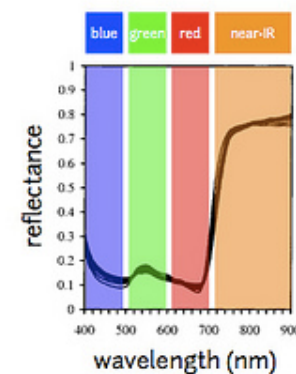
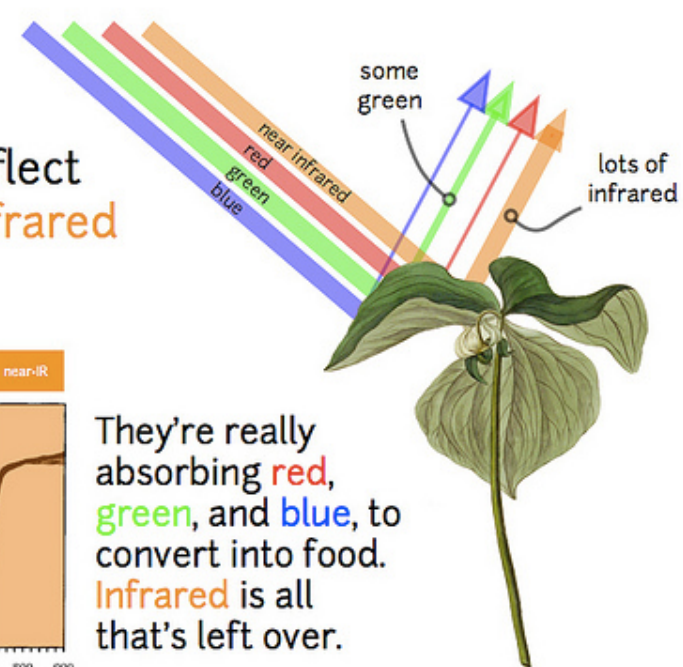


DIY Near Infrared Photography for Studying Plants

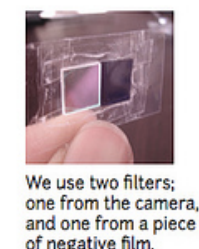
Why do plants reflect lots of **infrared** light?



