

# Nutritional OUTLOOK

Esports enthusiasts target dietary supplements to up their game: Page 2 of 2



Photo © AdobeStock.com/Uzhursky

**Kimberly J. Decker**

April 14, 2020

**Volume:** 23

**Issue:** 3

[Sports & Energy](#), [Brain Health](#), [Delivery Systems](#), [Herbs & Botanicals](#), [Trends & Business](#)

Notes Kemin's Snyder, spearmint (*Mentha spicata* L.) extract "supports physical and cognitive performance related to multitasking, as well as focus and choice reaction performance."

A randomized clinical trial involving Kemin's Neumentix spearmint extract found that young, healthy, active male and female subjects receiving 900 mg of the extract daily performed significantly better on a focus task compared to the placebo group.<sup>11</sup> "In fact," adds Brenda Fonseca, MA, senior global technical service manager at Kemin, "individuals taking Neumentix showed an 11% increase in sustained attention from baseline."

Brewster of Ingredients by Nature mentions that sage (*Salvia officinalis*) "has been used for hundreds of years in health applications, and has recently been growing in popularity for its cognitive-health applications. The compounds in sage help provide better mental clarity and cognitive energy, and support improved memory."<sup>12</sup>

Citrus flavonoids like hesperidin and eriocitrin also seem to improve energy, focus, and cognitive-processing speed, he says. Powerful antioxidants, they help manage oxidative stress and depress free-radical levels in the brain, helping neurons "communicate optimally for a more competitive edge."<sup>13</sup> Additionally, eriocitrin and other lemon flavonoids seem to significantly help manage blood glucose levels. "Keeping blood sugar in balance ensures that gamers avoid sugar crashes while maintaining optimal attention, focus, and energy," Brewster says.<sup>14</sup>

## Ahead of the Game

"One trend we're seeing is that gamers are taking pre-workout supplements before a game for a boost of energy and focus," notes Aimee Masterson, marketing director, Nutrition 21 (Morristown, NJ).

A recent double-blind, placebo-controlled study<sup>15</sup> involving her company's nooLVL—an inositol-enhanced arginine silicate—found that in a population of avid gamers (all subjects played video games at least five hours per week for at least six months prior to the study) found that the supplement significantly improved visual attention, motor speed, and reaction time after 60 minutes of play relative to baseline, while also yielding 66% fewer errors compared to placebo.

"Another unique advantage for gamers is that the bonded arginine silicate in nooLVL—a non-stimulant—safely increased perceived energy in gamers without negatively affecting their heart rate or blood pressure after a single dose and within 15 minutes of ingestion," Masterson adds. Given the study's success, she says, the company plans to fund further study on the ingredient and its benefit to gamers.

Finally, Kyowa Hakko's Lovett calls attention to clinical evidence showing that her company's Cognizin brand of citicoline supports focus, attention, mental energy, and

memory. A 2015 study published in the *Journal of Attention Disorders* found that of 75 healthy male adolescents receiving a placebo, 250 mg of the compound, or 500 mg daily for 28 days, the two treatment groups showed statistically significant increases in motor speed and improved attention compared to the placebo, she says.

## Seeing the Light

Given gamers' exposure to damaging blue light, another key focus for Esports formulations is vision support. And here, all eyes are on lutein.

Snyder credits Kemin's branded lutein ingredient FloraGLO for improving visual processing speeds, promoting sharper vision, and absorbing excess blue light from digital devices.

Studies show that when healthy individuals supplement with 10 mg of the ingredient, their ability to recover from glare and see contrasts, as well as the rapidity with which they recover from bright light, improve<sup>16-19</sup>—"demonstrating an overall improvement in visual performance," Fonseca adds.

The LAMA (Lutein, Vision, and Mental Acuity) study series involving OmniActive Health Technologies' (Morristown, NJ) own Lutemax 2020 marigold extract has contributed more data on the important role of lutein in these areas. One of the studies<sup>20</sup> in this series found that OmniActive's Lutemax 2020 supplement significantly increased photo stress recovery and disability glare performance.

Ashland's Weber suggests that gamers may want to consider eye-health options that include lutein as well as bilberries. Her company's Bil-Max bilberry extract and GPM lutein "would be excellent ingredients to incorporate into an eye-health supplement or ingestible," she says.

And don't forget the skin! Neil Astles, global marketing manager for Vincience Biofunctionals at Ashland, notes that his company markets non-ingestible, topical personal-care ingredients that "energize the skin," he says: Suprastim biofunctional, which helps repair signs of skin fatigue; Blumilight biofunctional, which protects skin from blue light's effects; and Chronogen YST biofunctional, to stimulate skin lacking sleep and sun exposure.

## Special Delivery

How brands deliver these ingredients is as important as the formulations themselves, and, as Lovett observes, "Gamers will want high-quality ingredients that get them to their peak, but they'll also want unique delivery forms—maybe a snackable gummy or small shot."

Brewster wagers that pills, powders, beverages, bars—even meal replacements—will also “take the lead,” with the common denominator among them their convenience.

And while “the days of Red Bull aren’t quite over,” he continues, “gamers are realizing that sugar-filled drinks don’t provide the longer-term edge they want. As such, they’re turning to sugar-free alternatives for energy, including energy drinks that provide other vitamins and minerals.” Even caffeine is falling in favor of what he calls “natural nootropics” that supply energy and cognitive sharpness without caffeine’s drawbacks.

Adds Weber, “Technologies for controlled, extended, or sustained nutrient release during or after play could be extremely beneficial to gamer athletes.” Her company, Ashland, recently introduced a powdered beverage base, n-dur XR, that can release its payload over as many as six hours. “This could be very exciting in a sustained-energy drink, a post-play relaxation beverage, or even a joint-recovery beverage,” she says.

Lovett will be paying attention. “I think it’s interesting watching the Esports category evolve—not just with new technology, but into the wellness space, too,” she says. “Not only does gaming attract traditional gamers and Esports players; it’s also watched by millions all over the world, which is an important marketing outlet for finished products or new technology.”

#### References:

1. The NPD Group. “According to The NPD Group, 73 Percent of U.S. Consumers Play Video Games.” Published October 8, 2019.
2. Wijman T. “The Global Games Market Will Generate \$152.1 Billion in 2019 as the U.S. Overtakes China as the Biggest Market.” *Newzoo*. Published June 18, 2019.
3. Superdata, a Nielsen Co. “2019 Year In Review: Digital Games and Interactive Media” report.
4. GlobalData. “Video Games—Thematic Research” report. Published April 2019.
5. Entertainment Software Association. “2019 Essential Facts about the Computer and Video Game Industry.”
6. DiFrancisco-Donoghue J et al. “Managing the health of the Esport athlete: an integrated health management model.” *BMJ Open Sport & Exercise Medicine*, vol. 5, no. 1. Published online January 10, 2019.
7. Kemin/DSM Attitude & Usage internal study
8. Rupp M. “Psychedelic Drugs and the Serotonergic System.” *Sapiensoup Blog*. Published May 31, 2017.
9. Hall et al. “Pharmacology of *Bacopa monnieri* (Bacognize) at 5HT1a and 5HT2a receptors.” American Society of Pharmacology poster presentation. Presented in 2005.
10. Scholey A et al. “A highly bioavailable curcumin extract improves neurocognitive function and mood in healthy older people: A 12-week randomised, double-blind, placebo-controlled trial (OR32-05-19).” *Current Developments in Nutrition*, vol. 3, supplement 1 (June 2019).

11. Falcone PH et al. "The attention-enhancing effects of spearmint extract supplementation in healthy men and women: a randomized, double-blind, placebo-controlled, parallel trial." *Nutrition Research*. Published online December 7, 2018.
12. Lopresti A. "Salvia (Sage): A review of its potential cognitive-enhancing and protective effects." *Drugs in R&D*, vol. 17, no. 1 (March 2017): 53-64
13. Ye X. *Phytochemicals in Citrus: Applications in Functional Foods*. 10.4324/9781315369068.
14. Ribeiro CB et al. "Effectiveness of Eriomin® in managing hyperglycemia and reversal of prediabetes condition: A double-blind, randomized, controlled study." *Phytotherapy Research*, vol. 33, no. 7 (July 2019): 1921-1933
15. Tartar JL et al. "A prospective study evaluating the effects of a nutritional supplement intervention on cognition, mood states, and mental performance in video gamers." *Nutrients*. Published online October 1, 2019.
16. Hammond BR et al. "A double-blind, placebo-controlled study on the effects of lutein and zeaxanthin on photostress recovery, glare disability, and chromatic contrast." *Investigative Ophthalmology & Visual Science*, vol. 55, no. 12 (December 2, 2014): 8583-8589
17. Stringham J and Hammond BR. "Macular pigment and visual performance under glare conditions." *Optometry and Vision Science*, vol. 85, no. 2 (February 2008): 82-88
18. Kvangsakul J et al. "Supplementation with the carotenoids lutein or zeaxanthin improves human visual performance." *Ophthalmic & Physiological Optics*, vol. 26, no. 4 (July 2006): 362-371
19. Stringham JM et al. "Serum and retinal responses to three different doses of macular carotenoids over 12 weeks of supplementation." *Experimental Eye Research*, vol. 151 (July 2016); 1-8
20. Stringham JM et al., "Macular carotenoid supplementation improves disability glare performance and dynamics of photostress recovery." *Eye and Vision*. Published online November 11, 2016.