



## **IAHAIO international guidelines on care, training and welfare requirements for farm animals involved in animal-assisted interventions**

### **Development of the guidelines**

These guidelines provide best practice guidance for meeting the care, training and welfare requirements of farm animals involved in delivering animal-assisted interventions (AAI). They apply to 9 different farm animal species often involved in AAI, including:

- Donkeys
- Sheep
- Goats
- Cattle (cows and heifers)
- New World Camelids (llamas and alpacas)
- Camels
- Pigs (swine)
- Chickens
- Rabbits

The guidelines were developed by an international task force of IAHAIO members and individual experts and relevant organizations working between 2018 and 2021. They are based on a review of evidence of current best practices and research.

### **Use of the guidelines**

The recommendation is that these guidelines are adopted and implemented in practice by everyone that incorporates farm animals in programmes that benefit people. It is acknowledged that knowledge can change over time as research and practice expands and it is intended that this document be reviewed every two years and adjusted, if required. National guidelines or profession-specific competencies for farm animals as part of human services that exist in individual countries must be followed in care, welfare, training and handling procedures.

## 1. General guidelines applying to all farm animal species

- 1.1 A staff veterinarian who is aware that they are involved in an animal-assisted intervention program for people must deem all farm animals involved as healthy. It is expected that the animals have regular (e.g. bi- and/or annual) basic health checks and prophylactic treatments (whenever available, vaccinations and for parasites) to ensure their continued health and avoid negative consequences for clients and patients. In addition, the veterinarian must approve farm animals recovering from any kind of illness as safe for participation in AAI. Specific health checks must also be carried out depending on the geographic area where AAI is being conducted (e.g. in a rabies zone).
- 1.2 A veterinarian or an animal science expert must also evaluate farm animals for their temperament and behavior and fearfulness towards humans. Animals that experience discomfort or pain due to chronic conditions or when being touched or interacted with during interventions must receive an additional evaluation and eventually taken out of the program.
- 1.3 The biological, physical and psychological needs of the animals must be met at all times. All farm animals must be able to live under conditions that allow them to demonstrate natural behaviors. This includes the different activities that they would typically indulge in from dawn to dusk. Food and nutritional requirements of farm animals must be adapted to the needs of each species. This also includes the different ways each species selects and picks out its preferred food. Food and water should be available ad lib or given frequently.
- 1.4 Accommodation of farm animals should be adapted to their species-specific needs. Farm animals should not be tied for long periods and they should generally be housed in groups to allow them to form species-specific bonds, when appropriate to the species, mindful that some species are solitary.
- 1.5 Best practices include having easy access to a veterinarian and/or an ethologist or an animal science expert, who is familiar with AAI with farm animals and who is experienced with the species of farm animal involved, on-site monitoring of client-animal interactions, training methods that adhere strictly to positive reinforcement, and a retirement plan for elderly, disabled or those animals which demonstrate a sudden onset of behavior issues or lack of interest during interactions with clients. Best practice also includes monitoring of clients with (a) inappropriate or unsafe interactions with farm animals, (b) a history of animal abuse, and (c) of young children interacting with farm animals on their own.

- 1.6 An animal welfare and safety protocol that is specific to each farm animal species involved, including guidelines on what to do in cases of a safety emergency (related to the safety of the animals and/or of the clients), information on natural behavior and body language of the animals particularly when traumatized or stressed, including during transport, must be available.

## 2. Farm animal species often involved in AAI

### *Essential species specific guidelines and suitability for AAI*

*IAHAIO strongly recommends consultation of 1) What they need! What they like! What they can! (2021) by Cornelia Drees and Ingrid Stephan, Institute for Social Learning with Animals, Wedemark, and 2) Animals in Social Interventions Nr. 131 (2021) by the German Veterinary Association for Animal Welfare (TVT), Bramsche, Germany - both available in English, as well as 3) the TVT documents for individual farm animal species Nrs. 131.1 to 131.14 (listed under the References) once translated.*

### 2.1 Donkeys

Domesticated donkeys are descendant from the African wild donkey living originally in the dry and mountainous areas of the northern African and Asian continents. When they sense danger they can either flee, defend themselves or stand still (“freeze”) and wait to see what happens next. The latter behavior makes sense in a rocky terrain where a false step can be quite dangerous. This has resulted in the erroneous assumption that donkeys are “stubborn”, even “dumb”. Due to their careful and deliberate disposition they are greatly appreciated as reliable partners in AAI work once prepared for this.

#### 2.1 1 Essential guidelines

- Donkeys are social herd animals and must always be kept in groups of at least two animals allowing mutual grooming and physical contact.
- They should not be housed on ground that is too moist since the risk of hoof diseases is high. Where they bed down, straw or wood chips (untreated) are recommended over hay due to the danger of over-eating.
- They need space for moving around in the stall, at least 5 m<sup>2</sup> per animal, and a shelter protected from the elements on three sides and covered at a height of at least 2 meters must be available.
- Feeding low energy, low protein but fiber-rich hay twice per day is ideal. Concentrated food should be considered for old or sick animals and pregnant and lactating mares.
- Fresh water must always be readily available.

