

STILL INNOVATING AT 45:

Maypro continues to evolve with the changing times through new ingredients, dynamic partnerships and global outreach





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Steve Yamada immigrated to the United States in the early 1970s from Japan, building what began as a trading commodity business into a global supplier of proprietary branded ingredients and premium commodity raw materials for the dietary supplement industry. It may seem like a typical tale of an immigrant successfully pursuing the American dream—but Yamada’s story is uniquely extraordinary.



His experience reflects the times—not so dissimilar to the present—where a business owned by someone whose second language is English faces a different kind of competition in the marketplace. However, it also enabled him to reflect on how he wanted to conduct business at his company, Maypro, which he founded 45 years ago in 1977. Yamada chose to focus on building relationships, with a network of partners who shared similar values in integrity and quality.

His self-imposed standards around the

company’s supply chain came well before the dawn of the Dietary Supplement Health and Education Act of 1994 (DSHEA), presaging the shift toward standardization, good manufacturing practices, transparency and sustainability.

In the 1980s, Maypro introduced the U.S. market to what have become mainstream specialty ingredients: CoQ10, glucosamine, chondroitin sulfate, alpha-lipoic acid, chitosan and others. By the mid-1990s, the company pioneered the adoption of proprietary branded ingredients (PBIs) in emerging categories such as weight management, gut health and immunity—and took the trend back across the Pacific to the Japanese market. It was also in the 1990s when Maypro launched its own finished products company, Quality of Life® (QOL), featuring many of the company’s proprietary branded ingredients.

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Growth came both organically and through strategic acquisitions, mergers and other business developments during the earlier years of this young century. Maypro Ventures, the company's investment arm, has guided much of that expansion, with Maypro Group supported by more than 100 staff worldwide with offices strategically located throughout the United States, Japan, and China. That's where the global enterprise—headquartered in Purchase, New York, north of New York City—remains established.

It's time now to talk about where Maypro is taking its customers into the future, leveraging its vast portfolio of partnerships, ingredients and services built over the last 45 years.



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A GLOBAL NETWORK OF PARTNERS COMMITTED TO IMPROVING HUMAN HEALTH AND HAPPINESS

Maypro has developed its network of carefully selected partners to ensure its customers receive the best quality natural ingredients at the most competitive prices. To accomplish this, Maypro has linked together a supply chain that is transparent, traceable and auditable. It travels across the globe, from organic Ayurvedic herbs in India to patented milk-based derivatives from New Zealand grass-fed cows to a purple tea plant cultivated in mountainous regions of Kenya. Suppliers in Brazil and Chile offer the highest purity and stable grade of omega-3s at 18% EPA/12% DHA. From the Philippines, comes coconut oil, while California is the source for premium spirulina.

All the vendors behind these ingredients must pass Maypro's qualification and review processes. The company's quality assurance team reviews and matches each customer's requirements with the appropriate products and ensures all documentation is provided to customers and kept on file. For example, when the U.S. Congress passed the Uyghur Forced Labor Prevention Act in December 2021, Maypro worked to provide manufacturers with official documentation verifying fair labor practices were behind any ingredients sourced in China.

“Our most successful partnerships are those that recognize the importance of mutual support and collaboration,” said Isabel Elias-Castro, president of Maypro’s Global Nutrition Group, where she has spent the last 15 years leading the company’s expansion in North and South America, Europe, and Asia. “Our philosophies need to align, because the work we do matters, and Maypro’s mission is an earnest one. We would like to improve human health and happiness.”

