

HUMANE HANDLING OF LIVESTOCK

By Jane Murrigan

More often than not, people who work with animals enjoy the rewards of their relationships with them. Whether it's the daily milking of dairy cows, watching calves play or lambs spring-board off their mothers' backs, putting feed or treats of apples in front of 'enthusiastic' animals...there is often a feeling of pleasure and fulfillment in looking after the critters and connecting with them.

According to the Canadian Organic Standards, the highest priority in organic livestock production is the health and welfare of animals. Optimizing the quality of life for farm animals can be achieved not only by providing good feed, veterinary care and shelter, but also by providing comforts and pleasure for the animals to the greatest degree possible. In other words, a reasonable objective for a successful organic livestock operation is achieving a balance between production and compassionate care. In this way, a 'good living' may be made for both farm and animals.



Belted Galloways enjoying a treat of apples.

The point of balance is the area of the animal's body that acts like a forward or reverse gear depending on where the handler is positioned in relation to it.

For the animals, optimizing quality of life means being able to express natural behaviour. Natural behaviours of farm animal species have evolved over hundreds of thousands of years, not just the few thousand years that humans have domesticated them. For example, since most farm animals are members of prey species, social contact (i.e. companionship with other animals like themselves), is very important. Social bonds strengthen communication and other first lines of defence in the event of danger, as well as reinforce maternal care and schooling of young

animals. An example of accommodating an animal's need for companionship is to keep at least one herd mate next to a cow to be bred through artificial insemination. This practice will calm the cow in heat and thereby improve her chances of becoming pregnant.

Foraging for food is an important, hard-wired behaviour. Likewise, a laying hen who seeks to make a nest is expressing critical survival behaviour. Even when humans provide feed and bedding, research has shown that animals prefer to seek these things out for themselves. Organic farmers are responsible for knowing what natural behaviours are most important to the species they are raising, so they can meet those needs to the greatest degree possible.

When a farmer is working in close contact with livestock, three main tools are key to humane handling: (1) her knowledge of the natural behaviour of

the animals; (2) applying that knowledge in understanding the handling experience from the animal's point of view; and (3) using facilities that are well designed, well equipped and appropriate for the species to accomplish the task at hand, whether it's corralling, tagging, castrating, vaccinating, separating or loading animals onto vehicles.

Solid scientific research has shown that humane handling leads to the following:

- better weight gain;
- superior quality of meat, milk and eggs;
- higher milk production;
- reduced sickness;
- improved immunity;
- an increase in conception rates in sheep, cattle and pigs;
- a drop in the number of 'downer' animals in transport and at slaughter;
- fewer bruises and less 'trim' of carcasses; and
- greater safety for human handlers.

Even the practice of naming cows (e.g. Daisy) has been shown to increase milk production.

A Canadian study found a low-stress weaning method for beef calves that improves welfare and increases weight gain. Fence-line weaning, in which the cows and calves can see and touch each other but prevents suckling, is superior to separating cows and calves 'cold turkey.' It is possible to reduce



Leading cattle with a bucket of feed is an effective method of moving them from place to place.

stress further by using a two-stage weaning method, in which the calves are first fitted with plastic clips to prevent suckling for several days, and later separated from their dams by a see-through fence. Using this method, the calves tend to bawl less, graze more and walk the fence less.

Fear itself is a strong motivator for an animal to avoid being handled.

As mentioned, most farm animal types are prey species and possess anti-predator mechanisms that are hard-wired (e.g. they are always on the look-out for dan-

ger). Their vision, hearing and sense of smell are particularly heightened when being handled by an unfamiliar human whom the animal perceives to be a predator.

Prey animals are highly social animals who live in hierarchical structures and have sophisticated communication skills among their herd or flock. They also have strong memories. It's great if they've had positive handling experiences in the past...and it's much more difficult for everyone if they were negative. Fear itself is a strong motivator for an animal to avoid being handled. Sensory cues, such as the high-pitched noise produced by a yelling human, can trigger the part of the brain called the amygdala, and can lead to the release of a cascade of fear-reinforcing chemicals into the bloodstream. This activates the fight or flight response.