- A place for wallowing, usually in sand, and a scratching brush or post should also be available.
- For activity enrichment and dental care, donkeys should be provided with fresh, unsprayed tree branches to nibble on, e.g. from cherry, plum, birch, hazel or willow.
- Early habituation to all situations and manipulations met during later interventions (e.g., halter, saddlecloth, sudden physical contact, sounds, smells, presence of other animals, unusual movements of persons' arms) is absolutely essential.
- If ridden, the donkey should be at least 4 years old, ideally 5 years old and gradually introduced to the weight of the rider. The weight of the person riding should not exceed 20% of the animal's weight.
- Transport should be stress-free, the animal having been conditioned to enter the transport trailer freely by positive reinforcement training.

### 2.1.2 Suitability for AAI

- Donkeys are particularly well suited for animal-assisted interventions promoting patience, quiet contact, friendly gestures and concentration, e.g. while teaching and practicing tricks.
- Since donkeys are known to have long memories of negative experiences, using pressure and coercion will further promote adverse behavior.
- Most often the intervention involves leading the animal in various forms, e.g. while holding the line to the halter through a walking course, free following based on hand signals, target-training, walks and hikes in the countryside.
- Regular grooming with a curry comb and brush in a relaxed atmosphere promote the relationship with the human.
- Donkeys make good partners to promote communication abilities and social behavior. Their vocal and bodily signals must to be learned and observed by both the handler and the client.
- If the animal has a stable temperament, the appropriate experience and is not overloaded, the donkey can be ridden and used to carry equipment for a longer trek.
- Male donkeys (stallions) are less well-suited for intervention work and it must be remembered that kicks, bites and abrupt defense and flight reactions are dangerous.

## 2.2 Sheep

Sheep are small ruminants with high vigilance due to the risk of predation. If threatened they run away and maintain a close distance to each other. Sheep live in small flocks where the ewe and her offspring are often the nearest neighbors. They graze in several periods and ruminate in-between. There are many different breeds of sheep that differ in size, body conformation, quality of wool and behavior.

### 2.2.1 Essential guidelines

- Sheep must not be housed individually as they are very social animals and need to be with other members of their species.
- The intervention specialist must know and respect the vocal and non-verbal signals indicating the various emotions of a sheep during interactions with clients and the individual stress load limit of the animals involved.
- Recommended involvement in AAI: once per day on 3 to 5 days per week; total involvement time - 3 to 4 hours per session (plus transport time); physical contact with a client (on a line without withdrawal possibility) max. 2 times 15-20 min per animal with pauses allowing conspecific contact.
- Housing should be in pens of at least 4 m<sup>2</sup> per ewe with a protective hut (grazing area: ca. 10 ewes per hectare). The stall floor should be covered with straw for dry and comfortable resting and ad lib access to hay or silage and concentrate pellets to animals that grow or are lactating must be provided. Clean water and minerals must be available at all times.
- They can be housed outdoors during all seasons in the warmer climates, but need to be housed indoors in colder and wet areas of the globe.
- Sheep must be provided with adequate space for grazing as a herd, and they need to be given new pasture regularly to avoid over-grazing and parasites.
- Protective immunizations at least against bluetongue and Q-fever are essential, and parasite treatments highly recommended.
- Sheep are not appropriate for work in indoor living or therapy rooms or for riding.

### Suitability for AAI

- The gentle quiet nature of sheep is quite suitable for AAI. Their size is also ideal for clients interacting from a wheelchair and children from ca. five years of age.
- Ewes and lamb are usually not aggressive towards humans, but rams may be. Intact rams should not be used for AAI, but neutered rams may be considered.
- Sheep are flight prone animals and the specific dynamics of a herd can make it challenging for humans to approach them. Sheep prefer to maintain a distance to approaching clients before eventually allowing clients to have close contact with them. As such these preferences of the animal must be respected.
- It is best to condition the animals early on first to accept humans and other animals, especially dogs, nearby, later to allow touching and to experience situations they will encounter during AAI. They can also be walked if not separated from the herd for too long.
- Sheep normally do not react to humans accompanying and observing them while they feed. In due course, they seem to enjoy playing, being cuddled and stroked by humans providing excellent sensory stimuli, most often during rumination periods.
- It is important that clients be informed that whilst in general sheep can provide nurturing experiences (i.e., feeding), stroking sheep depends on their previous

experience with humans. Therefore caution needs to be applied in terms of the animals' preference.

- Clients who are particularly anxious and nervous should be monitored closely as sheep intensely sniff a human at first contact. This is a behavior that clients must feel comfortable with if they desire to interact with sheep.
- Clients need to be patient and tolerant when visiting sheep. Human behaviors that demonstrate irritability, impatience and sudden noise (e.g., screaming, yelling) can cause stress in sheep and a reluctance to interact with humans.
- Sheep can communicate their moods and willingness to interact with vocalizations and/or behavior and the intervention specialist must be able to interpret these and advise the client accordingly.

