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Greenspace Herbs on Advancing Moringa-Based Functional Nutrition

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As demand for science-backed botanical ingredients grows, manufacturers increasingly seek solutions that combine the nutritional benefits of traditional plant-based ingredients with standardised quality and consistency. To meet this need, Greenspace Herbs developed Morimin, a proprietary blend of Moringa oleifera leaf powder and leaf extract designed to deliver the nutritional benefits of whole-leaf Moringa with a more defined, consistent ingredient profile. The ingredient combines plant protein, dietary fibre and essential minerals, including calcium, potassium, magnesium and iron, and is positioned for applications across dietary supplements, functional foods and nutrition blends. In this interview with NUFFOODS Spectrum, Shafiulla Hirehal Nuruddin, Founder & Managing Director, Greenspace Herbs, discusses the science behind Morimin, its formulation and quality-control processes, the research undertaken to establish its nutritional profile and safety, and the company's commercial ambitions in India and international markets.

What was the rationale behind developing Morimin as a blend of Moringa oleifera leaf powder and leaf extract, and how does this dual-component formulation differ from conventional Moringa leaf powders available in the market?

Moringa leaf powder is one of the most widely available botanical ingredients today, and that is exactly the problem we set out to solve. Most of what the market offers is dried, milled leaf. It carries the leaf's natural nutrition, but its content of plant compounds can vary considerably from one lot to the next, depending on where and when the leaves were harvested and how they were dried. Formulators kept telling us the same thing: they wanted Moringa's whole-food credentials, with the predictability of an extract.

Morimin brings the two together. The leaf powder and extract is blended in proportions developed through research at our facility in Magadi taluk, Karnataka. This blend retains the moringa nutritional matrix: minerals, plant protein, dietary fibre and healthy fats, vitamins packaged the way nature packages them.

The result is still recognisably Moringa a whole food, not an isolate but it behaves like a specified ingredient: a defined nutritional profile, tested batch on batch, and supported by safety, stability and human data. That combination is what separates Morimin from a commodity leaf powder.

Laboratory analysis of Morimin indicates substantial levels of calcium, potassium, magnesium, and iron, alongside plant protein and dietary fibre. What testing and analytical methods were used to establish its nutritional profile, and how does Greenspace ensure consistency across batches?

The nutritional profile was established through laboratory analysis of the finished blend. Per 100 g, Morimin contains approximately 1-3 g of calcium, 1.5-3 g of potassium, 1,483 mg of magnesium and 10-18 mg of iron, along with 18 g of plant protein and 18 g of dietary fibre, with no added sugar.

Consistency comes from controlling the process, not from testing alone. Because we handle every stage in-house, from leaf sourcing and drying to extraction, blending and testing, we can hold each step to defined parameters. Both the extract and the final blend are checked against specification before a batch is released

We also ran a stability study, which confirmed that Morimin maintains its physical integrity and macronutrient profile across the study period, so brands can rely on the specification holding through shelf life. The nutritive-value and toxicity data have been submitted as a combined manuscript to the journal Current Nutrition & Food Science and are currently under peer review.

How do the whole-leaf matrix and concentrated extract complement each other in terms of nutrient delivery, polyphenol content and flavonoid composition? What scientific evidence supports the formulation’s intended nutritional benefits?

The simplest way to think of it is raw form and available phytoconstituents. The whole-leaf powder is the raw: it contributes the bulk nutrition, with minerals held within the plant matrix alongside protein, fibre and fats. That food matrix is a large part of what makes Moringa a food rather than an isolated supplement.

The extract is prepared by breaking down of cellular components exposing the secondary metabolites providing access to micro and macronutrients. Moringa oleifera leaves are well documented in scientific literature for their nutritive value, so a given quantity of Morimin carries more of them than the same quantity of plain leaf powder.

On evidence, we have tried to be both rigorous and honest about where we are. Morimin has been through three studies. An acute oral toxicity study under OECD Guideline 423 found no signs of toxicity at any dose tested, up to 5,000 mg/kg body weight. A stability study confirmed the product holds its profile. And in a 30-day human study, ten healthy adults aged 25 to 60 took 300 mg of Morimin daily under monitored compliance; all serum mineral and trace-element values stayed within normal physiological ranges, and participants reported reduced fatigue. It is a small, single-group study and we see it as a validation of our research and product.

Mineral deficiencies and gaps in dietary intake are growing concerns in nutrition. Which specific consumer needs is Morimin designed to address, and what role could it play in daily nutrition and the development of functional foods and dietary supplements?

The gap we see is less about dramatic deficiency and more about everyday shortfall. Diets built around refined and processed food tend to run low on minerals such as magnesium, potassium and calcium, and on fibre. At the same time,

consumers increasingly want plant-based nutrition with a short ingredient list they recognise.

Morimin is built for that consumer: someone looking for a whole-food green from a single botanical source that is tested, consistent and free of added sugar. For vegetarian and vegan consumers in particular, it brings plant protein and minerals together in one ingredient.

For brands, its strength is versatility. In dietary supplements, it works as a daily botanical in capsules and tablets. In functional foods, where inclusion levels can be higher, it can meaningfully add to the mineral and fibre profile of nutrition powders, smoothie and greens blends, bars, soups, and bakery products. We position Morimin as a nutritional building block within a balanced diet, not a substitute for one, and we encourage partner brands to make claims that reflect the dose they actually use.

What quality-control measures does Greenspace implement across Moringa sourcing, drying, extraction, blending and finished-product testing? How does the company address potential variations in nutrient composition, contaminants and other quality parameters associated with botanical ingredients?

Botanicals vary by nature. Soil, season, harvest time and post-harvest handling all influence composition. Our job is to manage that variation so it never reaches the brand.

Our manufacturing facility is GMP-certified by the Ministry of AYUSH, Government of India and quality control runs through every stage:

Sourcing: leaves are procured against defined specifications and checked for identity and quality on receipt.

Drying: controlled drying keeps heat-sensitive nutrients safe and lowers the number of microbes that grow.

Extraction: the extract is made using set process parameters, which means that the profile of its compounds stays the same.

Blending: powder and extract are mixed in a certain proportion and then checked to make sure they are all the same.

Finished product: every batch is tested against specification before release.

Where incoming leaf varies, the process is designed to correct for it before blending, rather than passing that variability on.

With Morimin now available to nutraceutical and food brands in India and the United States, what are Greenspace's commercial priorities for the ingredient? Which product categories and application formats offer the greatest opportunities, and does the company plan to expand its Moringa-based ingredient portfolio into other international markets?

Morimin was unveiled at Nutraverse in India and is now available to nutraceutical and food brands in India and the United States. Our priority now is partnership: working closely with brands to build Morimin into finished products, backed by technical documentation and our study data.

The categories we see the greatest opportunity in are dietary supplements in capsule and tablet formats; greens and superfood powder blends; plant-protein and nutrition drinks; functional foods such as bars and bakery; and Ayurveda-inspired daily wellness products. In the US, demand is being driven by clean-label, plant-based greens. In India, we are seeing renewed confidence in traditional ingredients, provided they come with science behind them.

Internationally, we already exhibit at Vitafoods Europe and Vitafoods Asia, which gives us a natural route to brands in Europe and Asia. Morimin is also the start of a larger Moringa story for us. Our belief is simple: Indian botanicals can lead on science, not just on heritage.