Animals communicate their fear or other feelings to animals around them in numerous subtle ways, such as through the release of pheromones, changes in pos-

Keys to humane handling

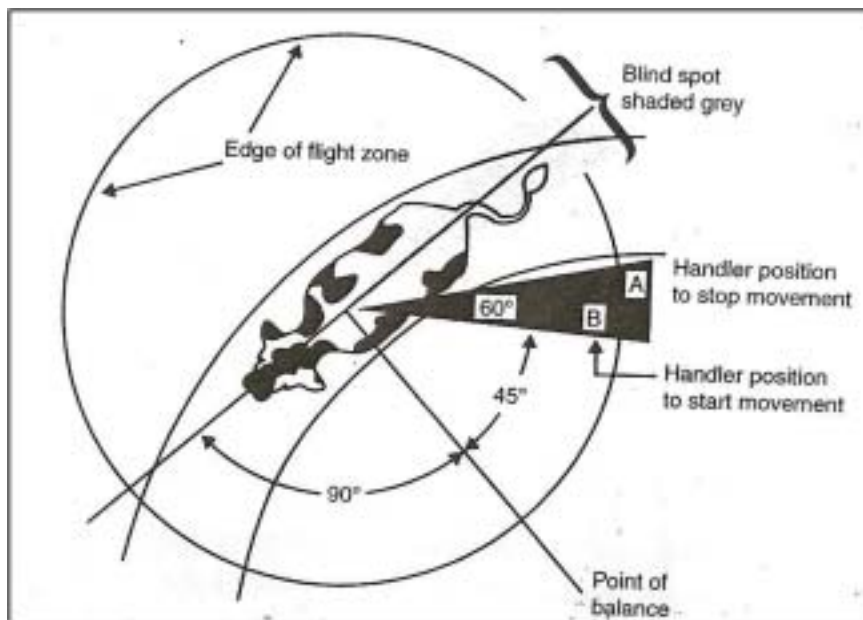
1. Knowledge of the natural behaviour of the animals.
2. Applying that knowledge to understand the handling experience from the animal's point of view.
3. Using facilities that are well designed, well equipped and appropriate for the species to accomplish the task at hand, whether it's corralling, tagging, castrating, vaccinating, separating or loading animals onto transport vehicles.

ture, and vocalizing in specific ways that an inexperienced human might not notice. These behaviours have evolved to maximize the chance of survival of the entire herd or flock. Other examples are following the leader, and circling around a perceived predator.

Two important principles to use in handling livestock are the (1) flight zone and (2) point of balance. The flight zone is the animal's safety zone, or personal space, and its size depends on the degree of tameness. A dairy cow who is handled regularly and gently has a very small flight zone. On the other hand, a ranch-raised beef animal generally needs more distance between himself and a human handler and therefore has a larger flight zone. Handlers should learn to apply or release pressure on this invisible flight zone, not to frighten the animal to the point of panic, but to achieve the desired movement of the animal, whether into a pasture, pen or transport vehicle.

Pigs smell you before they see you.

The point of balance is the area of the animal's body that acts like a forward or reverse gear depending on where the handler is positioned in relation to it. Generally, the point of balance is at the shoulder of the animal, and positioning oneself behind it will result in the tendency of the animal to move forward, whereas positioning oneself in front of the shoulder will have the tendency to cause the animal to move back.



Flight zone and point of balance.

Natural senses play a large role in an animal's response to handling. For instance, pigs rely heavily on their acute sense of smell—they will smell you before they see you.

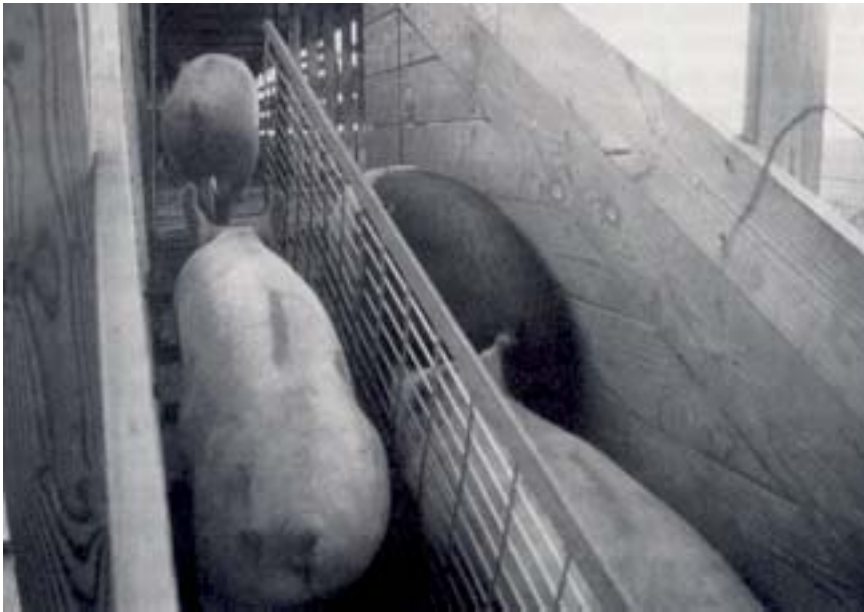
Hearing perception in farm animals is significantly more sensitive than human hearing. In terms of high pitch sounds, humans perceive in the 1000–3000 Hz range, whereas cattle and horses perceive sounds at 8000 Hz. This translates as: (1) don't yell at animals or whistle loudly; (2) observe where they point their ears (because you may not hear what they hear!); and (3) reduce the noise inside a large handling facility as much as possible. For instance, place the hydraulic pump and motor of a squeeze chute outside the building to reduce noise on or near the chute.

