Standard Operating Procedure

Human Approach Test (HAT) – Free stall

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Description/objective

The Human Approach Test (HAT) evaluates animals' behavioural responses to the progressive approach and proximity of an unfamiliar human in a controlled familiar setting. It assesses animals' acceptance of human presence within their comfort zone, approach–avoidance tendencies, fearfulness and human affinity. This test is adaptable to various environments and all age classes. *The test procedure described in this SOP is performed in a free-stall environment and is designed to test a single animal.*

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Terminology

Unfamiliar Human	A person who is unknown to the test animals and has never had close contact with them. This individual should wear clothing that is clearly distinguishable from the uniforms or coveralls routinely worn by farm staff. Ideally, the observer should wear a hooded coverall that maintains a recognizable human silhouette while ensuring that the face remains fully visible.

Requirements

✓ **Personnel (n = 2):**

Personnel	Number	Role
Testing assistant	1	Unfamiliar human responsible for performing the standardized approach sequence.
Trained observer	1	Responsible for conducting live observations and ensuring that the focal animals are standing.

✓ **Materials Needed:**

- Coverall for unfamiliar human
- Personal Protective Equipment (PPE)
- Data sheet/ethogram
- Pen/pencil
- Stopwatch

General information

- **Location:** The free stall pen must meet criteria that ensure both animal safety and appropriate test conditions. It must be familiar to the animals. The enclosure must be enclosed by gates with head locks mechanism, and the floor must be non-slippery (e.g., covered with rubber mats or grooved concrete) to ensure secure footing and reduce the risk of injury.

- **Lighting and noise conditions:** To perform a reliable and reproducible test all potential distractions must be avoided, as such the presence of non-essential personnel and any unnecessary noise during testing is strictly prohibited.

- **Test order preparation**: Once animals are secured in the headlocks, a predetermined testing sequence must be established based on headlock position. The sequence should avoid testing

animals in immediately adjacent headlocks consecutively. After an animal has been tested, the next animal selected for testing must be located at least one headlock away and must have received a minimum recovery period of 5 minutes. Animals occupying adjacent headlocks must not be tested until they have had at least 30 minutes of recovery time. This testing order helps ensure all animals return to a neutral state before assessment. Note that animals should not be kept in headlocks for prolonged periods of time.

- **Animal preparation**: Test animal(s) must be lock in the headlock and they must be locked for a minimum of 1 minute before the test to ensure they are calm and have completed any elimination behaviours (e.g., defecation and/or urination). A visual barrier (e.g., a board created with coroplast) should be placed between face-to-face pens in order to keep the human and procedure novel for the pen(s) facing the test pen.

- **Live observation:** This test is designed for live scoring of animals' responses to the approach of an unfamiliar human. The trained observer must receive training by a qualified observer (Gold Standard; GS) for all possible scores in Table 1 prior to data collection. To ensure inter-observer reliability and consistency of scoring over time, the GS should score animals alongside the observer at the beginning, midpoint, and end of the project (or data collection period). Agreement between the observer and the GS should be assessed at these time points to confirm the repeatability of the collected scores.

Procedure

1. A trained observer gently encourages the animals to the headlock and ensures that all animals are locked in the headlocks and calm.

NOTE: The testing assistant must not have had any previous contact with the animals and cannot assist the trained observer with the steps mentioned above.

2. Once the focal animals are in position in the headlocks, the trained observer initiates a 1-minute waiting period to allow the animals to settle and moves to the test position at least two headlocks away from the test animal.

3. After the 1-minute waiting period, the testing assistant moves to the starting position approximately 2 meters in front of the focal animal, standing with their arms at their sides and head facing the animal.

    - If the animal is not looking at the testing assistant—for example, if it is eating—the testing assistant must capture the animal's attention by gently clapping or snapping their fingers to redirect its focus.

4. Once the animal's focus is on the testing assistant, the testing assistant signals the trained observer that the test has started by briefly raising both arms and then lowering them to their thighs.

5. Once the signal is given by the testing assistant, the trained observer starts a timer and records the animal's behaviour by assigning a score for each stage of the test (see Table 1) and by noting the latency of first contact with the human, defined as the time it takes for the animal to touch the human.

6. The testing assistant moves towards the animal following the five test stages (Figure 1):

   Stage 1: The testing assistant stands still for 5 seconds, positioned 2 meters in front of the animal.
   Stage 2: After 5 seconds, the testing assistant takes one step forward and remains standing for another 5 seconds.
   Stage 3: The testing assistant takes a second step forward towards the animal and again remains still for 5 seconds.
   Stage 4: The testing assistant extends one arm in front of the animal at approximately eye level (choosing the left or right arm depending on the animal's head position) and holds this position for 5 seconds.
   Stage 5: Lastly, the testing assistant swings their raised arm in a slow but deliberate motion towards the animal's head. The hand is then passed behind the animal's jaw and along the side of the neck, without reaching between the animal's head and the headlock. The testing assistant maintains this position for 5 seconds before releasing the chain and stepping back. If the animal struggles (i.e., vigorously attempts to pull away), the testing assistant must immediately withdraw their hand and step back, ending the test regardless of whether the 5 seconds have elapsed.

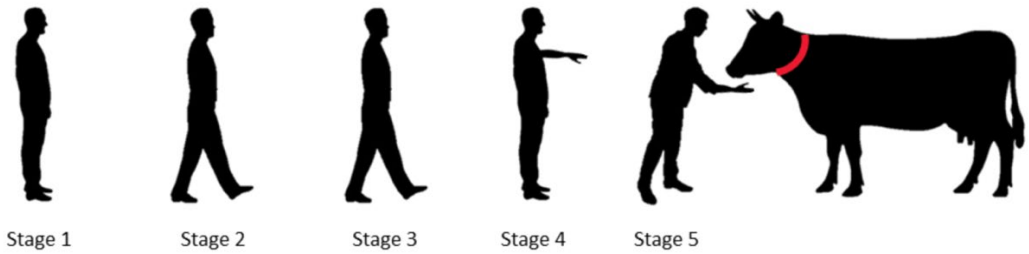


Figure 1 Diagram illustrating relative postures and movements at each stage of the test.

NOTE: If at any stage during the test the animal exhibits aggressive behaviour or poses potential risks to testing assistant, trained observer should immediately declare "end test" before the scheduled conclusion. In such cases, no scores are assigned to this animal for the remaining stages, and "N/A" is recorded in all corresponding data cells.

7. Repeat the test for each animal two additional times, ensuring a minimum interval of 5 minutes between successive tests on the same animal. Whenever possible, animals should be released from the headlocks between test repetitions and retested later the same day. Animals should not be maintained in headlocks for prolonged periods solely to accommodate repeat testing

Table 1. Measures recorded and scores given to cow's reactions on each step of the human approach sequence.

Score	-3	-2	-1	0	1	2	3
Definition	Steps back until the base of her ears is in contact with the headlock, seen as an attempt of the animal to escape the headlock	Steps back (1 or 2 steps), the animal may also sway her head to the side	Sways or turns head back or away	Looks at the person, or no reaction	Approaches the person without touching, sniffs	Approaches and touches the person	Tries to lick/catch the person with the mouth (clothing or hand with the tongue or the lips).

Safety Note

All personnel should stand with proper distance from test animal to stay safe and not distract them. All personnel should remain calm and avoid sudden movements to prevent startling the animals.

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