

# Neonatal Waterfowl Nutrition

Diets for Waterfowl Neonates

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## outline

- Nutritional Requirements
- Common Food Items
- Food Presentation by Age and Species
- When All Else Fails...

So what do we know about this?  
Not much...  
Let's look at Natural History?

## NUTRITIONAL REQUIREMENTS



### nutritional requirements





# nutritional requirements

## Diet and Foraging

### Feeding

#### Main Foods Taken

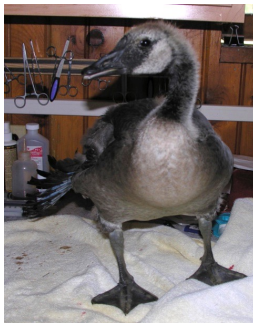
Primarily aquatic insects, crustaceans, zooplankton, and other invertebrates. Typically consumes small amounts of aquatic vegetation and seeds. Most studies show midge larvae (Chironomidae) are main food source, but this result may be biased toward type and location of food studies conducted.

*Ducklings.* In sw. Manitoba ( [Siegfried 1973e](#) ), 88% of duckling (n = 18) diet consisted of animal matter, 12% plant; most animal matter was midge larvae and pupae (73%), amphipods (*Dammarus lacustris*) another 10%. Hemiptera nymphs (*Sigara* sp.), caddisfly larvae (*Limnephilus* sp. and *Phryganea cinerea*), beetle larvae (*Rhantus* sp.), and other Diptera larvae (*Prionocera* sp.) made up remainder of diet. Grit ranged from 0.06 to 2.0 mm in size, and quantity (volume) of grit increased with duckling age, from 0.25 ml for 5-d-old ducklings to 1.26 ml for 35-d-old ducklings ( [Siegfried 1973e](#) ).



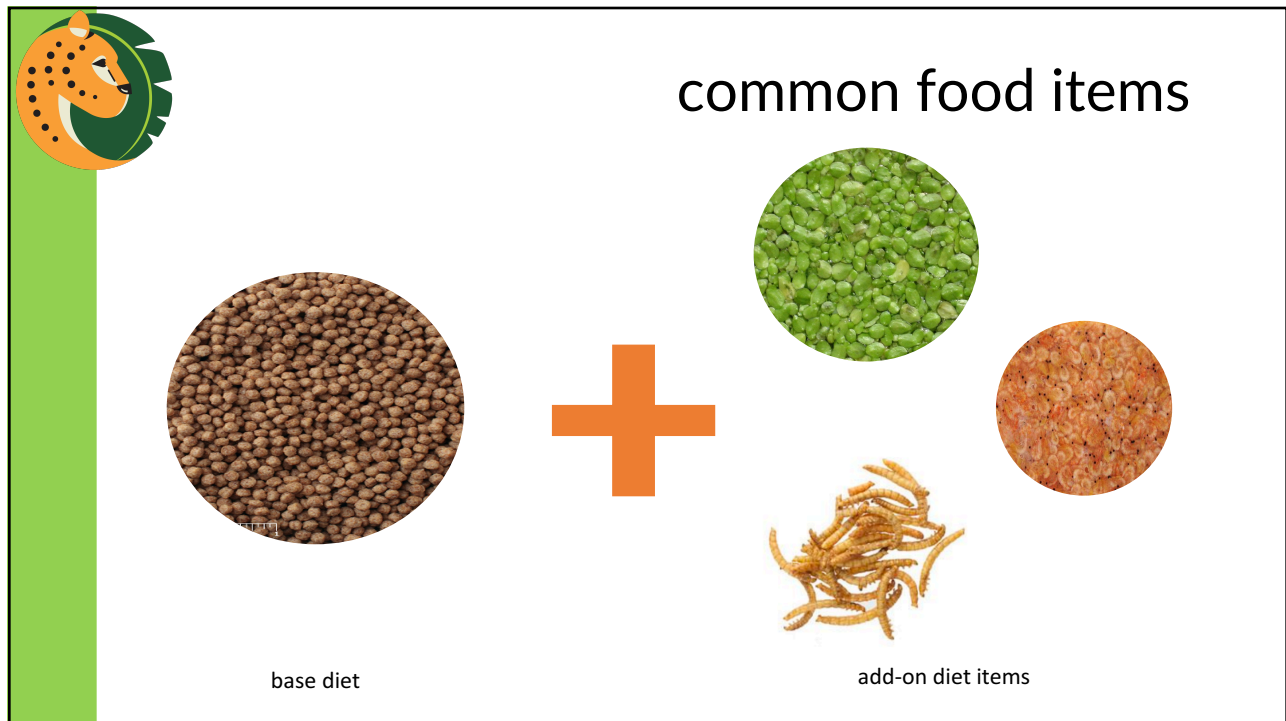
## why provide optimum nutrition?

- Angel Wing
- Perosis (slipped Achilles tendon)
- Bent feather shafts, stress bars and poor coloration
- Neurologic Defect



It's much easier to **prevent** these problems than it is to treat them

## COMMON FOOD ITEMS





## common food items



Medicated Feed =  
Dead Neonatal  
Waterfowl



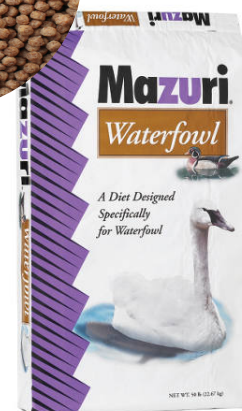
Chick Starter?  
Inadequate B  
Vitamins



All Flock?  
Starter v. Adult  
formulas?



