GMO feedback, the Ogallala aquifer and researcher objectivity

After last week's detour to announce Harwood's retirement, we want to briefly return to our discussion of GMOs before moving on to short discussions of the crisis of the Ogallala aquifer and the dependence/independence of scientists and analysts.

We received material from readers who think that the safety of transgenic GMOs is a settled issue. On the other side we heard about the potential risks of GMOs. We appreciate those who took the time to share their material with us.

The August 2016 issue of *National Geographic* contained an article, "DNA Revolution" by Michael Specter. While much of the article deals with the potential of the CRISPR-Cas9 gene editing technology that we mentioned in an earlier column, it does contain a review of the older transgenic technology. He points out that "diabetics…count on steady supplies of genetically engineered insulin, made in the lab by placing human insulin genes into bacteria [this makes it a transgenic GMO] and then growing it in giant vats."

He then points out that "while genetically engineered medicine has been widely accepted, crops produced in a similar fashion have not, despite scores of studies showing that such products are no more dangerous to eat than any other food. As the furor over the labeling of GMOs…demonstrates, it doesn't matter whether a product is safe if people refuse to eat it."

Our purpose in writing this series of columns on GMOs was not to try to convince one side or the other, but rather to argue that the GMO labeling legislation that was recently signed into law by President Obama is not likely to end the GMO crop debate any time soon.

We also wanted to reiterate one of the fundamental principles of economics: the preferences of the customer are at the center of every transaction. As Specter wrote "it doesn't matter…if people refuse to eat it."

That same issue of "National Geographic" contained another article that grabbed our attention. In a play on the Maxwell House Coffee slogan, Laura Parker's article on the Ogallala aquifer is titled, "To the Last Drop." The tagline attached to that title tells it all, "The Ogallala aquifer turned the US Midwest into the nation's breadbasket. What happens when the water runs out?"

The Ogallala aquifer runs along the base of the east slope of the Rocky Mountains from South Dakota to the panhandle of Texas, including parts of eight states adjacent to that line. It took 15,000 years to fill the aquifer and over the last "60 years [it] has been pumped out faster than raindrops and snowmelt can seep back into the ground to replenish it, thanks largely to irrigation machinery."

In the nineteenth century, the part of the high plains that overlies the Ogallala aquifer was called the Great American Desert because of the low rainfall and arid conditions. Only with water from below ground has the area become "home to at least a $20-billion-a-year industry that grows nearly one-fifth of the United States' wheat, corn, and beef cattle."

With the water level in wells dropping by a foot a year in some areas, that level of production will not last indefinitely. Some farmers have already had to revert to dryland farming with a significant reduction in yields. Towns in the area are also experiencing water problems that make it difficult for them to meet the needs of their residents in the long-term.

The logical solution would be for everyone in the affected area to reduce their water draw to a level where the demand for water and the recharge from rainfall are equal. Here is where we see what is called the tragedy of the commons.

It is in the best interests of the population in the area to reduce usage to a level where there is a balance between recharge and discharge. But it is not in the interest of any given individual to do that. As a result, the situation gets worse year by year. Quoting "Julene Blair, author of *The Ogallala Road*," Parker writes, "She spoke emphatically about the failure of volunteer efforts to limit pumping of the aquifer. 'Local control is not working,' she told the farmers in the audience. 'It asks too much of the farmer to regulate himself. It's not the farmer's job to decide about the aquifer, it's the government's job.'"

From our perspective the "tragedy of the commons" experienced in the Ogallala region is also faced by farmers everywhere when prices are devastatingly low because the amount they produce is greater than the amount "needed" by consumers. It is in the interest of all farmers to cut production by just a little to bring supply and demand into balance at cost-of-production prices, but it is in the interest of farmers everywhere to plant as much as possible, hoping that a crop failure elsewhere will increase prices.

And that is the rationale for the farm programs of the past. There is a role for government in regulating a water resource like the Ogallala aquifer just as there is a role for government to carry-out farm programs that do for farmers what they cannot do by themselves.

The third topic for this column appeared in the Sunday, August 8, 2016 issue of the New York Times. The article, "Researchers or Business Allies? Think Tanks Blur the Line" by Eric Lipton and Brooke Williams examines the relationship between think tanks that analyze policies and the donors that provide them with funds.

It asks the question of whether or not these think tanks shape their analysis to provide a seemingly objective analysis that can be used to lobby Congress. The article provides details on a number of instances where the line between objective research and analysis and catering to donor wishes may have been crossed.

Do researchers, in some cases, shape their interpretation of results to please donors or do donors seek out researchers and analysts whose work is in line with their needs and then reward them with funding? Do the perspectives of some researchers change over time as they follow the money? When we determine the credence we give to studies we read, we pay attention to these possibilities.

We assume that those who read our work do the same thing. We hope readers find us to be independent analysts with a historical perspective on the relationships among prices and non-price influences on agricultural production and utilization as well as a consistent perspective on the role of the consumer in economic exchange.

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