vegetables added. This can be sweet potato, pumpkin, silver beet cooked well and mashed up. Cooked apple can also be added. Blend all this together and blitz in a food processor. The resulting mix can be frozen in ice-cube trays, or freezer bags. If using freezer bags, do not over fill. Instead, freeze so you have a thin layer of food that can easily be broken off and thawed as needed.
- **Eggshell powder:** Sterilize eggshells by baking at 150°C for 20 minutes, then grind finely.
- **Nectar substitute:** Use sugar or dextrose if birds need a quick energy boost. This species does use nectar as part of their natural diet.

Options for Seed Mixes

| GOLDFINCH | |
|------------------------------------|------------------|
| BRITISH FINCH MIX | 30 |
| GREENFINCH MIX | |
| HEMP, WHOLE OR CRUSHED | 5 |
| NIGER | 50 |
| BLACK SUNFLOWER | 10 |
| WHITE SUNFLOWER | |
| BULLFINCH MIX | |
| LINSEED | 5 |
| PEANUTS IN A FEEDER AVIARY ONLY | |
| SEED IN A FEEDER AVIARY ONLY | YES |
| BROCCOLI SPRIGS | Always available |
| DRIED/FRESH BERRIES | |
| MILLET SPRAY | Always available |

RSPCA diet guidelines for goldfinches in care. The numbers are given as a percentage of the daily diet for foods recommended for the species.

Nestling to fledgling care notes

Housing

- Use a cup-shaped nest with a non-slip interior surface to prevent splay-leg.



- Line nests with multiple layers of crumpled tissue paper for hygiene and comfort, replacing soiled layers regularly.
- Crocheted nests work well and can be laundered when soiled.

Nutrition and Crop Care

- Feeding must continue diligently until the appropriate age is reached.
- Weigh nestlings daily to track growth within the adult weight range.
- The crop (a pouch at the base of the neck) should be between half and two-thirds the size of the bird's head after feeding and must be empty before the next meal.
- The main problem is often to know if you are feeding enough or too much as these youngsters will continue to beg even as food overflows out of their beaks! Resist over-filling.
- If the crop is not empty, investigate immediately.
- Do not over-fill the crop – no matter how much the chick begs!

Troubleshooting Crop Issues

- **Skipping a meal:** If the nestling seems in good condition, try skipping the next meal.
- **Temperature:** Maintain brooder at 35–38°C with 50–60% humidity until birds thermoregulate; a warm nursery room temperatures may be all that is needed

during the day. However, return the youngsters to stable warmth and humidity brooder conditions at night.

- **Hydration:** Look for signs of dehydration (wrinkled dry skin). Provide sterile isotonic (~pH 7.0 to 7.4) fluids subcutaneously if necessary. The fluid volume can be up to 7 to 10% body weight SID given in the inguinal region, then review 30 minutes later. Repeat as needed. Warm water drops can help moisten the crop contents and you might need to empty the contents of the crop by 'reverse feeding' to prevent it impacting. Also, ensure the food is well hydrated and even a little runny in younger nestlings.
- **Infections:** Crop swabs may be required in consultation with veterinarians if infection is suspected.

Sudden Finch Death Syndrome

The following information is extensively covered by Guthrum Purdin and Rebecca Duerr in Hand-Rearing Birds, 2nd Edition (edited by Rebecca S. Duer and Laurie Gage). "Sudden Finch Death Syndrome" is tough to experience as they really seem to be doing well, until they die! This publication is a great resource if you have access to it. The following notes offer insight into the issues that may be going on.

This probably did not happen suddenly! Slow crop emptying, fluffed appearance, and vomiting should be taken seriously. Do a crop swab. Work with your veterinarian to develop Standard Operating Protocol's to manage the findings of the crop swab and your observations. Using a drug cocktail of an antibiotic, antifungal and antiprotozoal may be indicated. The following notes are based on the experience of wildlife rehabilitators in North America and are valuable to help you and your veterinarian with developing your SOP's. *Remember, all drugs are to be used by or under supervision of your veterinarian.*

- More specifically, anaerobic, Gram-positive bacteria of *Clostridium spp* seem linked to the underlying cause of death, so a daily dose of Metronidazole (50mg/kg daily) has been found effective at reducing issues. If needed, also add Enrofloxacin (25mg/kg daily) if the mortality rate or infection does not show significant improvement.
- However, if flagellates show up on the crop swab, then start with Carnidazole (25mg/kg) once daily for 3 days.
- For yeasts, Nystatin for 7 days should be effective. This must be given into the mouth and not crop tubed.

Supportive care is crucial. Continue with subcutaneous fluid therapy to ensure a well-hydrated chick. Remember, do not overflow the crop no matter how convinced the chick is that it needs more!

Developmental Milestones and Rehabilitation Guidelines

The following chart shows some known developmental steps to aid in aging nestling admissions. The rehabilitation notes reflect the needed care allied to the biological development of the goldfinch young.

| European goldfinch | | | |
|---------------------------|---------------|--|---|
| Age related steps | Weight | Developmental steps | Rehabilitation notes |
| Hatch | | Altricial, nidicolous. Blind and either naked or with sparse down. | Feed every 10 to 15 minutes, 14 - 16 hours per day. Ensure the food is well-reconstituted and on the runny side with younger birds. |
| Hatch - 7 days | | Brooded by female | Must be kept in brooder - 35 to 38°C, with 50 to 60% humidity until fully feathered. |
| 6 - 8 days | | Pin feathers develop | |
| 7 - 10 days | | Eyes open | |
| 10 days | | Reaches adult weight | |
| 8 - 11 days | | Feathers sprouting | |
| 12 - 13 days | | Fully feathered | Start moving out of brooder during the day if your nursery is a warm space. |
| 12 - 17 days | | Fledging | Provide branches to hop on to. Feed every 30 to 45 minutes, 14 - 16 hours per day |
| 26 to 38 days | | Dependent on parental feedings | Continue to feed, feed and feed! |
| Weaning | | | Do not hurry. |
| Adult | 11 - 18g | | |

BABY FINCH SYRINGE FOOD

Use to tube feed baby Finches until they learn to self feed. Can also be used to tube feed adult Finches when assist feeding is required.

