
Food, Feed, Fiber and Fuel: A New World for American Agriculture and Environmental Sustainability

WILLIAM RICHARDS¹

Richards Farms, Inc.

Circleville, OH

Sustainability isn't good enough. We have the technology in corn—and hopefully we'll have the technology for dedicated energy crops—to go beyond sustainability to resource enhancement. Biofuel production offers opportunities to improve soil, water and air quality, not just to conserve and sustain.

CONSERVATION TILLAGE

My family farm is about 30 miles south of Columbus. Three sons are there, operating about 2,800 acres of corn and soybean. I've spent my career in the development and practice of conservation tillage—no-till, direct seeding, whatever we call it. We have land that hasn't been turned by a moldboard plow in more than 45 years. We have 30 years of continuous no-till. In addition, we've developed a controlled traffic system that keeps the wheel tracks in the same spots to avoid compaction. We have developed and modified equipment from those early days, some of which is still in use.

We've seen soil improvements beyond our dreams: increased organic matter content (carbon sequestration is working), and erosion essentially eliminated. Planting gets easier and easier each year. Stands get easier to obtain each year. Yields are increasing. Fuel, labor and machine costs and herbicide use are decreasing. No-till has helped keep our family farm competitive, profitable and, really, beyond sustainability these past 40 years. It also helped send me to Washington when Secretary Yeutter and Assistant Secretary Moseley needed a farmer with some conservation experience to guide other farmers in conservation requirements in the '85 and the '90 Farm Bills. Conservation compliance became a condition for eligibility for federal program benefits, albeit not a legal require-

¹Co-chair of the 25x'25 National Steering Committee.

ment. At the Soil Conservation Service, we were very frustrated. Producers were hostile, so we initiated a campaign to market opportunities and advantages and the economics of conservation, and we had good success. When considering sustainability in biomass production, take a look at that model because it could work again. Again, this is a farmer talking, not necessarily espousing member organizations' policy.

25×'25

The objective is to produce 25% of US energy from the land by 2025. That's not just biomass, that's wind, hydropower and solar. I co-chair the national steering committee with J. Read Smith, a no-till wheat farmer from Washington State. We started with about ten on that committee—many of whom are colleagues of attendees at this meeting—and expanded to about twenty-five members.

The committee meets several times a year, funded by the Energy Futures Coalition, a non-politically-partisan group of DC leaders—members of previous administrations or of Congress—who came together shortly after 9/11. It was sparked by President Clinton's CIA director, Ambassador James Woolsey and includes John Podesta, Clinton's chief of staff, and Boyden Gray from the President George H.W. Bush's administration.

After issuing several extensive reports, the Energy Futures Coalition concluded that the US must find ways to reduce dependence on fuel from its enemies. Former Director Woolsey believes that the US is involved in a war that could be longer than the Cold War. It's the first war America has fought in which it is funding both sides, with \$250 billion/year for importation of oil. When you add the problems that the Iraq conflict brings—the injuries, fatalities, *etc.*—it's probably costing us a billion dollars a day for oil imports. Woolsey maintains that this war will continue until we find some sort of energy independence.

A speaker at this conference made the statement that we have to be careful of our choices. I only hope that we have choices because we may be just one attack away from serious problems. The Coalition examined alternatives—clean coal, oil shales, drill more US oil, and nuclear—and found that each has negative social implications. Renewable energy from our land is the most socially acceptable, environmentally friendly and economically feasible of all the choices, therefore the Energy Futures Coalition reached out to agriculture. Ernie Shae is the full-time coordinator of the 25×'25 effort, assisted by several staff members.

MORE THAN A DREAM

Our mission is to facilitate, to bring together agricultural, environmental, commercial and scientific organizations around energy policy. Our slogan "25 by '25" is catchy and it resonates. About 3 years back we started with a vision and developed a goal that has generated interest beyond our greatest expectations. Twenty-five percent of our energy from our land by 2025 may be more than a dream. It may well be a necessity. About 500 organizations have signed on to our vision, including the major general farm organizations, the big three audit companies, John Deere, Case and other equipment manufacturers, and conservation and environmental groups around the country. Twenty-five governors

have signed on, as have many state legislatures. Resolutions have been introduced in both houses of Congress. Last week it passed the Agriculture Committee and it's now before the Senate. We've held three national renewable energy summits, all well attended. Our Ohio summit convened in November 2006; we had about 200 registered and 300 showed up. We've organized 25x25 alliances in nine states.

