**Bird markets - An assessment of the situation in Germany with special reference to animal welfare aspects**

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**Supplementary material: Minimum requirements on husbandry conditions for an animal-friendly implementation of pet bird markets**

* Organizers should provide a written contingency plan for what action would be taken to safeguard the birds’ welfare in the event of an emergency situation or if a statutory notifiable disease was suspected or identified.
* Organizers should provide written biosecurity advice to vendors prior to or at least on arrival at the market.
* Organizers should ensure that the floors and any furniture not brought by vendors are cleaned and disinfected before (and ideally after) the event.
* Organizers should ensure that a veterinary surgeon with expertise in avian medicine be designated in advance and accessible – if not present at the bird market, at least on-call – for emergencies during the event.
* Each vendor must register indicating the address, origin, number and type of animals. The organizer must continuously carry out monitoring when entering the market for compliance with specialist animal welfare stipulations. Disregarding the stipulations must lead to being turned away.
* Pet bird markets may only be implemented in closed rooms under the responsible supervision by qualified personnel. The market rooms must be heatable and a sufficient air exchange rate must be ensured. Birds must not be placed in the hot or cold stream of air from air conditioner or heating units, or draughts from doors or windows, or direct sunlight from windows if too hot.
* Organizers should ensure no dogs or other mammals are allowed in bird markets to prevent situations stressful for birds.
* Cleaning and disinfection facilities should be available at the market.
* Appropriate lighting is mandatory, as inappropriate illumination can also be a stressor if it does not suit the needs of the birds (cf. Evans et al. 2012). If natural light is not available, rooms should be illuminated with high frequency light sources that cover the full spectral range, including UV-A. Flickering light sources should be avoided in rooms where birds are kept (Bateson and Feenders 2010).
* Pet birds can be potential carriers and/or transmitters of zoonotic diseases. Therefore, regional, national or international bird fairs with their high concentration of people and birds in the same space bear the risk of contamination with infectious agents (Boseret et al. 2013). This points out the need for hygienic measures. Display cages and other equipment must be clean and hygienic; if not adhered to, the vendor should not be allowed to enter the market.
* There should be an inspection of all birds on arrival, with any individual obviously in an unsuitable condition being turned away before entering the market.
* For the minimization of stress, a distance of ca. 1 m between birds and market visitors must be maintained using a non-movable spacer in front of the cages.
* In order to securely prevent escape when birds are taken out of their cage for sale and transfer into a transportation cage, the market organizer must set up a sufficient number of walk-through aviaries. Bird vendors must be explicitly informed of their mandatory use.
* The market organizer must offer a room in which already sold animals can be kept free of charge and must be handed over with binding effect, so that they are not unnecessarily carried around by the buyer during the rest of their market visit. The accommodation of already purchased animals should take place in air-conditioned rooms with a supervisor present to ensure continuous monitoring. Alternatively, it is also acceptable to leave already sold birds with the vendor until collection by the purchaser. The buyer must leave the market immediately after collecting the birds.
* Only birds in good physical condition may be offered for sale. Birds which cannot cope with the keeping situation at the bird market and show clear signs of discomfort such as apathy or stereotyped movements, must be removed from the areas accessible to visitors and accommodated in a separate room under supervision until the market ends. The giving away, sale, exchange or similar of recognizably anxious birds at markets must be prohibited. In this regard, it must be reiterated that respective behaviour patterns not only appear in wild birds, but could also be present in domesticated bird species (cf. Engebretson 2006, Keiper 1970, Mellor et al. 2018, Sargent and Keiper 1967, van Hoek and ten Cate 1998).
* Only healthy, well-nourished, uninjured and fully weaned birds shall be offered on markets. Offering young birds which cannot yet independently take up food, for example for the purpose of further hand rearing, must be prevented. If sick and/or undernourished and/or injured birds or birds with abnormal behaviour, e.g. stereotyped movements, automutilation etc. (Mellor et al. 2018), are recognized, the market organizer must immediately call in a competent veterinary surgeon who shall decide on the further treatment of the individual(s) concerned.
* Sales cages shall only be observable and accessible from one side (“box cages”). The cages, except for exclusively ground-dwelling birds such as King Quails, must contain at least two perches facing each other and perpendicular to the longitudinal direction.
* Sales cages should not only provide opaque tops, side walls, and back walls, but additionally some sort of partial "cover" of the front grill as blinds for the birds (example shown in fig. 7).
* Each cage must offer water and suitable feed without limitation and in sufficient quantity, in accordance with the respective bird’s species and needs. Feed and water should be placed in the cage so as to prevent faecal soiling.
* There shall be a maximum of two birds accommodated together in one cage, which are of approximately the same size and compatible with each other. As even a single occupation of cages in the recommended size for the respective bird species is put into practice without problems at exhibitions by poultry and bird breeding associations, there is no comprehensible justification to accept higher levels of occupation than a maximum of two birds which get along well together at pet bird markets (e.g. a harmonizing breeding pair).
* Scientifically developed instructions with regard to minimum sizes for sales cages could not be gathered from the available literature. The following minimum cage sizes (internal dimensions of cages; length x width x height), as applies for standardized cages at bird exhibitions, have proven their worth for sales cages in Germany to date under practical conditions:
  + Birds up to the size of Budgerigars, Lovebirds (*Agapornis* spec.), Neophemas (*Neophema* spec.): 34 x 16 x 29 cm. For birds up to the size of Canaries, cages with the dimensions 30 x 18 x 29 cm are also acceptable, provided that they are only occupied by one bird.
  + Birds up to the size of Eastern Rosellas (*Platycercus eximius*), or Senegal Parrots (*Poicephalus senegalus*): 45 x 22 x 38 cm.
  + Short-tailed parrot species, which are larger than Senegal Parrots and smaller than Grey Parrots (*Psittacus erithacus*), and long-tailed Psittacidae up to the size of Rose-ringed Parakeets (*Psittacula krameri*) (total length ca. 40 cm): 49 x 22 x 44 cm.
  + Short-tailed parrot species and long-tailed Psittacidae up to the size of Australian King Parrots (*Alisterus scapularis*) (total length ca. 45 cm): 60 x 28 x 59 cm.
* The provisioning of birds in transport baskets etc. or sale from containers not coherent with the aforementioned minimum requirements must be rejected as a matter of principle.
* Biosecurity advice regarding birds leaving the event (either returning with vendors or going home with purchasers) should point out animals should be quarantined, i.e., not mixed with any other birds for at least one month.
* The non-observance of market rules must be rigorously sanctioned by the market organizer (immediate remedy of discovered shortcomings, if necessary being turned away from the market, notification to the competent authority etc.).