Ten Types of Animal Behavior
Group 1 - Sexual Behavior

* Taken from Scientific Farm Animal Production, Robert Taylor

Observations on sexual behavior of female farm animals are useful in implementing breeding programs. Males and females of certain species produce **pheromones**, chemical substances that attract the opposite sex. Cows, ewes, and mares may have pheromones present in vaginal secretions and urine when they are in heat. Bulls, rams, and stallions will smell these pheromones. A common behavioral response in this process is called flehmen, during which the male animals lifts its head and curls its upper lip.

When females are sexually receptive, they usually seek out a male if mating has not previously occurred. Females are receptive for varying lengths of time; cows are in heat for approximately 12 hours, whereas mares show heat for 5-7 days with ovulation occurring during the last 24 hours of estrus.

It appears that in a sexually active group of cows, the bull is attracted to a cow in heat most often by visual means (observing cow-to-cow mounting) rather than olfactory clues. Cows that are in heat, for example, allow themselves to be mounted by others. Producers observe this condition of “standing heat” or estrus.

The ram chases a ewe that is coming into heat. The ram champs and licks, puts his head on the side of the ewe, and strikes with his foot. When the ewe reaches standing heat, she stands when approached by the ram.

The buck goat snorts when he detects a doe in heat. The doe shows unrest and may be fought by other does. Mating in goats is similar to that in sheep.

The boar does not seem to detect a sow that is in heat by smelling or seeing. If introduced into a group of sows, a boar chases any sow in the group. The sow that is in heat seeks out the boar for mating, and when the boar is located she stands still and flicks her ears. Boars produce pheromones in the saliva and preputial pouch, which attracts sows and gilts in estrus to the boars.

The sequence of events in estrus detection in horses appears to be similar to swine (previously described). The stallion approaches a mare from the front and a mare not in heat runs and kicks at the stallion. When the mare is in standing heat she stands, squats somewhat, and urinates as he approaches. Her vulva exhibits winking (opens and closes) when she is in heat.

Male chickens and turkeys show a preference for certain females and may even refuse to mate with other females. Likewise, the females may refuse to mate with certain males. This is a serious problem when pen mating of one male and 10-15 females are practiced. The eggs of some females may be infertile. The preferential mating is a greater problem in chickens, as AI is the common breeding practice in turkeys.

Some profound behavior patterns are associated with sex of the animal and changes resulting from castration. This verifies the importance of hormonal-directed expression of behavior. Intact males have more aggressive behavior, whereas castrates are more docile after losing their source of male hormone.

* Taken from Biology, The Dynamics of Life

Much of an animal’s **courtship behavior** is instinctive. Courtship behavior is a behavior that males and females of a species carry out before mating. Like other instinctive behaviors, courtship has evolved through natural selection. Imagine what would happen to the survival of a species if members were
unable to recognize other members of the same species. Different species of fireflies, for example, can be seen at dusk flashing distinct light patterns. However, female fireflies of one species respond only to those males exhibiting the species-correct flashing pattern.

Some courtship behaviors help prevent females from killing males before they have had the opportunity to mate. For example, in some spiders, the male is smaller than the female and risks the chance of being eaten if he approaches her. Before mating, the male presents the female with a nuptial gift, an insect wrapped in a silk web. While the female is unwrapping and eating the insect, the male is able to mate with her without being attacked. After mating, however, the male may be eaten by the female anyway.
Ten Types of Animal Behavior
Group 2 - Maternal Behavior

*Taken from Scientific Farm Animal Production, Robert Taylor*

There is evidence that more cows calve during periods of darkness that during daylight hours. The calving pattern, however, can be changed by when the cows are fed. Cows that are fed during late evening have a higher percentage of their calves during daylight hours.

When the young of cattle, sheep, goats and horses are born, the mothers clean the young by licking them. This stimulates blood circulation and encourages the young to stand and to nurse. Sows to do not clean their newborn but encourage them to nurse by lying down and moving their feet as the young approach the udder region. They thus help the young to the teats.

Most animal mothers tend to fight intruders, especially if the young squeal or bawl. Often cows, sows and mares become aggressive in protecting their young shortly after parturition. Serious injury can occur to producers who do not use caution with these animals.

Strong attachments exist between mother and newborn young, particularly between ewe and lamb and cow and calf. Beef cows diminish their output of milk about 100-120 days after birth of young, and ewes do the same after 60-75 days. This reduction in milk forces the young to search for forage, the consumption of which stimulates rumen development. It is at this time that care giving by the mother declines.

