

## Botulism in chickens, ducks and other poultry

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Botulism is one of the most common causes of death in poultry in the Top End. Chickens, ducks, geese, guinea fowl and many other birds are susceptible. It can affect free-range and caged birds, as well as wild birds.

### What causes botulism?

Botulism occurs when birds eat food or drink water containing botulism toxin. The toxin is produced by bacteria called *Clostridium botulinum*. These bacteria are commonly found in the soil, and thrive in rotting vegetation, food or carcasses, where they produce a very potent toxin. The toxin is also taken up and concentrated in maggots. The consumed toxin acts on the nervous system, causing weakness and paralysis. Botulism tends to be more common in the wet season, because birds are more likely to have access to wet, decomposing feed. Examples of situations where botulism can occur include birds pecking at rotten food scraps or the body of a dead bird or small animal (such as a dead mouse), or when the water level of dam or pond drops and the vegetation around the edge dies off and rots.



**Figure 1.** A chicken with typical signs of botulism. The bird is weak and unable to stand, and has droopy wings. The neck is floppy, it cannot hold its head up and its eyes are closed.

### Symptoms of botulism

Usually affected birds are found sitting or lying on the ground, hunched over and unable to stand. They are floppy and weak, and cannot hold their heads up.

Sometimes birds may just be found dead, with no evidence of struggling. There is no diarrhoea or nasal discharge and no signs of injury. Often several birds in a group are affected at the same time, particularly the largest and healthiest. This reflects the feeding habit of the birds, which tend to congregate and peck at something they find interesting, with the smallest birds being pushed away.

### Diagnosis of botulism

Botulism may be suspected when there is a sudden onset of floppy paralysis in one or more birds in a group. A careful search should be made for a potential source of the toxin in the area where the birds can roam. With botulism, the body appears normal on a post-mortem examination. Laboratory confirmation of botulism is difficult and not routinely done. However, laboratory submission of sick or recently deceased birds is encouraged to rule out other causes of illness.

### Treatment of botulism

There is no specific treatment for botulism. Most affected birds will die. Death occurs due to paralysis of the muscles needed for breathing. Birds that have ingested only a small amount of toxin may survive, but they need careful nursing until the toxin wears off. The birds cannot swallow, so do not try to give them food or water. Putting food or water in the mouth, for example with a syringe, may cause pneumonia because it will end up in the lungs. Wait until the birds are able to lift their heads and make clucking sounds before offering water. Protect the birds from the sun and from other birds or animals that might attack them. Provide the birds with soft bedding. If there is no improvement in 24-48 hours, the birds are unlikely to survive.

### Prevention of botulism

To reduce the risk of botulism, it is important to prevent birds from having access to possible sources of the toxin. Feed only fresh food. Do not discard old or wet food where birds can peck at it. Check the area where birds can roam and remove any rotten food scraps or carcasses regularly. Clean water containers daily, and prevent the birds from drinking or swimming in water where there is rotting vegetation. If birds start to show signs of weakness or floppy paralysis, pen the remainder of the flock in a clean area until a diagnosis has been made, and the range has been thoroughly checked.

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