## common food items







## common food items

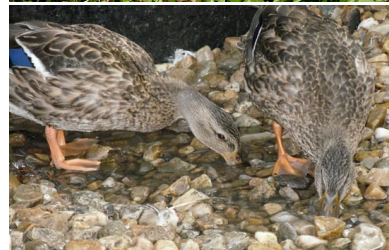


FOOD PRESENTATION BY AGE AND SPECIES





## food presentation



## food presentation





## food presentation



## food presentation



## WHEN ALL ELSE FAILS



## when all else fails

- Ongoing pain / illness
  - Untreated pain
  - Neuropathic pain
  - Parasites, etc.
- Loneliness
  - "Conspecifics"
  - Mirrors
  - Stuffed animals, etc.
- Inappropriate husbandry
  - Sea ducks, mergansers, pochards, wood ducks – all have different requirements
  - Change up food and water setup as well as food items
  - Too much space?
- Stress
  - Predators, people
  - Sound machine?



## hydration



## critical care

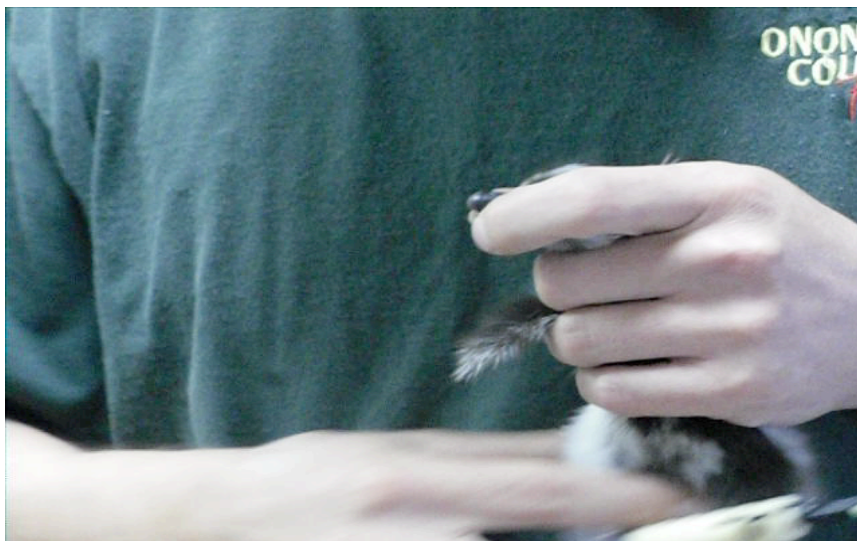


- Waterfowl require calories
  - If not self-feeding – calories must be provided via gavage feeding
- Weigh regularly
  - Neonatal waterfowl should be weighed twice daily until self-feeding enough to maintain weight
  - Debilitated or injured adults should be weighed once daily
- Common Gavage Formulas
  - Ducklings: Mazuri® nestling hand-feeding formula or soaked blended Mazuri® Waterfowl Starter
  - Goslings and Cygnets: Lafeber's Emerald® Omnivore Avian
  - Ducks: Soaked blended Mazuri® Waterfowl Maintenance or Lafeber's Emerald® products (Omnivore, Carnivore, Piscivore)
  - Geese and Swans: Soaked blended Mazuri® Waterfowl Maintenance or Lafeber's Emerald® Omnivore



## critical care

- Rehydrate first
- Start slow
  - Feeding frequency determined by age
  - Often start at 2-4 hour intervals 4-6 times daily and then taper gradually as birds begin to self-feed
- Volume Suggestions
  - 0.1mL per 10 gram bird



## critical care



## critical care

- Techniques – Pros and Cons

- Tube Feeding

- Appropriate for waterfowl and game birds
    - Very quick and easy to administer calories
    - Requires use of appropriate formulated diet for species at hand
    - Works best when started immediately as the bird gets used to procedure within the first day
    - Cannot hope to be successful if started after bird has been in care for several days and has been losing weight

- Drip Feeding

- Appropriate for some ducklings and some game birds
    - Can help to transition them into self feeding by providing invertebrates instead of formula or larger food items

- Attempt to keep the period of assisted feeding as short as possible by implementing additional strategies to establish self-feeding behavior

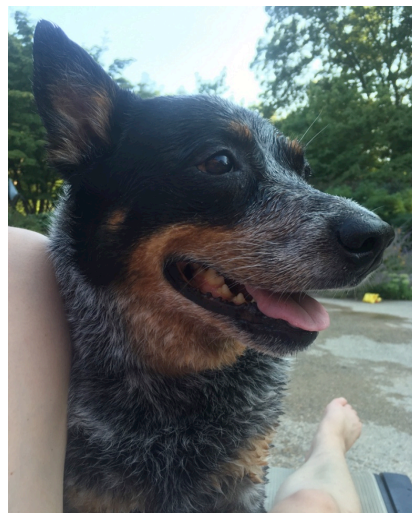


## critical care





thank you



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