Some people want to know if music on the radio has a positive or negative effect on animals. Research has shown that animals will adapt to reasonable levels (<75 decibels) of continuous sound,

such as white noise, instrumental music and miscellaneous sounds. Increased weight gains have been achieved this way in sheep, so long as the sound is not too loud (>100 decibels).

In terms of visual perception, all farm animal species are sensitive to sudden or rapid movement, and poultry are especially sensitive to this, as well as to bright lights. Most farm animals have wide-angle, panoramic or wrap-around vision and limited depth perception. This is consistent with the nature of prey species' evolution, since this type of vision permits the animal to maintain a vigilant look-out for danger while resting or foraging for food.

Contrary to what many people believe, farm animals do see in colour, and species differ in terms of the specific colours perceived. For instance, cattle and sheep see yellowish-green and bluish-purple best, whereas chickens have far more sophisticated vision and can detect vastly intricate nuances of



Loading pigs while giving them a sense of control.

greens as compared with other animals, including humans. Thus, for example, it is best to handle chickens in low light, and they are most docile when blue lights are used.

Research has shown that a stockperson's attitude toward animals makes a huge difference in how smoothly the handling goes, and affects the health, productivity and welfare of livestock. It is therefore essential that a stockperson gain the trust of the animals she or he is working with.

The behaviour of both stockperson and animal tends to reinforce the results and the attitudes—creating positive or negative feedback loops. Increased fear in animals leads to a decrease in productivity. Tough-mindedness on the part of the stockperson leads to rough handling, which in turn leads to increased fear. If an animal experiences a positive human contact, fear is reduced and a positive experience is expected for the next contact. In contrast, a negative human contact in-

creases fear which leads to both acute and chronic stress in livestock. It is also known that a positive attitude towards animals leads to greater job satisfaction of the farm workers, which in itself leads to benefits in terms of human productivity, economic stability of a farm, and quality of life for the people.

In summarizing so far, humane handling principles include a wide range of knowledge and awareness about animals of a particular species. First and foremost, a person working with animals will be successful if they have a genuine interest and respect for animals. Knowledge of the natural behaviour of the species to be handled (i.e. understanding the animal's point of view) helps a great deal to minimize stress and risk of injury to human and animal. An individual animal's behaviour is dependent on both genetics and environment.

The memories of animals play a large role in how easy or hard it will be to handle them. In direct

handling, where there is close proximity of human and animal, a stockperson is essentially exploiting the predator/prey relationship to achieve a specific objective. Research has consistently confirmed that good stockmanship leads to improved health and increased production in livestock.

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Photo credits: Jane Morrigan (pg 26) and Temple Grandin (pgs 27, 28 & 29)

Resources

Alberta Farm Animal Care
www.afac.ab.ca

Cattle handling in crowd pens (Grandin): www.youtube.com/watch?v=Cpoggjn_G6NU

Cattle behavior and handling (Grandin): www.youtube.com/watch?v=r9ZM9DaMv-w

Animal Welfare Task Force fact sheets (pain management, preventing heat stress, feather-pecking, lice control in organic production): www.oacc.ca/AnimalWelfare/aw_awtf_factsheets.asp

Improving Animal Welfare: A Practical Approach. Temple Grandin (Ed.), Blackwell Publishing, Oxford. 2010.

Temple Grandin's website
www.grandin.com

Jane Morrigan will continue to explore the topic of the humane treatment of livestock in a series of upcoming articles.