



PVSGEU response to EFSA report on the welfare of domestic birds and rabbits transported in containers.

The Poultry Veterinary Study Group of the EU (PVSGEU) welcomes the opportunity to respond to the EFSA Scientific Opinion (Nielsen *et al*, 2022) on the above topic.

The PVSG is a formally constituted group of about 90 European specialised poultry veterinarians, with practical responsibility for the health, welfare, production and food safety aspects of most European poultry production. PVSG has existed for over 50 years and the members are mostly working as private practitioners or are sometimes working for a company (breeding companies, integrations, hatcheries, pharmaceutical companies). Government veterinarians are not eligible for membership. The following 23 countries are currently represented in the PVSG: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Germany, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland.

Summary:

Transport of livestock is inherently stressful since most animals or birds do not understand the concept of transportation and transportation necessitates removal of the animal from its familiar surroundings and placement into a container. In addition, there will usually be interactions with unfamiliar stock people, unfamiliar auditory and motion stimuli which can result in additional stress to the animals. However, modern poultry production is structured to mitigate disease challenges with the majority of sites being single age and thus it is inevitable that transportation of poultry will be required. The aim of all poultry producers should be to mitigate these stressors as much as possible. Whilst the EFSA report focuses on the issues around the catching, loading and treatment of the birds prior to catching it is important to remember that it is the total period of the journey that has to be managed.

EFSA have produced a report on the transport of birds and animals in containers and we welcome this report however the report only considers the animal welfare aspects of transportation. Poultry producers as responsible employers and companies have a duty to consider a range of responsibilities including worker, health, safety and welfare, environmental footprint as well as animal welfare. Furthermore, poultry producers have a legal requirement to comply with food safety legislation and should be mindful of this in regard to EFSA recommendations. Some of the EFSA recommendations present conflicts for poultry producers in their responsibilities and although we

advocate improving animal welfare it should not be at the expense of worker health, welfare and safety and food safety.

Key recommendations in the livehaul section:

Related to handling stress and injuries:

PVSGEU fully agree that in all circumstances birds should not be swung, thrown or dropped during the process of catching and crating. However, the EFSA recommendation to only carry birds upright by holding the wings close to the body can prolong the whole catching and crating process for the birds. This will have a number of negative consequences for bird welfare including longer deprivation from food and water and a longer time for the birds in unfamiliar surroundings with associated auditory stimuli. It is usual practice to catch waterfowl by their necks as catching by the legs can result in distress, leg dislocation and breakages. Provided waterfowl are only lifted into the crates by the necks, whilst supporting the body and not carried long distances we consider this will be better for overall bird welfare.

EFSA recommends that if birds are handled in an inverted position, in order to reduce the risk of dislocated joints or fractures, they should be caught, lifted and carried by two legs, using breast slides in cages, maximum 3 birds/hand. Langkabel *et al* and Wessels *et al* contradict this recommendation and also advocate single leg catch as being better for worker health and welfare. Much of the referenced work on bird injury due to single leg catch was published several decades ago and there is no reference to weight profiles of the birds being caught. Furthermore, many of the breed companies have been selecting for improved leg strength in the intervening period. This, along with improved catching protocols, have resulted in lower levels of leg damage seen post catch as assessed at processing.

PVSGEU agree that the duration of inversion should be minimised, *e.g.* by placing containers close to the birds. To prevent injuries, birds should be placed carefully into the containers avoiding impacting the birds against any hard objects. Tray/container design and maintenance are also important in reducing the incidence of injury to transported birds. Birds should be moved gently towards the back of the drawers. EFSA recommend that modules should be filled from the top, but some systems require that the bottom drawers be filled first. PVSGEU agree that catching teams should ensure that heads, wings and legs are fully inside the container and that every bird is sitting upright before closing the drawers. A designated and trained person should be dedicated to closing the containers after ensuring that the correct number of birds has been inserted and that no limbs, heads, necks or wings are trapped.