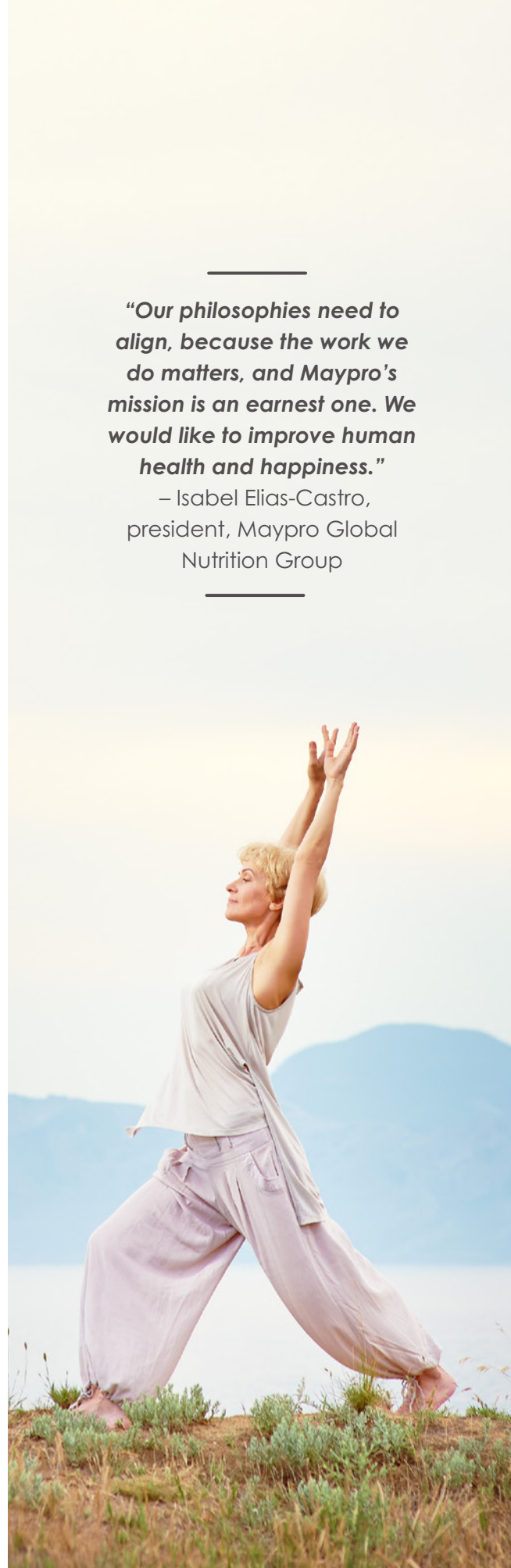
For example, there is Amino Up. A leading biotechnology company in Hokkaido, Japan, Amino Up has developed and commercialized Japan’s top-selling specialty immune supplement, AHCC®, a unique, cultured mushroom mycelia extract that is rich in alpha glucans, a complex polysaccharide important in modulating the immune system.

“We can attribute much of our mutual success to an alignment of philosophies,” noted Elias-Castro of the long-term relationship. “We both value transparency, collaboration, loyalty, research, and wellbeing. This has helped us to develop both a healthy working partnership and a friendship that extends beyond business.”

BioActives is another organization that Maypro partnered with based on complementary capabilities. In 2008, the two companies formed a joint venture to launch and grow an exclusive portfolio of research-backed, bioavailable, sustained-release ingredients using MicroActive technology.

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MicroActive Ingredients® are micronized and encapsulated using natural starches or polymers to fit the individual characteristic of each ingredient. The micronization phase produces a period of rapid efficient exposure, followed by the encapsulation phase, which produces a lengthy extended release. Absorption is further enhanced with carriers that assist the active ingredient to move through the intestinal wall. MicroActive Ingredients® come in nine different products, including astaxanthin, curcumin, resveratrol and CoQ10, among others.

PROPRIETARY BRANDED INGREDIENTS THAT ARE SUBSTANTIATED AND SUSTAINABLE

MicroActive Ingredients® are just one part of Maypro's comprehensive line of several dozen proprietary branded ingredients, covering a range of health categories, from anti-aging and brain health to immune support and sports nutrition, and much more.

"Maypro's proprietary branded ingredients portfolio has only grown over the decades with an emphasis on research substantiation," noted Elias-Castro, who has managed the launch of many of the company's PBIs, including Tonalin®, one of Maypro's first proprietary branded ingredients into the Japanese market. Other ingredients that followed a similar path are Pycnogenol®, NeOpuntia® and Liposan Ultra®.



New products are constantly being introduced. For example, Maypro added Bilberon™ to its proprietary branded ingredients a few years ago in collaboration with Tokiwa Phytochemical Company, which has developed a technology to differentiate bilberries from other species of blueberries. The authenticated berries are frozen and shipped to Japan, where they are crushed, concentrated, purified and dried to make the naturally deep-purple powder that contains a minimum of 36% of antioxidant anthocyanins. Bilberon™ has been the subject of five original published studies, including two human clinical trials, which have shown that the bilberry extract helps to alleviate eye fatigue, improve eye dryness, and maintain a clear, focused vision.^{1,2}

In addition, the company has committed to using "upcycled" ingredients in its PBI line, responding to the accelerating market demand for sustainably sourced formulations.

