

# Yes, we have no blue bananas

October 19 2006

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German scientists say color perception depends not only on an object's pigmentation but also on our knowledge of what the object should look like.

Using images of common fruits and vegetables, Karl Gegenfurtner and colleagues at Justus-Liebig-University in Giessen, Germany, allowed observers to manipulate the color content of a piece of fruit or vegetable.

Observers were asked to alter the color information so as to make the fruits or vegetable appear to lack color. The results showed observers' preconceptions about the fruit's natural color influenced their perception of its actual color.

For example, to make a banana appear black and white, subjects adjusted it to be slightly blue, suggesting they were compensating for a perception that the banana was yellow.

The results, say the researchers, suggest our perception of object color is the combined product of actual sensory data and the brain's expectations about what color the object should be. Information derived from the wavelengths of reflected light is combined with our memory of an object's normal color to produce the colors that we see.

The study appears in the November issue of *Nature Neuroscience*.

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