
Towards Healthy People: Lifestyles and Choice

Q&A

MODERATED BY

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Jean Kinsey: Biotechnology is science-driven in its research but is consumer-driven in its marketing, and we have been talking about the consumer-driven part of the biotech industry and its development. Bill Horan agrees that it is a consumer-driven technology. He also pointed out that there is a difference between biotech in medicine and pharmaceuticals and biotech in the food we eat. We think of our food as being natural. But, who authenticates food for us—who guarantees that it is safe? Who provides that information, that knowledge, that security versus who authenticates the medicines that we take? We are now combining these, raising new questions. For example: compared to the pharmaceutical industry, profit margins in the food and agriculture industries are small and will be smaller if traceability and identity preservation are needed.

Linda discussed consumer education, and Laurie told us that consumers don't know or care a lot about biotech, but they do care about getting food on the table. What is the best way to provide information to the consumer? What do we have to do differently?

Linda Golodner: Susan Borra mentioned that scientists are from Saturn. In other words, scientists, unless they can present it in consumer-friendly language, should not be sources of information. Consumers already have trusted sources of information. The media could do a better job in explaining to consumers exactly what biotech is and what it is not, and what is being done. For example, there is a tremendous opportunity to explain to consumers that those who pick our foods will be less exposed to pesticides. There are important messages—but they must come from trusted sources.

Laurie Demeritt: Clearly, the government is not an information source that consumers use. If another consumer tells them not to do something they will usually follow that advice. But it is important to know where they are getting information, in addition to friends and family. Let's identify those individuals—we call them “gurus” or “campaigners”—the people who are out there spreading information. Let's bring them in and have conversations with them. Let's study their behavior and find out how information travels from source to source. We can talk about educating consumers, but, at the end of the day, the consumer does not want to be educated. They do not want to be lectured to. They want access to information on their own time and from their own sources. We have got to understand that, otherwise we will spend a lot of time, energy, and resources trying to educate them when in fact many don't want to know until they are at a certain stage in the wellness evolution, then they look for choice in accessing information that they want. So, within a particular category or particular ingredient, it is important to understand how they behave and how they get their information.

Kinsey: Bill, you said that this technology gives you time. And Laurie talked about the quest for convenience in food selection and about consumers wanting more time for themselves rather than spending time cooking. I like your idea about how this will lead to rural development. On the other hand, some of the people at the University of Minnesota, including Norman Borlaug, have spent a lifetime worrying about how we are going to grow enough food to feed the world. To what extent will the production of pharmaceuticals limit resources—land, labor, and capital—that would otherwise be used to grow food?

William Horan: That needs a two-part answer. First of all, the area that will be used for pharmaceuticals will be relatively small. Eighty million acres are producing corn in this country today. Because of the 400-meter setbacks that are required around corn, there will be many small plots all over the corn belt, which is a good thing because it reverses the development of the integrated hog industry for instance—where we have very few, but very large, hog buildings. There will be opportunities for producers to provide those buffer strips of corn even if they don't actually grow the pharmaceuticals, because the field across the fence will need to be soybean or some other crop that won't cross with corn. Secondly, as Norman Borlaug has often said, biotechnology is the solution to world hunger. It allows us to produce very intensely on smaller acreages. If we went completely to organic production in this country, or around the world, estimates have been made of the numbers of extra acres that would have to come into production to provide the same amount of food. Biotechnology will allow us to intensely farm the acreage we have today, and still provide enough food for a growing world.

Kinsey: Let's take some questions from the audience.

Audience Member: Laurie, the core group that you described, how influential are they on the other consumers? How green are they, and what is their attitude to GM foods?

Demeritt: Unlike most people who are concerned about their health mostly selfishly, a small group has environmental concerns. Positioning biotechnology as being environmentally friendly is likely to resonate only with a small number of consumers. Most of them want to see benefits to themselves in terms of price, convenience, or health.

Most core consumers—the campaigners—can be very vocal and serve as sources of information for many consumers. If their friends, relatives, colleagues, and neighbors see them as well informed, they will tend to go to them for information. Since we now know that social networks are important, certainly there is need for investigation rather than simply saying, “Well it's just a small vocal minority that we don't have to worry about.”

