
Risk Assessment: A Farmer's Perspective

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(center)*



It is important to understand that this is only one farmer's perspective. I simply cannot speak for other farmers—who range from small, part-time farmers to large corporate farmers who have large professional staffs and many employees. I speak as an individual farmer reflecting the thoughts of a Midwest commercial family farmer who has had a number of responsibilities in state and federal government.

This presentation will discuss what farmers are like—really like—the comprehensive environment in which they operate, the macro changes in farmer decision-making, how farmers look at change in general, how farmers look at changes in biotechnology in particular, how farmers assess a new product and some of the issues we, as farmers, will be facing in the future.

It will highlight those points which tend to be overlooked about farmers and have particular relevance.

WHAT ARE FARMERS REALLY LIKE?

Farmers are well-educated people, averaging slightly more years of education than non-farmers, often with university degrees and frequently with master degrees and PhDs. As a group they work for less per hour than non-farmers, consume less and accumulate more than others. In short, they live poorer but die richer, but they do it because they want to for non-economic reasons.

Among those non-economic reasons are personal independence, love of and attachment to the soil, love of animals and nature, and a deep sense of stewardship. Most farmers put a high premium on religion. Daily working with the life and death realities of nature and isolation to think without interruption, increases religious commitment which the community discipline of rural people reinforces.

Farmers are increasingly anxious economically as they have felt the agricultural depression. They are increasingly uncomfortable about seemingly endless environmental hazards, be they perceived or real. Radon, the ozone

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layer and the unknowns of pesticides and biotechnology cause concern. Recent news stories of women with breast cancer having higher levels of DDT in their systems intensify concerns, both in the specific and in the future, about what their new information may indicate about all pesticides.

There is increasing fear of unreasonable regulation and even of entrapment—where farmers may follow all the rules and be found negligent, or where they may make the extra effort to be environmentally responsible and be found liable.

Farmers tend to trust their neighbors, their clergy, their farm organization, their university and extension people, as well as the business people they deal with. However, they are less comfortable with their government and the extremists who may influence government.

Increasingly, farmers are uncomfortable with agricultural leaders who take extreme anti-environmental positions, but they are also very concerned with unrealistic positions taken by some animal rightists and environmental spokespeople. Perhaps farmers' most rapidly escalating hunger is for fact and truth, and they are less sure where to get it.

WHAT IS THE ENVIRONMENT IN WHICH FARMERS OPERATE?

The knowledge explosion has left farmers increasingly awed by the realization that what they do know is a constantly reducing percent of the knowledge available. They feel a need for more knowledge and yearn for sources they believe are sound.

Farmers are increasingly vulnerable. A county judge once told me he could put anyone in the county in jail. There are so many laws, everyone is technically violating something, no matter how conscientious he or she is. This is compounded for the individual entrepreneurs who do not have professional staffs.

Farmers are misunderstood. The first real shock I had at the Environmental Protection Agency (EPA) was the reality that many fine, conscien-

tious government employees were writing regulations for farmers while they themselves did not understand agriculture. For example, early on I was told by a fine, conscientious public servant who was writing regulations for farmers, that most of the farmland in the U.S. was owned by large corporations. (Farmers know that more than 90 percent of farmland is owned by families or individuals.) It is unreasonable for 98 percent of the population to be pre-occupied with understanding the roughly 2 percent who farm. But the 2 percent who farm are the custodians of much of the surface of the earth, and unless reality is understood, everyone will lose.

The increasing sophistication of agricultural production technology in which biotechnology looms large raises increased questions as to how and if individual farms can function effectively without vertical integration or new systems to insure that the new technology is operative on smaller and medium-sized farms.

MACRO CHANGES IN DECISION-MAKING

Before discussing the changes in American farmers' decision-making, I want to point out that one of our great resources is that American farmers can make decisions. In my work in Bulgaria, I find that one of the major impediments to progress is that where people have had the State make business decisions for them for fifty years, the people have great difficulty in making the decisions required for doing business.

Based on my almost half century of farming, I would suggest the following as major changes in decision-making during the 20th century:

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The decision-making process is more complex due to increased information—some of which has to be inaccurate—increased and sometimes inconsistent regulations, and a decision-making climate of potential, and sometimes real, media-hyped anxiety.