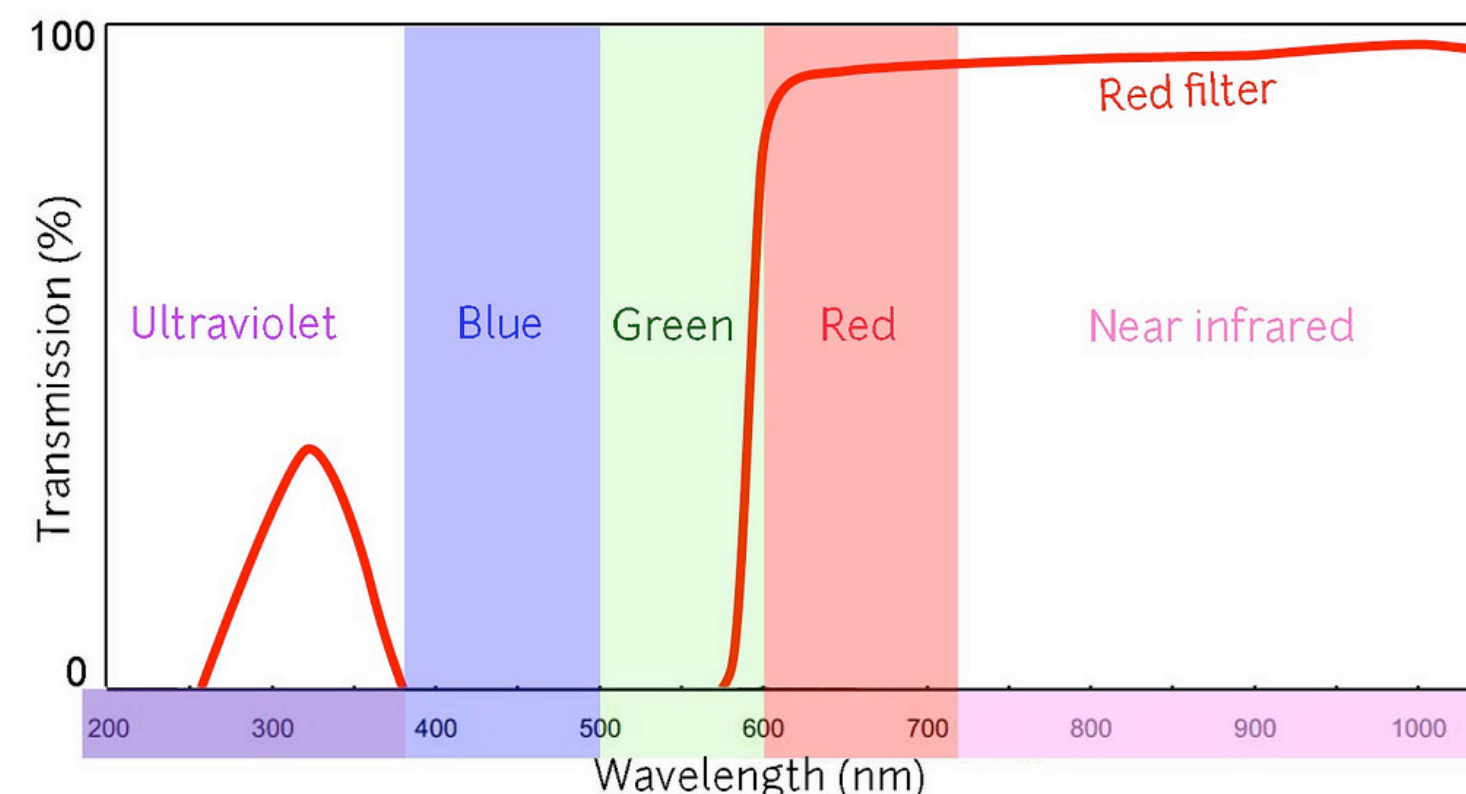
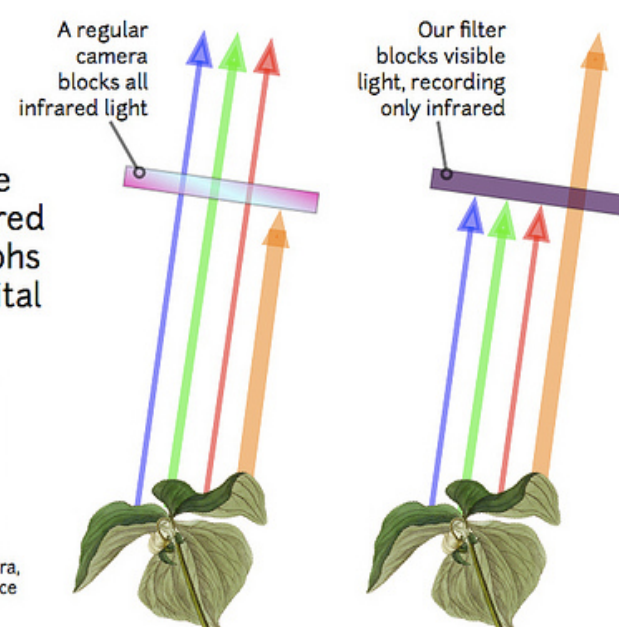
They're really absorbing **red, green, and blue**, to convert into food. **Infrared** is all that's left over.



