



Parry Organic Spirulina? When Only The Best Will Do.

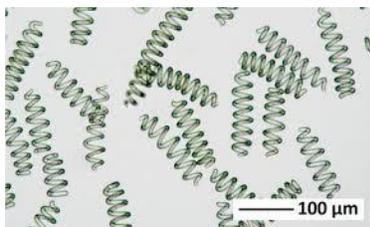
Let's begin by acknowledging that there are a lot of Spirulina suppliers out there. Why? Because Spirulina is one of those superfoods that has taken the world by storm. As a multicellular blue-green algae with high protein content, it is relevant to today's nutritional trend as a plant-based protein source, a key for vegans, and with antioxidant and anti-inflammatory properties it can play an important role in health and wellness. But not all spirulina suppliers focus on what matters most - quality, consistency, safety, and supply chain excellence. That is why you might say Parry Organic Spirulina is “. . . often imitated, never duplicated.” Not only is it one of a kind in the world of spirulina, but it is also the best.

The Journey To Be The Best

Every journey starts somewhere. So, how did spirulina become part of a consumer trend? It all started back in ancient history with the Aztecs of Mesoamerica who used spirulina as a source of food. The Spanish conquistador and explorer Hernán Cortés and his soldiers were said to have bought dried spirulina cakes from algae harvested from Lake Texcoco in Mexico. That makes spirulina not just a superfood but also an ancient food.

The Best? Of Course! Here's Why

1. Not irradiated – we don't have to. We're that good.
2. We say organic and mean it - no false “certifications” here.
3. We say quality and prove it – the *first* and *only* USP-Verified spirulina in the world
4. We deliver – consistently
5. We've been doing this for over 40 years. You can trust us.



For Parry Organic Spirulina, the journey started almost 30 years ago, spurred by an interest in the research findings on spirulina published by the parent company's research center [Murugappa Chettiar Research Centre (MCRC) Brochure] in 1990. Soon after, Parry began to develop capability in spirulina production, and built a research focus specifically on optimization of cultivation, harvesting and preservation practices for this important microalga. Commercial sale of spirulina powder began in 1995, and organic cultivation practices gave the US the opportunity to purchase Parry Organic Spirulina powder and tablets for the first time in 2003. The production facility also underwent extensive third-party audits, and achieved ISO and Quality Certifications in 2004.

By 2005 Parry had become the first vegan, nutrient dense Organic Spirulina to achieve compliance with the new USDA-NOP regulations and the first US Pharmacopeia (USP)-Verified spirulina. Parry Organic Spirulina continues to operate under the highest certification standards, eclipsing other suppliers who meet minimal requirements for safety and quality, and can put the consumer's health at risk.

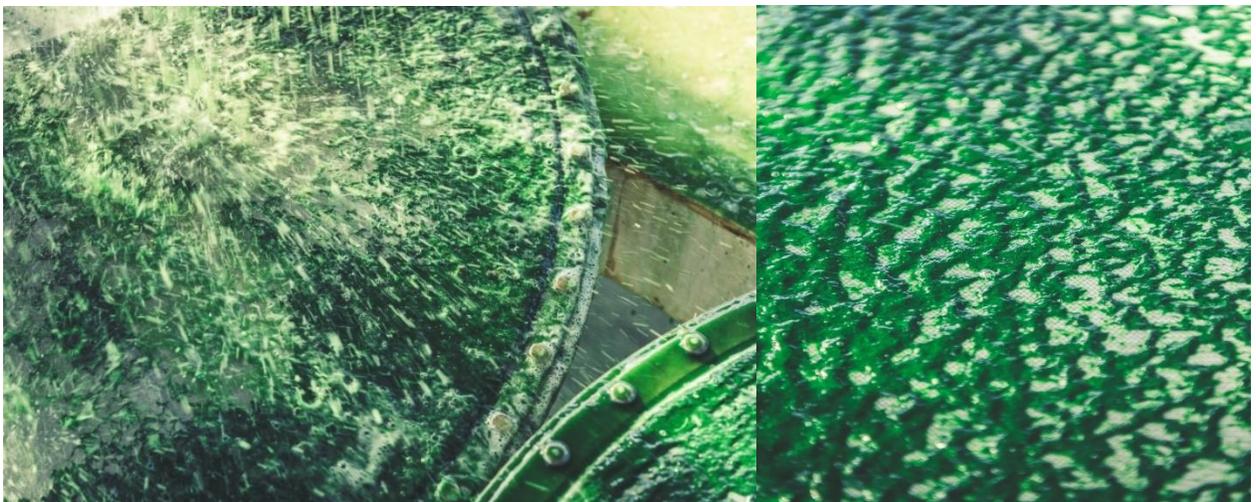
Operating As The Best

But Parry did not stop at being the first, or the best. With another decade of experience in hand, Parry Organic Spirulina continues to operate to the highest standards. Today, Parry Organic Spirulina is propagated under controlled laboratory conditions and grown in a state-of-the-art



controlled raceway photosynthetic growth system, using only the highest quality organic nutrients – no pesticides or chemical fertilizers are used. Spirulina takes energy from sunlight, naturally, so the inputs for cultivation are limited to certified organic and vegetarian nutrients, and filtered and purified water. As far as production practices go, the cultivation is simple, but also very elegant. Parry has continued to strive for perfection, optimizing the cultivation and harvesting and downstream practices so that there is a minimum duration from raceway pond to drying under controlled environmental conditions to retain the highest nutrient density in the final product.

