DSM FloraGLO® Lutein in a starch-based matrix is more bioavailable than alginate-based matrix Lyc-O-Lutein

DSM Nutritional Products is pleased to report that a revealing new study was published online in the European Journal of Nutrition that clearly demonstrates that not all sources of lutein are equivalent. This study adds to the body of scientific evidence demonstrating the importance of choosing a lutein source with proven absorption that will assure users they are in fact getting lutein’s important health benefits.

In this randomized, double-blind, cross-over study conducted by lead author Dr. Malkananthi Evans and co-authors, the effect of formulation differences on the bioavailability of lutein was evaluated using a starch-matrix FloraGLO Lutein 5% and a alginate-matrix Lyc-O-Lutein 20%. Forty-eight healthy subjects were given a single dose of 20 mg lutein from either of the two formulations and lutein was measured in the plasma at several time intervals. After a wash out period of 28 days the study was repeated with the alternative formulation. The findings were highly significant. After 14 hours, total plasma lutein increased by 126% with the starch matrix FloraGLO Lutein 5% compared to only 7% with the alginate matrix Lyc-O-Lutein 20%. After 672 hours the area under the curve for total lutein was 1.3-fold higher for the starch-matrix FloraGLO Lutein 5% compared to the alginate-based Lyc-O-Lutein 20%.

The practical application of this study is highly relevant. Although lutein has demonstrated benefits in eye health it can only impart those benefits if this bioactive compound is efficiently absorbed by the body. This study shows that not all lutein sources are equivalent. Their bioavailability clearly depends on the formulation and in this study the starch matrix formulation was much more bioavailable than the alginate matrix utilized in the Lyc-O-Lutein 20% product. The benefits associated with FloraGLO lutein are based on a suite of high quality clinical studies. The above result is a further demonstration that not all brands can deliver these benefits; FloraGLO lutein has proven high bioavailability.

Link to the study: http://rd.springer.com/article/10.1007%2Fs00394-012-0447-9

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ENDS

FloraGLO® is the world's first patented, purified lutein (www.floraglolutein.com/brochure) brand and is covered by several process and composition patents in a number of geographies worldwide. It is the most clinically researched lutein brand in the world and is selected by leading supplement and food manufacturers for its quality and safety profile. FloraGLO has GRAS (Generally Recognized as Safe) status for several food and beverage applications, and different product forms are available for inclusion into a variety of supplements and foods.
**Kemin and DSM Strategic Alliance**

In 2008, Kemin and DSM joined forces working under an exclusive strategic alliance. Kemin supplies FloraGLO brand lutein exclusively through DSM, and DSM globally commercializes FloraGLO brand lutein products through distributors and directly to customers. Customers and consumers benefit from the synergies achieved by the collaboration through DSM's global reach, unique formulation technology and broad product portfolio when combined with Kemin's lutein knowledge, intellectual property, technical know-how and market development expertise.

**Kemin Industries, Inc.** provides “inspired molecular solutions” specifically developed to provide nutrition and health benefits for humans and animals. Kemin manufactures and markets approximately 500 specialty ingredients to the global feed and food industries as well as the health, nutrition and beauty markets. A privately held, family-owned and operated company, Kemin more than 1,500 employees and operates in 90 countries with manufacturing facilities in Belgium, Brazil, China, India, Italy, Singapore, South Africa and the United states. For more information on Kemin, visit www.kemin.com.

**DSM – Bright Science. Brighter Living.™**

Royal DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, pharmaceuticals, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. DSM’s 22,000 employees deliver annual net sales of around €9 billion. The company is listed on NYSE Euronext. More information can be found at www.dsm.com

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**Forward-looking statements**

This press release may contain forward-looking statements with respect to DSM’s future (financial) performance and position. Such statements are based on current expectations, estimates and projections of DSM and information currently available to the company. DSM cautions readers that such statements involve certain risks and uncertainties that are difficult to predict and therefore it should be understood that many factors can cause actual performance and position to differ materially from these statements. DSM has no obligation to update the statements contained in this press release, unless required by law. The English language version of the press release is leading. Although DSM has used diligent care to ensure that the information provided herein is accurate and up to date, this publication does not constitute or provide scientific or medical advice and is distributed without warranty of any kind, either expressly or implied.