Dependence on crop consultants, marketing consultants, management consultants, environmental consultants, feed consultants, accountants, lawyers and others to sort out the information avalanche has increased.

Farmers are less confident in decisions they make. Increased insurance—liability, pollution, health, and workman's compensation—reflect this. There is also some increase in the "I'll do my best and let the chips fall where they may" attitude.

There is more anxiety in the whole process of farming. Last week a county agricultural extension agent told me of a recent meeting on biotechnology in his area; he said people are really afraid of it. It appears to me that this fear typifies most current decision-making because:

—Scientific data are too complex for non-trained people to understand it;

- There is deep and vocal disagreement about the risk;
- Our culture hypes anxiety about the unknown;
- Farmers have been alarmed by past traumas such as DES, EDB and Alar;
- The rate in which science is disproving previous positions causes insecurity; and
- There is a substantial sense of regulatory harassment among farmers and anything new and complex bodes of more harassment.

HOW FARMERS LOOK AT CHANGE

Historically farmers have looked at change as exciting. This nation was settled by risk-takers who looked at the frontier as an opportunity to change their lives for the better while they made the wilderness more productive.

Currently, there is still the same excitement for change. Farm shows, demonstrations, field days and farm tours excite farmers as they see new things and concepts. But change is viewed with increased anxiety, feelings of vulnerability and sometimes even futility. Perhaps the shift is reflective of a general perception that rural discipline is shifting from a discipline based fundamentally on individual and community conscience to a discipline of government enforcement.

HOW FARMERS LOOK AT CHANGES IN BIOTECHNOLOGY

The initial response to how farmers look at changes in biotechnology is a

<p><i>...the producer is in the middle faced with the reality that he has to decide while others debate.</i></p>	<p>combination of excitement and fear—<i>excitement</i> about the production potential; the hope of such things as genetic immunity reducing the losses from diseases and pests without the use of vaccines and pesticides, and <i>fear</i> that undesirable or even dangerous dimensions maybe introduced. Farmers remember that the introduction of rabbits to Australia</p>
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was supposed to be highly beneficial, and many of us here in Indiana had a hassle with multiflora rose which was to be a beneficial fence. But biotechnology carries a much higher fear level. Terms like “insecticidal protein” in corn create some anxiety as we are just now hearing more about the dangers of the pesticides used many years ago.

There is further fear that genetic alterations may introduce risk to those with rare but intense allergies. For example, someone with a peanut allergy might now react to cornflakes made from transgenic corn containing a peanut protein.

There is further fear that something created by biotechnology might not be contained once released. DDT, EDB and Alar could be removed from the system, but a science fiction-type biological plague could escape and be “uncontrollable.” I do not think this doomsday fear is very strong among farmers, but the 100 percent safe Delaney Amendment-type thinking has some appeal to everyone. There is some feeling that the traditional “nothing risked, nothing gained” philosophy should be rendered obsolete by science.

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Following the initial response we find economic opportunity and anxiety. The hope of farmers to produce a larger and better product at a lower cost is universal, but the unknowns create anxiety. Some of these are:

- Will it create huge surpluses and break markets?
- If the U.S. regulates biotechnology, will the rest of the world run with it and take our foreign, and even domestic, markets?
- Will the big corporations monopolize the new products?
- Will it force vertical integration of farms? and
- Will it frighten consumers and destroy demand?

There is also what might be called the political-social fear. This is simply the discomfort of being caught in a whipsaw between differing societal and political action groups where no one is quite sure whom to believe, and the producer is in the middle faced with the reality that he has to decide while others debate.

HOW DO FARMERS ASSESS A NEW PRODUCT?

While farmers differ in systems and priorities in decision-making, most include the following questions:

- Is the new product safe? (Farmers have concerns about immediate toxicity, long-term health risk, immediate and long-term environmental risk and how reliable the safety measures are for its use.)
- Will it increase profitability if I use it, and will I be left behind if I do not?
- Will this product affect demand for what I produce positively or negatively?
- Does it fit in the systems of my farm? and
- Is it moral?

It is quite common to hear farmers say, "I don't want to use that stuff because it is too 'hot,'" or they do not want to use any chemicals they do not have to use because of residues and unknowns. In general, I think these same concerns are even greater regarding biotechnology.

