



Breaking News on Supplements, Health & Nutrition - North America

## Kemin reports strong evidence lutein's skin health benefits

By Stephen Daniells, 19-Apr-2007

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**Oral supplements of lutein and zeaxanthin provided a four-fold increase in protection from UV radiation-induced skin damage, says a randomised, double-blind placebo-controlled, multi-centre study, co-funded by Kemin Health.**

When used in combination with a topical lutein, zeaxanthin application, a six-fold increase in protection was also observed, in addition to significant boosts in skin hydration, elasticity and superficial lipids of skin. Lutein, a nutrient found in various foods including green leafy vegetables and egg yolk, has a ten-year history in the dietary supplement market as a nutrient to reduce the risk of age related macular degeneration (AMD). With eye health as its main sput, the lutein market is currently estimated to be worth in the region of US\$100m and \$130m. Although some earlier studies have shown that a daily lutein supplement may help bolster the skin's natural antioxidant system and protect against sun damage, *"This is the first study to determine the impact of lutein/zeaxanthin alone on the human skin,"* said co-author Dick Roberts, Ph.D., senior manager of scientific affairs for Kemin Health. *"It provides strong new evidence of lutein's positive role in promoting skin health and appearance by increasing hydration, elasticity, lipid content and photo protective activity,"* he added.

Kemin Health, maker of the FloraGLO brand of lutein used in the study, has a long history of working with researchers to generate data supporting the efficacy and safety of purified lutein for use in dietary supplements and foods. The new study, published in the *Journal of Skin Pharmacology and Physiology*, recruited 120 healthy female subjects (average age = 35 years) with a variety of skin types, but each exhibiting signs of premature aging. Subjects were assigned to receive one of four different interventions: a combination of an oral lutein, zeaxanthin supplement and a lutein, zeaxanthin oil-free liquid topical application; oral supplement plus a topical placebo; oral placebo plus lutein, zeaxanthin topical application; or oral placebo plus topical placebo. The oral supplement (FloraGLO, Kemin Health) was 20 per cent lutein in safflower oil giving a daily dose of 10 mg lutein and 0.6 mg zeaxanthin per day, and the topical application (FloraGLO, Kemin Health) was 5 per cent lutein in an oil-free liquid, giving a daily dose of 100 ppm lutein and 12 ppm of zeaxanthin. *At the end of the 12-week intervention, the researchers, led by Professor Pierfrancesco Morganti from the University of Naples, report that surface lipids increased by 63 per cent for the combined oral and topical intervention, by 46 per cent for the oral lutein only, and 23 per cent for the topical lutein only.*

*Photo-protection, calculated from skin surface redness (actinic erythema) after a two minute exposure to UV radiation on forearms, and the susceptibility of the participants to sunburn (defined as the minimum erythematous dose - MED), was increased in all the lutein, zeaxanthin groups, compared to placebo. "The topical [lutein, zeaxanthin application] provides a two-fold increase in this activity in just two weeks, the oral [lutein, zeaxanthin supplement] more than a four-fold increase and the combined [intervention] a six-fold increase in photoprotective activity compared to the placebo,"* wrote the authors. The researchers point out that neither carotenoid absorbs UV light, thereby improving their efficacy in protecting against UV-induced free radical. They also note that carotenoids are known to quench reactive oxygen species responsible for the production of free radicals. *"The present study indicates that the administration of lutein and zeaxanthin provides multiple benefits to the skin,"* concluded the researchers. *"In addition to the protection of the skin*

*from the deleterious effects of UV light-inducible damage (increased free radical production) and decreased lipid peroxidation, these xanthophylls also increased the surface lipids, skin hydration, and skin elasticity."*

Public awareness of lutein has never been higher in Europe, with a recent survey, from Frost and Sullivan and commissioned by Kemin, finding that awareness has doubled compared to last year, to 25.8 per cent and 16 per cent in Italy and France, respectively. Germans showed the greatest awareness, of 33.3 per cent. The UK was the only country where it seemed to have slipped slightly, to 20 per cent (compared to 25.8 in 2005). Source: *Skin Pharmacology and Physiology* 2007, Volume 20, Pages 199-210, doi: 10.1159/000101807 "*Beneficial Long-Term Effects of Combined Oral/Topical Antioxidant Treatment with the Carotenoids Lutein and Zeaxanthin on Human Skin: A Double-Blind, Placebo-Controlled Study*"

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