INGREDIENTS

Single batch

2T finely blended seeds
1T a/d
Sprinkle of eggshell
Hot water as needed

Double batch

4T finely blended seeds
2T a/d
Sprinkle of eggshell
Hot water as needed

Triple batch

6T finely blended seeds
2T a/d
Sprinkle of eggshell
Hot water as needed

METHOD

To prepare blended seeds

Ensure the blender is clean and very dry. Half fill the blender with seeds (preferably Finch seeds) and blend until you have a fine, flour like powder. Place this in an airtight container ready to use for multiple batches of Finch food.

Thoroughly mix all ingredients as above. Add water as needed to create a smooth paste that can easily be drawn up into a syringe. Ensure the food has no lumps.

Pack into containers labelled with date and time made.

Store in the fridge for up to 24 hours.

Warm food to approximately 40 degrees Celcius before feeding.

Release Criteria for European Goldfinches

The following offer some guidelines to consider;

- **Adult birds**
 - **Recovered from injury, illness**
 - Fractures may be well stabilized at 2 weeks, but still may need time to mineralize. Cat bites with soft tissue injuries should be well healed within ~2 weeks. Flight exercise may be important to help the bird regain muscle mass and aerobic fitness.
 - **Territoriality**

- Release close to where it was found unless there is a major concern for its survival and safety, especially in the breeding season in case a mate is nearby.
- Avoid releasing into a breeding territory if possible.
- Breeding territories may be present and defended by the male during the nesting stage. The female takes over this role once the eggs are laid and hatch.
- **Weather**
 - Generally, avoid releases when extreme weather events are predicted.
 - If possible, a 3-day window of stable weather is useful. However, adults know about weather, so do not delay a release unless severe down pours are predicted.
- **Parasite load**
 - Adult birds are not susceptible to parasite issues unless immune suppressed. Unless you or your vet team have concerns, or the bird has issues, this should not be an issue for release.
- **Water proofing**
 - **Critical issue.** Feathers MUST be waterproof. An ill or injured bird does not preen effectively, so spritzing with water daily will help the bird maintain good feather condition. Any sign of wetting should be monitored and only once the bird has regained waterproofing, should release be considered.
- **Feather condition**
 - Some feather loss will not hinder release, however, flight check in a safe room before release to verify any primary, secondary or tail feather loss does not impact the bird's flight. Do not release if large bald patches are still present.
- **Able to forage**
 - Can the bird actually forage? Not just from a bowl! Spread food items around the enclosure to monitor a bird's ability to seek and eat any food items offered. Has the issue that brought the bird into care created a problem that will limit this bird's ability to forage effectively?
- **Timing**
 - Probably best options is a morning release to allow the bird to reorient itself and de-stress after the capture, pre-release exam (including weigh in), transport and first flight.
- **Social grouping**
 - Goldfinches occur singly, in twos or small flocks at any time of year; they are more gregarious in the non-breeding season, often forming larger flocks of hundreds or sometimes thousands. Generally, in non-breeding seasons, it is best to release with other finches.
- **Young birds**

- **Age**
 - Have they reached the age at which they are fully independent? They may be nearly 2 months old – do not hurry to end this supportive care.
- **Imprinting, habituation or adaptive behaviors**
 - Song birds will not imprint on humans. Habituation may be an issue especially in singletons. However, once they are reliably self-feeding, monitor their progress and self-feeding in an outside habitat with regular weigh-ins to ensure they are indeed close to release-ready. Any dependence on humans will be gone rapidly.
- **Recovered from injury, illness**
 - Fractures may be well stabilized at 2 weeks, but still may need time to mineralize. Cat bites with soft tissue injuries should be well healed within ~2 weeks. Flight exercise may be important to help the bird regain muscle mass and aerobic fitness.
- **Soft or hard release**
 - Where possible, soft-releases are best, however, release into a flock of goldfinches is also the best opportunity for these youngsters to integrate into their wild life.
- **Weather**
 - These birds are naïve when it comes to weather extremes. It is crucial they have time to adapt so a window of 2 to 3 days of relatively stable weather is important.
- **Water proofing**
 - **Critical issue.** Feathers MUST be waterproof. Help the youngsters practice preening behaviours by spraying with water daily to help with the maintaining of good feather condition as they emerge and grow. Any sign of wetting should be monitored, increase spraying or seek advice (WReNNZ) on how to restore waterproofing.
- **Feather condition**
 - With a high-quality diet, the feather condition should be optimal for these young birds. Any major stress bars or damaged feathers should be considered a reason to hold a bird back until it has molted into fully functional feathering.
- **Able to hunt / forage**
 - Can the bird actually forage? Not just from a bowl! Spread food items around the enclosure to monitor a bird's ability to seek and eat any food items offered. Has the issue that brought the bird into care created a problem that will limit this bird's ability to forage effectively?
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- Goldfinches occur singly, in twos or small flocks at any time of year; they are more gregarious in the non-breeding season, often forming larger flocks of hundreds or sometimes thousands. Generally, in non-breeding seasons, it is best to release with other finches.
- **Food recognition and foraging**
 - Where ever possible, bring foods you know are eaten by goldfinches in your region to help develop the skills to feed effectively.

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