Pardon Me.
Is That Seaweed
in My Milk?

The surprising versatility of a key natural resource – and what FMC is doing to help ensure its renewability for future generations.

A THREE-PART STORY
Ever thought about having some seaweed with your chocolate milk? How about a little seaweed in your minty fresh toothpaste? Or maybe you’d prefer seaweed in your body lotion or shampoo?

Your initial reaction might be: “no way!” But the truth is that seaweed plays a host of roles in a wide range of products you probably use every day. And chances are just as likely that FMC has played some part in formulating those ingredients.

What’s All This Talk About Seaweed?

In its natural habitat, seaweed is tough enough to withstand the constant, roiling motion that typifies life underwater. If you hold raw, recently harvested seaweed in your hands, you'll find it smooth and slippery to the touch. This combination of sturdy and flexible cell walls and smooth, reliable texture are among the many important properties that make seaweed a valuable commodity in the world marketplace.

For over 40 years, FMC’s BioPolymer Division has been fine-tuning its efforts to farm and harvest this valuable resource in a sustainable fashion. In the process, FMC has helped customers improve product performance while reducing environmental impact. At the same time, the company has made a positive impact in the communities where it does business worldwide. And its products help improve quality of life.

While sustainability has long been a core practice at FMC, the company is pursuing it with a new rigor and vision.

The Seaweed Story Begins

The first person known to tap the valuable properties of seaweed was Massachusetts chemist Thomas Dwyer—today we would call him a pharmacist— in 1843. He needed a thickener for the cough syrup he was formulating and knew that if he boiled down the seaweed (or “Irish moss”) found in great abundance along the northeastern seaboard, he would get the smooth texture he wanted for his syrup.
Seaweed is actually a form of algae: a photosynthetic organism that does not have roots, stems or leaves, like terrestrial plants. Anyone who has eaten sushi is familiar with one of the more popular uses of seaweed. That green, paper-like product that wraps your rice is actually a form of red seaweed (either Porphyra yezoensis or Porphyra tenera). The chlorophyll in the algae masks its color.

There are two other seaweed varieties that are of interest and value to FMC, its suppliers, vendors and customers. Some varieties of brown seaweed, called alginophytes, are harvested wild. Other varieties of red seaweed, called carrageenophytes, are cultivated and also harvested wild.

By the 1950s, businesses in the North Atlantic were gathering about 5,000 tons of seaweed per year, and threatening to over-harvest what once seemed to be an endless natural resource. FMC entered the business in 1977 with the purchase of Marine Colloids and made a commitment to treat Irish moss and the other types of seaweed gathered all over the globe in an environmentally viable manner. Today, the annual harvest for farmed carrageenan alone is approximately 200,000 dry metric tons.

“Successful and sustainable ocean harvesting requires a carefully constructed management plan based on biology and the needs of natural ecosystems,” says Erick Ask, manager of raw material development for FMC BioPolymer. “But when you are setting standards for harvesting driven by sustainability and compliance, you also have to take into consideration local customs, belief systems, values and politics.”

The Wild Harvest

Today, through its BioPolymer Division, FMC promotes sustainable and regulated wild seaweed harvests. In Norway, and in full cooperation with the Norwegian government, a fleet of private and FMC trawlers harvests the alginate that grows in great abundance under the icy waters off the coast according to a sustainable management plan.
Seaweed grows to maturity in five-year cycles. The beds of brown seaweed off the Norwegian coast are divided into more than 400 fields. This underwater crop is carefully harvested, by field, to allow nature to take its inevitable course. Specially designed rakes pull entire mature plants off the ocean floor leaving young plants to repopulate the area. Similar managed harvests take place in Iceland, Morocco and off the coast of Canada.

From Erick Ask’s perspective, this is simply the smartest harvesting approach for this gift from the sea. “If you cultivate in an environmentally sensitive way,” he says, “you will have an unlimited supply. With an unlimited supply, you can develop more applications, serve more customers and increase sales.”

In Australia, a very different approach is applied. Seaweed is gathered as it washes ashore after a storm. Either scenario begs the question, “What would happen to the seaweed if there was no harvest?” Erick Ask speculates that this invaluable, replenishable resource that fuels many industries and all those who work to bring it from the sea to the store would simply be wasted. “All that was washed up on the beach would probably rot there,” he said. “And all that remained in the ocean would ultimately give way to the forces of nature.”

To Be Continued...

In Part 2 of this story, you will learn about seaweed harvesting in the warmer waters of the Philippines, Indonesia, Tanzania and Madagascar – and how FMC is helping improve workers’ standard of living and quality of life.

Do you have comments or ideas on sustainability for FMC? Please share them at sustainability.info@fmc.com.