

Making Sense



of Animal Senses

ANIMAL SENSES

13th February



Available Android



Available iOS

translate

Happier



1 Touch

THEY can get nervous or injured from poorly maintained facilities such as uneven flooring, sharp edges or even air blowing on their faces

THEY don't like to be touched by strange humans and do like to stay in close groups with animals of the same species

WE keep our facilities safe and clean for them, and minimise distractions

WE try to move them without touching them, and keep them with other animals in pens and when we move them

2 Hearing

THEY hear better than humans, especially high pitched sounds

WE keep our lairages quiet, and avoid slamming gates and using pressure washers around animals

3 Eyesight

THEY have eyes on the side of their head → almost 360 degree vision but poor depth perception

THEY see the world in dull colours and react strongly to contrasts

WE keep our facilities well-lit and free of obstacles, so the animals can see a clear path ahead and remove stressful objects from line of sight

WE don't wear high-viz clothing around them, to keep them calm

4 Smell

THEY read certain smells as 'danger' including blood and urine from stressed animals

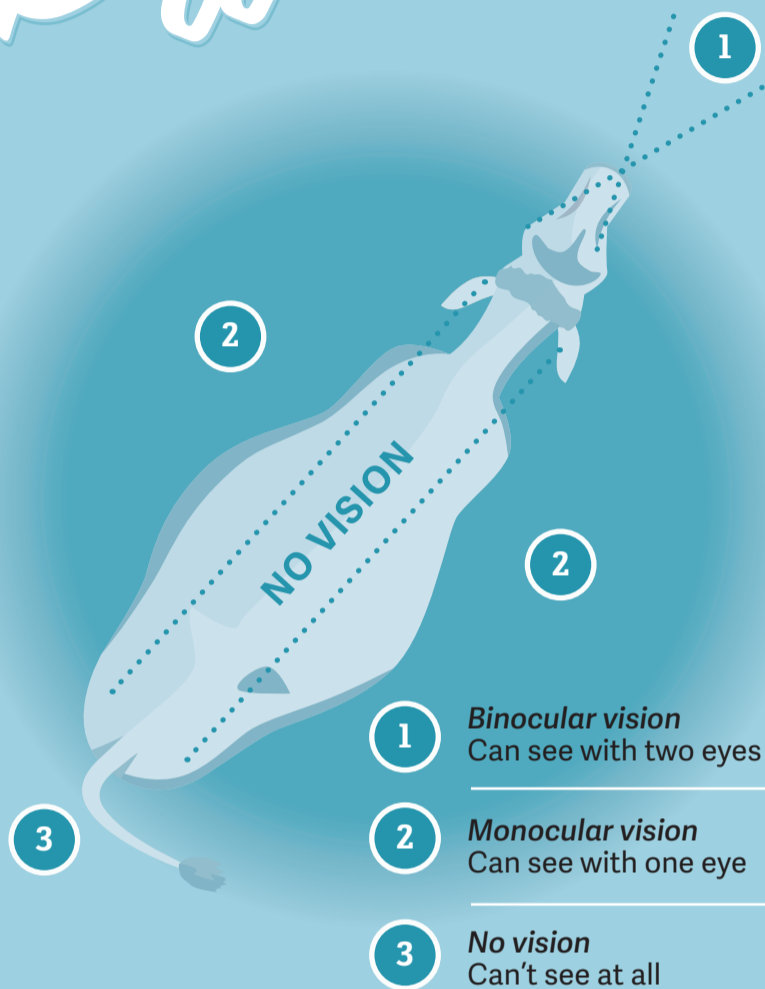
WE keep our pens and raceways clean and don't let bad smells build up

