

## Kemin on the Future of Lutein, Functional Nutrition and Consumer Wellness

12 October 2026 | Interviews | By Shraddha Warde|shraddha.warde@mmactiv.com

**Kemin Human Nutrition is looking to build on decades of research while exploring new applications, delivery formats and opportunities in proactive nutrition**



### **Masafumi Hashimoto, Director of Sales for APAC at Kemin Human Nutrition**

As consumers across Asia Pacific become more conscious of eye health, nutrition's role in supporting vision across the lifespan is gaining attention. Lutein and zeaxanthin, carotenoids linked to eye health, are also being studied for potential benefits for cognitive function and skin health. Marking 30 years since the launch of FloraGLO Lutein in 1996, Kemin Human Nutrition is looking to build on decades of research while exploring new applications, delivery formats and opportunities in proactive nutrition.

In this interview with NUFFOODS Spectrum, Masafumi Hashimoto, Director of Sales for APAC at Kemin Human Nutrition, discusses the evolution of lutein science, nutritional gaps and lifestyle factors driving demand for eye-health ingredients in Asia Pacific, and the emerging evidence around lutein's role beyond vision. He also shares insights into how functional foods, beverages and innovative supplement formats could help bridge dietary intake gaps, the role of personalised assessment tools such as the FloraGLO EyeQ Station, and Kemin's priorities for the next phase of FloraGLO innovation across different life stages.

**FloraGLO Lutein is marking 30 years since its launch. How has the science and understanding of lutein evolved over the past three decades, and what have been the key milestones in establishing its role in human health?**

When FloraGLO Lutein launched in 1996, research on lutein was primarily associated with eye health in older adults. Thirty years later, the science tells a much bigger story. One of the most important developments has been the depth of evidence establishing the role of lutein (and zeaxanthin) in the eye and how its benefits extend to other areas of the body, like the brain and skin. We now have a much greater understanding of how these carotenoids selectively accumulate in the macula—the specialized area of the retina that allows us to see details clearly, read, and recognize faces. Here, they help absorb high-energy visible light (blue light), provide antioxidant protection, enrich macular pigment optical density (MPOD), and support visual performance.

But perhaps the biggest shift has been moving from a focus on older adults to recognizing the importance of lutein across the lifespan. Over the past three decades, research has expanded into new populations and areas of health, from maternal and early-life nutrition to childhood, adolescence, cognitive function, and even skin health. This has fundamentally broadened the scientific conversation around the benefits of these nutritional carotenoids.

Today, FloraGLO is supported by more than 130 human clinical studies demonstrating lutein (and zeaxanthin) deposition in key body tissues, fluids, and organs, with benefits spanning vision, cognitive function, and skin health. For us, this 30-year milestone is not only a celebration of how far the science has come, but a springboard for what comes next as we continue to explore the potential of nutritional carotenoids across new areas of health and every stage of life.

### **Eye health is becoming an increasingly important consumer health priority across Asia Pacific. What are the key nutritional gaps and lifestyle factors contributing to growing demand for eye-health ingredients in the region?**

Across Asia Pacific, there is a clear opportunity to take a more proactive approach to eye health. The region carries nearly two-thirds of the global burden of moderate-to-severe vision impairment<sup>[1]</sup>, while more than 90 per cent of adults aged 40+ are concerned about their vision health<sup>[2]</sup>. At the same time, average dietary intake of lutein and zeaxanthin is estimated at only 1–3 mg per day, well below the 10 mg level shown to provide meaningful benefits in clinical research. This matters because the body cannot produce lutein and zeaxanthin itself, so it must come from the diet or supplementation.

Digital lifestyles are a major part of that picture. Prolonged screen time, near-work, artificial LED lighting, and frequent transitions between devices place sustained demands on the visual and neural systems. Importantly, this isn't confined to older adults—it starts in childhood and continues throughout life. The result is a lifetime of increased visual demands.

Together, these factors highlight an opportunity for the industry to encourage a more proactive approach to eye health earlier in life, supported by science-backed nutritional solutions that help maintain visual health across the lifespan.

### **Beyond vision, research is increasingly exploring lutein's potential benefits for cognitive and skin health. What does the current evidence tell us about these emerging applications, and where do you see the greatest opportunities for further research?**

Cognitive health is an area where the science is evolving rapidly. Extensive evidence from nutritional neuroscience confirms that lutein is the predominant carotenoid in both infant and adult human brain tissue<sup>[3]·[4]</sup>—and it is this selective accumulation in neural tissues that provides a strong biological rationale for investigating its role in brain function.