WHAT ARE SOME OF THE ISSUES WE WILL BE FACING IN THE FUTURE?

How will we get leaders to take the risk of leading? When I was still at EPA, I had a call from the president of a state farm group who said he was in big

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trouble because he had urged his farmers to be environmentally responsible and turn in their used oil for recycling rather than use it on the farm in a way that it might damage the environment. He said that about half followed his lead and they were now being held liable because the recycling plant had gone under and was a Superfund site, while the other half who had ignored him were home free. Policy officials at EPA were sympathetic, but the enforcement people were adamant, taking the attitude that "the law is the law." What is of particular concern was the number of knowledgeable people who, upon hearing of this problem, indicated that they were not surprised, and that it never pays to get out in front.

How do we develop a realistic attitude toward risk? Risk, risk assessment, risk management and risk-to-benefit relationships have all consumed much of our thoughts. But logic does not grab human attention as much as fear does. The body politic wants simple brief explanations. Unfortunately, risk assessment at the citizens level is too often typified by the young mother who came to my wife during the Alar scare smoking a cigarette with her child in her arms and said, "Will apples hurt my baby?"

Progress and quality of life will be enhanced by our ability to focus on reality in relationship to risk and to communicate this reality to people in simple terms. Risk is a price of progress. It must be assessed and managed.

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Unperceived risks can do great damage, but non-risks perceived as risks retard progress. Whom the public will trust and how to communicate complex science to laypeople in simple terms are ongoing issues of increased urgency.

How to communicate realism about risk is particularly difficult in our democracy. The free enterprise system encourages competition, therefore, our people are bombarded with a "fear-fix" syndrome. TV commercials create insecurity about everything from bad breath to being cheated, so that they can sell security. News commentators and headline writers, competing for viewers and readers, each try to make their story the most exciting. Exaggerating risk is more

exciting than cool analysis, and the limits of ethics are pressed. Politicians get elected by identifying risks they can fix, and they get little media coverage if they understate the risk. Some environmental extremists get prominence and contributions from extreme positions, and some agricultural extremists get prominence and contributions from extreme positions. Hard science and truth are often too complex, and, perhaps to the layman, too dull to attract much public interest until the issues are too polarized for easily reasoned solutions. All of this increases *fear*, and most have a *fix* to sell that is not as convincing as the fear. All of this makes the NABC meetings very important.

Finally, it is clear that farmers are uncomfortable about how much they need to know and with the recognition that they can never know enough. And they, like all the others, are evaluating whom to trust. We have lived through what I hope is the extreme of the antihero era, but not without damage to our most revered institutions. Unfortunately, some scar tissue remains, but credibility acceptance levels will recover slowly.

I am a product of the land-grant system and have profound and continuing respect for it. There is, however, a real need for our educational and research institutions to not only continue to look at their daily tactical need to survive during difficult times, but to examine in depth their strategic positions and set their sights on the horizon.

Many farmers have, over the years, received much of their thought stimulation both from their churches and the state university system. Some historically appreciated the theology of the church, but were somewhat “turned off” by the fundamentalist preoccupation with the evils of smoking, drinking and sexual promiscuity, while they were more inspired by the open-minded scientific approach of the university people.

In May, on the plane to Bulgaria, I read in the airline magazine a pragmatic article on communicative diseases which stated that the best cure for AIDS is to control sexual promiscuity. I then saw on CNN that the Senate was considering requiring warning labels on all alcoholic beverages. When this is added to the overwhelming evidence on smoking, I realized that those fundamentalists had been the most accurate in their positions, even though their views were arrived at through a theological rather than scientific analysis. When this is compounded by the concern farmers have when they read the current labels on pesticides and realize that the guidance given them in the past (which was the best science had to offer at the time) put them at risk by today’s standards, there is real soul-searching.

In a cultural situation where individuals are increasingly overwhelmed by an explosion of information and made anxious in a culture that hypes fear,

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their increased anxiety and frustration may lead them to look to other than hard science for guidance.

This may seem unlikely, but when I was in India, I was amazed to see educated Indians defending the tradition of sending cows to old cows' homes, their carcasses to remain uneaten in a society abounding with protein-deficient children.

Frustrated and insecure people often reach out in unexpected ways. This is one more reason why this meeting which encourages an open dialogue on risk is so important.