

## Palominos

### Breed Organization

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### Breed Description

Palomino is a horse color not a breed. The characteristic palomino color is that of a newly minted fourteen-karat gold coin with variations from light to dark. The skin is usually gray, black, brown or motley without underlying pink skin or spots, except on the face or legs. The eyes are usually black, hazel, or brown. The mane and tail must be white with not more than fifteen percent dark, sorrel, or chestnut hairs. Conformation depends on the breed represented but most stand between 14 and 17 hands.

Technically, the palomino is not so much a color as it is a lack of color due to the dilution gene. The best cross for obtaining a palomino has been the crossing of a palomino to a chestnut. Crossing a palomino to a palomino most often produces a cremello (often called wrongly, an albino).

### History

Palomino horses possess a golden coat color, dark skin and eyes, and a white mane and tail. The Palomino did not originate in the United States, yet the United States is where the registry associations for the palomino originated. The exact origin of the golden color is unknown, it is believed to be a descendant of Arabian color patterns. The biblical book, Zechariah, written in 519 B.C., mentions horses possessing bay, sorrel, black, grey, and white coat colors. Because of the variety of color crosses that produce the Palomino color, it is assumed the color is as old as the animal. Palomino horses have filtered their way through history, and are mentioned and seen in a variety of literary and artistic works, including Botticelli's 1481 painting "The Adoration of the Magi", which hangs in the National Gallery in Washington D.C. Today Palomino horses may be seen in every aspect of the horse industry from working on ranches, to being displayed in the show ring, as well as running on the racetrack. A favorite to a variety of clubs and organizations, the Palomino has been seen as a parade horse, in rodeos, and as a trail and endurance horse. Though many types of horses may bear the gold coloring, the Palomino Horse Breeders of America represent only Quarter Horses, Tennessee Walking Horses, Morgans, Arabians, and American Saddlebreds in the PHBA registry.

### Physical Characteristics - General Canine Information

Many dogs, such as the American Water Spaniel, have had their natural hunting instincts suppressed or altered to suit human needs. Modern dog breeds show more variation in size, appearance, and behavior than any other domestic animal. Within the range of extremes, dogs generally share attributes with their wild ancestors, the wolves. Dogs are predators and scavengers, possessing sharp teeth and strong jaws for attacking, holding, and tearing their food. Although selective breeding has changed the appearance of many breeds, all dogs retain basic traits from their distant ancestors. Like many other predatory mammals, the dog has powerful muscles, fused wristbones, a cardiovascular system that supports both sprinting and endurance, and teeth for catching and tearing. Compared to the bone structure of the human foot, dogs technically walk on their toes.



**Sight:** Like most mammals, dogs are dichromats and have color vision equivalent to red-green color blindness in humans.

Different breeds of dogs have different eye shapes and dimensions, and they also have different retina configurations. Dogs with long noses have a "visual streak" which runs across the width of the retina and gives them a very wide field of excellent vision, while those with short noses have an "area centralis" - a central patch with up to three times the density of nerve endings as the visual streak — giving them detailed sight much more like a human's.

Some breeds, particularly the sighthounds, have a field of vision up to 270° (compared to 180° for humans), although broad-headed breeds with short noses have a much narrower field of vision, as low as 180°.

**Hearing:** Dogs detect sounds as low as the 16 to 20 Hz frequency range (compared to 20 to 70 Hz for humans) and above 45 kHz[22] (compared to 13 to 20 kHz for humans), and in addition have a degree of ear mobility that helps them to rapidly pinpoint the exact location of a sound. Eighteen or more muscles can tilt, rotate and raise or lower a dog's ear. Additionally, a dog can identify a sound's location much faster than a human can, as well as hear sounds up to four times the distance that humans are able to. Those with more natural ear shapes, like those of wild canids like the fox, generally hear better than those with the floppier ears of many domesticated species.

**Smell:** Scent hounds, especially the Bloodhound, are iconic for their keen sense of smell. Dogs have nearly 220 million smell-sensitive cells over an area about the size of a pocket handkerchief (compared to 5 million over an area the size of a postage stamp for humans). Some breeds have been selectively bred for excellence in detecting scents, even compared to their canine brethren. What information a dog actually detects when he is scenting is not perfectly understood; although once a matter of debate, it now seems to be well established that dogs can distinguish two different types of scents when trailing, an air scent from some person or thing that has recently passed by, as well as a ground scent that remains detectable for a much longer period.