For instance, there is Juvecol®, which is made from proteoglycans extracted from

cartilage-rich parts of salmon that are normally discarded by fishermen. Proteoglycans are a component of connective tissues such as bone, cartilage and skin. One 16-week clinical study on knee joint discomfort found that a 10 milligram (mg) dose per day may exert a chondroprotective effect by improving cartilage metabolism.³ In a separate randomized, placebo-controlled, double-blind human study, supplementation with Juvecol[®] improved multiple skin conditions after just two weeks, including elasticity, moisture and appearance, such as reducing blotchiness, wrinkles and pore size.⁴

“If you’re formulating for beauty and anti-aging products, Juvecol[®] is an award-winning, sustainable solution,” Elias-Castro said. “Juvecol[®] is a natural proteoglycan for skin and joint health that is also offering manufacturers sustainability claims through upcycled production.”



Another example of an upcycled proprietary branded ingredient is AppleActiv DAPP[®], which is made from organic apple peels. The most nutritious part of the fruit, apple peels have been shown to contain up to six times the polyphenols, including flavonoids, than what’s found in the flesh.⁵ Original in vitro



research on AppleActiv DAPP[®] found it scavenged free-radical species and improved the balance of cytokines, proteins that control the growth and activity of other immune cells—suggesting anti-oxidant and anti-aging effects.⁶ A 12-week pilot human clinical study found that AppleActiv DAPP[®] may also support joint health.⁷

Joint health is a \$2 billion market in the United States, according to the Nutrition Business Journal, which also notes that sales have stagnated. PBIs like Juvecol[®] and AppleActiv DAPP[®] offer manufacturers a way to bring innovation and sustainable principles to a category in need of reinvention.



A SUSTAINABLE WAY TO DE-STRESS AND GET SOME SLEEP – AN INGREDIENT STORY



Mental health is on everyone's mind these days, between a global pandemic and general global unrest, particularly around uncertainties due to climate change. Consumers want to do their part to help save the planet, even in small ways.

A proprietary branded ingredient called ETAS® from leading distributor Maypro offers peace of mind in numerous ways.

ETAS® is an all-natural enzyme-treated extract derived from the tough lower portion of asparagus stalks that would otherwise go to waste, making the ingredient upcycled and sustainable. Studies have shown that it increases the production of a special protein that naturally supports stress relief and sleep quality. Specifically, ETAS® works by increasing the production of HSP70, an intracellular protein produced naturally by the body when it encounters a stressor, such as extreme heat. It is the world's first dietary ingredient to deliver heat shock protein induction, effects similar to taking a dip in hot springs but without the side effects.


One study showed that healthy males who took ETAS® had an 80% reduction in cortisol levels and 2.5 times less expression of the psychological stress marker, chromogranin A, compared to the placebo group. This led to better sleep, according to Isabel Elias-Castro, president of Global Nutrition at Maypro.

"Getting enough sleep is vital for optimal mental functioning," she said. "In addition to research showing beneficial effects on mood, cellular studies have shown that ETAS® supports overall brain function and improved mental focus."

Mood/mental health and healthy sleep represent growing categories of need for consumers. The former market category jumped nearly 30% in 2020 to more than \$1 billion in sales for the first time. Growth is expected to continue at a double-digit clip through 2024, according to the Nutrition Business Journal. Not surprisingly, the sleep category mirrored the mood and mental health market, climbing more than 36% to also break the \$1 billion barrier for the first time.

"Couple that with consumer interest in environmental responsibility and the marketplace is primed for an ingredient like ETAS®," Elias-Castro noted.





MAYPRO OFFERS FULL RANGE OF SERVICES IN ADDITION TO PREMIUM INGREDIENTS

Maypro is more than just a purveyor of quality ingredients for the natural products industry. The company partners with its customers to ensure every product that uses its ingredient is optimally formulated. Its services extend beyond product development to marketing, labeling and even market analytics.

