

GAME CHANGERS

IN THE LAND OF 10,000 INNOVATIONS, VISIONARIES FROM THE GREATER MSP REGION ARE CHANGING THE WAY SPORTS ARE PLAYED.

Trend: Fueling the Athlete

Athletes know that what they get out of their bodies depends a great deal on what they put into it – literally. Nutrition in the form of food and beverage in athletics has come a long way from steak-laden training tables for football players and flat cola and spaghetti for runners.

THEME > Fueling the Athlete

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STORY THEMES > Sports nutrition
Food manufacturing
Food startups
Hydration

OVERVIEW > Athletes put as much thought into what goes in their bodies as their gear. Nutrition is a key building block of performance, and Twin Cities businesses and researchers are identifying how to fuel athletes even better, while taking advantage of the region's assets as a national leader in the food manufacturing and agriculture industries to help them innovate and bring new ideas forward.



KEY PEOPLE > Lauren Mehler Pradhan, director and general manager of Grow North
Lisa Smith, marketing manager, BiPro
Rasa Troup, certified dietitian, Minnesota Vikings and University of Minnesota athletics
Dr. William Roberts, sports hydration expert, sports medicine faculty member and practitioner, University of Minnesota



KEY QUOTE > “[Sports nutrition is] about fueling the engine. But it’s easy to eat too much and possible to eat too little. With fluid, you can get too much or too little. You can train too much or too little. It’s all about balance.”
- Dr. William Roberts

WEBSITES > [BioPro](#)
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Athletes know that what they get out of their bodies depends a great deal on what they put into it – literally. Nutrition in the form of food and beverage in athletics has come a long way from steak-laden training tables for football players and flat cola and spaghetti for runners.

With its long history as a center of American food production, the Minneapolis/St. Paul region is known as home to some of the nation's leading food companies, including General Mills, Cargill, and Land O' Lakes, along with many other well-known brands founded in the region.

That base gives the region a large population of food-industry experts who, coupled with the region's history of scientific research and food-production know-how, are helping spur a new burst of food innovation.

"There are hundreds of food startups here," said Lauren Mehler Pradhan, director and general manager of Grow North, a non-profit that serves as a resource for emerging food businesses. "People think of Minnesota growing corn and wheat, but we have companies and products focused on all the emerging trends – probiotics, fermentation, alternative proteins."

Pradhan notes several ways Minnesota is uniquely advantageous for food startups, in addition to its history, talent and strong network of food expertise:

- Access to top quality raw ingredients, grown in state or available easily because of the area's large food manufacturing base
- Government grants and credits for everything from new farms to expanding factories
- A tradition of investment in agriculture and food businesses, and investors who understand the unique needs, models and challenges of those businesses

Grow North is part of the University of Minnesota's Holmes Center for Entrepreneurship and is backed by major Minnesota food companies and groups dedicated to promoting Minnesota's leadership in agriculture and business. By helping food startups thrive and capitalize on the advantages Minnesota offers, Grow North promotes diversity and new ideas in the industry.

BIPRO: RESPONDING TO ATHLETE'S NEEDS IN NEW WAYS

One Minnesota company that specializes in athletic nutrition wouldn't even be in the market if athletes hadn't essentially demanded it.

BiPro, which today is a part by Canadian dairy cooperative Agropur, grew out of an industrial whey protein product that was first offered in the 1980s. It was sold in bulk quantities to food manufacturers – until athletes discovered that this particular protein isolate was exactly what they wanted to fuel muscle growth.

"Athletes came to us and had to buy this powder in giant bags, and they wanted to be able to buy it in more convenient ways," said Lisa Smith,

marketing manager for BiPro. "It's very pure, and is created using a proprietary process we developed."

Responding to demand, the company set up BiPro as its consumer label and started selling jars of unflavored protein. Evolution spawned quickly from there, first adding flavors, and then experimenting with new formats.

BiPro's current claim to fame is for its protein water product, a drink with 20 grams of protein per serving that also hydrates. Unlike what most people think of as protein drinks, it is not thick or chalky. "It's ready to drink, and actually refreshing," said Smith. "For athletes, it's a great recovery drink."