Vision Different

EYE LOCATION



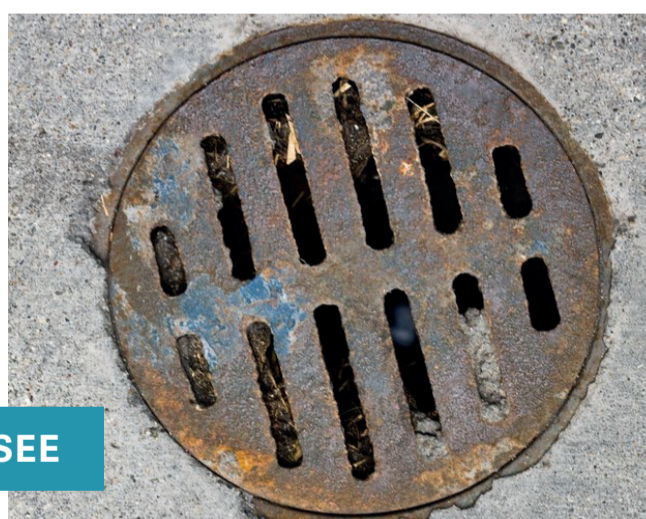
Their eyes are on the sides of their heads, so they can overall see more than humans can. However, most of their vision is monocular (only using one eye) which means they won't have very good depth perception (they may not be able to judge how far away an object is) and their vision may be blurry at the edges. Their vision is best right in front of their face, where they have binocular vision (using both eyes).



COLOUR AND LIGHT PERCEPTION

They can see colours, but not as strongly as people can. They react more to bright lights, darkness, and strong contrasts. What you see as a shadow or drain cover, they see as a dark hole that they may be scared to walk over.

