
Food Safety: The Minnesota Model

GENE HUGOSON

*University of Minnesota
Minneapolis, Minnesota*

gehu@scc.net

When we talk about the Minnesota model, several things have been referenced in that regard. Our ethanol program, viewed nationally, is often referenced as the Minnesota model. Energy is also referenced as the Minnesota model because of how well we have grown it in this state. Some people might look at the election process in Minnesota and refer to that as a model, not one to be replicated, but certainly a model that gained national and even international attention.

I am referring to foodborne illness and how we respond to it in the state of Minnesota. Although it is often referred to as the Minnesota model—even recently in national legislation—in reality it’s a process that evolved over a number of years. I will describe how that came into play, why it came into play and why it’s important that it be considered by other states and nationally.

ONE HEALTH INITIATIVE

Daniel Gustafson¹ is intimately involved with what’s referred to oftentimes as the One Health Initiative. When I discovered what that term means, I realized that I had been talking about it and doing it for a long time. The One Health concept begins on the farm and applies through the food chain—production, processing, transportation, consumer consumption—which, certainly, we need to pay attention to. When I joined the Minnesota Department of Agriculture, my main point of view was that of a farmer because I’ve had a corn and soybean farm in south central Minnesota for a number of years. I worked for three governors, two of whom said that the agriculture commissioner should be a farmer, so I had no choice but to keep farming in order to keep my day job. But it actually worked out well, because I took vacation and spent long weekends on the farm during the spring-planting and the harvest seasons. It was a nice way to unwind. Some of

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my farmer friends thought I was crazy when I said farming was relaxing, but it was true in comparison with some of the things that went on in the capital city.

After a few years, someone asked me what was the biggest surprise that I had encountered as commissioner of agriculture. After a brief moment's thought, I said, "The amount of focus and time spent on the issue of food security. Not that we don't have a safe food supply in this country, it's just that the food-distribution system has changed over the last few years." In the fairly recent past, we had a system in which crops were raised, processed and consumed within a relatively small geographical area. Through consolidation, the integration of the food-processing systems, farms getting larger and changing distribution methods, now we have a system whereby food may be grown in one area, transported somewhere else for processing, and then within a day or two distributed all over the country or, in some cases, internationally—all from one location. This means that although efficiencies of scale may accrue, when things go wrong they can go really wrong, and certainly we have seen that occur.

The other thing that has happened is that science has gotten much better. In times past when people became ill, they seldom knew the cause. They went to the family picnic and had Aunt Emma's potato salad, and afterwards a dozen relatives became sick and concluded, "Something must have been going around." Well, it was Aunt Emma's potato salad. With modern scientific techniques, *E. coli*, salmonella and other microorganisms—which, before, the general public had never heard of—may now be identified. Paraphrasing a comment by Senator Amy Klobuchar a couple of years ago when she introduced legislation to address food-safety issues at the Food and Drug Administration:

It's a shame that the nation should have to wait until somebody in Minnesota gets sick or dies before there is the opportunity to address a national food-safety issue.

For those from Minnesota, please understand that we are not saying this with great pride, but we have done some things that are worth sharing. With reference to food security, our first premise is to keep everything safe. We have regulations in place to ensure that products are moved from the farm to the consumer as safely as possible. The Minnesota Department of Agriculture is a regulatory agency and a promotional agency. While we spend part of our time promoting agriculture, we are also in the business of regulating, which includes food safety. We look at environmental issues, including pesticides and herbicides.

TEAM D

You have to be prepared for when something goes wrong, because, for sure, it will. In the Minnesota model, when something goes wrong *vis-à-vis* food safety, we have a central reporting system. If a general practitioner or doctor at a hospital sees people with similar symptoms they report it to the Minnesota Department of Health. Records are made and if a pattern appears, they engage what is sometimes referred to as Team Diarrhea. "Team D" is a group of graduate students working at the university in public health, who take the information and make phone calls to attempt to determine:

- what the affected people ate recently,
- where they ate,
- whether other people were at the restaurant or event,
- whether other people bought food from the same source,
- *etc.*

If commonality emerges, they look for opportunities to collect samples for laboratory testing. Partners at the Department of Agriculture then go out and investigate the possible origin of the product of interest.