For starters, Maypro works closely with a customer's R&D representatives to support not only formulation work but to ensure its products effectively complement other ingredients in each formula. "When possible, we also seek to offer exclusivity on unique ingredient combinations to encourage our customers to invest in the best ingredients for their finished products with confidence that they won't be duplicated," Elias-Castro said.

Just as important as technical know-how is market awareness. Maypro employs advanced analytics to understand demand trends, vetting a product concept before development begins to determine if

it will meet a need in the market. The company can also test new product concepts and optimize marketing campaign messaging around quality, efficacy and transparency.

"In addition, Maypro invests in consumer-facing publicity to build brand awareness for our ingredients to support the manufacturers who formulate with them," Elias-Castro said.

And because the company operates its own finished products brand through Quality of Life, Maypro can provide other types of insights, especially into direct-to-consumer (DTC) channels. QOL was one of the early companies to make the transition from brick-and-mortar shop to e-commerce (before the term became vogue).

"Maypro Group has spent a considerable amount of time and effort refining its e-commerce understanding and capabilities, which allows us to provide insights to our manufacturing customers in formulation, ingredient selection and DTC channels," Elias-Castro noted.

Finally, company staff can lend their expertise to ensure finished products are compliant with various government regulations. For example, full regulatory

compliance is essential for finished product labeling. Maypro provides manufacturers with detailed information on how its ingredients should be labeled to be compliant. In addition, its marketing team can also provide advice on effective marketing text to bolster compliant health claims on labels.

Maypro's broad range of products and services continue to reflect Mr. Yamada's original business principles and philosophy, which includes the concept of transparent management. The idea is to foster a company culture of open communication by speaking frankly on topics to provide clarity on situations, needs, wants and expectations in order to achieve successful outcomes.

After 45 years in business, Maypro is an enduring testament to building better health through strong relationships between customers, companies and employees. ■

"We are always looking for opportunities to improve human health through ventures that meet market demands in unique ways"

VENTURING INTO NEW FUNCTIONAL PRODUCTS

Maypro launched its venture arm in 2004 to accelerate its growth into new markets. That expansion has helped spur product innovation by combining the company's vast ingredient portfolio with the latest trends from exciting partnerships.

About five years ago, for example, Maypro Ventures supported the launch of an oral care line that used Maypro's MicroActive® CoQ10 in a toothpaste and mouthwash delivery form. It also invested in a relaunch of a cosmetics line utilizing natural ingredients sold by Maypro. Most recently, it provided growth capital to a nut spread company that uses whey protein and other functional ingredients in its products.

"We are always looking for opportunities to improve human health through ventures that meet market demands in unique ways," said Isabel Elias-Castro, president of Global Nutrition at Maypro.



References

1. Nakata N et al. "The improvement effect of bilberry extract (BILBERON®)-containing diet on eye fatigue and eye dryness - A randomized, double-blind, placebo-controlled, parallel-group comparison study" *Jpn Pharmacol Ther.* 2016; 44(12):1773-83.
2. Liang T., et al. "Effect of a bilberry extract (BILBERON®)-containing diet on the improvement of eye fatigue-related symptoms (II)A randomized, double-blind, placebo-controlled, parallel-group comparison study." *Jpn Pharmacol Ther.* 2017; 45(9):1523-34.
3. Tomonaga A et al. "Evaluation of the effect of salmon nasal proteoglycan on biomarkers for cartilage metabolism in individuals with knee joint discomfort: A randomized double-blind placebo-controlled clinical study." *Exp Ther Med.* 2017 Jul; 14(1): 115–126.
4. Takahashi T et al. "Ingestion of Salmon Nasal Cartilage-Derived Proteoglycan Improves Skin Condition: A Randomized, Double-Blind, Controlled Study." *Immune Endo and Metab Agents in Med Chem.* 2015;15:160-7.
5. Wolfe K, Wu X and Liu RH. "Antioxidant activity of apple peels." *J Agric Food Chem.* 2003 Jan 29;51(3):609-14.
6. Denis MC et al. "Apple peel polyphenols and their beneficial actions on oxidative stress and inflammation." *PLOS One.* 2013;8(1):e53725.
7. Jensen GS et al. "Consumption of Dried Apple Peel Powder Increases Joint Function and Range of Motion." *J Med Food.* 2014;17(11):1-10.