The characteristics and behavior of these two types of scent trail would seem, after some thought, to be quite different, the air scent being intermittent but perhaps less obscured by competing scents, whereas the ground scent would be relatively permanent with respect to careful and repetitive search by the dog, but would seem to be much more contaminated with other scents. In any event, it is established by those who train tracking dogs that it is impossible to teach the dog how to track any better than it does naturally; the object instead is to motivate it properly, and teach it to maintain focus on a single track and ignore any others that might otherwise seem of greater interest to an untrained dog. An intensive search for a scent, for instance searching a ship for contraband, can actually be very fatiguing for a dog, and the dog must be motivated to continue this hard work for a long period of time.

The meaning of "intelligence" in general, not only in reference to dogs, is hard to define. Some tests measure problem-solving abilities and others test the ability to learn in comparison to others of the same age. Defining it for dogs is just as difficult. It is likely that dogs do not have the ability to premeditate an action to solve a problem.

**Coat Color:** Domestic dogs often display the remnants of counter-shading, a common natural camouflage pattern. The general theory of countershading is that an animal that is lit from above will appear lighter on its upper half and darker on its lower half where it will usually be in its own shade. This is a pattern that predators can learn to watch for. A countershaded animal will have dark coloring on its upper surfaces and light coloring below. This reduces the general visibility of the animal. One reminder of this pattern is that many breeds will have the occasional "blaze", stripe, or "star" of white fur on their chest or undersides.

**Sprint Metabolism:** Dogs can generate large amounts of energy for a short period of time. A dog's heart and lungs are oversized relative to its body and its normal everyday needs. A dog also has relatively more red blood cells than a human. Most of the time the dog will keep the extra red blood cells stored in its spleen. When the animal enters into a situation where its full metabolism is required, such as play, catching game, or fighting other dogs, the extra cells are released into the bloodstream. The "oversized" heart and lungs will now be running at full capacity, and the animal will have an enhanced ability to engage in aerobic activity. This activity will produce internal heating. Dogs, being covered in fur, are limited in their ability to cool down. After a short time the animal must either cease its athletic

activity or risk harming itself from overheating. One can easily observe this pattern of intense activity followed by rest periods in puppies. During the rest phase the spleen collects red blood cells and the animal may pant to cool down.

**Behavior and Intelligence:** Many dogs can be trained to skillfully perform tasks not natural to canines, such as in this dog agility competition. Dogs are valued for their intelligence. This intelligence is expressed differently with different breeds and individuals, however. For example, Border Collies are noted for their ability to learn commands, while other breeds may not be so motivated towards obedience, but instead show their cleverness in devising ways to steal food or escape from a yard. Being highly adaptable animals themselves, dogs have learned to do many jobs as required by humans over the generations.

Dogs are employed in various roles across the globe, proving invaluable assets in areas such as search-and-rescue; law enforcement (including attack dogs, sniffer dogs and tracking dogs); guards for livestock, people or property; herding; Arctic exploration sled-pullers; guiding the blind and acting as a pair of ears for the deaf; assisting with hunting, and a great many other roles which they may be trained to assume. Most dogs rarely have to deal with complex tasks and are unlikely to learn relatively complicated activities (such as opening doors) unaided. Some dogs (such as guide dogs for the visually impaired) are specially trained to recognize and avoid dangerous situations.

For example, the ability to learn quickly could be a sign of intelligence. Conversely it could be interpreted as a sign of a desire to please. In contrast, some dogs who do not learn very quickly may have other talents. An example is breeds that are not particularly interested in pleasing their owners, such as Siberian Huskies. Huskies are often fascinated with the myriad of possibilities for escaping from yards, catching small animals, and often figuring out on their own numerous inventive ways of doing both.

Assistance dogs are also required to be obedient at all times. This means they must learn a tremendous number of commands, understand how to act in a large variety of situations, and recognize threats to their human companion, some of which they might never before have encountered.

Many owners of livestock guardian breeds believe that breeds like the Great Pyrenees or the Kuvasz are not easily trained because their stubborn nature prevents them from seeing the point of such commands as "sit" or "down". Hounds may also suffer from this type of ranking. These dogs are bred to have more of a "pack" mentality with other dogs and less reliance on a master's direct commands. While they may not have the same kind of intelligence as a Border Collie, they were not bred to learn and obey commands quickly, but to think for themselves while trailing game.

**Human Relationships:** Dogs have been used for a wide variety of purposes in human history. Dogs are highly social animals sometimes regarded as the most social animals on earth. This can account for their trainability, playfulness, and ability to fit into human households and social situations. This similarity has earned dogs a unique position in the realm of interspecies relationships despite being one of the most effective and potentially dangerous predators. Dogs and humans at times co-operate in some of the most effective hunting in the animal world; in that context, dogs are superpredators.