Two nationally prominent cases serve as good examples. The first is the so-called jalapeño pepper/tomato issue of 2008. People in Texas first became sick and, as the symptoms spread across the country, raw tomatoes were thought to be responsible. Quickly, tomato sales decreased, even though the source of the infection could not be identified. People showing symptoms in Minnesota were found to be carrying the same strain of salmonella, having eaten at a particular restaurant. Investigating Health Department officials discovered that fresh jalapeño peppers had been on the meals consumed by the affected individuals. Invoice checking revealed that the peppers had been grown on a farm in Mexico across the border from Texas. A surprising aspect is that a relatively short period of time elapsed from the infection appearing in Minnesota to the identification of the cause, yet the problem had persisted for months nationally.

A year or so after the jalapeño problem, there was similar outbreak of illness. In fact, in Minnesota three people died at that particular time. To begin with, it appeared to be confined to long-term healthcare facilities that had purchased food supplies from a distributor in Fargo, North Dakota. Then it was discovered that long-term care facilities in the Twin Cities that purchased supplies from the Fargo source did not have the problem, so there was something unusual about purchases made by the facilities in northern Minnesota. It soon became evident that the culprit was peanut butter. Again by checking invoices for food sources, the problem was quickly traced to a facility in Georgia producing large tubs of contaminated peanut butter for industrial sale, some of which was converted into peanut-butter cookies and other products.

In such cases, publicity has to be handled carefully as false accusations can create huge economic losses. In the jalapeño case, hundreds of tomato farmers in the United States were falsely accused. A local hydroponic grower saw his sales plummet even though there was no indication of a problem with tomatoes grown in Minnesota. Such situations can become difficult for regulators—state or federal—to handle. How should the public be alerted of potential problems without creating paranoia and pandemonium, or economic disaster for those growing healthy products? In the peanut-butter case the problem was traced back to one company and upon further investigation significant problems with the cleanliness of that plant came to light. In the case of the jalapeño peppers, unsanitary water was temporarily used for irrigation on a couple of farms then the problem went away. The source of the problem was traced and corrected with repetition unlikely.

MINNESOTA'S HERITAGE

As to why some of these things have worked in Minnesota and less so elsewhere—I think that there's a cultural heritage in this state of people wanting to do things right and do them well. Not that we haven't made mistakes, but generally the public mood is, "If something is wrong let's correct it, let's do it right, do it well and make life better for everybody." Another aspect is the role of agriculture. People don't always fully appreciate or understand that agriculture is a huge industry in Minnesota. We don't have a huge number of farmers—only about 5% of the state's population are farmers—but 20% to 25% of the workforce has some connection with agriculture.

Many agriculturally related activities exist beyond the farm. Because of geography, Minnesota became a central point for food processing. We are at the top of the Mississippi River and accessible to boat traffic to and from the south, and the east-west railroad system funneled through Minneapolis and St. Paul. Many large agricultural processing and supply companies developed here—public, private and cooperatives—all of which had a huge influence not only in Minnesota but across the United States and throughout the world. Cargill and General Mills are a couple of examples, as is Pillsbury (which merged with General Mills in 2001). Land O'Lakes and CHS are examples of cooperatives. A number of other companies, such as Ecolab, are involved in various agricultural activities. The jealously guarded reputations of these companies depend on their contributions to a safe food supply. Of the companies that make the Fortune 500 list, Minnesota has the highest number per capita. Half of those companies are agriculturally related and a large number of the others have medical connections. They constitute a large part of Minnesota's business and share an impetus to do things right.

With reference to the central reporting system, not all states have it. Regarding the jalapeño pepper issue, for example, it was over two months before authorities in Texas realized that there was a problem because there it was impossible to bring the facts and figures together in such a way as to detect the trend. At the local level, people didn't see the connection until the problem had persisted for some time.

FACILITY SHARING

Also important are the working relationships among entities involved with food safety. The Departments of Agriculture and Health and the University of Minnesota all play key roles. Historically, they have not always cooperated well. A number of years ago, during the Ventura administration, we needed new facilities at the Department of Agriculture. Our building was rented and our laboratory was substandard. The Department of Health also had some problems, with a lab in one area and workers in another. Jan Malcolm, the commissioner of health, and I met numerous times to discuss putting the Department of Health and the Department of Ag in the same building, if funding could be found. The events of September 11, 2001, induced the legislature to think about food security and needs to ensure it. In the subsequent legislative session, a bonding bill was passed to build a new laboratory and arrangements were made for construction of a new building so that lab workers in both Departments could be co-located with staff members to improve communication and sharing of ideas.

