



## Design and management of covered verandas for optimal use



### What is a covered veranda?

A covered veranda, also termed winter garden, is an enclosed and roofed area with a littered concrete floor, which is accessible via popholes from the poultry barn. It is uninsulated and therefore has a variable climate. The solid roof protects against rain, but at least one side usually consists of netting, allowing natural light and fresh air into the veranda. Some systems with a covered veranda also have an outdoor range, which can be accessed from the veranda.

### Providing enrichment in the veranda

A veranda will be frequented more if enriched. The floor should be littered (e.g., placing bales that the birds have to spread themselves), preferably with a different substrate than used indoors. Provision of litter and enrichments such as bales, foraging materials and other pecking substrates will encourage foraging and exploration. A veranda is an ideal location for the provision of roughage, as the roughage will then be protected against contact with wild birds and their droppings, and moist roughage will not compromise the litter quality indoors.

### Benefits of having access to a covered veranda

The covered veranda provides the poultry with outdoor climatic conditions and more choice in their environment, while still protecting against predators, wild birds and extreme weather conditions. A veranda provides extra space and conditions that facilitate active behaviour, such as foraging, locomotion, exploratory and dustbathing behaviour. Behavioural needs are better accommodated, which may reduce the risk of developing injurious pecking, i.e., feather pecking and cannibalism. Use of the veranda also effectively reduces the indoor stocking density. Since the roof and netting protects against contact with wild birds and their droppings, the risk of disease spreading from wild birds (e.g., avian influenza) is considerably reduced compared to systems with access to an outdoor range.



*Laying hens in a veranda enriched with birch branches, A-frame perches and litter.*

### Access from an early age

Veranda access can be offered as early as when the birds are 14 days old, if they have easy access to the barn to allow for behavioural thermoregulation. Outdoor climatic conditions (i.e., temperature, humidity and wind) are to be taken into account as well as the feather coverage of the birds. Early access to verandas or outdoor ranges promotes later use.

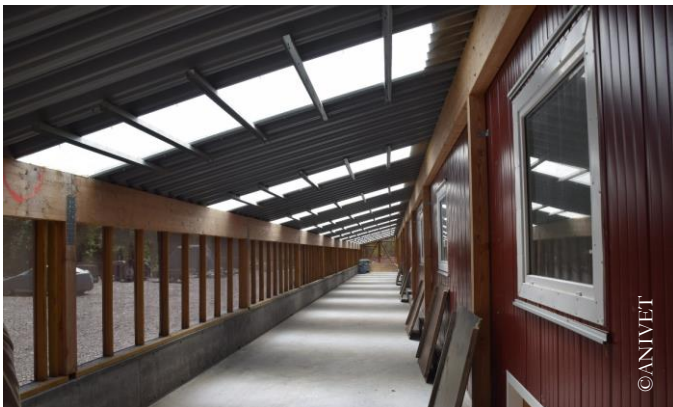


*Broiler chickens dustbathing in direct sunlight in a covered veranda.*

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### How to best design the veranda

- A minimum size of 10-20% of the indoor usable floor area is recommended.
- A minimum height of 2 m allows stockpersons to inspect the veranda. Some farmers warn against making the height too large, as a low height will make the birds feel safer.
- The width of the veranda should be a minimum of 3 m, but preferably 4-5 m.
- A concrete floor can be cleaned between flocks. Cast the floor such that a gradient is created away from the barn.
- Depending on the local climate, use both non-transparent and transparent tiles in the roof to create both bright and darker areas in the veranda.
- Use strong fabric-netting with a small mesh size, which helps prevent rain from entering even on windy days.



*Veranda with fabric netting with small mesh size as sides and roof tiles alternating in transparency.*

### Popholes between the indoor area and veranda

- Particularly for broilers and young birds, it is important to have the pophole and veranda level with the floor indoors. For layers, a maximum of 25 cm from ground level is advised.
- Good litter condition near the popholes will promote pophole use.
- The distance from anywhere in the barn to the popholes should be as short as possible – maximum 25 m.
- Greater width of popholes improves use – at least 1 m per 1000 birds or 2 m per 100 m<sup>2</sup> of the barn.

- Adjust the ventilation system if a covered veranda is added to an existing indoor barn and consider the veranda in the ventilation plan when building a new barn.
- Close the popholes during the night to efficiently ventilate if the ventilation system cannot run when popholes are open.



*Pophole where the veranda floor is level with the floor inside the barn.*

### Covered veranda – a smooth transition

In systems with an outdoor range, a covered veranda functions as a smooth transition between the dark and climate-stable indoor barn and the bright and climate-variable outdoor range, reducing the fear-provoking effect of venturing outdoors. A veranda can therefore act as a transitional environment facilitating a better use of the outdoor range.

A veranda can also minimise frustration for birds if outdoor range access is denied due to disease risk (e.g., avian influenza) or adverse weather. Birds are usually still allowed into the covered verandas, ensuring that they stay familiar with the outdoor climate, so they are prepared when access to the outdoor range is provided again.

