

Genome Prairie examines challenges of communicating science of agriculture

The food production system is complex, comprised of a number of people and institutions along an extensive and complex value chain. Agriculture relies upon science and technology to meet demand in an efficient and sustainable manner. Unfortunately, these technological advances create uncertainties for the public. Consumers are often misinformed within an environment where distorted information about food and the food production system rapidly circulates. It is in this environment where staunch and vocal opposition to GMOs and genetic engineering technology has appeared.

A [survey prepared](#) for presentation at this year's [Genome Prairie](#) conference in Saskatoon, Saskatchewan, Canada on communicating the science of agriculture identifies a number of key things drive public opinion of biotechnology:

- The public's awkward relationship with science (and, to some degree, the level of scientific literacy)
- Human cognitive habits and perceptions of risk
- The role of personal networks in influencing opinions, attitudes and behaviors
- The prolific use of social media platforms which has fundamentally changed how humans interact and exchange information, and
- The rise and influence of 'false experts', often celebrities.

The agriculture and agri-food community must re-think and revolutionize communication strategies by taking into account how this environment has evolved, to learn from those mistakes and better understand those factors that contribute to this growing and very complex (and damaging) environment.

The survey (funded by [Genome Prairie](#)) was administered to 103 communications experts in the agricultural industry in Canada in May 2014 with an almost 50% response rate (n=51). Respondents were queried as to their understanding and opinions on issues such as public perceptions of agriculture and science, communication strategies, and accessing ag-based information and resources.

Key observations

Respondents expressed concerns regarding agriculture biotechnology's public image, as 61 percent indicated that, overall, public perceptions were either negative or getting worse, while 35 percent said they were neutral. Only 4 percent respondents suggested that public perceptions were improving.

In qualifying comments, respondents indicated that there was a great deal of misinformation circulating (particularly via social media) which perpetuates much of the confusion and negative public perceptions of agriculture biotechnology.

- "[Misunderstanding] is influenced by media campaigns from anti-biotech groups that confuse rather than inform..."
- "The public gets bits and pieces of information from various angles, so issues are becoming more complex. Both government and biotech companies don't do a very good job of communicating and

being transparent about what new research is showing, what new strategies are being implemented and for whose benefit.”

- “Industry has done a disappointing perhaps even pathetic job at bringing forward the real story of biotechnology.”

Public opinion is influenced by the media, including online, with contributing factors identified as a lack of perceived transparency in government, industry and science. This affects the public’s trust in science and the food production system.

The absence of coordinated effort by the agriculture industry combined with a lack of human and other resources to develop and support organizational-based communication strategies was seen as most problematic. Respondents also point to a scarcity of proactive communication strategies. Other problems identified included:

- Reliability and truthfulness of sources
- The lack of a credible voice to speak to issues more broadly
- Budget and time constraints
- Lack of coordinated efforts across industry

Professional communicators in agricultural biotechnology as well as the lay public are dealing with information overload and problems with a socially-dominant public sphere (Internet) that is largely disorganized and often burdened by overly technical language or terminology. This environment makes good information difficult to seek out and sites (when found) difficult to navigate, especially since sources (good ones) can be incongruent (in terms of information, formatting, writing/presentation style) and very widely distributed (geographically and in terms of discipline).

What was traditionally thought to be the private sector’s ‘job’ is now becoming a challenge for the broader agriculture community. For example, the seed industry has to recognize it is in the food industry with a whole new set of stakeholders at the figurative boardroom table. Additionally, science has to step up and engage in non-traditional outreach activities, even if it’s only in 140 characters or less. This new reality requires fundamental changes in approaches across the board – the public, private and quasi sectors – and all along the value chain.

Overall, after reviewing the data, we conclude that traditional communication strategies need to be re-examined and fundamentally changed, and barriers between disciplinary and sub-sectors need to be broken down. Actors all along the value chain need to come together to proactively tackle these very complex issues. There is unlikely to be a one-size-fits-all prescriptive approach to managing issues such as these in biotechnology (and agriculture, more broadly).

Survey results, [available here](#), will be presented and discussed at the second annual Genome Prairie “Communicating the Science of Agriculture Workshop” to be held on October 9, 2014 in Saskatoon, Canada. Scientists, science communicators and graduate students will be in attendance with the goal to develop concrete strategies to tackle communication issues. Dr. Steve Savage will deliver the keynote address. Join the conversation by following #CSAG2014 on Twitter along with @DocCamiRyan @GrapeDoc @KariDoerksen @genomeprairie.