A Meandering Exploration
into the Nature of Innovation

By Greg Lawless

Of the 30-plus quotations I compiled to help me think about innovation, perhaps none is more appropriate, in the context of agriculture, than these four words from Robert Metcalfe, co-inventor of the Ethernet:

"Innovation is a weed."

Of course, every farmer, gardener and homeowner is familiar with weeds. They reduce efficiency in crop production. They choke our tomato plants. They destroy the perfection of our carefully tended lawns. But in the context of innovation, what might a weed represent?

As the old saying goes, a weed is a plant in the wrong place. And yet to certain people, some weeds are not weeds at all. Perhaps each plant has its own niche market of sorts-- whether it likes it or not.

Take for example, common burdock. It's a bit of a problem in no-till farming, and its dried bur-like heads reduce the value of wool. Academics call it <i>arctium minus</i>. It's called <i>ngao pong</i> in Cantonese; <i>niu pang</i> in Mandarin. The Japanese call it <i>gobo</i>; the Koreans, <i>uang</i>.
A weed science website from the University of Wisconsin-Extension explains that common burdock has long been used as a medicinal herb. It quotes another source to say:

As an alterative and depurative, burdock is one of the most effective herbs for cleansing the blood without the side effect of nausea. It contains 27-45% insulin as well as an abundance of iron. As a blood purifier, it is used for arthritis, rheumatism, sciatica, and lumbago.

Much to my surprise, the reference continued in a manner not typically found in Extension publications:

The energy is cooling; therefore, it is used for "hot"/yang conditions such as fevers, boils, styes, carbuncles, and infections. (American Health and Herbs 1997)

In the early 1990s, I worked for a fresh market vegetable producer in Vernon County. He was at the time and remains one of the state's most successful organic farmers. One of his strengths has been his ability to capture niche markets before anyone else. He was one of the first enterprising souls to offer Wisconsinites washed, mixed baby lettuce in a bag. He shipped pallets of black radishes to Eastern Europeans in Chicago and the East Coast. And somewhere, he found Asian populations willing to buy large amounts of edible burdock. I recall him saying at the time that it was one of his most profitable crops per acre.

**Weeds are opportunistic.**

The phrase "Nature abhors a vacuum" has been attributed to various people, including Henry David Thoreau, the ancient Greeks, a 16th century French monk, and Michael Nesmith from the musical band, The Monkeys. I first truly understood this phrase when that same organic farmer used it while pointing out a creeping infestation of purslane.

He explained that purslane, like burdock, is an edible plant. He broke off a section, split it in half and shared it with me. Not too bad. Nevertheless, we concluded there was far more purslane interspersed in that half acre of cucumbers than we could sell at the Saturday market-- or for that matter to Eastern Europeans or anyone else on God's green earth. So he fired up the propane flamer and wiped them out.

As a gardener myself, I would say there is no weed more tenacious, more nefarious, or more exasperating than the Morningglory. It sneaks up on you, doesn't it? It starts very small of course, with two lobed, embryonic leaves. They always sprout several weeks after I've planted my own seeds and moved on to more pressing concerns. One season, I discovered that by uprooting the 10-foot spiraling tentacles-- which those seedlings became-- I dispersed millions of spores of one soil fungus or another. This soon led to the rapid demise of my delicate crop of heirloom tomatoes.

Very disruptive, those weeds.
Which brings us to a concept that grew out of the computer world: "disruptive technology." The term was introduced in 1995 by a Harvard Business School professor who studied the rapidly evolving disk drive industry. He described how small start-up companies can overturn dominant firms, often by targeting those firms' more marginal customers. A contemporary example might be the explosion of internet blogs that now compete with TimeWarner and local daily papers for our attention. Or the millions of YouTube contributors who may eventually undercut Hollywood.

But what does all of this have to do with farming in Wisconsin?

A poverty of innovation?

Several years ago, while running around the state promoting a federal grant program, I repeatedly argued that there was a "poverty of innovation" in Wisconsin agriculture. I didn't mean it entirely. I was trying to provoke a reaction. I was hoping someone would stand up and shout me down with a string of countervailing examples. I certainly knew of some myself.