## 2.3 Goats

Domesticated from the wild Bezoar goat more than 1000 years BCE, there are many goat breeds today. Some breeds have horns, which can be dangerous. Although the West African pigmy (dwarf) goat is most common in AAI, other breeds are also involved. Goats are social herding ruminants but with very individual characters. They are quite active and often climb up on boulders or platforms. Those individuals, which are suitable for AAI work, are curious and interested in establishing contact with humans. But they are not practical for visiting living quarters or indoor therapy rooms.

### 2.3.1 Essential guidelines

- At least two animals should be kept together, often several nanny goats with a neutered male form a small herd, as goats are a social species.
- The animals need climbing opportunities.
- Since domestic goats usually do not use their hooves enough, they have to be trimmed regularly by a professional.
- Goats should be fed at least twice a day with fresh dry hay and branches always available; resting and digestion places should be present.
- Goats should have their own separate feeding places (jealousy). Fresh water is important as they can drink up to 6 lt per animal and day.
- In addition, salt- and mineral-lick-stones are necessary for sufficient care.
- The stable should provide enough space for the number of animals and should be closed on three sides to be sheltered from the wind. It also should be dry. Minimum stable size: 3 m<sup>2</sup> per goat, outdoor run 5 - 8 m<sup>2</sup> per animal.
- Lower-ranking goats need a location where they can retreat.
- Elevated areas in the stable are preferred places for resting.
- Goats tend to gnaw on everything. Therefore, only non-toxic paints and wood preservatives should be used.

- An escape-proof outdoor enclosure with stable fencing between 0.80 and 1.20 m high (depending on the size of the breed) with dry, hard ground, even a paved area for hoof care, is necessary. “The grass is always greener on the other side” for goats!
- Goats need the exercise in the outdoor enclosure and use their hooves (claws) skillfully to overcome obstacles. Trees that stand in the pasture need to be protected from gnawing.
- The enclosure can become an adventure playground with a few fallen tree trunks, a small mountain of stones, or old straw bales that build elevated areas.
- Protective immunizations at least against bluetongue and Q-fever are essential, and parasite treatments highly recommended.
- Sessions with physical contact with people: max. 2 x 15 – 20 min per animal with a break in between in the social group.

### 2.3.2 Suitability for AAI

- Goats are essentially extrovert animals. They are sociable and interested in contact with people provided they were habituated early on to come closer when called, gentle handling, leading on a line, and care manipulations. For animal-assisted work a further decisive advantage is that goats can easily accept larger groups of clients, if they have enough space. Especially pigmy goats have an ideal size for clients in wheelchairs.
- A balance of proximity and distance is very important for goats. Goats like to be stroked, especially behind the ears and on the side of the neck, but are rather reluctant to be held in place.
- An approach to a goat should come from the side and not head on.
- Anxious clients can contact the animal with the help of a brush or the hand of a caregiver.
- Goats can be observed, be taught tricks, be stroked and brushed, be walked, and among other things, be milked.
- Each individual has its own stress limit and the intervention specialist must know how this is communicated and allow for compensation with a break in the herd or a walk with the trusted caretaker.
- Goats are less well-suited for the kindergarten population (children under 6 years old)
- Recommended involvement in AAI: One session per day on 3 - 5 days per week; 3 – 4 hours per session plus transport time.

## 2.4 Cattle (Cows and heifers)

Cattle are large ruminants living in home-ranges mainly consisting of pasture and some nearby forests. They live in stable maternal groups with cows of different ages and their calves, whereas young bulls live in bachelor groups and adult bulls are solitary. They graze on pastures 8 to 10 hours each day in several periods during daytime and lie to ruminate in-between. Cattle

are divided into those without a hump living in temperate climates and those with a hump living in warm climates, and within these categories there are many different breeds around the globe.

#### 2.4.1 Essential guidelines

- Cattle should be kept in stable groups of at least two animals; larger herds form a linear hierarchy. However, it is preferable to keep fewer individuals if clients will go into the pens during AAI.
- Cattle should be kept in open housing either with stalls with bedding for resting and an alley to collect and scrape feces, or on deep litter with a feeding alley. The latter housing is preferred by cattle and more suitable for AAI. However, it needs a lot of straw to keep the bed clean and dry. Concrete floors are unsuitable. In any case the animals need enough space to move about and enough time to rest and ruminate.
- Minimum stable size: 6 m<sup>2</sup> per animal. Grazing area for 2 animals: 10'000 m<sup>2</sup>. Fenced pastures must be sufficiently large and rotated or at least cleaned of feces regularly.
- Cattle require between 60 and 150 liters of water per day, water troughs must be cleaned regularly and minerals should be available.
- Cattle should have free access to roughages such as silage, hay or straw (placed in feeding racks to prevent soiling) and be given extra concentrate when growing or lactating.

