ACEC SOP101 TAKING SALIVA SAMPLES FROM HORSES

Category

1. Observation Involving minor interference

Objective

To outline an appropriate procedure to collect saliva samples from horses

Alternatives to animal use

There are no alternatives to animal use for taking equine saliva samples. This procedure may be an acceptable alternative to more invasive procedures, such as venepuncture.

Equipment

Horses

All horses being sampled will be fitted with a correctly fitting head collar, with a lead rope with fully functioning clip to attach to the head collar as per manufactures guidelines.

Handlers

All handlers will wear enclosed footwear and other protective clothing or equipment (overalls, coveralls, gloves, helmet) as appropriate to the specific horse sampling scenario.

Safety and Risk considerations

Personnel taking samples from horses should be made aware of the following:

1. Horses are large animals and a prey species. This means that their default reaction to an actual or perceived threat is likely to comprise one or more of the following: flight (run, escape), fright (startle response – which can vary from a full body response to a sudden head or leg movement) or fight (e.g. kick, bite).

2. Horses have comparatively better senses of hearing and smell to humans and substantially wider visual fields than humans due to the lateral placement of their eyes compared to frontal placement in humans. Horses also have blind spots around 1m in front of the nose, and behind the body. Horses are much more cued into their environments than many other species, including humans, and will respond to the smallest of stimuli, particularly those that

are novel or familiar items that are out-of-context. This may include factors related to the weather, sudden movements, loud noises and the presence of other species such e.g. dogs, cats, birds, insects and wildlife.

3. Horses are social animals and separating them from herd-mates/conspecifics can be problematic.

4. Horses are adept at learning 'bad habits' including those related to having samples taken.

Drugs, chemicals or biological agents

Not applicable.

Procedure

Prior to sampling

- Carry out a visual inspection of the environment in which the horse is going to be sampled. Remove any unnecessary items that might risk injury of horse or human such as empty feed buckets, items on the ground or items causing an obstruction or likely to cause a distraction.

- Before commencing sampling the sampler should do their best to find out as much as possible about the individual horse to be sampled from available personnel.

- During preparation for sampling ensure that the equipment being used on the horse (typically head collar or halter) is in a suitable condition. Check for broken stitching, sharp edges, frayed material/cracked leather, malfunctioning clips and buckles, and other anomalies. Any equipment deemed not suitable should be replaced before fitting to the horse before salivary sampling takes place.

- Ensure the environment in which sampling is taking place is secure, for example by closing gates.

- If you are carrying a mobile phone make sure that it is on mute.

On commencing sampling

- Approach the horse and fit the head collar/halter and lead rope according to ACEC SOP077 – Handling Horses. If possible enlist the help of an additional handler. If samples are to be taken from foals/weanlings ACEC SOP115 – Routine Foal Handling should be used.

- Approach the horse from his/her left hand holding the sampling equipment (typically one to two gauze squares held in sponge forceps or similar) to your side. Allow the horse to investigate you and/or the sampling equipment if required. When then horse is accustomed and not frightened by the testing equipment continue to approach.

- Stand to the left side of the horse's head with you shoulder perpendicular to the horse's neck. If you do not have a handler to help quietly put the lead rope over the horse's neck so that it is accessible if you need to restrain the horse, but not in the way of sampling.

- Put your right hand under the horse's chin and quietly place your right hand up over and onto the horse's face to maintain the horse's head position.

- Insert the forceps between the horse's lips from the left hand side through the diastema between the incisors and the premolar teeth, and position the forceps (with gauze) on the horse's tongue.

- Allow the horse to 'chew' on the gauze for at least a minute. Make sure that the gauze remains held by the forceps at all times.

- Gently remove the forceps from the between the horse's lips (left hand side), keeping the gauze held and remove your right hand from the horse's face.

- Use the right side, or adapt above procedures, as appropriate to the situation.

When finishing work

- When returning to the horse's home environment (paddock, yard, stable) lead the horse quietly to where it is to be released. Turn the horse in a half circle towards the gate/door (but not too close in case they step forward). Keeping hold of the lead rope (so that it is not dangling on the floor or near the horses or your legs) quietly undo the head strap of the head collar and carefully remove the head collar from the horse's nose.

- Quietly remove the horse's head collar/halter without letting it drop to the floor to become a trip hazard and return equipment to appropriate storage.

Impact on wellbeing of animals

Horses thrive on predictable and controllable environments (McGreevy and McLean, 2009). Adherence to the procedures outlined above will ensure that samples are taken from horses in accordance to their ethological requirements (namely as a large prey species that responds well to clear application of signals, the timely release of pressure and consistent handling by different people (McGreevy and McLean, 2007). The procedures outlined above rest upon the globally agreed and utilized principles of training advocated by the premier international equine welfare organisation, the International Society for Equitation Science (ISES, 2018). Furthermore focus on assessing horse behaviour throughout handling procedures will allow continuous assessment of animal (individual horse)-based indicators of welfare (Randle and Waran, 2017; Waran and Randle, 2017). Use of the horse-centred procedures outlined in this Standard Operating Procedure will help to safeguard the health and welfare of both the horse and human involved in taking saliva samples.

Compliance with this SOP will ensure that there is no negative impact on the wellbeing of the horses from which saliva samples are being taken, and potentially a positive impact in the longer term due to consistency of sampling procedures that are carefully managed in order to reduce stress and excessive arousal due to taking into account the horse's ethology and learning and cognitive abilities (ISES, 2018).

Animal Care

The use of horses will be governed by the relevant ACEC approval/s. Once the horse has been sampled, the horse will be returned to the home environment (paddock/yard/stable as appropriate) and be managed and cared for according to normal procedures. (These may be covered by other ACEC approved SOPs.) If the horse is being sampled as a part of clinical procedures, post-handling the horse will be managed according to veterinary advice and any treatment related requirements.

Pain Relief

Not applicable – this procedure does not cause pain.

Reuse and repeated use

It is not uncommon for horses to require samples to be taken from them. Salivary samples are considered relatively non-invasive given most horses are accustomed to the placing of a bit in their mouths for equestrian purposes, receiving dental care and oral medication. Therefore taking salivary samples can be considered analogous to routine husbandry procedures and of minimal welfare impact. Taking salivary samples in accordance with this SOP will help to mitigate against risks associated with confusing horses (for example through the use of varying, or aversive, handling methods) and causing negative associations which have the potential to negatively impact horse welfare and future horse handler's/sampler's safety. The sampling of horses is managed through ACEC approved teaching or research protocols and the frequency of horse-use is managed locally by those responsible for the care and management of the horses (e.g. CSU Equine Centre senior technician, horse owner or proprietor, or delegate of external sites where research is being conducted). The frequency of sampling is approved by the ACEC during consideration of each specific research/teaching protocol.

Qualification, experience or training necessary to perform procedure

Taking salivary samples from horses is not an act of veterinary science and can be performed by any person able to safely handle horses. This SOP provides the information required for a non-veterinarian who is relatively proficient in horse handling to take a saliva sample from a horse in as safe a manner as possible.

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References and relevant links

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