

In spring of 2014 the Dean of OSU's College of Agricultural Sciences charged a faculty committee to review and summarize key considerations related to genetically engineered (GE) organisms. The committee chose five topics that engaged faculty expertise and that reflected public interest regarding GE organisms in agriculture.

Committee members drafted these white papers as a service to the public for the purpose of providing information from several scientific perspectives. These papers have been reviewed by all committee members and are intended to help inform public conversations about genetically engineered organisms in agriculture.

## **HOW HUMAN VALUES AFFECT VIEWS ON GENETICALLY ENGINEERED CROPS**

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September 30, 2014

### **INTRODUCTION**

Why haven't assurances by the U.S. Food and Drug Administration, the U.S. Department of Agriculture, and scientific organizations convinced everyone to accept genetically engineered crops in agriculture and food?

How do people see the same situation in different ways?

The answer is: people are judging the creation and use of genetically engineered crops based on their *values*.

### **WHAT ARE VALUES AND HOW DO THEY AFFECT US?**

Values affect how we see things. Our values provide a vision of how things work, how things should be, and what the future should look like. Values indicate what is important to us in life and guide our judgment of actions, policies, people, and events (Schwartz 2012). Values act as a lens through which we define what is real (Smith and Gilden 2000).

Our values assess things as good or bad, pleasant or unpleasant, true or false, virtues or vices (Williams 2008), justified or illegitimate, worth doing or avoiding (Schwartz 2012), desirable or undesirable, right or wrong, appropriate or inappropriate (Smith and Gilden 2000). Everyone holds numerous values. A specific value may be important to one person but not important to another. Sometimes differences in values are hotly debated.

Agriculture is not free from this and disputes about policies and practices in agricultural research are often about values (Hollander, 1986).

Values serve as standards for how people will act in most circumstances (Williams 2008). “People’s actions—what they say, what they write, what they purchase, where they live, how they vote, and how they interact with others reflects their values.” (Smith and Gilden 2000: 7)

Cultures, individuals, and groups all have values. Cultures differ in their values and because of that, values vary tremendously throughout the world. Individuals have values that are derived from their culture and personal experience. Everyone has a system of value priorities that characterizes them as individuals (Schwartz 2012). Groups of individuals form “communities of interest” such as religious groups, clubs, civic organizations, and professional societies. These communities of interest, also called “interest groups,” have specific reasons for being and share common interests and values (Smith and Gilden 2000). We join these groups based on their alignment with our values.

For a given issue, there is a continuum of values. Value positions form along the continuum and distinguish the contrasting values people hold (Smith and Gilden 2000). A values continuum for genetically engineered crops might consider technological versus traditional approaches to plant breeding and food production. The values of individuals, non-governmental organizations, scientific societies, corporations, and other interest groups fall along this continuum. For any issue—especially one as controversial as genetic engineering—positions are divergent and can be antagonistic.

## **HOW DO OUR VALUES AFFECT OUR PERCEPTION OF GENETICALLY ENGINEERED CROPS?**

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Values affect how people act, but their effect is rarely conscious. Values enter our awareness when one is confronted with something that has implications for the values one embraces (Schwartz 2012).

The issue of genetically engineered crops has become more than a debate over contrasting positions. The issue is political, and positions are often polarized. We have experienced similar polarization in environmental conflicts over salmon and old growth timber and in social conflicts over abortion rights and gay marriage. As Stone (2010: 386) notes, “Conflicts over GM [genetically modified] crops have been fierce because there is so much at stake: ecologically, economically, and politically.” Whether one views genetically engineered crops as representing, at one extreme, a bright future, or at the other, the avarice of corporations, is based on the values of the individuals and groups involved in the issue. As long as there are those who feel that only their values have merit, the conflict will continue (Smith and Gilden 2000).

Often, people want to change the values of those who oppose them, and one of the most common ways to change values is through education. “We assume if people have the right facts, then they will support what we believe the facts show. However, education will not work unless it addresses the underlying value concerns that people have” (Smith and Gilden 2000: 37). For instance, a common view based on the values of supporters of genetically engineered crops in industry and academia is that 1) they are safe and 2) the growing need for food requires continuous improvement of plants and animals (Stone 2010). However, others have value concerns that are not addressed by that view, such as:

- Corporate control over agriculture (Lewontin 2000)

- Patenting genes and restricting access to the genome (Stone 2010)
- Advance of the consolidation of wealth and power (Stone 2010)
- The biodiversity available to farmers controlled by seed companies (Marsden 2006)
- Desire for a natural agricultural future (Marsden 2006)
- The religious morality of creating or patenting new life forms (Warner 2000 and 2001)
- The threat to the virtue and values of agricultural communities (Berry 1977 in Burkhardt 2001a)

Indeed, examining genetically engineered crops through a human values lens reveals the debate is not strictly scientific. The focus for some people has been on consequences—weighing benefits versus risks; the focus for others has been questions of intrinsic right and wrong (Scoville 2001). And, there are other ethical perspectives, including self-determination, transparency, morality, and nature (Burkhardt 2001a).

The issue of genetically engineered crops is really four separate issues that are generally closely linked:

1. The ethics of genetic engineering (whether it is right or wrong, good or bad)
2. The products commercialized using the technology and associated risks and unintended consequences (whether or not these crops are effective in meeting their goals or will or will not cause environmental, health, or other problems)
3. Labeling food products with genetically engineered ingredients (whether consumers will choose to purchase or reject food from genetically engineered crops, based on the consumer's right-to-know versus confusion regarding genetically engineered ingredients).
4. The control by corporations of seed property rights through patents and licenses (what type of seed, the cost, and even whether some seed is available).

When examined as four separate issues, the values of individuals may or may not align perfectly with what we think of as “pro” or “anti” camps; or they may tightly align themselves with one camp based on how strong an individual's values are about one of the issues.

The tone of the debate surrounding genetically engineered crops has been fierce, reflecting what Rollin (1995) refers to as “Moral Sumo” and “Moral Judo.” Moral Sumo is a combative style of argument prevalent nowadays. Its strategy is to overwhelm one's opponent with an arsenal of facts and logic and prove the opponent to be wrong. Moral Sumo may win some academic arguments but may not affect any real change. Moral Judo, on the other hand, is an exercise in finesse. Its goal is not to prove the opponent wrong but instead to lead him/her to where there can be agreement. This is more likely to result in discourse that leads somewhere (Burkhardt, 2001b). Understanding that everyone—consumers, scientists, advocates of all positions—has values that affect how he or she view genetically engineered crops is a step toward a more sensible discussion.

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