#### 2.4.2 Suitability for AAI

- For cattle to be involved in AAI they must be prepared from the time they are calves, and be handled in a gentle and friendly manner by different people. Early positive experiences show promise of cattle being involved in AAI.
- Heifers (females which have not yet calved) and cows are preferred for animal-assisted work. The animal and the intervention specialist must work one-on-one, always keeping the risk of injury (especially from horns) in mind.
- Bovines that voluntarily demonstrate a willingness to approach and interact with humans in a friendly manner may be considered for this work. In contrast, fearful bovines may hurt an individual who panics.
- Feeding, cleaning out the stable and renewing the stable bedding are important daily activities.
- When first contacting an animal, clients must always stand so they cannot be hit when the animal kicks with its hind legs, and approach it from the side or the front.
- If accepted, brushing the coat intensifies the human-animal contact.
- Each individual animal must be assessed for its temperament before being involved in AAI.



- It is important to pay attention to individual differences in a group of cattle as they demonstrate a range of behaviors (e.g., fear, stress, curiosity). Some allow humans to touch and stroke them, others do not - depending also on their earlier experiences.
- Cattle are particularly well suited for social learning in school classes on farms during hands-on work and other activities. (See Forleo & Palmieri in the reference list.)
- Calves may be suitable for AAI if a friendly person handles them, as they may otherwise develop a fear of humans.
- With much patience, young and even adult animals can get used to wearing a halter and be led on a rope, especially a challenge for teenagers given the size of these animals and requiring much respect and careful handling.
- When an animal suddenly runs it cannot be held back! A familiar person at its side can help prevent spooking.
- Small children may also be involved in cattle-assisted work, depending on their weight, even riding or lying down on the back of a particularly trustworthy animal.
- Horns are a risk factor when cattle are around people, not only because they can use them if aggressive, but also they may hurt a person just by accident.
- Bulls are not recommended for AAI as they are more aggressive than cows, but steers (neutered bulls) may be considered.
- Cattle kept in stalls pose a risk for both humans and the animals (e.g., alleys with wet and slippery floors). Hence unsuitable for AAI.

## 2.5 New World Camelids (Llamas and Alpacas)

Llamas and alpacas are the domestic forms of wild New World Camelids with domestication occurring in South America 6000 (llamas) resp. 4000 (alpacas) years ago. They are herbivorous ruminants living in groups and flee in the face of danger. They are now kept and bred in North America, Europe and Australia, for their wool and as social companions, increasingly for animal-assisted activities.

### 2.5.1 Essential guidelines

- Alpacas and llamas are social herding animals and must live with at least one other of their kind; therefore, keeping one with other species is not appropriate. Normally two females or two neutered geldings, or one female and one stud neutered at one year of age, can be held together.
- A stable is necessary, should have fresh air, but no breeze, and be open on the side facing away from the weather. Per animal 2 -3 m<sup>2</sup> space for lying is required and space for several hayracks, a water trough and for a latrine. (Subordinate animals must also have access to these items.) The floor can be covered with rubber mats or straw covered cement.

- A fenced in paddock in front of the stable with non-slippery ground increases the room for movement of the animals. Both the paddock and grazing pasture (below) must be fenced in: for llamas ca. 1,6m, for alpacas ca. 140 m high.
- For pasture feeding and grazing, two camelids should have at least 1000 m<sup>2</sup> +100 m<sup>2</sup> for each additional animal. The pasture should have shade trees and no poisonous plants.
- Alpacas and llamas need raw-fiber rich food such as grass and hay of a high quality, mineral salts and trace elements. These must be present year round, day and night.
- Animals of both species require training from about 6 month of age, but miss-imprinting to humans must be avoided to ensure enough respect (and distance) to humans later on. Training includes leading on a line with a correctly fitted halter, allowing touching, wearing a saddle, and accepting a dog, autos and nearby noises, plus stepping over a bar.

### 2.5.2 Suitability for AAI

- Llamas and alpacas are quite attractive and fascinating to many people.
- Animals involved in any interventions must of course be healthy and exhibit a calm temperament, no wrong imprinting, and adequate stress resilience.
- Llama and alpaca geldings and non-pregnant females are most suitable. But they must be conditioned for proper transport (in large enough trailers) for the planned activity.
- If they have intensive contact with unfamiliar persons (clients or patients), that should be limited to maximally 1 hour; excursions and long treks can last several hours if the animals are used to such activities and have breaks for grazing and ruminating along the way.
- The handler and intervention specialist must be aware of stress signals and react appropriately, allowing a rest within the herd or with another conspecific.

## 2.6 Camels

### 2.6.1 Essential guidelines

- Camels naturally live in dry areas and efforts should be made to replicate this environment for healthcare reasons. Camels are prone to feet and skin issues in high moisture conditions. The ground in a camel corral needs some dry, preferably sandy areas. The ground should optimally provide both soft and wearing surfaces, for foot and leg health. This also helps deter parasites from thriving in the footing.
- Parasites are deadly to camels and regular monitoring of parasite levels through fecal sample testing should be performed.
- Access to free-choice loose salt and minerals are crucial for keeping a healthy camel.