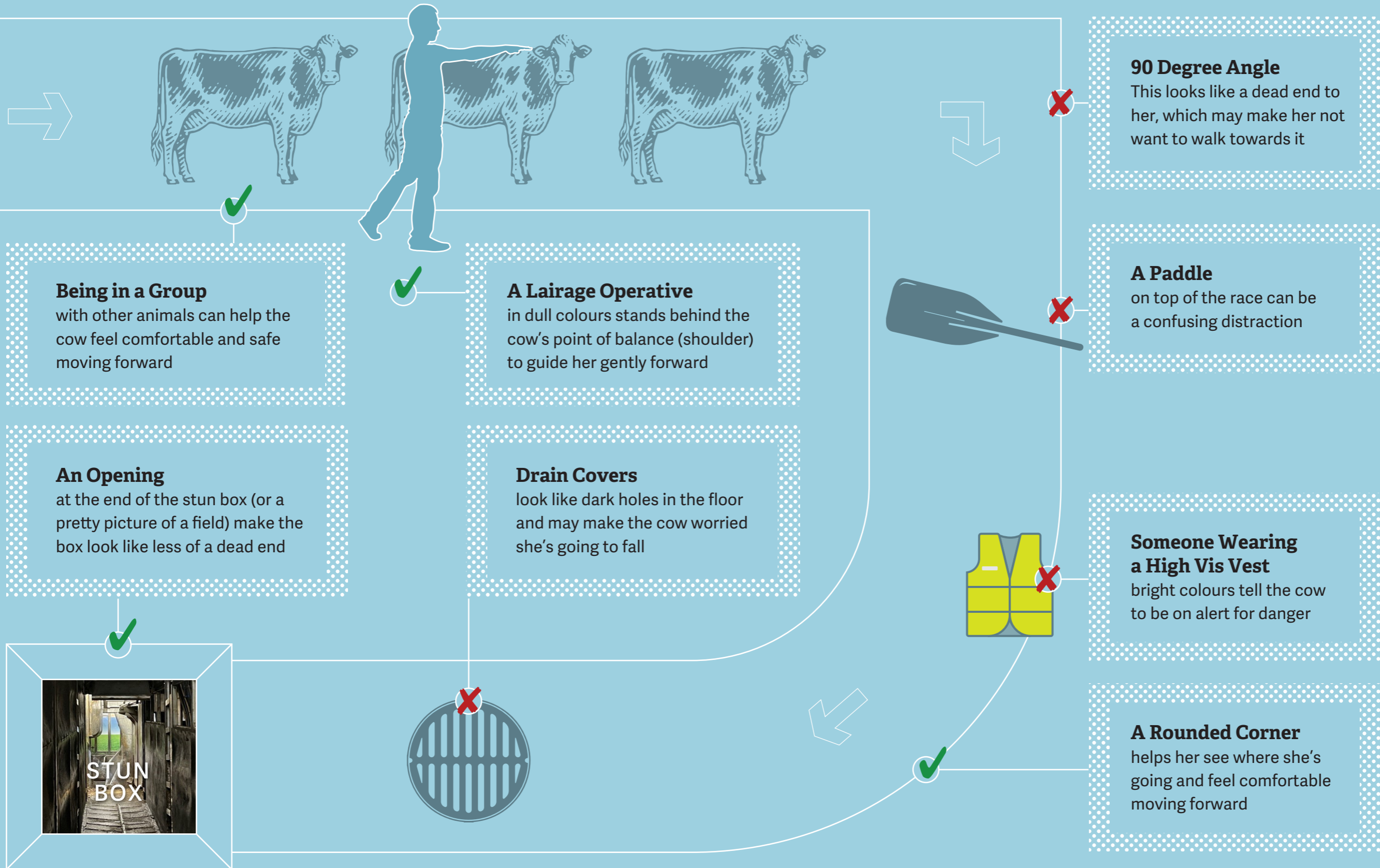
WE SEE



THEY SEE



Spot the Stressors





MAKING SENSE OF ANIMAL SENSES:

Hearing

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84 cattle vocalisation (moo)

