



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 open 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 eye, nostril and feather condition, waterproofing, thermoregulation, and overall health. 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, which contributes to maintaining feather condition and thermoregulation. Preening and bathing behaviours also have a social function with ducks preferring to spend time simultaneously bathing with other ducks, indicating that open water access likely facilitates positive social experiences for ducks. This highlights the importance of providing ducks with a water source that allows full body immersion for both health and welfare reasons.

There are several ways 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. Water sources that only provide partial head-only immersion or no immersion, such as drinkers or shallow troughs, limit ducks' ability to perform their full range of bathing related 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 use shallow troughs and pools more for sitting and dabbling, while using showers and deeper pools for resting and socialising, and baths for swimming. While ducks use all water sources, one of the most important factors for ducks when bathing appears to be that they can adequately immerse their heads for preening. When not provided water access (other than drinking water), ducks are unable to perform their full repertoire of water-related behaviours. Although the research is limited, when ducks are deprived access to open water, they have been observed to display increased levels of feather pecking and rebound behaviour activity. This indicates the lack of open water access and inability to perform motivated bathing behaviours may lead to ducks experiencing frustration and poorer welfare outcomes.

The provision of open water sources for ducks increases water usage and can pose challenges for litter and water hygiene management. 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 ducks.

Good management practices and facility design factors are critical for mitigating litter and water hygiene challenges associated with open water provision. Placing open water sources in appropriate locations away from litter with adequate drainage or limiting time access to open water have been used to address the litter management challenges. Providing ducks with separate drinking water in addition to open water sources and using self-filling water systems that are regularly cleaned may help mitigate some of the water hygiene challenges. Providing ducks with open water sources in a commercial setting however is complex and remains challenging with numerous factors needing to be considered.

Access to open water allows ducks the opportunity to perform highly motivated water-related behaviours important for maintaining ducks' health and welfare. Ducks should be provided ideally a variety of different water sources in such a way that allows them to fulfill their full repertoire of water-related behaviours, while not posing a human food safety, animal welfare or biosecurity risk.

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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