- The camel is a herd animal, so at least two members of the same species should be kept together. Hierarchy does exist amongst the herd, and adequate space, shelter and food should be given to reduce negative herd interactions.
- Camels are social animals. They should not be kept alone, with possible exception of adult bulls
- Sheds for camels should be well ventilated to avoid moisture. The ceiling must be high enough for the camels not to hit their heads or humps (which can be an average of 6-10 ft tall). Camels are not very agile and can easily get stuck or injure themselves- especially when standing, sitting or laying on their side.
- Camels are work animals and have reduced stress levels when handled and worked with on a regular basis. Even when turned out with other camels, a camel is more likely to develop stress and vices when not given a physical or mental task to complete regularly.
- Camels are naturally protective of their eyes, ears and muzzles, so care should be taken when attempting to pet these areas or fitting equipment to these areas.
- While camels are relatively calm and peaceful animals, much attention to safe handling techniques and behavioural awareness should be stressed for any trainers or handlers working closely with them.

### 2.6.2 Suitability for AAI

- Camels' natural curiosity and sensitivity to energy levels make them an ideal species for AAI. While it is crucial that camels be paired with knowledgeable handlers in order to safely and effectively execute sessions, the camels themselves should be well trained for AAI.
- Camels who have been raised with little or no boundaries can quickly become pushy and potentially dangerous. This is often seen when handling bottle raised youngsters or older camels who were bottle babies in their younger years. Similar to a horse, any camel will test these boundaries and leadership abilities from their handler. This encourages any handler to learn skills such as projecting confidence, recognizing and handling stressful situations, and knowing their own comforts and abilities.
- Camels are known to enjoy direct physical contact as well as a more "energetic" connection between themselves and others. Understanding each individual camel's needs and characteristics is vital to designing a respectful activity in which the animal is not pushed beyond its comfort zone. Camels are incredibly expressive of their comfort through their body language - making it easy for a client to identify feelings with behaviours and actions with consequences.
- The ability to predict a camel's behavior, both when calm and when stressed, will help the handler to keep everyone safe when working with such a large animal.

## 2.7 Pigs (Swine)

Pigs are interesting, often belittled animals, which offer multiple possibilities for animal-assisted interventions if one is willing to work with them on an individual basis intensively. The smaller breeds (minipigs) have become popular as pets in recent years. Although a prey animal, not a species that typically flees, pigs can react to a threat with strong aggression. They will bite or make head knocks if threatened – primarily to protect food items or offspring. Pigs require a high degree of knowledge, patience and empathy from the keeper/trainer.

### 2.7.1 Essential guidelines

- Pigs are social animals and live in family groups (usually a sow with her female offspring) with a strict dominance hierarchy and must be kept at least in pairs.
- Pigs should have the opportunity to dig and root with their snout in straw/litter and/or soil. They must be provided an environment with suitable material to allow their behavioral need to manipulate and explore their surroundings and search for food. Failure to do so will result in pigs experiencing prolonged stress possibly leading to the development of abnormal behavior (e.g., biting pen mates' tails, stereotypic behavior).
- Pigs need to be able to wallow in water at least in the summer. As pigs cannot sweat, special attention should be given to the temperature in the stable. Adult swine, and especially lactating sows will very easily become overheated, and will try to cool down by lying laterally on a cold surface, or to wallow in muddy water (or urine and faeces if nothing else is available!) However, newborn piglets are in danger of hypothermia right after birth and before they start nursing.
- Pigs need long resting periods also during the day. They can be kept year round outdoors but need a hut closed on three sides to protect from excessive sunlight, rain and wind.
- In their pen they need objects to rub/scratch on (e.g., tree trunks, brushes)
- Pregnant sows have special needs (e.g., preference for isolated nesting and nest building materials). Failure to ensure these specific needs can potentially increase piglet mortality and aggression by sows towards intruders.
- Minimum stable size for adult mini pigs: 6 m<sup>2</sup> per animal plus an additional 2-3 m<sup>2</sup> for any newly added animal. A pen of at least 250 m<sup>2</sup> is required for 3-5 animals and must contain shaded areas and environmental enrichment.

### 2.7.2 Suitability for AAI

- Although pigs can become house-trained, living only inside human housing is considered inappropriate.
- Positive experiences with humans (e.g., proper handling) in the first weeks after birth and also later, can be advantages for their involvement in AAI but this time interval is only based on reported experience.

- Socialization with humans and some basic training using food from the hand on a one-on-one basis (jealousy) is recommended for their involvement in AAI, but caution is required due to the danger of bites (fingers are not carrots!)
- Not all pigs can participate in AAI as they vary individually in their fearfulness, aggressiveness, early experiences with humans and ability to be trained.
- Assessing their individual suitability on how they react in various AAI situations is important as well as knowledge of, and proper reactions to the stress signals of individual animals.
- Pigs can be observed in the pen, fed, stroked, walked and trained tricks depending on individual preferences and past experience with people and the intervention specialist.