Golodner: One of those networks is the Internet. One e-mail to many people can certainly spread a lot of information, good and bad.

Horan: Just anecdotally, last year the French government published the location of experimental biotech plots. One company had five experiments, three of which were destroyed. They put up signs at the remaining two—“This biotech crop is not for food, it is for medicine”—which were not touched. Also, Europeans use GM bacteria and yeasts to produce their wine and cheese, but never talk about that.

Janet Tietyen (University of Kentucky, Lexington, KY): I'm a registered dietitian and a consumer educator. I develop programs to help consumers learn more about where food comes from and about the role that biotechnology could play. This involves some basic science education and I think Laurie is right: consumers don't want to be educated, generally speaking. My question has to do with the segments in the core, the middle, and at the periphery. Do you have a sense yet whether those percentages are fairly stable? Is there anything that we can do, even if it is disguised education, that might help people move from the periphery to looking for more authentic information?

Demeritt: We have dietitians who visit stores and talk to consumers and conduct interviews for research purposes. Invariably, at the end of the interview the consumer will ask the dietitian or nutritionist to walk through the store to seek advice on what to purchase. When they are very involved, when they have a need for certain information, then they welcome being educated.

In terms of how to move them, opportunities exist at the retail level. If your product lowers blood cholesterol, maybe you should do cholesterol screenings. If it has to do with osteoporosis, bone-density screening may be provided in conjunction with the retailer. Such interactions at the retail level probably are the least costly and the most effective means of getting information to the consumer.

Gene Sander (University of Arizona, Tucson, AZ): Mr. Horn, you told a fascinating story regarding developing a new agricultural industry in Iowa. I am curious: what approach have you taken with the ag lenders? Are they willing to lend money to allow you to buy all the additional equipment you need to segregate your crops for example, or is that a problem for you?

Horan: If you have worked with lenders you know that they look at the bottom line. You must have a business plan and many producers don't want to, or cannot, provide that. At this early stage, our whole focus is on making sure it is done right, done safely and correctly with no mistakes. Any mistake, like Starlink™, with a pharmaceutical product would set us back 10 years, maybe 20 years. We absolutely cannot have that. So we have gone the extra step with dedicated equipment and dedicated storage and handling, although I'm not sure if this will be necessary in the future. For instance, John Deere is working on harvesters that have stainless steel components in contact with the grain so that proteins cannot become lodged; particles of protein can actually lodge in the pores of ordinary steel. They are building machines with on-board compressed air so that you can open a valve and blow everything out. The regulators that we work with in Washington at the Animal and Plant Health Inspection Service (APHIS) are satisfied if we clean everything in the field, because it is all biodegradable. Many possibilities exist to upgrade and modernize conventional machinery to make it adaptable to these new products.

Audience member: The consumer perception of functional food may need to be altered. In my definition the prune is a functional food because it is used for a certain function much of the time. Do we need to change this perception? And another question connected to that: how do we explain to the customer that immediate results may not be obtained from a functional food? To reduce cancer risk, a functional food may have to be taken for 10, 20, 25, or 30 years—will there be a market for that?

Demeritt: We saw this in the herbal-supplement industry. Consumers thought that they would see benefits in a very short period of time, which probably contributed to decreases in that market. Consumers are moving into areas where they do see benefits right away, such as specialty supplements and glucosamine. So, I don't have a magic answer. Consumers are accustomed to

taking over-the-counter products that provide immediate benefits, and it is hard to change that perception. They don't necessarily want to hear about long-term benefits unless they have a very particular health concern. Perhaps it is best not to assume that a product is going to be attractive to everyone with heart disease, for example. The market may be restricted to those people who are extraordinarily concerned. Manufacturers with perceptions of immediate multimillion-dollar markets are probably deceiving themselves.

Horan: That is a very perceptive question. Many preventative medications, preventative therapeutics, are becoming available because baby boomers who are approaching retirement have little patience for physical maladies and have disposable income that other generations have not had. Huge markets are developing for edibles that will help to avoid high blood pressure, arthritis, and other maladies now preventable, as Laurie said, through diet.

Golodner: The message to consumers has to be reinforced by health professionals: you should take this particular product and you are probably going to have to take it for many, many years.