

You've been warmed

How are brands and suppliers responding to the challenge of a changing climate?

No human activity or enterprise will escape the consequences of global warming. From the marquee impacts like sea level rise and devastating hurricanes to insects and weeds extending their ranges, the effects reach beyond food supply into the world-shaking machinations of global politics.

And yet, the supplement industry is vulnerable to global warming in several unique ways. Dependent on a supply chain that is global and rooted in an intricate web of specialized growing regions and habitats, brands and ingredient suppliers must be ever mindful that the populations supplying ingredients—not just the soil from which it is sourced—are subject to the kind of devastation that end lives as well as trade.

With that in mind, we asked companies at the finished product and ingredient supply level to tell us how they are adapting and what they are doing as the climate changes.

Bethany Davis, director of industry relations, MegaFood

MegaFood is working to shift the agricultural system from one that is unsustainable to one that is regenerative. Soil management is a powerful solution for carbon drawdown, while sustaining populations with nutritious food. MegaFood is working with Green America to build a soil health standard that can be used globally to move us towards a regenerative future while simultaneously implementing regenerative standards for our supply chain. Glyphosate, as a broad-spectrum herbicide, deteriorates soil health, so we have also partnered with the Environmental Working Group, and other powerful brands, to compel the EPA to limit glyphosate use.

Richard Henfrey, CEO Blackmores

Blackmores' interest in the impact human activity has on the natural environment dates back more than 80 years. Our founder, Maurice Blackmore, understood that you can't have healthy people without a healthy planet.

As a company that relies on the bounty of our natural environment, it makes sense that Blackmores is committed to sustainable environmental, social and economic practices. Our longer-term aspiration is to reduce the carbon intensity of our operations 20 percent by 2030. As an Australian-based company, this will challenge us to favor cleaner energy sources and better manage energy, especially when there is increased pressure on cooling systems in the hotter and longer summers.

Through audits and global information networks, we identify where we may need to intervene more constructively to mitigate risks to the business through our global supply chain.

We are implementing a medium- to longer-term program of adapting the business to climate-induced changes in terrestrial and marine environments and ecosystems, the foundations of our ingredients and nutrient supply chain.

This means planning for scenarios where our supply chain is at risk of being impacted, and identifying alternate sources or modified product compositions. We have plans to collaborate further with suppliers, helping them influence and support their farmers and growers to implement adaptation measures to secure supply while reducing detrimental economic, environmental and social impacts.

With data collection improvements, evaluation and new technology, we will have the capacity to better understand our performance and respond to emerging issues. We keep our stakeholders informed of our progress on climate change measures through our annual

public Sustainability Report, which is located at www.blackmoressustainability.com.au

Shitij Chabba, VP marketing, DSM North America

Sustainability is our core value at DSM, and we believe that effectively tackling climate change is both a moral responsibility and a business opportunity. Analyzing potential scenarios in which our supply chain could be materially impacted helps reveal the areas in which vulnerability exists. We take a multi-faceted approach by focusing on climate change mitigation and supply chain adaptation. We are constantly looking for ways to reduce the impact of our operations, as well as those of our customers, by providing low-carbon products and solutions. In addition to our portfolio of Brighter Living Solutions, which now accounts for 62 percent of our net sales, we use an internal carbon price of €50 per ton of CO₂ equivalent in the valuations of large projects to encourage investments in low-carbon or carbon-free technologies, and we tie sustainability with financials—including remuneration.

We believe there are a variety of options companies could employ to mitigate most risks, but perhaps the one most obvious is energy: substituting alternatives and renewables for conventional sources of energy allows self-sufficiency and provides insulation from price fluctuations. All our operations globally are moving to 100 percent renewable purchased electricity, including solar, wind and hydroelectric. In 2018, we achieved 100 percent renewable electricity in the Netherlands and 50 percent renewable electricity in the U.S. In the U.S., we currently have solar fields installed at two of our manufacturing sites. The solar field at our Belvidere, NJ, facility, which opened in 2014, is currently being expanded to double its original size and will effectively triple the solar output at the site.

When the expansion is completed in December 2018, it will be the second largest on the East Coast, and we estimate the maximum output at peak sunlight will exceed the plant's consumption.

Peter Leyland, CEO, Sibelius Natural Products

With the advent of climate change, growing conditions are changing dramatically in many parts of the world. In 2018, France's Comité Champagne (CIVC) trade association registered 2 degrees hotter than normal growing seasons in the Champagne region. This impacts the timing of the harvest, product quality, the likelihood of destructive frosts and also encourages new pests and diseases.