The steering committee has visited the DOE labs in Colorado twice. We met with the State Board of Agriculture in California where we heard from Steven Chu, Nobel Laureate director of the Berkeley Laboratories. He called for an effort equivalent to the Manhattan or Apollo Project if the US is to solve this problem. We have facilitated two policy sessions where our participating organizations put forth policy positions which our steering committee compiled into an action plan that's available on the internet². We've been able to work under the "yes if" principle with these organizations: Yes we'll agree, yes we'll continue around the table but we reserve certain other requirements. This seems to be working considering that we've brought so many agricultural and environmental organizations together in the same room.

We've sponsored two studies, one at the University of Tennessee and the other at the Rand Corporation, both of which showed that, yes, 25 by '25 is possible, if:

- society and Congress have the commitment to fund the R&D,
- we solve the economics of cellulose conversion to ethanol,
- we utilize our forest resources,
- we're willing to bring a hundred million acres more land into energy-crop production.

The Tennessee study is also available on the internet³.

CELLULOSICS: PROBLEMS AND POTENTIAL

I predict that energy production will bring the greatest land-use changes since widespread adoption of agricultural technology began in the 1930s. That's assuming that we can achieve economic production of ethanol from cellulosic biomass. I do not think that corn stover will be the solution or *a* solution. I think that residue will continue to be more valuable when left on the soil, which, of course, is the key to no-till. Also, the harvest window is too narrow. Most of the Corn Belt has very few days between the end of harvest and the beginning of bad weather. And even if John Deere comes up with a wonderful machine that puts the corn in one bin and the corn stalks in another tank, farmers have a culture of fast harvest: harvest to avoid risk. It will take some real prices to get farmers to slow that harvest down and collect those corn stalks. Compaction will also be a factor.

It's going to take big dollars to really collect the cellulose that we are dreaming about.

²http://www.25x25.org/storage/25x25/documents/IP%20Documents/actionplanfinalweb_08-27-07.pdf

³<http://www.agpolicy.org/ppap/REPORT%2025x25.pdf>

I think we'll use a dedicated energy crop. I have experience with switchgrass which we planted for the pheasants on CRP land. The pheasants are safe because that stuff grows well over my head and productivity must be tremendous. We need research on those feedstock grasses. We must find ways to concentrate those feedstocks. We're not going to be hauling fluffy material very many miles. We're going to need technology that locates those processing plants or some kind of gasification or other new technology that gets those feedstocks into a transportable mode much different from what we are looking at now.

Let's assume that we find solutions to cellulosic production. Think what that will do to our land. Think of millions of acres of underutilized brush and pastureland. Solving erosion problems, improving soil, water and air quality and providing wildlife habitat. Think of millions of acres of undervalued forest that can be used for cellulosic ethanol. When these forests are thinned and improved, they are very much more valuable for timber. And think of the opportunity we have to get conservation policies and programs in place that we've only dreamed of in the past.

A WHOLE NEW WORLD

As a farmer I'm excited. I've maintained for many years that expensive energy would be bullish for agriculture. In my 50 years as a producer we've almost always had excess production. Our productive capacity in this country has almost always exceeded demand for food and fiber. In crop agriculture, we have survived through export markets and with support programs from the public. When you add renewable energy from our land we are in a whole new world. I believe we can produce 25% of our energy while continuing to produce safe, abundant and affordable food, feed and fiber, and we can do it by 2025 while enhancing the environment. Not only can we do it, I believe that we *must* do it.

I'll close with a quote from a famous, but sometimes forgotten, American. In the early years of the twentieth century, this great scientist at Tuskegee University made this statement:

I believe that the Great Creator has put ores and oil on this earth to give us a breathing spell. As we exhaust them we must be prepared to fall back on our farms, which is God's true storehouse and can never be exhausted. We can learn to synthesize material for every human need from the things that we grow.

—George Washington Carver



WILLIAM RICHARDS served as chief of USDA's Soil and Conservation Service (Now Natural Resources Conservation Service) from 1990 to 1993. During his tenure, he initiated the highly successful National Alliance for Crop Residue Management and spearheaded a formal partnership agreement among SCS, the National Association of Conservation Districts and the National Association of

State Conservation Agencies. Richards' commitment to conservation extends to his family in Circleville, OH, one of the first in the United States on which conservation tillage was adopted on the entire acreage.

Mr. Richards is a senior advisor on Farm Bill and agricultural policy. He is an Ohio Agriculture Hall of Fame inductee and recipient of distinguished service awards from Ohio State and Purdue Universities, the National Association of Conservation districts, and the National Association of Farm Managers and Rural Appraisers.

A graduate of Ohio State with a degree in agricultural economics, he currently serves as co-chair of the 25x'25 national steering committee.