

How values affect our attitudes to genetically modified food

October 9 2013, by Craig Cormick



Our attitudes to genetic modification are based on how we feel about risk, technology and the pace of change. Credit: John Serrao

As Rod Lamberts reminded us here recently, when it comes to debates on genetically modified (GM) foods, arguing about the validity of the science is about as effective as descending to name calling. That's because of the way our values, or worldviews, filter our receptiveness to messages.

When information is complex people tend to make emotionally-based judgements, driven by values rather than by the [information presented to them](#). Messages that don't align with people's values or worldviews tend to be rejected or dismissed.

Broad attitudes towards [science and technology](#) and nature can influence [consumer attitudes](#) towards GM foods, and pro-science and technology values are a [strong predictor](#) of support for GM foods. Or, as Stephan Lewandowsky has pointed out, tendencies towards conspiracy theories also predict for an anti-GM position.

Seeking to better understand how such findings played out, last year the former Department of Innovation (now the Department of Industry) studied the role values play in framing people's attitudes to GM foods.

The [study found](#) that four values-based segments of the population are better predictors of people's [attitudes](#) to GM foods than age, gender, or other standard demographics. Understanding these values segments helps us understand what drives support or opposition to things like GM foods.

What matters?

The study mapped people's level of agreement or disagreement with 14 value statements about science and technology or the world around us.

That produced four segments (you'll probably find you fit into one):

Segment 1 (20%) – the concerned and disengaged: Segment 1 was the least enthusiastic about the benefits of science and technology. They had the highest agreement that "the pace of technological change is too fast to keep up with" and were the most likely to agree that "science and technology creates more problems than it solves", that "scientific advances tend to benefit the rich more than the poor", and that "we rely

too much on science and not enough on faith".

Segment 2 (23%) – the risk averse: This segment tended to be less positive towards the benefits of science and technology generally, and biotechnology specifically. They were also more concerned with related risks. But in contrast to Segment 1, they had relatively high awareness of the term "biotechnology" and various biotechnological applications. They were least likely to agree that "human activities have a significant impact on the planet" and least likely to agree that "not vaccinating children puts others at risk".

Segment 3 (28%) – the cautiously keen: Segment 3 was defined by relatively high interest in science and agreement that "the benefits of science are greater than any harmful effects". In relation to GM, this segment was the second most positive. While awareness of biotechnology was relatively high for Segment 3 they, like Segment 1, had relatively low levels of self-reported knowledge. They also had the highest agreement that "children should be protected from all risks".

Segment 4 (23%) – the science fans: This group was the most positive towards science and technology. They expressed greater agreement that "science is such a big part of our lives that we should all take an interest", that "new technologies excite me more than they concern me" and that "the benefits of science are greater than any harmful effects". Equally, there was disagreement that "science and technology creates more problems than it solves" and that "we depend too much on science and not enough on faith".

What does that mean for our views on food?

When asked if they supported modifying the genes of plants to produce food by introducing the genes of a plant of a different species, the results by segments were stark. From segment 1, 29% were in favour; segment

2, 25%; segment 3, 37% and segment 4, 59%.

When asked if they supported modifying the genes of plants to produce food by introducing the genes of a plant of the same species, the results were: segment 1, 49%; segment 2, 44%; segment 3, 61% and segment 4, 81%.

Similar values segmentation studies have been done on topics such as [climate change](#), and [attitudes to science and technology](#).

They provide an insight to the real issues that need to be debated in scientific controversies. It's rarely about the quality of the science of genetic modification, for instance. For some people it's about ensuring children are safe from the effects of unknown technologies, or about feeling unsettled by the pace of technological change.

If scientists want to make some impact on those segments that tend to ignore their advice, or science generally, there are two steps to take. First, stop hanging out so much with just your own values tribe (that is: other scientists), and stop debating the science with other tribes (that is: "the unbelievers").

Instead address how the [science](#) you're presenting might align with the different values people have to yours, and make your messages more relevant to those values.

Values don't change easily – but your messages can.

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Source: The Conversation

Citation: How values affect our attitudes to genetically modified food (2013, October 9)
retrieved 18 July 2024 from <https://phys.org/news/2013-10-values-affect-attitudes-genetically-food.html>

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