Related to Restriction of movement:

EFSA recommend to mitigate restriction of movement during transport, that birds should be given sufficient space allowance to sit all at the same time without overlapping and to be able to change/adjust position. The generic allometric equation 'space allowance' (cm^2/bird) = $290 \times \text{live weight}(\text{kg}^{2/3})$ should be used to calculate the minimum required floor space (space allowance) to enable all birds to simultaneously adopt a sitting position and to be able to shuffle around. We do not agree with this proposal as the basis of this recommendation is Baxter 1992 which considered spacing for animal housing NOT transportation. Transportation is a very different dynamic to day to day space allowance, several papers are cited in the EFSA report which highlight bird damage related to greater space allowance during transportation. PVSGEU do not see detriment to bird welfare with the current standards excepting that transporters should be cognisant of the ambient temperature and humidity and reduce stocking density to avoid heat stress in hotter weather. PVSGEU believe that increasing space allowance as per the allometric equation will potentially result in more stress to bird in transit

in colder weather and will necessitate increased numbers of journeys, increasing green house gas emissions thus reducing sustainability of poultry production with no perceptible increase in welfare of birds being transported.

EFSA recommend that for pullets and laying hens up to 2 kg, especially when well feathered, the space allowance derived from the planimetric measurements should be used instead of the allometric equation. Again, PVSGEU cannot agree with this recommendation. Most pullets and hens will be transported at night when their natural posture would be to roost and rest not get up and move about. Increasing space allowance is likely to increase opportunities to peck and show aggressive behaviour. PVSGEU see no welfare benefit to increasing space allowance during transportation from the current recommendations and increasing space allowance will impact on green house gas emissions and sustainability of poultry production.

The height of the container should be such that the comb or head does not touch the ceiling when birds sit with their head and neck in a natural posture or when they change position. Examples of minimum heights of the containers are provided by EFSA in Table12 (Section3.7.3.4) of this text for the different animal categories.

Related to Heat Stress:

PVSGEU agree that to prevent heat stress, it is recommended that domestic birds should travel in the safe thermal zone in which they will require minimal or no thermoregulatory effort to maintain constant deep body temperature during the journey. If temperature and humidity are outwith the safe zone, then transport should be adjusted to prevent any welfare consequences or postponed.

The safe zone for hot weather is described by EFSA in terms of boundary conditions, e.g. a temperature of 18°C and an RH of 65%, a temperature of 21°C and an RH of 45% and a temperature of 32°C and an RH of 15%. The combinations of relative humidity and dry-bulb temperature giving rise to AET values for the safe, alert and danger zones can be found in the EFSA report Section3.7.7.2 in Figure 20.

According to the same report, domestic birds should never travel in the danger critical zone in order to avoid heat stress. The AHAW Panel suggested domestic birds could travel in the alert zone (AET) or warning zone (ECI), if the duration of the journey is kept to a minimum (up to 4 h of journey time).

PVSGEU are in agreement with the AHAW Panel that birds could travel in both the alert zone (AET) or warning Zone (ECI) provided that the journey time is limited, and the transporter has adjusted the transport conditions to prevent welfare consequences to the birds.

Currently it is practically difficult to continuously measure the temperature and humidity within each, or even representative, containers on a transport trailer. If robust temperature and humidity probes that can be incorporated into the transport containers can be developed, then PVSGEU would encourage their use to support management decisions during transportation. However, even if temperature and humidity probes could be incorporated into transport modules precise management of the temperature and humidity within each container on a trailer will still be challenging and thus maintaining uniform temperature and humidity throughout the loaded vehicle during transit is unlikely to be attainable.

Therefore, PVSGEU consider that the final decision on the catching and transportation should be the responsibility of the transport personnel as they will know limitations of their transport vehicles, and can take measures to prevent AW consequences in case of extreme ambient temperatures according to weather forecasts during transit. There are numerous effective measures adopted by the industry

to manage high/low temperatures during transport of poultry. It is important that any revised legislation respects GMPs that have been proven to be effective, rather than insisting on the need for the use of high-tech vehicles with no proven track record in practice.

Related to Cold Stress:

PVSGEU agree that all domestic birds should travel in their comfort zone in order to avoid cold stress during transport. Ideally temperature should be monitored inside the transport vehicle, but it will be practically difficult to monitor within each individual containers unless reliable, robust temperature probes that are incorporated in the containers are developed. EFSA make a recommendation that temperature within the vehicle should remain above 10°C, however we believe this may have to be altered depending on the age and feather cover of the bird. End-of-lay hens should like all other poultry travel in their comfort zone in order to avoid cold stress during transport,

Related to Prolonged Hunger:

EFSA recommend that to prevent prolonged hunger during transport, the total time of feed deprivation should not exceed 6 h. However, the catching and transport time can exceed 6 hours and feeding systems have to be raised in houses prior to catching so this cannot always be practical. Since current maximum journey times for poultry can be 12 hours it seems more appropriate that this should be the time set for feed deprivation.