If young pigs have a high energy feed available at all times, they nurse less frequently. Without a strong stimulus of nursing, sows reduce their output of milk. Some sows may wean their pigs early and show little concern for them a few days after they are weaned. Pigs are usually weaned by producers at 21-35 days of age.
Ten Types of Animal Behavior  
Group 3 - Communication Behavior  
*Taken from Scientific Farm Animal Production, Robert Taylor*

Communication exists when some type of information is exchanged between individual animals. This may occur with the transfer of information through any of the senses.

A distress call, involving a different type of sound, occurs from either the female or her young when they become separated. Young animals cry for help when disturbed or distressed. Lambs bleat, calves bawl, pigs squeal and chicks chirp. Even adult animals call for help when under stress. The female and her offspring may recognize each other’s vocal sound; however, it appears that the most effective way the dam recognizes her offspring is by smell. The young usually nurses with its rear toward the female’s head. This allows a dam to smell her offspring and decide to accept or reject it. A rejected young animal is usually bunted with the head of the dam and kicked with the rear legs when it attempts to nurse. The young animals are less discriminated in their nursing behavior than are their dams.

Females more easily adopt other young through transfer of the odor of one young animal to another. Cows have fostered several calves if their own calves are removed at birth, and the foster calves are smeared with amniotic fluid previously collected from the second "water bag."

Many farm animals learn to respond to the vocal calls or whistles of the producer who wants the animals to come to feed. The animals soon learn that the stimulus of the sound is related to being fed.

The bull vocally communicates his aggressive behavior to other bulls and intruders into his area through a deep bellow. This bellow and aggressive behavior is under the control of the male hormone (testosterone), as the castrated male seldom exhibits similar behavior. The bull also issues calls to cows and heifers, especially when he is separated from, but still within sight of, them.

Cattle are especially perceptive in their sight, as they have 310-360-degree vision. This affects their behavior in many ways, for example, when they are approached from different angles and when they are handled through various types of facilities.
Ten Types of Animal Behavior
Group 4 - Social Behavior (Part 1)

Taken from Scientific Farm Animal Production, Robert Taylor

Social behavior includes behavior activities of fight and flight and those of aggressive and passive behavior when an animal is in contact (physically) with another animal or with livestock and poultry producers

Interaction with Other Animals
Unless castrated when young, the males of all farm animals fight when they meet other unfamiliar males of the same species. This behavior has great practical implications for management of farm animals. Male farm animals are often run singly with a group of females in breeding season, but it is often necessary to keep males together in a group at times other than the breeding season. The typical producer simply cannot afford to provide a separate lot for each male.

Bulls and other males may exert prolonged physical activity when fighting and thus generate much heat. Therefore, bulls and other potential fighting males should be put together either early in the mourning or late in the evening when the environmental temperature is lower than at midday. Often fighting can be reduced when male animals are mixed and put into a new environment.

Cows, sows and mares usually develop a peck order but fight less intensely than males. Sows that are strangers to each other sometimes fight. Ewes seldom, if ever, fight, so ewes that are strangers can be grouped together without harm.

Some cows withdraw from the group to find a secluded spot just before calving. Almost all animals withdraw from the group if sick.

Status and social rank typically exist in a herd of cows, with certain individuals dominating the other submissive ones. The presence or absence of horns is important in determining social rank, especially when strange cows are mixed together. Also, horned cows usually outrank polled or dehorned cows where close contact is encountered, such as at feedbunks or on the feed ground.

Large differences in age, size, strength, genetic background, and previous experience, have powerful effects in determining social rank. Once the rank is established in a herd, it tends to be consistent from one year to the next. There is evidence that genetic differences exist for social rank.

Animals fed together consume more feed than when they are fed individually. This competitive environment evidently is a stimulus for greater feed consumption. Dairy calves, separated from their dams at birth, appear to gain equally well whether fed milk in a group or kept separate. There is, however, evidence that they learn to eat grain earlier when group fed compared with being individually fed.
Interactions with Humans
Producers rank the disposition or temperament of animals from docile to wild or “high strung.” This evaluation is usually made when the animals are being handled through various types of corrals, pens, chutes, and other working facilities. The typical behavior exhibited by animals with poor dispositions is one of fear or aggressive fighting or kicking. There is evidence that farm animals develop good or poor dispositions from the way they have been treated or handled, though there is evidence that disposition is an inherited basis as well. A few heritability estimates for disposition are the medium-to-high category, indicating that the trait would respond to selection. Some producers cull or eliminate animals with poor dispositions from their herds and flocks because of the potential for personal injury and economic loss (broken fences and facilities) as well as to reduce the excitability of other animals.

