LUTEIN
Poised For Growth As Science Broadens

The eye nutrient lutein (pronounced LOO teen) has seen steady growth in the dietary supplement aisle of natural food stores for more than five years. Primarily due to the body of evidence showing its role in long-term eye health. Now manufacturers and consumers are discovering additional benefits offered by this powerful antioxidant.

For decades researchers have been studying lutein—where it is found and what its role is in nature. And since the early 1980s, many scientists have investigated its role in humans, with the major focus being eye health. The majority of evidence indicates that consumption of lutein, found abundantly in dark green leafy vegetables, may reduce the risk of eye diseases such as age-related macular degeneration (AMD) and cataracts.

Recent scientific studies showing a clear association between lutein intake and a decreased risk of age-related macular degeneration and cataracts are capturing the attention of both consumers and their eye doctors. The need is growing clearer:
- One out of four people aged 65 or older has early signs of AMD.
- One out of two people aged 65 or older has a cataract or cloudiness in the eye's lens.
- As the largest population group in the United States ages, many people are facing the likelihood of what some simply accept as part of aging, vision loss.

A Food and Nutrition Board report found that lutein is the nutrient most strongly associated with decreased risk of AMD and cataracts.

Lutein and Age-related Macular Degeneration
Prevent Blindness America estimates that 13 million people in this country have evidence of AMD, a condition that gradually destroys central vision. While the exact cause of this debilitating condition is still unknown, family history and age are known factors.
Lutein is found in the macula's "yellow spot," a tiny region at the center of the retina. This tiny yellow spot filters blue light for the color vision cells within the retina. The researchers found that lutein is deposited in the retina and macula, increasing its density and protecting the tissue from oxidation by filtering blue light and quenching free radicals.
Experts say that by the time a person exhibits symptoms of AMD the disease has been developing for decades. Baby Boomers are showing concern about their aging eyesight and stocking up on supplement products formulated with lutein to reduce risk of age-related macular degeneration.

Lutein and Cataracts
While cataracts generally occur in people over the age of 65, they are occasionally found in younger people as well. A cataract is a clouding that develops in the normally clear lens of the eye. This process prevents

A close look at the research today, shows that eye health is only part of the Lutein story.
Lutein is an antioxidant, and its antioxidant properties have great potential for the body . . .

Table 1: Lutein-related research

<table>
<thead>
<tr>
<th>Condition</th>
<th>February 2003</th>
<th>February 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye health</td>
<td>96</td>
<td>44</td>
</tr>
<tr>
<td>Cardiovascular health</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td>Diabetes</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Skin health</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Immune response</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Medline search, March 2003

"Many people have been told that nothing can be done about cataracts—that they are a natural effect of the aging process,"

34 TOTAL HEALTH • Volume 29, No. 2
Consumer Awareness of Lutein

Public awareness of the nutritional value of Lutein has grown to 57.6 percent

Source: Medline search, March 2003

says Robert Abel, Jr. M.D., author of The Eye Care Revolution and member of the Lutein Information Bureau Advisory Board. “But they’re now finding out that dietary changes, including consumption of lutein, may have a significant impact on risk reduction.”

“Historically, much of the available information about lutein has been focused on AMD and cataracts because these were the area of concern by the research community early on. And consumers are very interested in eye health, according to a number of surveys,” says Amy Cone, product manager for FloraGLO® Lutein at Kemin Foods. “A close look at the research today, however, shows that eye health is only part of the story. Lutein is an antioxidant and its antioxidant properties have great potential throughout the body where lutein is naturally deposited, including the skin, breast tissue and the cervix.

Some Research Highlights:

- A 2001 observational study in humans and an intervention study of mice indicated that high levels of lutein in the serum help reduce thickening of arterial walls associated with cardiovascular disease.
- In 2001, a study published in the American Journal of Epidemiology found that subjects with the highest serum levels of lutein, beta-carotene and beta-cryptoxanthin had 50 percent less risk of developing breast cancer than those with the lowest levels of lutein.
- In 2001, researchers at Tufts University and the Catholic University in Seoul, South Korea, measured lutein and zeaxanthin in breast cancer patients and a control group, and found the highest level of lutein was associated with an 88 percent decrease in breast cancer risk compared to the lowest serum lutein level.
- A 2001 intervention study in mice showed that lutein helps reduce skin inflammation caused by UV-B radiation.

A German study in 2000 showed that redness of the skin resulting from UV radiation exposure was significantly reduced after supplementation with carotenoids, including lutein.

While this is good news, the majority of the U.S. population is not currently getting enough lutein through their diet. Researchers estimate that the average American consumes just 1 to 2 mg/day of lutein and zeaxanthin. The majority of the eye health studies, however, suggest a consumption at least 6 mg/day promotes better health.

Research in other areas has yet to define any ideal or recommended levels, but current published studies suggest that women in particular may need more than 6 mg of lutein per day to protect the eyes, the skin and the breast as well as other organs where lutein may play a role.

To bridge this gap in lutein consumption, consumers need to eat more of the foods that naturally contain lutein, including dark green leafy vegetables. FloraGLO Lutein is an ingredient that is identical to lutein in leafy green vegetables. FloraGLO can be found in leading multivitamins, supplements and eye health formulas as well as a host of new fortified foods and beverages available at natural foods stores and mainstream grocery stores.

FloraGLO Lutein is found in a number of dietary supplement products and is now an approved ingredient for use in a number of fortified food and beverage categories, including breakfast and granola bars, fruit juices, fruit drinks, ready-to-eat cereals, meal replacement drinks, mixed vegetable drinks, soy milk, nutritional bars, energy drinks, egg substitutes, fermented milk and yogurt products. This means consumers will soon have even more opportunities to increase lutein consumption, easily and conveniently.

Zoraida DeFreitas, Ph.D. is director of research and development at Kemin Foods.

References:


