



# Ingredient advances fuel sports nutrition innovation

In recent years, sports nutrition has enjoyed a growth surge, bolstered by the post-COVID rebound in gym attendance and heightened concern for health and wellness. Euromonitor International pegs the U.S. sports nutrition market at over \$14 billion in 2022, up 15.5% in the last two years. However, given the competitive marketplace, brands will need to step up their innovation game to keep the momentum going.

Cargill Senior Marketing Manager, Carla Saunders, who closely tracks food and beverage trends, notes that newer entrants to the sports nutrition landscape are challenging category stalwarts by doubling down on health and wellness themes. “Products with a natural positioning, plant-centric formulation, added functional ingredients and lower sugar and calorie counts are gaining traction with today’s more mainstream consumer,” she says. “Yes, there are still hardcore athletes singularly focused on performance, but there’s also a growing user base looking for more – whether that’s an energy boost to get through a workout, or a post-workout snack that promises muscle recovery and joint health.”

Another factor in the changing sports nutrition marketplace is the blurring of category lines, an industry-wide phenomenon. “In this space, there’s an intersection between weight management, well-being and sports nutrition,” Saunders explains. “Brands who hit this sweet spot will have the opportunity to appeal to the broadest segment of consumers.”

She also notes the role COVID-19 played in shifting consumer demand, sparking interest in functional and need-based products, while creating a more dynamic, complex category. Adaptogens (substances that help the body restore balance after a stressful situation), non-tropics (hormones that directly stimulate target cells for a desired effect), pre-/probiotics, botanicals – they’re all on the table, and all the better if they come with science-based evidence of their beneficial effects. But Saunders advises brands to start by getting foundational ingredients like protein and sweeteners right first.

## Protein power

The clear powerhouse in the sports nutrition world remains protein.

### Protein accounts for nearly

# \$12 billion

in U.S. sports nutrition sales in 2022 alone.<sup>1</sup>

It’s little wonder, given all the positives consumers associate with protein, including muscle-building, weight management, satiety and recovery speed.

Historically, sports nutrition products featured whey protein, but with a growing consumer base attuned to plant-based eating, formulators are experimenting with other protein sources. Pea protein, in particular, has developed a loyal following thanks to its combination of solid nutritional credentials and formulation features.

Nutritionally, pea protein from Cargill’s joint venture partner, PURIS<sup>®</sup>, delivers 80% protein with a good protein digestibility-corrected amino acid score (PDCAAS). Adding to its appeal for sports nutrition applications, pea protein contains branched-chain amino acids like leucine, an essential amino acid that helps to build muscle and provide energy. While not considered a complete protein (the amino acids methionine and cysteine are present in relatively low amounts), formulators can either blend pea protein with a complementary protein source, or add extra pea protein to hit their target protein claims.

“With the exception of soy, there aren’t that many plant proteins that offer both a good-quality protein and digestibility,” notes Vince Cavallini, a 20-year veteran of Cargill’s application team. “Those benefits, coupled with improvements around flavor and solubility, have solidified pea protein’s place in sports nutrition formulas.”

Where most plant proteins are weighed down with strong earthy or vegetative notes, pea proteins from some ingredient suppliers can have a much-more-neutral flavor profile. He points to the latest entrant from PURIS as a prime example.

Processing advances, combined with the company’s decades-long plant-breeding program, yielded a pea protein that provides an excellent sensory experience in RTD sports beverages, which the company dubbed PURIS 2.0. Its clean flavor and improved solubility offer “baggage-free” formulation ease, making it possible to use at higher inclusion rates without diminishing finished product quality. Prototypes like Cargill’s chocolate plant protein smoothie, packed with 20 grams of protein and just 7 grams of sugar per serving, illustrate the possibilities – highlighting how the next-generation pea protein can serve as the foundation of a smooth, creamy, nutrition-packed beverage.

“We’ve even had customers aim for as much as 30 grams of protein per serving in a plant-based, sports nutrition beverage,” Cavallini reports. “Most plant proteins will struggle to hit those levels, but PURIS 2.0 lets us take protein levels much higher, thanks to its improved solubility and flavor profile.”