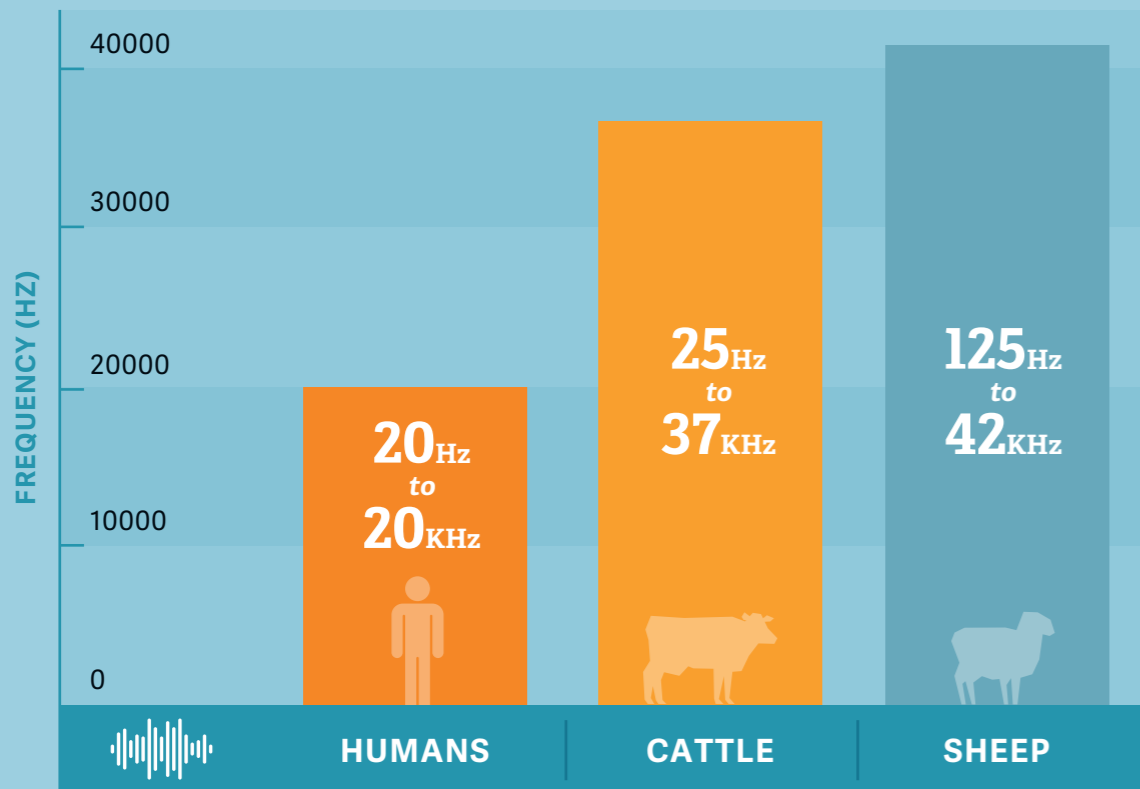
82 pressure washing

75 inside lairage (no movement)

94 stun box gate closing



SPECIES HEARING RANGE



What do frequency and decibel mean?

Frequency, measured in hertz (Hz) and kilohertz (KHz) refers to how many sound waves move through a given area in one second and is closely related to pitch. High frequency sounds include sirens and wind chimes.

Decibels (dB) refers to sound intensity, or how loud something sounds. It is measured logarithmically, so an increase of 10 dBs means something sounds 10x louder.

What can cattle and sheep hear?

Cattle and sheep can hear a much wider range of sounds than humans can. The low end is similar, starting around 20 Hz for humans, 25 Hz for cattle, and 125 Hz for sheep, but humans generally can't hear above 20 kHz, while cattle and sheep can hear up to 37 and 42 kHz. This means they can hear high frequency (pitch) sounds that humans cannot detect. Sounds that are high frequency and intermittent can be alarming to animals and cause psychological and physiological responses. Cattle hear best around 8kHz, and sheep around 10 kHz.

Cattle can also hear less intense noises than humans; humans can hear as quietly as -10 dBs, while cattle can hear -11 dBs.

Why does it matter that cattle/sheep have good hearing?

A noisy lairage can be stressful to cattle and sheep, especially if they have previously been living outside and are not accustomed to noises like pressure washers, heavy machinery, or even radios and gates clanging. Animals experiencing avoidable stress on our sites is a breach of our ethical and legal responsibilities. Stressed animals are also harder to handle, making them a greater health and safety risk to staff, and can produce lower quality meat.

SOURCES: Heffner H.E. Auditory awareness. Appl. Anim. Behav. Sci. 1998;57:259-268

Weeks CA, Brown SN, Warriss PD, Lane S, Heasman L, Benson T, 2009. Noise levels in lairages for cattle, sheep and pigs in abattoirs in England and Wales. Vet Record 165:308-14.



MAKING SENSE OF ANIMAL SENSES:

WHY DO PREY ANIMALS HAVE

Horizontal Pupils

Pupils control how much light enters your eye and therefore how much you're able to see.

Scientists have looked at pupils from different animals and found they often look different depending on whether the animal is considered 'predator' or 'prey'.



➔ **Look** at how the sheep's eyes changes as it puts its head down to graze. The right and left eyes both rotate in opposite directions so that the pupils stay in line with the horizon. This allows the sheep to keep an eye out for predators at all times, even while they are eating



VERTICAL PUPILS

Animals with vertical pupils are:

- More likely to be predators – specifically ambush predators that surprise their prey
- More likely to have eyes in the front of their head, which gives them 'binocular' vision with better depth perception
- Often have slit pupils, allowing them better control over how much light they let into their eyes so they can see well during the day and at night



HORIZONTAL PUPILS

Animals with horizontal pupils are:

- More likely to be prey
- More likely to have eyes on the sides of their heads rather than the front

Horizontal pupils provide prey with a wider frame of view helping them to see predators coming and escape from them.

SCAN HERE



REVEALED: Why animals' pupils come in different shapes and sizes (theconversation.com)

SOURCES: Banks et al. Why do animal eyes have pupils of different shapes? Sci. Adv. 2015;1:e1500391

Sinan Alper, Elif Oyku Us & Dicle Rojda Tasman (2019) The evil eye effect: vertical pupils are perceived as more threatening, Cognition and Emotion, 33:6, 1249-1260

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