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## On the Perfection of Broccoli: Talking to Ed Brush

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### Cover Page Footnote

Article about Ed Brush, professor of Chemistry and co-director of the Bridgewater State University Center for Sustainability.



## On the Perfection of Broccoli: Talking to Ed Brush

Lee Torda

Just saying, Ed Brush doesn't care if you double-side your handouts.

That's not entirely true, of course. He cares.

But after years of working as co-director of the Bridgewater State University Center for Sustainability, it gets tedious having everyone confess their environmental sins to you. "Double-siding your handout is not going to be the thing that

saves the planet," Ed says. He shakes his head in (almost) despair. "It's so much bigger than that. That's what I've been trying to get people on campus to see."

I'll confess to confessing to Ed myself on occasion. How can you help it? Ed is one of those people at Bridgewater whose name you know—even if you don't know him personally. He is the electronic voice of sustainability as well as its public face. Defender of the planet. Crusader for Green. It's not as romantic as I want to make it look, I think, being the voice of the planet for the campus,

but Ed takes on the work because, in many ways, his very public work in sustainability is just the most visible evidence of a life committed to sustaining the people and the planet around him.

I often find that I understand the word sustainability rather narrowly—and I suspect others do as well, which contributes to all the confessions about single-sided handouts. So I asked Ed to define sustainability for me. He took a deep breath, because, it's clear to me, Ed understands a truly sustainable world requires the sort of work for which one needs vast stores of energy. "It's the

capacity of the earth to support life. It's fairness to the earth and to the people that inhabit the planet." And then he thought a moment longer and added "—and to future generations." He apologized for not having a more concrete—or technical or succinct or practical—definition of the movement. But all I was thinking was, my goodness, Ed Brush is a poet.

Ed got started in sustainability in the Fall of 1998 when colleagues Kevin Curry and Tammy King got a grant to purchase equipment that would allow for research in and on the environment. This was also around the same time that the related if more technical field of Green Chemistry was coming to be recognized within Chemical Sciences generally. Ed is careful to say that the field was not new. "The terminology was new, but the idea of green chemistry—thinking about the field in terms of the toxicity of the chemicals we are using and creating—has been around for a long time. Green Chemistry is Chemistry."

Ed's current research involves building small organic molecules—chemical arrows, according to Ed—that are designed to target certain cancers. I told Ed that when I was in undergraduate research every chemistry proposal I ever read always ended with "and, one day, this particular thingamajig will help cure cancer." Ed laughed. "Well,



not anytime soon it won't. In 25 years maybe. And it won't be me: one of my *students* will figure it out." As someone who has known Ed as a founding faculty member of the Adrian Tinsley Program, I am hardly surprised that he thinks this way about his research. But now I think, of course, how sustainable of Ed to be taking such care with the future discoveries of generations to come. Ed holds the honor of being the only faculty member to mentor at least one undergraduate student each sum-

in his lab developed a rash. The rash disappeared into nothing, but Ed stopped the project immediately. "I started to think seriously about how the chemicals we were using and the compounds we were creating were affecting the world we were introducing them into. I was shocked to realize that Chemistry so rarely considered these things—and that I had not been trained to think about them." That's when Ed got involved in what has been called non-violent chemistry. Ed is quick to point out that

The humble broccoli is often over-cooked and under-appreciated, but it is an infinitely useful and lovely plant. Its flower and stalk are equally edible. It's an efficient plant that way. The color of a young plant is named for the planet's most astonishing season: spring green. It's more than a color, really. It is an odd compound verb of sorts. Spring-green. Move forward, quickly, wisely, in fairness to the planet and her people. Broccoli is very good for us. So is Ed Brush.



mer for the entire time that the Adrian Tinsley Program has existed.

Suddenly, I think I understand both Ed and this idea of sustainability better. Sustainability is a commitment to leave something besides waste behind. But it seems not quite right to call Ed's teaching a new generation of scientists *sustainable* exactly. A sustainable act? Wrong too. This is it: teaching, for Ed, for me and many of us, is *sustaining*.

In recent years I noticed that many of Ed's students were themselves working on Green Chemistry, and I asked him if that was a result of his own interest in the field. His answer was that it was more the other way around. Years into Ed's own research, a student researcher

the professor who came up with the phrase was in Literature. Acknowledging Ed's good sense to trust a literature scholar to come up with such a good name, I thought again, Ed Brush is a poet.

Ed is also a gardener. He and his wife tend a large and varied plot. When I asked him what his favorite plant was he seemed flummoxed for a moment. "Well, honestly, it's broccoli." Of course it is. None of the stuff of ornament for Ed Brush, his is a sturdy and productive vegetable garden. Ed's own research even revolves around *Brassica oleracea*. The chemical arrows that Ed is on the hunt for depend on a chemical compound in Broccoli. That's the powerful molecular soup that naturally gives broccoli its cancer-fighting agents.

Ed Brush was deeply affected by his summer reading of Barbara Kingsolver's *Animal, Vegetable, Miracle*. In the book, Kingsolver chronicles a year of trying to eat food produced, almost exclusively, from local farms, and, most importantly, her own back yard garden. Inspired by the idea, Ed is currently busy researching how he might do the same. In addition to his own large backyard, Ed and his wife tend a plot in the Bridgewater Community Garden—a project just completing its first pretty successful year under the stewardship of Arthur Lizie, incoming Director for the Center For Sustainability. Vegetables are one thing, but where one procures meat, dairy, bread is more complicated. There is a growing interest in eating locally and sustainably, inspired by things like Kingsolver's experiment and other writers such as Michael Pollan (*The Omnivores Dilemma*) and Jonathan Safran Foer (*Eating Animals*), but also by the Slow-Food movement (there is a Bridgewater slow-food chapter), and documentaries like *King Corn* that records the fate of an acre of Iowa corn through the food chain.

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