DEPT. OF AQUACULTURE

A NEW LEAF

Seaweed could be a miracle food—if we can figure out how to make it taste good.

BY DANA GOODYEAR

I stared for a while at the placid face of Long Island Sound before I could make out Bren Smith's farm. It was a warm, calm morning in September. Sixty buoys bobbed in rows like the capped heads of synchronized swimmers. It wasn't until Smith cut the engine of his beat-up boat, Mookie, that I knew for sure we had arrived. The farm, a three-acre patch of sea off Stony Creek, Connecticut, starts six feet underwater and descends almost to the ocean floor. From the buoys hang ropes, and from the ropes hang broad, slippery blades of sugar kelp, which have the color and sheen of wet Kodak film.

At first, the local fishermen thought that Smith was growing some kind of marine hemp; that seemed cool. When they found out it was seaweed, they ribbed him relentlessly. Smith, in any case, prefers to call his produce "sea vegetables." He also raises mussels, scallops, clams, and oysters in lantern nets shaped like accordions and stacked pyramids. He pulled up a lantern net full of twenty thousand black-and-orange scallops, two months old, the size of M&M's. The net was covered in murky, greenish clumps of seaweed, crawling with sea squirts, little crabs, and translucent shrimp. "The farm is a reef for hundreds of species," he said, cutting off a hank of seaweed—*Gracilaria*—for me to try. It crunched, filling my mouth with the taste of lobster juice. "This is what you want to see," he said. "This is good, restorative ocean farming."

Seaweed, which requires neither fresh water nor fertilizer, is one of the world's most sustainable and nutritious crops. It absorbs dissolved nitrogen, phosphorous, and carbon dioxide directly from the sea—its footprint is negative—and proliferates at a terrific rate. Smith's kelp can grow as much as three-quarters of an inch a day, maturing from pinhead to ten-foot plant in the course of a winter, between hurricane seasons. It is resilient, built to take a lashing, but if a storm wipes out the crop he can just start over. Every year, he harvests between thirty and sixty tons of it, about the same per-acre yield as a potato farmer. Plentiful, healthy, and virtuous, kelp is the culinary equivalent of an electric car. "You're not just gaining nutrition, you're also gaining absolution from guilt," Mark Bomford, the director of the Yale Sustainable Food Program, says. "This is your get-out-of-anxiety-free card."

As industrial land-based agriculture becomes increasingly untenable—environmentally destructive and at the same time vulnerable to drought and changing weather—we are being pushed out to sea. Smith says, "The question is, Are we going to do it right or wrong?" He calls his system, which uses the entire water column, a "3-D farm," and he would like to see it become the dominant form of aquaculture. He would like to see kelp—a potential source of human food, biofuel, and animal feed—supplant crops like corn and soy. In October, his farm design, which he has made open-source, won a prize given by the Buckminster Fuller Institute for innovative solutions to urgent global problems. Not long before that, he was honored by Bill Clinton at the Clinton Global Initiative meeting in New York, where he showed up without realizing that he had a twelve-inch fillet knife in his backpack.

But Smith's ambitions extend beyond reshaping an industry. In his vision, kelp farming can rehabilitate the ocean's threatened ecosystems, mitigate the effects of climate change, and revive coastal economies. With thirty thousand dollars of start-up money and a boat, he figures, an out-of-work fisherman can make seventy thousand dollars a year. "There are no jobs on a

PHOTOGRAPH BY KIM KEEVER

59 Cambridge Place, Brooklyn, NY, 11238

Tilloufineart.com