Transport guide extreme temperatures

Poultry

Be aware of the risks of thermal stress

Heat stress can be caused by:
- Hot weather conditions
- Poor ventilation
- Overstocking
- Too much crop fill during transport

Cold stress can be caused by:
- Overventilation
- No protection against rain or snow

Thermal stress (hot or cold) can lead to:
- Stress
- Suffering
- Dehydration
- Fatigue/exhaustion
- Abnormal behaviour
- Disease
- Death

Consider the type of birds that you transport

Water and feed restrictions in combination with extreme weather can cause stress, especially on adult birds (end-of-lay hens and broilers).

The feed withdrawal time on the farm should be determined in coordination between the farmer, the transporter and the slaughterhouse

For end-of lay hens, external temperatures lower than 15°C may cause thermal stress in passively ventilated open vehicles.

Thermal stress has negative consequences for animal welfare and future productivity or meat quality (colour changes of meat)

Truck design

Check height of crates and stocking densities

- ✓ Make sure crate/box height is adequate for sufficient ventilation
- ✓ Check covers/curtains on the trolleys and other type of protection against adverse weather
- ✓ Covers/curtains should be well fixed and maintained

Check temperature and humidity sensors

Trucks for day-old chicks should contain a monitoring system for temperature and preferably also humidity.

Sensors should be:

- ✓ Calibrated according to the recommendations of the truck manufacturer.
- ✓ Located at strategic places compliant with truck recommendations.
- ✓ Connected to a warning system that goes off if humidity concentrations or temperature are in danger zone.

Temperature and humidity measurements should be:

- ✓ Assessed retrospectively in case of increased mortality or health problems

Check water supply system

- For adult poultry, suitable food and water shall be available in adequate quantities after a journey time of 12 hours.
- For chicks of all species, this should be available after a journey time of 24 hours, provided that the journey is completed within 72 hours after hatching

Drinking devices for adult poultry should be:

- ✓ well maintained (no leakages)
- ✓ functional and accessible (allow all animals to reach the nipples and drink)
- ✓ connected to a water tank with enough water to last for the duration of the journey

Check ventilation

Passively ventilated trucks:

- ✓ Should be equipped with roofs that can be lifted and/or have fans/grids or openings to prevent heat building up.
- ✓ Should have side covers long enough to also protect the birds in the first row.

Actively ventilated trucks:

- ✓ Should use forced ventilation to minimize heat stress when necessary and for journeys of 4 hours or over.

Make sure there is an emergency generator so the fans can be kept running if the engine breaks down.

Check covers/curtains

- ✓ Check covers/curtains on the trolleys and other type of protection against adverse weather
- ✓ Covers/curtains should be well fixed and maintained

Planning

Make a journey plan

Include the following elements related to extreme weather:

- ✓ Analysis of the weather forecast. If the forecast shows extreme temperatures at any point during the journey, the transport shall not take place, but will have to be scheduled when weather conditions allow it.
- ✓ Up-to-date contingency plan that addresses emergencies related to extreme weather or changing weather conditions
- ✓ Description of the route of travel and estimation of its duration. The organizer should minimize the delay by avoiding known roadworks and diversions.

The risks of thermal stress are especially high in the following situations:

- Long journeys (more than 8 hours)
- During stops (driver's rest)
- When the truck breaks down

Adjust the time-schedule based on weather conditions

In hot weather:

- ✓ Minimize the time birds spend on a trailer.
- ✓ Avoid travelling during the hotter parts of the day; travel during cooler conditions at night.
- ✓ Carry out catching operations at night for long journeys from farm to slaughter.
- ✓ Adjust the amount of birds or kg/m2 in the boxes to create more ventilation and less overcrowding

In cold weather:

- ✓ Minimize the time birds spent on a trailer.
- ✓ Avoid travelling during the colder parts of the day; travel during warmer conditions at daytime.

At departure

Check the proper functioning of ventilation, temperature and humidity sensors before loading the animals

Check space allowances

Category	Area in cm2
Day-old chicks	21-25 per chick
Poultry other than day-old chicks: weight in kg	Area in cm^2 per kg
<1,6	180-200
1,6-3	160
3 to <5	115
>5	105

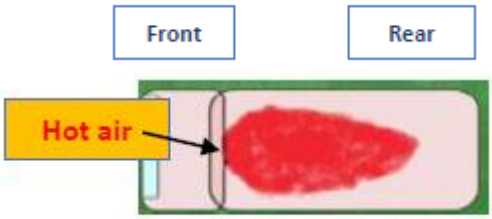
These figures may vary depending not only on the weight and size of the birds but also on their physical condition, the meteorological conditions and the likely journey time.

In hot weather: prevent heat stress

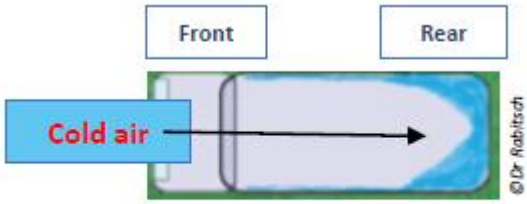
- ✓ Make sure loading area is protected from bright sun.
- ✓ Leave some crates/containers empty to stimulate air flow.
- ✓ Reduce density, in particular in containers placed at warm spots (front end of the truck).
- ✓ For day-old chicks: do not put paper or other similar materials on the bottom of plastic boxes as this may inhibit air flow. Put it on the floor of the container.

In cold weather: prevent cold stress

- ✓ Make sure loading area is protected from rain, snow and heavy winds
- ✓ Adjust space allowance.
- ✓ Do not transport wet birds
- ✓ Use the protective covers on the sides of the truck
- ✓ For day-old chicks: pre-heat the vehicle, following the recommendations of the manufacturer/shipper.



In case of hot weather, birds in the red part are at highest risks for heat stress



In case of cold weather, birds in the blue part are at highest risks for cold stress

Ref: animal transport guides

On the road

In hot weather: prevent heat stress

When driving:

✓ Minimize driving times and avoid stops, especially at the hottest hours of the day.

When stopping:

✓ Park in the shade.

✓ Put on ventilation. For passively ventilated trucks: position the vehicle perpendicular to the wind whenever possible.

In cold weather: prevent cold stress

When driving:

✓ Use side covers, especially for birds at the back of the vehicle which are more exposed to cold stress. Make sure air circulation is not impeded.

When stopping:

✓ Park in an area that provides protection from the wind

✓ Add extra weather boards to keep wind or freezing rain our. Make sure ventilation is kept adequate

✓ Put on the ventilation/heating to adjust microclimate inside the truck

✓ For passively ventilated vehicles: if possible place the vehicle longitudinally to the wind

Check the condition, behaviour and spatial distribution of the birds at every stop

If birds are panting, they are experiencing heat stress:
✓ Adjust side covers or
✓ Adjust microclimate inside the truck.

If birds are huddling, they are experiencing cold stress:
✓ Adjust side covers or
✓ Adjust microclimate inside the truck.

On arrival

Protect birds from adverse weather conditions during unloading

Provide adequate housing conditions

Protected and covered unloading areas are required to protect birds from extreme temperatures and weather conditions, using heating or cooling systems if necessary.

If temperatures are too high: provide additional ventilation before unloading.

Birds in transit or waiting for unloading for slaughter cannot remain in a parked vehicle for more than two hours. Keep the vehicle moving to allow better air circulation. Or when in lairage: park next to ventilation fan.

Avoid that the animals experience draughts while unloading by following the truck specifications regarding ventilating.

DISCLAMER: this factsheet is mostly based on information from the animal transport guides and serves only as an example of the information which should be considered when developing a dissemination tool such as an APP