



DUCK FARMING: **Animal welfare considerations**

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COMMERCIAL DUCK FARMING: ANIMAL WELFARE CONSIDERATIONS

The main breeds of ducks used in commercial duck farming in Australia are Pekin and Muscovy ducks. Ducks farmed for meat are typically considered ready for slaughter at ~3kg, which Pekin ducks reach at 4-6 weeks of age and slower growing Muscovy ducks at 7-10 weeks of age. As with all types of intensive poultry farming, there are several critical factors that must be considered to ensure good duck welfare.

Ducks are waterfowl meaning they have adapted to spend a large part of their life in the water. Behaviours that ducks are naturally and highly motivated to perform include exploring, foraging, preening and bathing. Preening and bathing behaviours act as both comfort and social behaviours for ducks, while also being critical for maintaining their eye, nostril and feather condition.

Where ducks are housed in barren and inappropriate environments, they are at an increased risk of experiencing stress and having their welfare compromised. The main risk to animal welfare in duck farming which must be considered include painful husbandry procedures such as bill trimming, high stocking densities, inappropriate flooring and lighting, lack of water provision, and on-farm euthanasia and slaughter methods.

Bill trimming

Ducks may be subjected to painful husbandry procedures such as bill trimming. Bill trimming involves removing a portion of the bill to prevent ducks from feather pecking. In Australia, most bill trimming is done using either a hot blade or infrared trimming on day-old ducklings at the hatchery. Bill trimming causes short-term pain for ducks and when performed on older ducks can also lead to long-term pain and restrict ducks' ability to display normal behaviours.

Routine bill trimming should be replaced by alternative management strategies to reduce the risk of feather pecking in ducks. Management and stockpersonship are crucial in controlling feather pecking. Some of these alternative management strategies include appropriate stocking densities, good litter management, appropriate flooring, and the provision of environmental enrichment and water sources that allow for full body immersion.

Stocking density and flooring

Ducks are usually raised indoors with either littered or slatted (plastic or wire) floors. Providing ducks with appropriate good quality litter offers cushioning during activity and resting while also absorbing excess moisture from droppings. This is particularly important for Muscovy ducks, who are prone to foot and leg injuries due to having softer and thinner footpad skin than other duck breeds. Where ducks are raised without litter, they have been shown to have an increased likelihood of performing abnormal damaging behaviours such as feather pecking. Poor litter quality and excess litter moisture has been associated with an increased risk of footpad dermatitis, hock lesions and leg health issues. It is therefore critical when providing litter that appropriate substrates are used, and that litter is maintained in a dry and friable condition.

Housing ducks at high stocking densities can have negative impacts on performance (feed intake and growth rate), foot and leg health, and cause increased stress levels leading to abnormal behaviours such as feather pecking. These negative impacts of high stocking densities have been observed at densities of more than 4 birds/m² in ducks. Higher stocking densities also make ventilation and litter management more challenging which can increase the risk of disease, thermal stress and foot and leg problems. The appropriate stocking density for ducks must consider the breed and age of ducks, while also ensuring they have enough room to move freely and perform naturally motivated behaviours.

Lighting

Ducks, when housed only indoors, may not be provided access to natural light or artificial lighting of an equivalent broad spectrum. Other poultry species, such as meat chickens and laying hens, show a preference for natural light and, when provided natural night, have higher activity levels, better leg health and perform more naturally motivated behaviours. The use of monochromatic (one colour) light spectrums can lead to negative health and welfare outcomes for poultry. While there is limited research on lighting and ducks, the use of only blue lighting in ducks has been shown to increase stress levels (increased corticosterone) and decrease performance (decreased growth hormone).

Natural light has the benefit of having ultraviolet (UV) within its spectrum. Providing UV light has been demonstrated to be beneficial for multiple poultry species including meat chickens, laying hens and ducks. Ducks, when provided artificial light with supplementary UV light, display less fear responses and have lower levels of both acute and chronic stress.

Until further research suggests otherwise, ducks should be provided natural light or artificial lighting that provides an equivalent broad spectrum, including UV light. In addition, it is important that ducks are provided lighting of appropriate intensity during daylight hours while also being provided adequate hours of darkness during the night to allow them to rest properly.

Water provision

When ducks are provided access to water, they use it to perform a large variety of highly motivated water-related bathing behaviours such as sieving, dabbling, preening and head dipping. These water-related behaviours are critical for maintaining good feather condition, waterproofing, thermoregulation, overall health, as well as promoting positive affective states in ducks. Research also suggests that open water sources (i.e. those that allow fully body immersion) play a critical role in the development of the preen gland. A lack of access to open water for bathing has been shown to inhibit the development of the preen gland and preening behaviours performed by ducks. This highlights the importance of providing ducks with a water source that allows fully body immersion for both health and welfare reasons.