What I have observed, over 40-plus years of living and working in the Midwest, is that we are, at the very least, resistant to innovation. Our culture seems to discourage it. Allow me to explain with a few more quotations.

- "If you're not failing every now and again, it's a sign you're not doing anything very innovative." (Woody Allen)

Not one of Mr. Allen's funniest lines, but I think true nonetheless. Or in the words of another man not often quoted in agri-business journals:

- "Mistakes are the portals of discovery." (James Joyce)

What is my point? The Federal Reserve Bank of Chicago supports a blog about the Midwest Economy. A May 2006 entry compared the culture of California's high-tech industry with Midwestern agriculture. The author, Bill Testa, described

... a clear cultural distinction between the Midwest and the West Coast. Midwesterners are, on average, less likely to take the risks that lead to new enterprises. The reason is that, in places such as San Diego, failure is not a cause for personal condemnation, and so, entrepreneurs are willing to just try again after failure. (By contrast) in Midwest agriculture, the fear of failure and the resulting shunning by the community tends to create a culture where people are afraid to take risks in the first place.

From Deb Brown, University of Minnesota Extension (modified by the author)
But fear of failure isn't the only reason we resist innovation. Consider these comments:

- "Innovations never happen as planned." (Gifford Pinchot, management consultant)
- "Technological creativity, like all creativity, is an act of rebellion." (Joel Mokyr, Northwestern University)
- "Hell, there are no rules here -- we're trying to accomplish something." (Thomas Edison)

These attitudes fly directly in the face of another Midwestern trait: a discomfort with chaos. If you don't believe me, consult your 1987 edition of the Old Farmers Almanac, where you'll find an article titled, "Why the Midwest is Square." In it, Gene Logsdon described why his house, set cockeyed to the road, deeply offended his neighbors:

A house sitting at an angle to the directions of the compass disturbs the delicate equilibrium of the Midwestern mind. ...This is the land of the square deal. Plaid shirts are always in style; paisley never. ...The world is divided into the competent who have "everything squared away" and all those idiots "running in circles."... Neatness is a primary virtue. ...A neighbor spent thousands of dollars to move a creek that meandered evilly through his land, so that he could "square off" a field. Midwesterners have studded their land with right angle corners; they think the earth is square, not round.

At least we know how to laugh at ourselves.

Something else that inhibits innovation, which I won't attribute only to Midwesterns, is a tendency to criticize or reject what is new or unfamiliar. Or as a 19th century British economist put it:

- "One of the greatest pains to human nature is the pain of a new idea." (Walter Bagehot)

In a [1998 journal article](#), two British business professors argued that there are three forms of resistance to innovation: opposition, postponement, and rejection. Here are three more quotes that may help to illustrate:

- "The devil's advocate may be the biggest innovation killer in America today." (Tom Kelly, business consultant)
- "A committee is a cul-de-sac down which ideas are lured and then quietly strangled." (Sir Barnett Cocks, Clerk of the House of Commons)
- "You have a chip on your tooth, your Adam's apple sticks out too far, and you talk too slow." (a Universal Pictures executive to the young Clint Eastwood)
How to succeed as a weed.

A weed may not be a perfect metaphor for innovation, but I'm sticking with it. Here is some closing advice that may apply to weeds and all other aspiring innovators:

Be resourceful:

- To invent, you need a good imagination and a pile of junk. (Thomas Edison)

Be adaptive:

- The most successful people are those who are good at Plan B. (James Jorke, mathematician)

Find some bare ground:

- Keep on the lookout for novel ideas that others have used successfully. Your idea has to be original only in its adaptation to the problem you're working on. (Thomas Edison)
- We have to continuously create new innovation that lets people do something they didn't think they could do the day before. (Steve Ballmer, CEO of Microsoft)
- If I had asked people what they wanted, they would have said faster horses. (Henry Ford)

And reach for the sun:

- Nothing happens unless first a dream. (Carl Sandburg)

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