To date, research has associated higher lutein status and MPOD with measures including neural efficiency, visual processing speed, memory, executive function, and cognitive performance.<sup>[5]·[6]·[7]</sup> What's particularly interesting is that these associations are not limited to older adults. For example, research has shown that lutein and zeaxanthin are selectively transferred from mother to child during pregnancy and breastfeeding and accumulate in the developing retina and brain.<sup>[8]·[9]·[10]</sup> The L-ZIP study, first described in a 2021 study protocol<sup>[11]</sup> explored the effects of supplementation with FloraGLO Lutein and natural zeaxanthin during pregnancy. Subsequent findings showed that supplementation significantly increased carotenoid levels in both mothers and infants, helping to build our understanding of their role in early visual and neural development.<sup>8·9</sup> More recently, pediatric and adolescent research, including the LuTEEN study, has explored how lutein and zeaxanthin can support visual health and cognition in younger populations, including pre-teens and teenagers experiencing high levels of screen exposure. Findings from this study, where individuals were supplemented with either 5mg of FloraGLO Lutein or a placebo, found improvements in cognitive assessment of attention and executive control, increased macular pigment density, and reduced eye strain.<sup>[12]</sup>

Regarding skin health, research has shown that oral supplementation with lutein and zeaxanthin can support skin health, with the greatest antioxidant protection observed when oral and topical approaches were combined.<sup>[13]</sup>

Looking ahead, there is still much more to understand. Further investigation of the eye–brain relationship could deepen our understanding of areas ranging from neural efficiency and functional connectivity to memory, executive function, and cognitive performance—and how these effects may differ across life stages. Building that evidence could give us a much more complete picture of lutein as a neuronutrient and its role beyond vision.

**Kemin highlights a significant gap between dietary intake of lutein and zeaxanthin and levels associated with benefits in clinical research. How can the nutraceutical and food industries help address this gap through functional foods, beverages, and supplements?**

Most people only get 10 per cent of the lutein and zeaxanthin they need from diet. Closing that gap cannot rely on awareness alone—the opportunity is to make nutritional carotenoid intake easier to incorporate into existing routines.

One of the ways to do this is to remove some of the friction around supplementation. Traditional supplements remain important, but for many consumers, a handful of pills is not the most appealing way to start the day. As such, we're seeing the category move beyond capsules into more lifestyle-led formats. Gummies and soft chews are growing, while newer options such as jelly sticks and stick-pack drink powders are giving consumers more ways to obtain meaningful levels of these nutrients without asking them to compromise on convenience or experience.

Another opportunity is to meet consumers where they are and make supplementation less of a separate health behaviour altogether. Looking ahead, we expect greater integration into functional foods, snacks, and ready-to-drink beverages to help support intake. FloraGLO Lutein is designed for these real-world applications; tasteless and highly stable, it's an ideal candidate for these sensorially demanding applications without compromising bioavailability. It's also incredibly versatile—from powders to oils and microencapsulation, we can offer a format to flex to every consumer preference.

For manufacturers, unlocking these new format opportunities means combining innovation with formulation expertise. Getting stability, sensory performance, and label claims right across shelf life is key to creating products that deliver on their promise. That's where Kemin can help, bringing together clinically researched ingredients with formulation, testing, and troubleshooting expertise through our Customer Laboratory Services and GMP Application Laboratory.

**Personalised nutrition and proactive health are gaining momentum in Asia. How could technologies such as the FloraGLO EyeQ Station help consumers better understand their nutritional status and encourage more informed decisions about eye health?**

One of the challenges with proactive nutrition is that its benefits can sometimes feel intangible. However, technologies can help make the science much more personal and visible. This year, we are bringing the FloraGLO EyeQ Station to trade shows and events around the world. Using the MP-Eye device, attendees can assess their macular pigment levels and receive a personalized FloraGLO EyeQ score. Rather than simply telling someone that lutein and zeaxanthin are important, the experience creates a tangible, measurable connection between nutrition and eye health, allowing individuals to see a biomarker that would otherwise remain invisible. By bringing nutritional carotenoid science to life in this way, tools like MP-Eye can help encourage more informed conversations with consumers, nutritionists, and eye-care professionals around diet, supplementation, and long-term eye health.

**Looking ahead, what are Kemin's priorities for the next phase of FloraGLO innovation, particularly in terms of new clinical research, delivery formats, and applications across different life stages?**

The next chapter of FloraGLO is about translating 30 years of science into solutions that are relevant to more people, at all stages of life, while continuing a legacy of innovation that has helped shape the nutritional carotenoid category for three decades. Specifically, we want to build evidence where important gaps remain, from maternal and early-life nutrition to the role of carotenoids throughout childhood, adolescence, adulthood, and positive aging, while exploring emerging areas of carotenoid science. As this evidence continues to grow across generations and health needs, so too does the potential for lutein to become a vitamin of the future.

But the opportunity isn't only to understand more. It is to translate those insights into solutions that can make a meaningful difference in people's everyday lives. As consumers increasingly seek health solutions that fit naturally into their routines, the next step is making nutritional carotenoids easier and more enjoyable to incorporate into products and lifestyles. Ultimately, that is where we see the future of FloraGLO: combining deeper science with new applications to make the benefits of nutritional carotenoids relevant and accessible for all ages.

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