

Domestication and Natural Behavior of Small Ruminants

Our topics for this week are:

- Domestication of sheep, goats, and camelids (llamas and alpacas)
- Natural behavior of sheep, goats, and camelids

Domesticated small ruminants in North America include sheep, goats, and camelids (llamas and alpacas). Sheep (*Ovis aries*) and goats became the first domesticated livestock about 10,000 years ago by nomads in the Middle East. Domestic goats (*Capra aegagrus hircus*) originated in Iran. Llamas (*Lama glama*) and alpacas (*Vicugna pacos*) were domesticated 4,500 years ago in Peru to be used for meat, wool, and transportation. They are now also used as property guardians.

Some sheep and goats have a similar appearance. However, goats carry their tail up unless they are sick or frightened. Sheep carry their tails down. Sheep tails are often docked to reduce the risk of infections caused by feces smeared on and around the tail. Sheep have a philtrum (groove) in their upper lip; goats do not. Both do not like to get their feet wet and prefer to graze upland areas. Most goats have horns, and most sheep do not. Sheep horns curl more than goat horns do. There are more than 200 breeds each of domestic sheep and goats.

Llamas and alpacas also appear similar. However, adult llamas are larger, taller, and stronger than alpacas. Llamas have banana-shaped ears while alpaca ears are more like a teddy bear's. Alpacas are about 1 to 2 ft shorter at the shoulder than llamas. Alpacas also have lower set, stubbier tails and a more sloping rump. Two breeds of alpacas exist, but there is only one breed of llama.

NATURAL BEHAVIOR OF SMALL RUMINANTS

Sheep

Sheep have the strongest social ties of any domestic animal. They hate to be alone and act distant or aloof to animals other than sheep. The main defense of sheep is to run as a flock, sacrificing the young, weak, and slow on the periphery of the flock to predators to ensure the survival of the flock in general. In the wild, ewes form flocks of approximately 20 led by the oldest ewe. The oldest ewe with the greatest number of offspring is usually the flock leader. Within a flock, subgroups form, particularly among ewes and their direct descendants. Rams form separate smaller flocks. Horn size is a significant factor in horned breed flock hierarchy. The most dominant ewes will position themselves furthest from possible threats. Sheep are awake 16 hours a day and sleep 4 to 5 hours a day, which is much less than cattle.

Sheep spend half of their daylight hours grazing short, young grass, and clover. Sunset is a favored grazing time. They like to eat weeds that are up to 8 inches long and graze on higher ground. Sheep apprehend grass with their dental pad and lower incisor teeth and graze closer to the ground than cattle. Cattle cannot graze where sheep have recently grazed. Sheep prefer to graze into the wind to better monitor for the smell of predators.

Sheep communications include body language, visual, olfactory (smell) and vocal. Sheep

vision is similar to cattle vision, except in those with long wool around their face. These “closed face” breeds have a portion of their range of peripheral vision blocked, a condition referred to as “wool blindness.” Sheep have good depth perception which allows them to move among rocks with sure-footedness. Lowering of the neck and head is a visual submissive posture. Stamping with a front foot is a threat for aggressiveness. Lowering and twisting the head is a horn threat suggesting aggression. Vocal communications include bleating to locate others or relate distress. Ewes “rumble” to lambs, and the “snort” of rams indicates irritation and possible aggressiveness. Odor is important among sheep for identification. They have 3 pairs of scent glands: suborbital face glands beneath their eyes, groin glands on each side of the udder, and interdigital glands between the toes on each foot.

Goats

Goats are herd animals, but unlike sheep, goats can be independent and will scatter if endangered. They are also more inquisitive, quicker, and more agile than sheep. Social status is more evident in goat herds than in sheep flocks. Each herd is led by a dominant female, the *queen*. The head buck is usually the oldest and largest. Wild goats form variable sized groups, but groups of 3 to 5 does are most common. Bucks group separately, except at breeding seasons. Horns, size, and age determine social dominance among able-bodied goats.

Goats are browsers, eating weeds, leaves, vines, and shrubs while grazing for about half their daylight hours. They are more selective about what they eat than sheep. Goats try to avoid being caught in rain and will seek shelter from inclement weather more often than will sheep.

Goats will nibble to investigate and communicate. They will butt to play or to re-establish their dominance. Bucks will stamp and sneeze when acting aggressive. They will flick their tongue just before rearing to begin a charge to butt an opponent.

Males have scent glands in their skin just behind the horns, just above their hocks on the inside of their legs, and under their tail which produce strong odors during rutting (mating) season. In addition, bucks will urinate on their face, beard, chest, and front legs. All these odors are rubbed on territorial markers and possessions, especially during mating seasons. Bucks are much more odoriferous than rams during rutting seasons.

When kids are handled and become frightened, they may shriek with childlike sounds to distract a handler and call for adult goat help.

Camelids

The herd social structure of llamas and alpacas are more similar to sheep than goats. Unlike sheep, males are very protective of their territory, especially male llamas. This instinct prevents overpopulation in areas with sparse vegetation and assures genetic diversity in the wild. Although social animals, individuals act aloof and do not like touching. Adult males fight by pushing with their shoulders, battering by swinging their necks, and biting. Kicking may also be used in defense, more so with alpacas than llamas. Camelids, particularly alpacas, produce various vocalizations, but humming is the most common. Llamas may snort or make clicking sounds, if agitated, When frightened, camelids may scream.

Now let’s recap the key points to remember from today’s episode:

- 1. Sheep are usually herded, but goats are best led.**
- 2. Sheep graze plants, including short weeds, but goats browse tall weeds,**

- brush, shrubs, and low hanging tree limbs.**
- 3. Camelids graze like sheep and can be herded in groups, but they will protect their property, unlike sheep.**

More information on animal handling is available in my book, *Animal Handling and Physical Restraint*, published by CRC Press. It is also available on Amazon and from many other fine book supply sources.

Additional information is available at: www.betteranimalhandling.com

Don't forget, serious injury or death can result from handling and restraining some animals. Safe and effective handling and restraint requires experience and continual practice. Acquisition of the needed skills should be under the supervision of an experienced animal handler.