## 2.8 Chickens

Already the Romans domesticated the wild chicken and bred different color and form variations. Far from the original win-win situation for both humans (food) and chickens (protection), today that relationship has become far more one-sided to benefit humans - given the advent of industrialized farming. Nevertheless, when chickens are housed for animal-assisted work, one sees a return to a fairer situation for both parties. Essential behavior routines for chickens, which are interesting to observe, are dust-bathing, nesting, foraging, preening, stretching, wing-flapping, perching, and sleeping. Most of these have a direct impact on physical health, but all benefit chicken psychology. One can “set a clock” over day by the performance of some of these activities.

### 2.8.1 Essential guidelines

- Chickens live in a group of up to ten animals, a rooster with its hens, in a set pecking order, which gives each animal a safe place in the group and thus avoids unnecessary fights. In terms of chicken husbandry, this means never keeping a chicken alone because as a flight animal they only feel safe in groups.
- Living space should be designed so that chickens feel comfortable and can move around in a species-appropriate way, allowing expression of the above-mentioned behavior routines. Food pans and fresh water must always be available.
- Hygienic aspects are important. Cleanliness in the roost, enclosure care and a balanced diet (dry feed – flour or pellets, grains, left over vegetables, fruits and cereals) are indispensable for the health and wellbeing of the birds. Chickens should be fed at least twice a day.
- Within the roost or henhouse enough horizontal roosting poles (ca. 5 cm diameter) must be available (etwa 1 m for 4 animals), all at about the same height above ground if more than one, but at least 30 cm apart from each other, each with a board underneath to collect feces. Boxes for egg laying and collection should also be present. Non-drafty fresh air should also be present.

- Floor space should be at least 1 m<sup>2</sup> for 4 dwarf chickens or 2 normal sized birds, but if no outdoor enclosure is provided, then this must be increased to 8 m<sup>2</sup> for 4 dwarf chickens, resp. 2 larger fowl, plus 1 additional m<sup>2</sup> for each additional chicken or 2 further dwarf hens.
- Chickens need an area in this enclosure where they can scratch the ground, a sandy area or sand-bath for feather care, permanent water availability and shaded areas.
- Especially in the enclosure, chickens need cover/protection opportunities, e.g. shrubs and a covered area with wind barrier. Five chickens need an enclosed outdoor area of about 100 m<sup>2</sup> to allow sufficient scratching on the ground. Depending on the size of the breed a fence 180 to 250 cm high is needed and this can be topped with wires or a net to protect against birds of prey.
- Because chickens are relatively sensitive, the importance of a henhouse is very high compared to other poultry species. A chicken coop can be used for different purposes:
  - a place to stay in case of bad weather
  - sleeping quarters
  - a place where eggs are laid
  - a place where they can eat and drink

### 2.8.2 Suitability for AAI

- Breeds of chickens vary in terms of temperament and activity level. It is advisable to pick breeds that tend toward calm, docile dispositions. The favorite breeds for kids are:
  - Cochins
  - Orpingtons
  - Brahmas
  - Silkie Bantams
  - Easter Eggers
  - D'Uccle Bantam
  - Golden Buffs
- To make care and work easier later on, positively reinforce hand contact from the start, approach the animals slowly and quietly always from the front while luring them closer, and avoid all chasing.
- Bird phobias are real and participants should be assessed for bird phobias prior to interactions (some phobias are related to combs and wattles so breeds with smaller head furnishings may be most desirable).
- Chickens can be involved in animal-assisted work maximally 3 hours a day with 15 min breaks each hour. Best together with familiar conspecifics and always under observation.
- The AAI can take place within the stall or enclosure or indoors in a therapy room or a group room in a social institution, and with one-on-one client contact (if well prepared).

- Chickens in molt should be excused from handling as feathers just emerging from the skin are delicate and handling may cause damage or bleeding.
- Before a chicken can be used in animal-assisted work, they must have had many positive experiences with humans.
- They have to be introduced to fondling and holding them in an absolutely pleasant way.
- Chickens learn readily with positive reinforcement and target- and clicker-training are quite successful.
- The better they are trained, the more freedom they can enjoy during animal-assisted work and the easier it will be to work together.
- During animal-assisted work, it is very important to always have a reliable human caregiver nearby because chickens have very fine stress sensors. If a situation becomes tense, the caregiver's hand and voice can offer a feeling of security.

## 2.9 Rabbits

Although originally domesticated from the European wild rabbit about 1000 years ago as a meat and fur source and still farmed today, rabbits (especially dwarf forms) have become popular pets as well. If individuals of these shy and fearful "flight" animals become habituated to close contact with people early on and experience gentle training in situations encountered during animal assisted interventions, they can be diversely useful.

### 2.9.1 Essential guidelines

- Rabbits live in social groups of at least 2 to 10 animals, usually females with a neutered male or an all male group (all neutered).
- For two animals at least 6 - 8 m<sup>2</sup> of stall and enclosure is required, for each additional animal add 2-3 m<sup>2</sup>, although dwarf form require less space but a more enriched environment.
- Hay/straw is necessary for nest and burrow building, areas with soil/sand (ca. 50 cm deep) are needed to satisfied the rabbits' need to dig and paw.
- The animals need raised resting/lying places and cave-like shelters for retreating.
- The enclosure must be fenced in (50 cm into the ground for these burrowing animals) and net-covered to protect from birds of prey.
- Weather protection (wind, rain, shade) must be provided and in colder climates, the hutch probably needs red lamps for heating. Fresh water and appropriate food (esp. hay) must always be present. Carrots, parsnip, fruit (apple) and grains may be given in small amounts, also to reward the animals.
- Myxomatosis and RHD immunizations are absolutely necessary.