As a consequence, additional areas of champagne grape cultivation are being sought. One potential area that has been identified is the chalky sea level regions of southern England, such as Sussex, Kent, and Hampshire—currently the main growing regions for Sibelius Sage, putting Sibelius Natural Products in competition for the same land. Sibelius Natural Products is actively seeking additional specialist locations to cultivate more sage, in particular in the southern hemisphere, in order to have two harvest seasons per year.

By mirroring the current specialized growing conditions in northern and southern hemispheres, Sibelius is actively seeking to bring even greater surety to the robust supply chain of our proprietary and patent-pending ingredient to overcome any impact from climate change.

Larry Kolb, president, TSI USA

TSI is always innovating ways to improve our supply chain to ensure product process sustainability, quality and, ultimately, consumer value. One of our major accomplishments recently was improving our glucosamine production to eliminate climate-change-vulnerable shellfish from our supply chain. We developed a patent-pending fermentation technology that starts with food grade glucose in place of shellfish as our starting material and ends with market leading, high quality glucosamine ingredients. This line is marketed under our brand GlucosaGreen.

We also have been able to significantly reduce wastewater ten-fold to a much more environmentally-friendly environmental footprint.

Brian Zapp, creative director, Applied Food Sciences

The risk of supply chain disruption from global climate change and economic devaluation are elements that force us to apply forward thinking. Monitoring and analyzing trends through historical environmental factors, such as rainfall, pest infestation, harvest yields, and invasive crop species, help us understand how climate change is impacting the plant and the people who farm that plant. From more sophisticated coffee farms and wild harvested guayusa to amla picking, we work closely with the farmers to understand how these variables are changing from year to year and support strategies to mitigate the potential for loss.

Investing time and energy to understand how lack of water or hydration to plants can impact the farmers' yields has tremendous long-term value. AFS now recognizes the importance carbon content has on the soil's ability to not only enhance the nutritive value of the crop and performance but how it can assist in water retention. Farming practices like over-tilling fields or not effectively replacing the carbon in the soil with spent stalks, etc., can have a long-term impact on the sustainability of that crop, especially during years of drought, extreme cold or extreme heat.

AFS has programs in place to assist the farms and associated communities through effective communications. Thus, in times of struggle, we can help respond quickly. The program demonstrates the impact of a sustainable supply chain, which means a sustainable community can be good stewards of that long-term supply. Supporting the community surrounding the farm is not only ethically sound but makes business sense as well.

Guy Woodman, general manager, EuromedUSA

The global supply chain for Euromed's pharmacopeial-grade herbal raw materials has become more challenging in the last 20 years. Unpredictable climatic conditions

have warranted maintaining larger stocks of botanical inventory, expanding medicinal plant cultivation in both the Northern and Southern hemispheres and adapting to unforeseen environmental impact.

Euromed is the world's leading manufacturer of milk thistle extract produced from the plant, *silybum marianum*. This crop is very sensitive to climatic conditions. In preparation for elevated temperatures in Europe, Euromed has established cultivation in the southern hemisphere. We target regions where milk thistle can be planted as an alternative to other crops, i.e. soybeans planted in summer in the northern hemisphere and grains in winter in the southern hemisphere.

The genetics of the plant determine the seed quality and quantity. The cultivation of plants from one hemisphere to another require many generations of the crop to obtain a plant that is adapted to a new growing environment.

Companies like Euromed, in this sector, need to anticipate coming changes from global warming and prepare accordingly. A reliable long-term supply of each medicinal plant presents a unique challenge and should be considered an ongoing sustainability project.

Brian Appell, marketing manager, Omniactive

The best way we're approaching climate change challenges is through our efforts around vertical integration and creating redundancies in our supply chains. Examples include:

Establishing several locations across different climatic regions in India, where we grow our marigolds for Lutemax 2020, to mitigate issues that weather/environment might have on crop yields.

Working closely with our farmers by providing access to OmniActives' "agri team," to educate farmers on good agricultural practices, as well as monitoring crop and weather conditions in real-time using cloud-based technology.

Developing/using seed stocks that can grow in environments or soils not typically suited for marigold flowers.

We are also working with multiple suppliers to, again, create that redundancy in case one supplier is affected by climatic or soil conditions. ■