Acidic beverage formulations are another long-standing challenge for plant proteins. Traditionally, plant proteins

are notoriously unstable in their isoelectric range, making it very difficult to create juices and other fruity beverages fortified with plant protein. Enter PURIS HiLo, a pea protein designed specifically for acidic beverages. Cargill concepts showcasing this advance include a high-acid fruit smoothie with 21 grams of protein.

## Sweet sensations

Technological advances on the sweetener side are further propelling product innovation. Here, as health-conscious consumers watch sugar content even more closely than grams of protein, developers are reporting sweet success with newer iterations of stevia-based sweeteners.

Since introducing the first high-purity stevia leaf extract in 2008, Cargill has invested hundreds of thousands of hours unlocking the secrets to this tiny leaf. The results are truly groundbreaking. Today, alongside Cargill’s leaf-based stevia lines, the company also offers EverSweet,<sup>®</sup> a stevia sweetener produced via fermentation. This novel approach to ingredient sourcing allows Cargill to access the best-tasting parts of the stevia leaf, Reb M and Reb D, in a commercially scalable, affordable and sustainable manner.

A notable achievement in its own right, Cargill researchers went a step further with EverSweet<sup>®</sup> stevia sweetener + ClearFlo<sup>™</sup> natural flavor. The combination offers powerful flavor modification properties that can mask the challenging off-notes often associated with plant proteins, caffeine and other functional ingredients commonly used in sports nutrition products. Other notable benefits include an improved sweetness profile, as well as enhanced stevia solubility, dissolution and stability.

**EverSweet<sup>®</sup>**  
**+ ClearFlo<sup>™</sup>**  
Stevia Sweetener + Natural Flavor

## Up to 100% sugar reduction, deliciously

Cargill’s latest innovation combines our next-generation EverSweet<sup>®</sup> stevia sweetener and ClearFlo<sup>™</sup> natural flavor in a single ingredient for enhanced sweetness and sensory performance with dramatically improved solubility.

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“EverSweet + ClearFlo is a game-changer for sports nutrition,” Cavallini reports. “It addresses so many of the challenges we face with flavor formulation, from the bitterness and astringency associated with caffeine, to the earthy and vegetative notes often linked to plant proteins.”

Whether used in a high-protein sports bar or serving as the sweetener source for a reduced-sugar RTD drink, EverSweet + ClearFlo can help brands formulate the next generation of sports nutrition products, minus the sugar, calories and flavor off-notes. Brands may also be surprised to find the sweetener system can lead to cost benefits, too.

“Typically, when we use flavor modifiers to manage disruptive tastes, we’re also forced to increase expensive characterizing flavor loads to compensate,” Cavallini explains. “That’s not the case with EverSweet + ClearFlo. It mutes the off-notes, while enhancing many characterizing flavors, a distinction that can result in significant cost savings.”

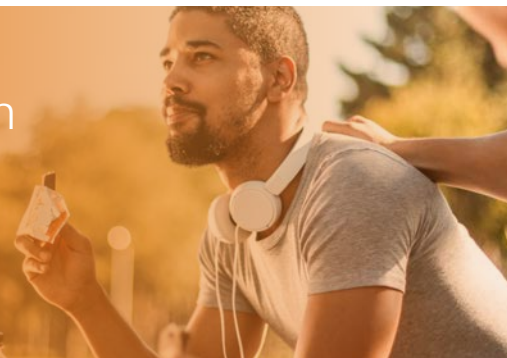
## Innovating to fuel growth

While advances in sports nutrition extend well beyond adding protein and reducing sugar, addressing these two foundational needs can clear a path for even greater innovation. Key to success, however, lies in balancing health benefits with consumer preferences for reduced sugar, plant-based and label-friendly formulations – all while still delivering on taste, texture, mouthfeel and appearance.

**Crafting a sports nutrition bar, gel or drink that can live up to all those demands is no easy task, but for brands who rise to the challenge, there’s a real opportunity to quench consumers’ thirst for products that elevate their game.**

Achieve next-level performance in Sports Nutrition with Cargill’s plant protein portfolio.

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<sup>1</sup> “Sports Nutrition in the U.S.,” Euromonitor International, Oct. 2022.