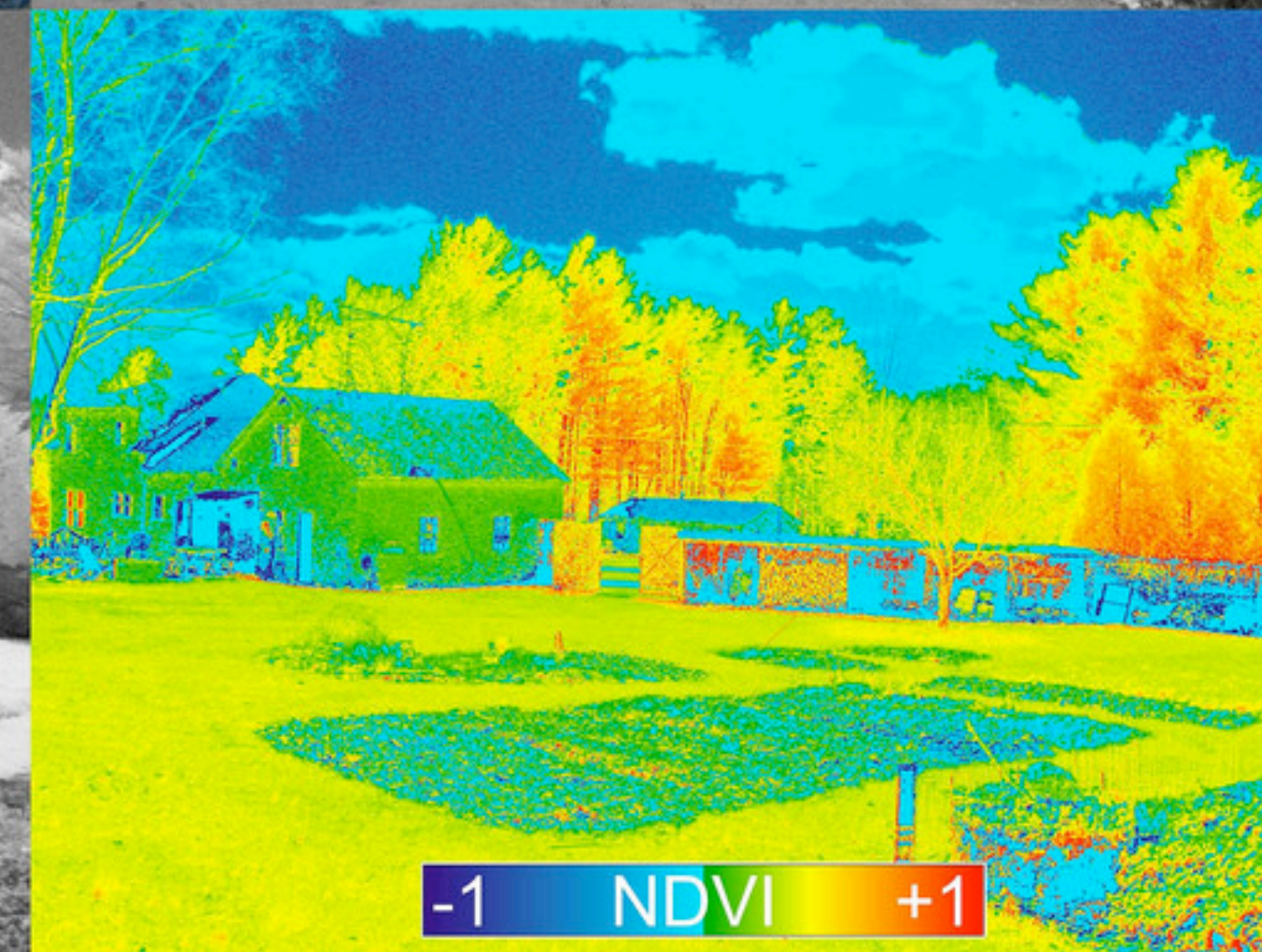
How do we take infrared photographs with a digital camera?



We use two filters; one from the camera, and one from a piece of negative film.



Replacing the infrared block filter with one that blocks blue and green but passes red and infrared allows photos that highlight plant health.



Taking a picture with a super-blue, near infrared camera shows all of the photosynthesizing plants in bright yellow. You can see how much the brown seaweed on this shoreline is photosynthesizing in the bottom picture. It appears yellow because, like the green plants, it's reflecting a lot of infrared light. This shows that, just like the green plants which we recognize easily as photosynthesizing, this seaweed is too.

A super-red Infragram photo (upper left), the isolated red and blue channels from that photo, and Normalized Difference Vegetation Index (NDVI) computed from those two channels (lower right). Values for NDVI of healthy plants are usually between 0.1 and 0.9.