There are several ways currently in which water can be provided to ducks on farm, these include nipple drinkers, bell drinkers, narrow or wide troughs, showers, pools and/or baths. Ducks show a preference for water sources that allow full body immersion. Water sources that only provide partial head-only immersion or no immersion, such as drinkers or shallow troughs, compromise ducks' ability to perform the full range of bathing behaviours. This is because, with head-only immersion, birds are limited by the amount of water they are able to toss over their body for preening, and they are unable to perform full body behaviours such as swimming.

Water sources that provide the opportunity for full body immersion such as deep troughs, showers, pools or baths, promote bird activity and effective preening behaviours. Ducks appear to use different water sources and water depths to perform different water-related behaviours. They have been shown to prefer showers for drinking and dabbling and use baths for bathing. Ducks seem to prefer using shallower water for these bathing behaviours, the most important factor being that birds can adequately immerse their heads for preening.

When not provided water access (other than drinking water), ducks are unable to perform these water-related activities that they are highly motivated to do which can in turn lead to frustration. Ducks experiencing frustration are at an increased risk of developing abnormal behaviours such as head shaking, stereotypic feather preening and self-mutilation through feather pecking indicating compromised welfare.

In addition to these open water sources, ducks should be provided drinkers separately. Ducks have been shown to have a preference for drinking clean water from water systems such as showers, troughs or baths where they can scoop and shovel water into their bills, in comparison to bell or nipple drinkers.

The provision of open water sources for ducks can pose challenges for litter management and a risk of water contamination. Poor litter management from spoiled or moist litter, especially when relative humidity is increased, can increase the risk of ducks developing footpad problems and disease. Water contamination from litter, feed or faecal matter has also been suggested to increase the risk of infectious diseases in duck flocks. These risks can be managed appropriately with good management practices and facility design factors such as having open water sources separate from litter areas, appropriate drainage, as well as regular cleaning and changing of water sources.

Ducks have an innate need to perform these highly motivated bathing activities and should have open water access on farm to ensure their health and welfare. Water sources should be provided in such a way that allows ducks to fulfill their full range of bathing behaviours such as wet preening, while not posing a human food safety, animal welfare or biosecurity risk. In addition to this, ideally, different water sources should be provided such as a mixture of showers, troughs and baths, so that ducks may have the opportunity to perform all their motivated behaviours in the preferred sources.

On-farm euthanasia and slaughter

For on-farm euthanasia, RSPCA Australia encourages the use of alternative methods to cervical dislocation given the welfare concerns with the time taken for unconsciousness and death to be achieved with this method. Where alternative methods such as captive bolt and gas killing devices are used, it is important to ensure there are detailed requirements around the parameters of these methods to ensure a humane death. Ducks are particularly resistant to carbon dioxide gas used in gas killing devices due to their breath-holding abilities and, like other poultry species, ducks also find high carbon dioxide gas concentrations aversive. Aversive gas concentrations should not be used until ducks have lost consciousness and then higher concentrations must be used to ensure death. Additionally, for ducks, particularly high concentrations of carbon dioxide will be required after loss of consciousness and often for extended periods to ensure death because of their breath-holding capacity.

Electrical waterbath stunning is currently the only stunning method used in Australia for commercial duck slaughter and there are serious welfare concerns associated with its use in all poultry species. These concerns include the requirement for conscious bird shackling and the significant variation in electrical parameters between individual birds which impacts stun efficiency. Ducks also have swan necks, meaning when they are inverted in shackles their neck can bend backwards and remain parallel to their back, so that when the duck enters the waterbath their head may remain above the water. This means ducks are at a high risk of receiving painful pre-stun shocks or not being stunned effectively in electrical waterbath stunning systems. RSPCA strongly urges electrical waterbath stunning systems be replaced with more humane alternatives that do not require conscious shackling of birds and can provide a more reliable stun efficiency. One of these alternatives is controlled atmosphere stunning systems which are already being used effectively in Australia for other poultry species such as meat chickens. However, industry is encouraged to explore other and potentially more humane alternatives such as inert gas stunning systems or low atmospheric pressure stunning systems.

RSPCA Knowledgebase articles

To read more about the animal welfare issues associated with duck farming and why access to water is important for good duck welfare see the below articles on the [RSPCA Knowledgebase](https://kb.rspca.org.au/knowledge-base/).

<https://kb.rspca.org.au/knowledge-base/what-are-the-animal-welfare-issues-with-duck-farming/>

<https://kb.rspca.org.au/knowledge-base/why-is-access-to-water-important-for-the-welfare-of-farmed-ducks/>

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The RSPCA is Australia's leading animal welfare organisation and one of Australia's most trusted charities. The RSPCA works to prevent cruelty to animals by actively promoting their care and protection.

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