Unique harvesting and special filtration steps ensure the nutrient dense spirulina is recovered while bacteria and spent nutrients are removed. The pure spirulina sees minimum exposure to heat and state-of-the art equipment has been designed so that no harsh treatment is needed. Along with in-process controls and the strictest adherence to Good Manufacturing Practices (GMP) standards, Parry Organic Spirulina is able to carry numerous distinctions for quality while also achieving



organic status. None of this is possible without end-to-end attention to detail, with precision in-process controls, and a rigorous quality systems program.

No compromise is given to safety. The Parry team puts each production lot through a rigorous testing program, confirming quality and safety are delivered without compromise to organoleptic properties, nutrient bioavailability, and content of key components such as protein. Each lot is



tested for heavy metals under California Prop-65 standards, and certified to be Prop-65 compliant at the highest dose intake of 5 to 10 grams per day. Most of the competition exceeds Prop-65 heavy metal standards at 1 gram per day, or less. All production lots meet the strict EU regulations for contaminants like PAH (polycyclic aromatic hydrocarbons), and are tested to verify the absence of any toxins (microcystin, and third-party testing to verify the

absence of BMAA, β -N-methylamino-L-alanine). Each production lot is tested to ensure conformance with low microbial limits, and a Certificate of Analysis is provided that offers a written guarantee of the quality proposition our customers are buying.

The Best, and They Say So

But you don't have to take our word for it. Parry Organic Spirulina has made a commitment to undertake third party audits of the manufacturing facility, production process, and analytical laboratory and test methods to add an extra layer of validation to their leadership in spirulina production. In addition to audits for European and US organic standards certification, the Parry operation and Organic Spirulina are audited for quality (USP-Verified); for microalgae and natural products raw material handling and processing standards (Certified C.L.E.A.N.TM, Certified R.A.W.TM); to be free of contaminants (Naturland-complaint); and certified to

allow Parry Organic Spirulina to carry dietary restriction designations (vegan, gluten-free, Kosher and Halal, to name a few). Parry Organic Spirulina is Non-GMO Project Verified, and was the first spirulina certified as GRAS by the US FDA. Manufacturing practices and food safety standards are core to the Parry operating model, and an important foundation for establishing confidence in the quality and consistency of production, delivering a spirulina our customers can trust.

Shall we name a few of our credentials?

- ✓ USP Verified Dietary Ingredient
- ✓ FDA GRAS
- ✓ USDA Organic
- ✓ EU Organic
- ✓ Naturland-compliant
- ✓ Certified C.L.E.A.N.TM
- ✓ Certified R.A.W.TM
- ✓ 100% Vegetarian
- ✓ 100% Vegan
- ✓ Non-GMO Project Verified
- ✓ Free of allergens
- ✓ Gluten-free
- ✓ Kosher
- ✓ Halal
- ✓ ISO-22000 for Food Safety

In the crowded world of spirulina suppliers these third-party auditing and certification credentials are extremely important. And, Parry Organic Spirulina is backed by some of the toughest certifying standards in the world. In addition to achieving the strict Naturland-compliant standard and being recognized as a true organic product by the US and top European agencies, Parry Organic Spirulina has become the first and only spirulina in the world to date to achieve the lauded US Pharmacopeia Dietary Ingredient Verified Program (USP DIVP) standard for spirulina.

The USP-Verified DIVP designation brings together three pillars of operational excellence: manufacturing, quality, and safety, and requires consistency in execution since multiple production runs are audited for conformance to the established standards. Of course, Parry Organic Spirulina first achieved USP-Verified status back in 2005. But the more intensive USP DIVP auditing process, implemented in 2018 as an expanded program, was enacted to build further rigor into the ingredient verification program and align with the FDA's Food Safety Modernization Act. Parry Organic Spirulina has once again been the first, and can now say it is the best-of-the-best for safety, quality and consistency.



**Certified Quality.
An Ingredient You Can Trust.**

The Best, and Good-For-You Too

All this attention to detail and the careful controls to optimize the process and quality while limiting harsh treatment of the algal biomass has a significantly positive impact on the nutrient content of Parry Organic Spirulina. Typically rich in protein, Parry Organic Spirulina consistently delivers over 60% protein, is low in carbs and low in fat. The processing gives a protein with high biologic value and high digestibility, making it a good choice for digestive health and to support the microbiome. And, it is a vegan protein source with all the essential amino acids – you can't say that for eggs or cow's milk. Consuming one tablespoon of Parry Organic Spirulina gives you a whopping 4 grams of protein – not bad!

