

Eat Leafy Greens to See Clearly

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by Deana Ferreri, on [Dr. Fuhrman's Disease Proof Blog](#)

Carotenoids are pigments present in fruits and vegetables. An interesting fact about carotenoids is that carotenoids exert their beneficial effects by traveling to and then concentrating in specific tissues in the body. For example, lycopene, a carotenoid found in tomatoes, travels to the prostate, where it has potent anti-cancer effects.

Lutein and **zeaxanthin**, which are found in leafy greens like kale, travel to the central area of the retina (called the macula), and are the only known carotenoids located in the human visual system. Previous research has shown that these pigments are protective against age-related macular degeneration. Scientists now have evidence that these macular pigments also play important roles in visual performance.

Light must pass through **lutein** and **zeaxanthin** before being transmitted to photoreceptor cells that will produce a message from the light to send to the brain. As light passes through, some short wavelength (blue) light is absorbed by the macular pigments. For this reason, there was a theory that macular pigments have a light-filtering function in vision.

An analysis of several studies on the subject of macular pigments and visual performance confirms this theory. The authors evaluated the evidence and concluded that **lutein** and **zeaxanthin** likely improve the following visual functions by acting as light filters:

- Discomfort glare – For example, experiencing bright light after being in a dark room. The wavelengths that macular pigments are capable of absorbing produce the least discomfort, suggesting that macular pigments protect the eye from this overstimulation by filtering the light.
- Disability glare – Subjects with higher levels of macular pigment show improved visibility of objects in the presence of glare.
- Photostress recovery – Elevated macular pigment values decrease the time necessary to recover vision following exposure to bright light.
- Contrast – Macular pigments increase visibility and edge definition of objects in the atmosphere, possibly by absorbing blue sky light.