By using its labs to address the needs of end consumers in addition to those of big food manufacturers, BiPro has been able to put its decades of research experience – to new use.

In addition to the format, BiPro has taken into consideration the purity needs of professional athletes. "It's a very clean label – I think our most complex product has about six ingredients," Smith said. "We're NSF certified, so we can sell to teams." That third-party certification from NSF International is critical in sports that test for banned substances, and essentially ensures athletes that they won't run afoul of the rules when they drink BiPro.

As a result, BiPro is sold to almost all pro baseball teams, dozens of Division I college football teams and is used by many pro football and basketball players. Former Minnesota Viking Ben Leber is one of the brand's spokespeople.

New innovations, Smith said, include a caffeinated protein water, and a protein product designed to help athletes get natural, restful sleep.

All of this is possible, Smith said, because of BiPro's access to top quality, local raw dairy products, the research talent found in Minnesota, and the manufacturing infrastructure and supporting industries in the area.

TRANSFORMING HOW ATHLETES FUEL THEMSELVES

Feeding a pro-level athlete takes a lot of precision. Rasa Troup, a registered dietitian and licensed dietitian at the University of Minnesota, knows this firsthand: once a top-tier NCAA runner for the Gophers, she also competed in the 2008 Olympics representing her home nation of Lithuania.

"In the early stages, I struggled with nutrition," Troup remembers. That drove her to explore the potential of using food in a scientific way to optimize performance.

With her degree in nutrition from the University and certifications as a sports dietitian, Troup began helping athletes. "When I started doing this in 2005, there were literally just a handful of people doing this across



country,” Troup said. “In the last 10 years, the growth has been enormous. Now every NCAA program has at least one full-time dietitian and many have two to four.”

Troup herself is a consultant dietitian for the NFL’s Minnesota Vikings as well as the women’s cross country and track and field teams at the University of Minnesota. What people might not realize, she said, is how precisely her work is tailored to the athlete.

“It varies from player to player, from position to position,” she said of her work with the Vikings. Foods are also varied depending on whether a player is training, performing or recovering. All that data needs to be tracked and mapped to performance.

The interest in macronutrients – using whole foods rather than extracted supplements – has led to new perspectives. “Ten years ago, we had no data on beet juice and tart cherries,” she said. Today, athletes swear to their power to aid performance and recovery.

Troup has found Minnesota to be an ideal place to build her practice. “It’s a very active city,” she notes. “Plus I get to interact with researchers and sports scientists – there are so many opportunities.”

MORE THAN FOOD – GUIDING ATHLETES IN HYDRATION

Water and proper hydration, of course, is also critical for sports performance. Dr. William Roberts, a sports medicine faculty member at the University of Minnesota, has been interested in hydration for decades, in particular because of his role as medical director at the Twin Cities Marathon (now called the Medtronic Twin Cities Marathon) since its inaugural 1982 race.

“Today, the Twin Cities Marathon is a leader in measuring sodium on-site” thanks to research and protocols that have been established, Dr. Roberts said. “I can think of at least one case where we saved a runner’s life, or at least a long-term hospitalization” as a result of being able to quickly gauge hydration.

Many best practices pioneered and refined at the Twin Cities Marathon and now are used across the country. Due to his work in the field, Dr. Roberts was invited to help develop the American College of Sports Medicine’s position stand on heat illness during exercise and the International consensus statements on hyponatremia and physical activity.

At the same time, messages on hydration need to be interpreted correctly. Some athletes have been known to drink so much water in an effort to hydrate that they have been seriously harmed or even, in rare cases, died from hyponatremia. Seeking to help strike that balance between not enough and too much hydration, Dr. Roberts engaged in research and helped come up with guidance for athletes.

In his practice, Dr. Roberts advises on all aspects of fueling the athlete, including food. “It’s about fueling the engine,” he said. “But it’s easy to eat too much and possible to eat too little. With fluid, you can get too much or too little. You can train too much or too little. It’s all about balance.”

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