### 2.9.2 Suitability for AAI

- Early and gentle conditioning are required to allow touching (stroking, foot control) and lifting onto the arm.
- Some social institutions, e.g. REHAB Basel in Switzerland, have developed a raised platform enclosure, the “rabbit mountain”, which allows eye to eye contact between clients in wheelchairs and the rabbits in the enclosure when they approach the clients<sup>1</sup>.
- Stroking on the back in the direction of the fur and tickling between and behind the ears is usually accepted.
- Sudden movements, leaning over the animal and touching from above, as well as loud, unusual noises are stressful to the animal.
- Rabbit appropriate activities include: observation in the social group; close contact (if habituated) to care for, stroke and feed the animal; and transport for ambulatory work, e.g. in a nursing home or clinic. However, rabbits should never be transferred alone or only one animal left behind when conducting ambulatory interventions.
- Recommended frequency of activities: Once a day on 3 to 5 days per week; per visit 3-4 hours plus transport time; activities with direct physical contact by a client without retreat possibility – maximally 2 x 15 min per animal with breaks in between back in the social group.

## LITERATURE

### DONKEYS

Drees, C., Stephan, I. (2021). *What they need! What they like! What they can!* (Donkeys) Wedemark, Germany: Ingrid Stephan, Institute for Social Learning with Animals (see <https://lernen-mit-tieren.de>). Please email [info@lernen-mit-tieren.de](mailto:info@lernen-mit-tieren.de) for information on translations of this text.

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.1 Esel. (*Translated title: German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.1 Donkeys . Bramscher Alle 5, 49565 Bramsche, Germany*)

### SHEEP

Drees, C., Stephan, I. (2021). *What they need! What they like! What they can!* (Sheep) Wedemark, Germany: Ingrid Stephan, Institute for Social Learning with Animals (see

---



<https://lernen-mit-tieren.de>). Please email [info@lernen-mit-tieren.de](mailto:info@lernen-mit-tieren.de) for information on translations of this text.

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.11 Schafe. (*Transl. title: German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.11 Sheep. Bramscher Alle 5, 49565 Bramsche, Germany*)

## GOATS

Drees, C., Stephan, I. (2021). *What they need! What they like! What they can!* (Goats) Wedemark, Germany: Ingrid Stephan, Institute for Social Learning with Animals (see <https://lernen-mit-tieren.de>). Please email [info@lernen-mit-tieren.de](mailto:info@lernen-mit-tieren.de) for information on translations of this text.

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.13 Ziegen. (*Transl. title: German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.13 Goats . Bramscher Alle 5, 49565 Bramsche, Germany*)

## CATTLE

Boissy, A., Bouissou, M.F., 1988. Effects of early handling on heifers' subsequent reactivity to humans and to unfamiliar situations. *Applied Animal Behaviour Science*, 20, 259-273.

Boivin, X., Le Neindre, P., Chupin, J.M., 1992a. Establishment of cattle-human relationships. *Applied Animal Behaviour Science*, 32, 325-335.

Boivin, X., Le Neindre, P., Chupin, J.M., Garel, J.P., Trillat, G., 1992b. Influence of breed and early management on ease of handling and open-field behaviour of cattle. *Applied Animal Behaviour Science*, 32, 313-323.

Boivin, X., Garel, J.P., Mante, A., Le Neindre, P., 1998. Beef cattle react differently to different handlers according to the test situation and their previous interactions with their caretaker. *Applied Animal Behaviour Science*, 55, 245.

Bouissou, 1975. Social behaviour in cattle. In: *Behaviour of farm animals* (Ed. Hafez).

Clutton-Brock, J., 1999. *A natural history of domesticated mammals*, 2<sup>nd</sup> edn. Cambridge University Press, Cambridge, UK, 238 pp.

Drees, C., Stephan, I. (2021). *What they need! What they like! What they can!* (Cattle) Wedemark, Germany: Ingrid Stephan, Institute for Social Learning with Animals (see <https://lernen-mit-tieren.de>). Please email [info@lernen-mit-tieren.de](mailto:info@lernen-mit-tieren.de) for information on translations of this text.

Ekesbo, I., 2011. Cattle (*Bos taurus*). In: Farm Animal Behaviour – characteristics for assessment of health and welfare (Ed. I. Ekesbo), CAB International, Cambridge, pp. 53-81.

Forleo, M.B., Palmieri, N., 2019. The potential for developing educational farms: a SWOT analysis from a case study. *J. Agricultural Education and Extension*.  
<https://doi.org/10.1080/1389224X.2019.1643747>

Hall, J.J., 2002. Behaviour of cattle. In: The Ethology of Domestic Animals (Ed. P. Jensen), CAB International, Wallingford, UK, pp. 131-143.