When asked “Who does what in the area of food safety?”, I say that the Department of Ag is responsible for everything that goes into the body, whereas the Department of Health is responsible for everything after that. A close synergy is needed between these agencies. And the University comes into play in terms of training; the expertise that exists in the faculty is very important. To make a long story short, two new buildings, across the street from each other, are connected with a skyway. There are three floors of laboratories, with Health in one half, and Ag in the other, separated by a hallway. Scientists go back and forth across the hall to discuss issues of mutual interest. In the administrative building, Health and Ag staff members are interspersed in such a way that people can readily work together, face to face. About a year after occupation, a member of my senior staff, who had been there for several years, told me that he had talked to some of the Health people for years over the telephone but had never met them personally.

The teamwork that has emerged is important and, typically, press conferences involve members of the Department of Ag, the Department of Health and the University. Not long ago, at a press conference on H1N1, representatives of all three entities fielded questions outside the building because Minnesota was first in the United States to identify H1N1. Breaking that news was not something we looked forward to, but, interestingly, because of that collaboration, what was a major story on Friday afternoon by Monday morning was no longer newsworthy because the demonstrated synergy between the three entities lent confidence that the situation was being handled correctly.

INDIVIDUAL COMMITMENT

Another thing that comes into play is what I refer to as individual commitment. Something that amazed me after being at the Department of Ag for many years was the realization that people I knew by their first names had PhDs or multiple degrees, but did not make a fuss about it and were dedicated to their jobs because they cared and were committed. That commitment is important in terms of seeing the job through. It’s one thing to react to a crisis, but it’s another thing to work on related issues in between times such that, when another crisis develops, rapid response is possible. That is unlikely to happen without committed people who want to see things done and done correctly. In Europe, in the spring of 2011, a salmonella outbreak had devastating consequences. It quickly faded from media coverage and the problems that resulted from it were forgotten: out of sight, out of mind. In contrast, with agency and university people devoted to learning from past instances, the next crisis may be addressed differently and more effectively. A young man at the Department of Agriculture may be referred to as the Sherlock Holmes of paperwork. He’s the one who traced invoices all the way back to McAllen, Texas, to determine the origin of the contaminated jalapeño peppers. He similarly traced the origin of the contaminated peanut butter. Those individuals, even having made important contributions, often go unmentioned.

CHALLENGES

Are there challenges? Yes there are, and one that comes into play is as follows. There has been a lot of attention in terms of legislation to correct problems at the federal level. However,

in reality, legislation alone won't do the job. Individuals are needed who are committed to seeing something done and to making things happen. Unfortunately, be it in business, government or academia, silos develop and people who should communicate don't talk to each other. This can be self-perpetuating for various reasons, such as competition for funding or competition for recognition. When we looked at co-locating the Departments of Health and Ag a number of people within the agency—who no longer are there—said to me, “Don't do this. Don't co-locate with Health.” “Why not?” “They'll take us over.” It was true that there were twice as many people in the Department of Health as in the Department of Ag, but the reality is you have to be willing to risk a little in terms of who does what and share responsibilities so that the job gets done.

I am a firm believer that there is no perfect organizational structure for anything. I spent some time in the legislature where some legislators were constantly tinkering with how to restructure something to make it more efficient. Reality is, you need communication and if that communication doesn't take place in an agency of 5,000 people it won't take place between two agencies of 100 people who won't talk to each other. Silos are a natural tendency, and anything that can be done to eliminate them certainly is important. It takes leadership, but it also takes people who are willing to take some risks because they are committed to doing the job. Again, one of the things that impressed me about working in a state agency was the personal commitment of people who wanted to make a difference. Many could have made more money elsewhere in normal economic times, whereas their goal was to see things improve in their state. A lot of things go into making a system work and certainly it's important to have those in place, but, in the final analysis, it still comes down to the people involved and willingness to work with others in such a way that it will make a difference on a long-term basis. And it's something to keep working at as personnel changes occur.



Gene Hugoson recently joined the Global Initiative for Food Systems Leadership as a senior fellow. Previously he served as commissioner of agriculture for Minnesota for over 15 years under three governors; his focus was on food security and value-added production as well as marketing of agricultural products domestically and internationally.

Mr. Hugoson was elected five times to the state legislature. He is actively involved in his corn and soybean farm in south-central Minnesota.