Behavior During Handling and Restraint
Most animals are handled and restrained several times during their lifetime. Ease of handling depends largely on the animals’ temperament, size, and previous experience and the design of the handling facilities. Understanding animal behavior can assist in preventing injury, undue stress and physical exertion for both animals and producers. An example is knowing how to approach animals so they will respond to how the producer prefers the animals to move. Most animals have a flight zone. When a person is outside this zone, the animal usually exhibits inquisitive behavior. When a person moves inside the flight zone, the animal usually moves away. With their 310-360 degree field of vision, cattle are sensitive to shadows and unusual movements observed at the end of the chute or outside the chutes. For these reasons, cattle move with more ease through curved chutes with solid sides. Round pens, having the absence of square corners, handle cattle that are more excitable with less injury occurring to them.

Blood odor appears to be offensive to some animals; therefore, the reduction of elimination of such odors may encourage animals to move through handling facilities with greater ease. Animals are easily disturbed by loud or unusual noises such as motors, pumps, and compressed air.

Some breeders claim that AI facilities should permit cows to be handled quietly and carefully, and that using facilities where cows have previously felt pain should be avoided. They also state that pregnancy rates will also increase. This may sound logical, but research has not substantiated these claims.

Understanding the Flight Zone (taken from http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/eng1741#understanding)
The flight zone is the animal's personal space. If you move inside the flight zone, the animal will move away. When you back off, the animal will stop moving. The size of the flight zone depends on wildness or tameness of the cattle, angle of handler approach and state of excitement of the cattle. Work at the edge of the flight zone at an angle of 45 to 60 degrees behind an animal's shoulder. The cattle will circle away from you. The flight zone radius may be 5 to 25 ft. for feedlot cattle and 300 ft. for range cattle. If you are behind the point of balance, the animal retreats.
Ten Types of Animal Behavior
Group 6 - Feeding Behavior
*Taken from Scientific Farm Animal Production, Robert Taylor*

Ingestive behavior is exhibited by farm animals when they eat and drink. Rather than initially chewing their feed thoroughly, ruminants swallow it as soon as it is well lubricated with saliva. After the animals have consumed a certain amount, they *ruminate* (regurgitate the feed for chewing). Cattle graze for 4-9 hours/day and sheep and goats graze for 9-11 hours/day. Grazing is usually done in periods, followed by rest and rumination. Sheep rest and ruminate more frequently than cattle - cattle ruminate 4-9 hours/day; sheep, 7-10 hours/day.

Under range conditions, cattle usually do not go more than 3 miles away from water, whereas sheep may travel as much as eight miles a day. When cattle and sheep are on large range, they tend to overgraze near the water area and to avoid grazing in areas far removed from water. Development of water areas, fencing, placing of salt away from water, and herding the animals are management practices intended to assure a more uniform utilization of range forage.

Grazing Behavior
Cattle, horses, and sheep have palatability preferences for certain plants and many have difficulty changing from one type or types of plants and other types. Most animals prefer to graze lower areas, especially if they are near water. These grazing behaviors tend to cause overgrazing in certain areas of the pasture and to reduce weight gains.

Age of cow and weather affect the typical behavior of cows grazing native range during the winter. At the Range Research Station in Miles City, Montana, cows grazed less as temperatures dropped below 20 degrees Fahrenheit, and at a –30 degrees Fahrenheit, 3-year-olds grazed approximately 2 hours less than 6-year-olds. Also, with colder temperatures, cows wait longer before starting to graze in the morning. At 30 degrees Fahrenheit, cows started grazing between 6:30 and 7:00 A.M., but at –30 degrees Fahrenheit, they waited until about 10 A.M. to begin grazing.
Cattle, sheep, horses, goats, and chickens void their feces and urine indiscriminately. Hogs, by contrast, defecate in definite areas of the pasture or pen. Knowing defecation patterns of the pigs can plan ease of cleaning swine pens.

Cattle, sheep, goats, and swine usually defecate while standing or walking. All these animals urinate while standing, but not usually when walking. Cattle defecate 12-18 times a day; horses, 5-12 times. Cattle and horses urinate 7-11 times per day. Animals on lush pasture drink less water than when they consume dry feeds; therefore, the amount of urine voided may not differ greatly under these two types of feed conditions.