Jago, J., Krohn, C.C., Matthews, L.R., 1999. The influence of feeding and handling on the development of the human-animal interactions in young cattle. *Applied Animal Behaviour Science*, 62, 137-151.

Loberg, J., 1999.

Lund, V., 1999. Components of the human-farm animal relationship - A literature review. Specialarbete 8, Department of Animal Environment and Health, Swedish University of Agricultural Sciences, Skara, ISSN 1402-3342, 80 pp.

Pajor, E.A., Rushen, J, de Passillé, A.M.B, 2000. Aversion learning techniques to evaluate dairy cattle handling practices. *Applied Animal Behaviour Science*, 69, 89-102.

Pajor, E.A., Rushen, J, de Passillé, A.M.B, 2003. Dairy cattle's choice of handling treatments in a Y-maze. *Applied Animal Behaviour Science*, 80, 93-107.

Price, E.O. 2008. Human-animal interactions (ch. 15) and Animal handling and movement (ch.16). In: *Principles and Applications of Domestic Animal Behavior*. CAB International, pp. 227-246, 247-271.

Rushen, J., de Passillé, A.M., von Keyserlingk, M.A.G, Weary, D.M., 2008. *The welfare of cattle*. Springer, The Netherlands, pp. 229-253.

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (in preparation) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.10. Rinder (*Transl. title: German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.10 Cattle. Bramscher Alle 5, 49565 Bramsche, Germany*)

Waynert, D.F., Stookey, J.M., Schwartzkopf-Genswein, K.S., Watts, J.M., Waltz, C.S., 1999. The response of beef cattle to noise during handling. *Applied Animal Behaviour Science*, 62, 27-42.

### **New World CAMELIDS**

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.8. Neuweltkameliden (*Transl. title: German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.8 New World Camelids (Llamas and Alpacas). Bramscher Alle 5, 49565 Bramsche, Germany*)

## PIGS (SWINE)

D'Eath, RB. and Turner, SP. The Natural Behavior of the Pig. In Marchant-Forde, JN. (Ed). The Welfare of Pigs. (2009) Springer.

Drees, C., Stephan, I. (2021). *What they need! What they like! What they can!* (Pigs) Wedemark, Germany: Ingrid Stephan, Institute for Social Learning with Animals (see <https://lernen-mit-tieren.de>). Please email [info@lernen-mit-tieren.de](mailto:info@lernen-mit-tieren.de) for information on translations of this text.

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.12. Schweine (*Transl. title* German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.12 Pigs. Bramscher Alle 5, 49565 Bramsche, Germany)

<https://iacuc.wsu.edu/zoonoses-associated-with-swine/>

<https://pdfs.semanticscholar.org/a894/01882fb7d0e32f5d9a1387088d163c9534e5.pdf>

<https://www.liebertpub.com/doi/10.1089/vbz.2010.0182>

Waiblinger, S. *Agricultural Animals*. In Anthrozoology: human-animal interactions in domesticated and wild animals. Edited by Geoff Hosey and Vicky Melfi. Oxford University Press (2019).

## CHICKENS

Damerow, G. (2015). The Chicken Health Handbook: A Complete Guide to Maximizing Flock Health and Dealing with Disease (2nd E), Storey Publishing, LLC, North Adams. MA

Drees, C., Stephan, I. (2021). *What they need! What they like! What they can!* (Chickens) Wedemark, Germany: Ingrid Stephan, Institute for Social Learning with Animals (see <https://lernen-mit-tieren.de>). Please email [info@lernen-mit-tieren.de](mailto:info@lernen-mit-tieren.de) for information on translations of this text.

Smith, P. and Daniel, C. (2000). The Chicken Book, University of Georgia Press Athens, GA

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.3. Hühner (*Transl. title* German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.3 Chickens. Bramscher Alle 5, 49565 Bramsche, Germany)

*Internet sites:*

- Chicken Breed Selection tool can be found at <https://www.mypetchicken.com/chicken-breeds/which-breed-is-right-for-me.aspx>
- The My Pet Chicken Guide to Chicken Care (<https://www.mypetchicken.com/backyard-chickens/chicken-care/guide-toc.aspx>)
- Beeken, L. (2020) Chicken Manual: The complete step-by-step guide to keeping chickens. Haynes, UK
- Cooper, T. (2019) Chicken Husbandry: Five Welfare Needs: What Do I Need to Know about Raising Chickens for Happy, Healthy Birds?  
<https://backyardpoultry.iamcountryside.com/chickens-101/chicken-husbandry-five-welfare-needs>

## RABBITS

Tierärztliche Vereinigung für Tierschutz e.V. (TVT). (accessed July 2021) Nutzung von Tieren im sozialen Einsatz. Merkblatt Nr. 131.5. Kaninchen (*Transl. title: German Veterinary Association for Animal Welfare. Animals in Social Interventions Nr. 131.5 Rabbits. Bramscher Alle 5, 49565 Bramsche, Germany*)

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