The loyalty and devotion that dogs demonstrate as part of their natural instincts as pack animals closely mimics the human idea of love and friendship, leading many dog owners to view their pets as full-fledged family members. Conversely, dogs seem to view their human companions as members of their pack, and make few, if any, distinctions between their owners and fellow dogs. Dogs fill a variety of roles in human society and are often trained as working dogs. For dogs that do not have traditional jobs, a wide range of dog sports provide the opportunity to exhibit their natural skills. In many countries, the most common and perhaps most important role of dogs is as companions.

Dogs have lived and worked with humans in so many roles that their loyalty has earned them the unique sobriquet "man's best friend".

**Dog Communication:** Laughter might not be confined or unique to humans, despite Aristotle's observation that "only the human animal laughs". The differences between chimpanzee and human laughter may be the result of adaptations that have evolved to enable human speech. However, some behavioral psychologists argue that self-

awareness of one's situation, or the ability to identify with somebody else's predicament, are prerequisites for laughter, so animals are not really laughing in the same way that humans do. The dog-laugh sounds similar to a normal pant. However by analyzing the pant using a spectrograph, this pant varies with bursts of frequencies, resulting in a laugh. When this recorded dog-laugh vocalization is played to dogs in a shelter setting, it can initiate play, promote pro-social behavior, and decrease stress levels. In a study by Simonet, Versteeg, and Storie, one hundred and twenty subject dogs residing in a mid-size county animal shelter were observed. Dogs ranging from 4 months to 10 years of age were compared with and without exposure to a dog-laugh recording. The stress behaviors measured included panting, growling, salivating, pacing, barking, cowering, lunging, play-bows, sitting, orienting and lying down. The study resulted in positive findings. Exposure to the dog laughing recording resulted in the following: significantly reduced stress behaviors, increased tail wagging and the display of a play-face when playing was initiated, and more frequent pro-social behavior such as approaching and lip licking. This research suggests exposure to dog-laugh vocalizations can calm and possibly increase shelter adoptions.

**Reproduction:** In domestic dogs, sexual maturity (puberty) begins to happen around age 6 to 12 months for both males and females, although this can be delayed until up to two years old for some large breeds. Adolescence for most domestic dogs is around 12 to 15 months, beyond which they are for the most part more adult than puppy. As with other domesticated species, domestication has selectively bred for higher libido and earlier and more frequent breeding cycles in dogs, than in their wild ancestors. Dogs remain reproductively active until old age.

Most female dogs have their first estrous cycle between 6 and 12 months, although some larger breeds delay until as late as 2 years. Females experience estrous cycles biannually, during which her body prepares for pregnancy, and at the peak she will come into estrus, during which time she will be mentally and physically receptive to copulation.

Dogs bear their litters roughly 56 to 72 days after fertilization, although the length of gestation can vary. An average litter consists of about six puppies, though this number may vary widely based on the breed of dog. Toy dogs generally produce from one to four puppies in each litter, while much larger breeds may average as many as 12 pups in each litter.

**Spaying and Neutering:** Neutering (spaying females and castrating males) refers to the sterilization of animals, usually by removal of the male's testicles or the female's ovaries and uterus, in order to eliminate the ability to procreate, and reduce sex drive. Neutering has also been known to reduce aggression in male dogs, but has been shown to occasionally increase aggression in female dogs. Animal control agencies in the United States and the ASPCA advise that dogs not intended for further breeding should be neutered so that they do not have undesired puppies.

Because of the overpopulation of dogs in some countries, puppies born to strays or as the result of accidental breedings often end up being killed in animal shelters. Neutering can also decrease the risk of hormone-driven diseases such as mammary cancer, as well as undesired hormone-driven behaviors. However, certain medical problems are more likely after neutering, such as urinary incontinence in females and prostate cancer in males. The hormonal changes involved with sterilization are likely to somewhat change the animal's personality, however, and some object to neutering as the sterilization could be carried out without the excision of organs.

It is not essential for a female dog to either experience a heat cycle or have puppies before spaying, and likewise, a male dog does not need the experience of mating before castration. Female cats and dogs are seven times more likely to develop mammary tumors if they are not spayed before their first heat cycle. The high dietary estrogen content of the average commercial pet food as well as the estrogenic activity of topical pesticides may be contributing factors in the development of mammary cancer, especially when these exogenous sources are added to those normal estrogens produced by the body. Dog food containing soybeans or soybean fractions have been found to contain phytoestrogens in levels that could have biological effects when ingested longterm. Gender-preservative surgeries such as vasectomy and tubal ligation are possible, but do not appear to be popular due to the continuation of gender-specific behaviors and disease risks.

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