Due to long distances to slaughterhouses, and especially low slaughtering capacity within the EU for end of lay hens, the proposed EU journey times for end of lay hens can often be 12 hours or more and whilst we agree that feed withdrawal should be kept to a minimum it may not be practical for all journeys. The catching of end of lay hens is most often done during the night which is in their natural dark period when they would not have access to feed and water. Therefore, whilst further research would be beneficial, the extent of this stressor might be overstated.

EFSA state that from a welfare perspective, feed withdrawal on farm should be avoided as there is no scientific evidence of a welfare benefit of fasting domestic birds before transport.

In cases where journey times are short to processing plants if feed withdrawal on farm is not practised this can result in contamination of carcasses at the processing plant due to feed in the intestinal tract. This can be a food safety issue and the poultry producer has a legal obligation to comply with food safety regulations so in these cases feed withdrawal on farm will be required

Related to Prolonged Thirst:

According to EFSA;

To prevent prolonged thirst during transport, the total time of water deprivation should not exceed 6 h, and to mitigate against prolonged thirst during transport, the total time of water deprivation should not exceed 12 h. On farm, water should be available until the time of catching and crating.

Related to maximum transport duration:

In the EFSA report it is recommended to take into account the following time periods for the definition of maximum duration time transport: the time of feed withdrawal that has been applied on farm to prepare the transport, the time needed to crate all animals for the transport, the time the animals are

in the containers/crates (before, during and after the journey itself) and the time needed to uncrate the animals (from the first one to the last one is slaughtered).

Based on an overall assessment of the welfare consequences that are continuously present or developing over time, journeys up to a maximum of 12 h, including on farm feed and water withdrawal are recommended for domestic birds.

Based on an overall assessment of the welfare consequences that are continuously present or developing over time, journeys up to a maximum of 10 h, including on farm feed and water withdrawal are recommended for end-of-lay hens.

Related to thermal stress, if birds travel in the alert zone (AET) or warning zone (ECI), journey duration is to be kept to a maximum of 4 h

The PVSGEU disagree with EFSA and consider that for animals transported in containers, the transport duration (max 12 hours) should be considered as the whole time the animals **are kept in the containers**. Transport should relate to the time the birds are in the containers, the management of feed and water withdrawal, catching/crating time will depend on a number of factors totally unrelated to transport and therefore the maximum transport duration should relate to the period the birds are in the containers.

PVSGEU agree with the AHAW Panel that DOA should be investigated when it exceeds 0.1% in the case of *Gallus gallus*, however this cannot apply to larger turkeys as a transportation may only contain 1000 birds and the death of a single bird in transportation would result in an investigation. Therefore for turkeys we would consider that when DOAs exceed 0.3% then an investigation should be undertaken. However PVSGEU considers this investigation does not need to be undertaken by officials of the competent authority but should be part of poultry companies GMP standard operating procedures to improve overall transport conditions. Companies should make available outcomes of these investigations to competent authorities if requested.

Key recommendations for Day old chicks Included:

EFSA recommend that the only way to avoid welfare consequences during transport is not to transport chicks and have the fertilised eggs transported and hatched on farm. However, the assumption that EFSA makes is that the developed embryo does not experience any stressors with transport, we would suggest that further research is required before making this assumption. Due to the sexual dimorphism in turkeys, in practice farms have to receive sexed poults to ensure the management conditions are correct for each sex. Currently embryo sexing techniques are not adequate to allow this sexing to be undertaken in the egg and thus poults require to be hatched and sexed at the hatchery before dispatch to the growing farms. Furthermore, with breeding and laying stock the chicks require vaccination and processing at day old which is not practical on the farm and would cause additional stress with the catching up process post hatch. Failure to effectively undertake these processes can result in significant health and welfare outcomes for the poultry.

PVSGEU agree with the other general principles laid out in the EFSA recommendations for day old chick handling and transportation.

