

The Importance of Communicating Empirically Based Science for Society

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Panelists: Stuart Smyth, Jon Entine, Ruth MacDonald, Cami Ryan, Meghan Wulster-Radcliffe

What resources or tools would you want from professional science communicators, and agricultural organizations?

More online content that is evidence-based; provide resources for public schools and the public that are freely accessible.

Would you say GMO in low biodiversity countries need no further research for environment effects in high biodiversity countries?

The scientific methods for environmental risk assessment and impacts on biodiversity will be the same in all countries. One evolution that would facilitate a reduction in the regulatory burden would be to have a global GMO acceptance portal. Once a crop/variety was assessed using the OECD established RA method, the data could be reviewed by regulators in any country and the product approved there if no significant difference in RA factors were evident. If there was a significant difference in RA factors a RA on the missing factors would be warranted.

A question I don't hear being asked/answered on these talks is how do you reach folks who aren't on this distro list, ie: aren't already pro-biotech. Those folks aren't going to look at 2 databases of peer reviewed journal articles...

The way to reach these individuals is through continued communication. Writing op-eds, participating as a guest on a radio call-in show, making a public comment on a story all help to inform the watching public of what was incorrect.

What does the panel think of the European attitude towards GM tech, including gene editing? Any signs of progress? Many developing countries tend to follow European policy making model.

Here is some background on Europe/EU's current views on ag biotech...not encouraging, sadly: <https://geneticliteracyproject.org/2020/08/26/viewpoint-farm-to-fork-failure-how-europes-obsession-with-organic-farming-undermines-global-sustainable-farming-movement/>

Part of the issue is that credible journals and public health/MDs are publishing misinformation. Can you suggest a strategy for addressing these outlets which are heavily quote by the press? They all claim that they are science based.

Request their 'so-called' evidence for their claims. Ask them which peer reviewed journal their evidence was published in. Request they provide the links to the publications that support their claims. Be relentless, continue to make these requests.

My question is related on how to deal with the "it depends" that we often have in our minds as scientists. Overall people do not have the depth of knowledge about our topics to fully comprehend the "it depends" scenarios... to me this is a challenge.

I try to explain to people there is risk in everything we do. If we try to eliminate risk, we would be unable to do anything. If someone burns themselves cooking a meal, should be ban home cooking because it harms people? Helping people contextualize risk into their daily lives is a good way of helping to inform them on how nothing is 'risk-free'. Risks are very low, 1 in 1 million or 1 in 10 million and framing the potential for risk to this small population versus the benefits to everyone else is important.

CROP LIFE recently had an editorial lamenting the fact that they tried to reframe pesticides by calling them crop protection products. Consumers and lay people don't search crop protection they still search pesticides. Does anyone agree that changing terminology is the wrong way to go? Should they have stuck with the term pesticide and tried to more directly own the terminology?

People don't understand that insects harm plants. I think helping the public understand that insects that attack a field will reduce the yield and framing the debate as a way to help protect plants changes the nature of the debate to one that highlights how all plants that are produced need protecting.

Science results are never to certain. Conclusions are drawn from the available data. However, activists are good at "poking holes" using exceptions or outliers. How can we manage that?

Many times the activist claims are based on what is called speculative science, that which has no proven theories or empirical data. Risk assessments are based on proven theories and empirical data. In some instances, there are hypothetical science, where there are proven theories, but no empirical data. Activists function in the speculative realm and within this realm, there is no limit to the list of potential speculations. By focusing on one, or a few, outliers, the benefits are denied to millions or hundreds of millions and this then turns the discussion to one of ethics of those opposed to providing benefits to those who are currently lacking them.