Parry Organic Spirulina's processing and controls enable the finished product to retain the key phytonutrients at unique levels. No other spirulina is as highly enriched in phycocyanin in combination with key phytonutrients like vitamin A (over 125 µg RAE/gram, amounting to 14% of the daily recommended value). This powerful combination of nutrients, vitamins and minerals comes together to deliver a powerful benefit proposition to achieve health and wellness.

A recently conducted review of the published spirulina literature conducted for Parry Nutraceuticals and Valensa International noted four key benefit propositions for this important superfood with ancient ties to the native Indians in Central America: maintenance of optimum blood glucose levels; support to a balanced blood lipid profile; cellular health and immunity; and a role in maintaining a healthy gut, such as support to gut microbiota. These benefit areas, and

others that research is likely to uncover, are all grounded in the excellent nutrient content and profile of bioactives in spirulina, delivered as a value proposition, with quality and consistency, in Parry Organic Spirulina.

And, it is not surprising that Parry Nutraceuticals and Valensa International have taken innovation with spirulina to the next step, developing new forms and formats that make it easier to bring innovative food, beverage and snack concepts with this nutrient dense superfood to the market.



The innovative concepts, such as granules, sticks, flakes and crunchies retain the nutritional value traditionally offered in Parry Organic Spirulina tablets and powder, for health and wellness solutions for today's consumer.

Healthy foods and beverages, powdered by Parry Organic Spirulina, can deliver nutrition in new concepts for convenience; portability for an active, on-the-go lifestyle; or, just extra 'nutrition insurance' coming from protein, key vitamins and minerals, and phytonutrients, all delivered in a quality ingredient proposition with added versatility for a variety of applications.



Accept No Compromise: Parry Organic Spirulina

For Parry Organic Spirulina, achieving greatness is not just about quality, consistency and safety. It is about trust and serving the customer. With a lot of choices available, even the best can be overlooked. But when you want a spirulina you can trust; when you value quality, consistency and safety, and the added benefit of third-party certification of these standards; and need a reliable supply from a partner with a commitment to traceability, purity, and responsibility to the customer and the environment, look no further than Parry Organic Spirulina – simply The Best. Valensa International, and sister division Parry Nutraceuticals, offer you the best spirulina without compromise. A product you can trust. Accept The Best.

Sources

[https://en.wikipedia.org/wiki/Spirulina_\(dietary_supplement\)](https://en.wikipedia.org/wiki/Spirulina_(dietary_supplement))

<https://news.yahoo.com/chinas-drug-agency-rejects-state-media-claims-coverup-124318217.html>

<http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm217574.html>

MCRC (Murugappa Chettiar Research Centre). 1990. *Spirulina*, the wonder gift of nature. Publicity Brochure.

Ramamoorthy A, Premakumari S. 1996. Effect of supplementation of *Spirulina* on hypercholesterolemic patients. *Journal of Food Science and Technology*. **33** (2): 124-128.

Vazhappilly R, Chen F. 1998. Eicosapentaenoic acid and docosahexaenoic acid production potential of microalgae and their heterotrophic growth. *Journal of the American Oil Chemists' Society*. **75** (3): 393-397.

Campanella L, Russo MV and Avino P. 2002. Free and total amino acid composition in blue-green algae. *Annali di Chimica*. **92** (4): 343-352.

Colla LM, Bertolin TE and Costa JA. 2003. Fatty acids profile of *Spirulina platensis* grown under different temperatures and nitrogen concentrations. *Zeitschrift für Naturforschung C*. **59** (1-2): 55-59.

Tokusoglu O, Unal MK. 2003. Biomass nutrient profiles of three microalgae: *Spirulina platensis*, *Chlorella vulgaris*, and *Isochrysis galbana*. *Journal of Food Science*. **68** (4): 1144-1148.

Khan Z, Bhadouria P and Bisen PS. 2005. Nutritional and therapeutic potential of *Spirulina*. *Current Pharmaceutical Biotechnology*. **6** (5): 373-379.

Habib M, Ahsan B, Parvin M, Huntington TC and Hasan MR. 2008. A review on culture, production and use of *Spirulina* as food for humans and feeds for domestic animals and fish. Food and Agriculture Organization of The United Nations.

Golmakani M-T, Rezaei K, Mazidi S and Razavi SH. 2012. γ -Linolenic acid production by *Arthrospira platensis* using different carbon sources. *European Journal of Lipid Science and Technology*. **114** (3): 306-314.

Heussner AH, Mazija L, Fastner J and Dietrich DR. 2012. Toxin content and cytotoxicity of algal dietary supplements. *Toxicology and Applied Pharmacology*. **265** (2): 263-271.

Buono S, Langellotti AL, Martello A, Rinna F and Fogliano V. 2014. Functional ingredients from microalgae. *Food & Function*. **5** (8): 1669-1685.

Siva Kiran RR, Madhu GM and Satyanarayana SV. 2015. *Spirulina* in combating Protein Energy Malnutrition (PEM) and Protein Energy Wasting (PEW) – A review. *Journal of Nutrition Research*. **3** (1): 62-79.