# Pet Care

## Are dogs colour blind?

**Our investigation into this topic was most interesting!**

We felt that people's opinions on this topic are often mistaken, enough of a reason to shed light in to the darkness today. But what is actually correct?

Do dogs recognise colours and if they do – which ones? What relevance do colours have to Agility, dog sport or everyday ball play? Why do dogs see in the dark better than we do? How do guide dogs recognise red traffic lights?

Our questions and expert answers regarding the reasons could be very helpful for the education and training of your dog.

For a long time, people have believed that dogs only see the world in black and white. This theory has however been disproved by scientists, they have found that dogs can very probably see colours.

Dogs cannot however see all the colours of the rainbow. They share red-green colourblindness with many people. With this special form of colourblindness dogs have difficulty differentiating the colours red and green.

As is the case for all mammals the eye of the dog contains two types of light-sensitive cells - rods and cones. Rods and cones have different functions.

The rods are used for seeing in gray tones, whereas the cones - with sufficient density of light - see colours. Since people have three different cone types, they see yellow, red and green tones much better than the dog. The dog has only two different cone types, which are sensitive to yellow and blue.

**So which colours do dogs recognise?**
They recognise colours in light and dark grey, light and dark blue as well as light and dark yellow. The colours green and orange appear yellowish, violet appears blue. Dogs cannot recognise the colour red at all. It is supposed that he sees this colour as dark grey or black.

**How does a guide dog then recognise red traffic lights?**
It is a common mistake to think that a guide dog recognises a red traffic light. A red traffic light appears switched off to the dog, because it will only recognise this colour in grey or black. At a red traffic light the guide dog is dependent on the assistance of its owner, who must recognise by hearing whether the traffic has stopped and therefore the traffic light is red. This simply demands teamwork. Many traffic lights are equipped with a warning signal, which offers additional orientation to the blind.

**Important to agility**
Particularly for sports such as agility, and daily ball play this knowledge of colour is enormously important and helpful. If you for example throw an orange ball on a green field, your dog faces a challenge, because of the way he sees he will have to search a yellow field for a yellow ball. A blue ball would be very much easier for him to see.

Hurdles and bars in jumping would be recognised very much more clearly, if they stood out clearly against the background. Many training facilities have yellow-red training devices. The contact contacts are usually in red, since people recognise the colour red as warning signal and a sign to stop. The dog however sees it as grey or black at best. In order to be able to ensure that the contact is a well visible contrast for the dog, it should be painted in yellow or blue. Since however the grounds on which the various dog sports are held vary and are not always on a green field, it will probably not be possible to use this colour knowledge meaningfully.

**In the showring**

Colour does make a difference when owners are standing outside the show ring, attacting their dogs to show them at their best.

There are often many people standing around the ring, so it is rare that the dog sees his person, usually he can only hear him. But, even here sensitive dog hearing is put to the test and he may only hear the hundredth call or whistle. However, people can make a meanginful colour selection for the clothes they are wearing. The best colour selection - depending upon background - would surely be yellow or blue, which the dog recognises very well. People frequently prefer red, but the dog will not be able to find them.

**Why do dogs see better in the dark?**

At dusk and dawn people also only see in gray tones. This is because of because the cones of the eye, responsible for seeing colour, can only display the spectrum of colour with sufficient light. The photo-sensitive rods are of crucial importance to see at dusk and dawn. The dog's eye has far more of these photo-sensitive rods and in addition "the background" of the dog's eye is reflective. That means that incidental light behind the retina of a reflecting layer is thrown back and is thus taken up a second time. The rods have better light and thus also a better view yield and the dog sees very much better.

This is the case with most mammals, but people do not have this reflective area and are dazzled by too much direct light.

**Why don't dogs see the ball in front of their noses?**

The advantage of seeing in low light unfortunately means that dogs lack visual acuity. The outlines of a picture are blurred caused by the source of the lights angle and its reflection angle. The dog sees the world as „soft ". We owe our ability to see sharply and clearly to the ability of our lenses to curve. This is not possible for dogs, which means a dog can hardly recognise things which are closer than 30-50 cm. This is the reason; we often do not succeed in motivating our dog to the play if we hold the ball just in front of his nose. He does not see it and will at the most react to the smell.

Seeing the world through the eyes of your dog more often makes learning much simpler for both of us.