Related to handling stress:

If they have to be transported, it is recommended to handle the chicks manually with care or adjust all automatic equipment so that: i. velocity does not exceed 0.4 m/s, ii. Drop height is not above 280 mm and iii. Speed of belts is below 27 m/min.

Related to Heat Stress:

It is recommended that the cloacal temperature of chicks does not exceed 41°C.

It is recommended that the body surface temperature does not exceed 38°C.

It is recommended to keep day-old chicks in an environment where dry-bulb temperature does not exceed 35°C in their vicinity.

Related to Cold Stress:

It is recommended to keep day-old chicks in an environment where temperature is not below 30°C.

It is recommended that the cloacal temperature of chicks does not go below 40°C.

It is recommended that the mean body surface temperature does not go below 34°C.

Related to Prolonged Hunger and Thirst:

To prevent day-old chicks experiencing prolonged hunger and thirst, EFSA propose the maximum time before first access to feed and water (including time spent in the hatchery, holding time, loading, transport and unloading time) must not exceed 48 h. EFSA suggest that this time should be measured from the first chicks to hatch until the last chick has access to feed and water, however the hatching process results in a natural “hatch spread” which is difficult to predict. Therefore, PVSGEU propose that it should be 48 hours from the start of chick take off to access to feed and water.

PVSGEU agree that hatching on farm has potential to eliminate some of the stressors around delayed access to feed and water, however, it is well recognised that the yolk sac provides nutrients to the day old chick and on farm hatching is not suitable for all farm types as it requires additional management skills.

If the expected transport duration is longer than 48 h, feed and water should be provided at the hatchery(early feeding concept) before the transport (in hatching tray or at hatchery).



Alternatively, feed and water might be also provided during transport (in the boxes).

DOA in day-old chicks is an ‘iceberg’ indicator of poor welfare during transport and should be investigated if it is higher than 0.1%

Conclusions:

In conclusion, the PVSGEU agree with many of the EFSA recommendations. However, the report only considers the animal welfare aspects of transportation. Where PVSGEU feel that these recommendations do not consider the full requirements of the range of poultry species we have highlighted above our concerns and some alternative approaches. Poultry producers as responsible employers and companies have to consider a range of responsibilities including worker, health, safety and welfare, environmental footprint as well as animal welfare. Furthermore, poultry producers have a legal requirement to comply with food safety legislation and should be mindful of this in regard to EFSA recommendations. Some of the EFSA recommendations present as conflicts for poultry producers in their responsibilities and although we advocate improving animal welfare it should not be at the expense of worker health, welfare and safety, or food safety.

March 1st, 2023

	
Eva Berndtson	Daniel Parker
President PVSGEU	Chair PVSGEU Working Group on Poultry Welfare Junior Vice President PVSGEU

References:

Baxter MR, 1992. The space requirements of housed livestock. In: Phillips C and Piggins D (eds.). *Farm Animals and their Environment*. CAB International, Wallingford. pp. 67–81

Langkabel N, Baumann MP, Feiler A, Sanguankiat A, Fries R. Influence of two catching methods on the occurrence of lesions in broilers. *Poult Sci*. 2015 Aug;94(8):1735-41. doi: 10.3382/ps/pev164. Epub 2015 Jun 18. PMID: 26089477.W

Nielsen, S.S., Alvarez, J., Bicot, D.J., Calistri, P., Canali, E., Drewe, J.A., Garin-Bastuji, B., Gonzales Rojas, J.L., Gortázar Schmidt, C., Herskin, M., Michel, V., Miranda Chueca, M.A., Padalino, B., Roberts, H.C., Spooler, H., Stahl, K., Viltrop, A., Winckler, C., Mitchell, M., Vinco, L.J., Voslarova, E., Candiani, D., Mosbach-Schulz,), Van der Stede, Y. and Velarde, A. (2022) Welfare of domestic birds and rabbits transported in containers. *EFSA Journal* **Volume 20, Issue 9**, e07441
<https://doi.org/10.2903/j.efsa.2022.7441>

Wessel J, Rauch E, Hartmannsgruber S, Erhard M, Schmidt P, Schade B, Louton H, A comparison of two manual catching methods of broiler considering injuries and behavior, *Poult Sci*. 2022, 101(11:):1021-27 <https://doi.org/10.1016/j.psj.2022.102127>.