All farm animals urinate and defecate more frequently and void more excreta than normal when stressed or excited. They often lose a minimum of 3% of their live weight when transported to and from marketing points. Much of the shrink in transit occurs in the first hour, so considerable weight loss occurs even when animals are transported only short distances. Weight loss can be reduced by handling animals carefully and quietly, and by avoiding any excessive stress or excitement of the animals.
Ten Types of Animal Behavior
Group 8 - Shelter-Seeking Behavior
*Taken from Scientific Farm Animal Production, Robert Taylor*

Animal species vary greatly in the degree to which they seek shelter. Cattle and sheep seek a shady area for rest and rumination if the weather is hot, and pigs try to find a wet area. When the weather is cold, pigs crowd against one another when they are lying down to keep each other warm. In snow and cold winds, animals often crowd together. In extreme situations, they pile up to the extent that some of them smother. Unless the weather is cold and windy, cattle and horses often seek the shelter of trees when it is raining. This may be hazardous where strong electrical storms occur because animals under a tree are more likely to be killed by lightning than those in the open.
Pigs, horses, and dairy goats are highly curious, investigating any strange object. They usually approach carefully and slowly, sniffing and looking as they approach. Cattle also do a certain amount of investigating. Sheep are less curious and more timid than some other farm animals. They may notice a strange object, become excited, and run away from it.

Investigative behavior is undoubtedly one of the most prominent types of behavior seen in the dog. It is one of the most important factors that must be considered when law enforcement is selecting a dog for narcotic detection training. The dog that possesses a high degree of investigative behavior is very inquisitive and has a desire to examine objects very closely, therefore he will normally excel very fast when teaching him to hunt for narcotic odors. There are several observable signs to recognize investigative behavior in dogs. One of the most characteristic activities of dogs when kenneled is to trot around, investigate objects with the nose and eyes and stopping to look and listen whenever there is a sound. Other characteristics of dog's investigative behavior include:

(1.) Walking or running with nose to ground, sniffing.
(2.) Head in air sniffing, may run from side to side.
(3.) Sniffing anal and/or genital region.
(4.) Sniffing nose or face of another dog.
(5.) Head raised, ears erect (listening and looking).
(6.) Nosing and sniffing urine or feces.
(7.) Crawling forward, moving head from side to side, sniffing.
Ten Types of Animal Behavior
Group 10 - Allelomimetic Behavior

*Allelomimetic behavior* means that animals of a species tend to do the same thing at the same time. Cattle and sheep tend to graze at the same time and rest and ruminate at the same time. Range cattle gather at the watering place at about the same time each day because one follows another. This behavior is of practical importance because the producer can then observe the herd or the flock with little difficulty, notice anything that is wrong with a particular animal, and have that animal brought in for treatment. If one is artificially inseminating beef cattle, the best time to locate range cows in heat is when they gather at the watering place. This type of behavior is useful in driving groups of animals from one place to another.

*Taken from Biology, The Dynamics of Life*

Some instinctive behavior is exhibited in animals in response to internal, biological rhythms. Behavior based on a 24-hour day/night cycle is one example. Many animals, humans included, sleep at night and are awake during the day. Other animals, such as owls, reverse this pattern and are awake at night. A 24-hour cycle of behavior is called a *circadian rhythm*. Most animals come close to this 24-hour cycle of sleeping and wakefulness. Experiments have shown that in laboratory settings with no windows to show night and day, animals continue to behave in a 24-hour cycle.

Rhythms also can occur yearly. Migration is a yearly rhythm. *Migration* is the instinctive, seasonal movement of animals. In the United States, about 2/3 of bird species fly south in the fall to areas such as South America where food is available during the winder. The birds fly north in the spring to areas where they breed during the summer. Whales migrate seasonally, as well. Change in day length is thought to stimulate the onset of migration in the same way that it controls the flowering of plants.

Biological rhythms are clearly governed by a combination of internal and external cues. Animals that migrate might be responding to colder temperatures and shorter days, as well as to hormones. You can easily see why animals migrate from a cold place to a warmer pace, yet most animals do not migrate. How animals cope with winter is another example of instinctive behavior. Many mammals, some birds, and a few other types of animals go into hibernation during the cold winter months. Hibernation is a state in which the body temperature drops substantially, oxygen consumption decreases, and breathing rates decline to a few breaths per minute. Animals that hibernate typically eat vast amounts of food before entering hibernation. This extra food fuels the animal’s body while it is in this state.

Estivation is a state of reduced metabolism that occurs in animals living in conditions of intense heat. Desert animals appear to estivate sometimes in response to lack of food or periods of drought. However, other animals estivate even when kept in laboratory conditions with constant food and water.
Ten Types of Animal Behavior
Group 11 - Maladaptive or Abnormal Behavior

Taken from Scientific Farm Animal Production, Robert Taylor

Animals that cannot adapt to their environment may exhibit inappropriate or unusual behavior. Some animals under extensive management systems, such as poultry and swine, are often kept in continuous housing to reduce costs of the land and facilities. Frequently, both chickens and swine result to *cannibalism*, which may lead to death, if preventive measures are not taken. Some swine producers remove the tails of baby pigs to prevent tail chewing. Tail chewing can cause bleeding, and whenever bleeding occurs, the pigs are likely to become cannibalistic.