



## ***Effectively Communicating Science in Times of Crisis***

BCCA Presentation and Keynote Speech from Dr. Alexa Lamm

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**Q: What if you can't find the right source to deliver the message? There seems to be a real social divide on trust especially on environmental issues.**

A: I agree - especially when it comes to climate science. However, there is societal agreement on the need to conserve and protect water resources and reduce the use of plastics. I think we can capitalize on these points of agreement and find common ground. If you can't find the "right" source to deliver your message think about who appeals to your audience. Is it best for the academic or professional scientist to be the image used? Perhaps a student (someone younger) or someone who represents a minority demographic that is involved in the science is the stronger representative. We need to think beyond the status quo and consider alternatives to be most successful in reaching specific audiences.

**Q: Which journals should science communicators be reading?**

A: My suggestions: Journal of Applied Communications; Science Communication; Journal of International Agricultural and Extension Education; Environmental Communication

**Q: What are the best ways to communicate without diluting the science behind the message?**

A: Being selective about the information shared often feels like "dilution"; however, getting something across is better than getting nothing across. Ask yourself, what is the most important thing I want people to know about my/our work. Provide the interpretation rather than the raw data - focus on the action you want people to take and why that action is based in sound scientific findings rather than the science itself.

**Q: Thank you for providing the 3 key elements at the end 1) identifying audience first, 2) meet your audience where they are, and 3) mirror your audience. My question is: shouldn't you have a "goal" before setting out on identifying and communicating to your audience?**

A: I think we all have an overall goal of increasing awareness, knowledge and ultimately changing behavior in some way. Without identifying your audience, it is very difficult to select a goal or purpose for your message. I have different goals when talking with "Moms" than I do when speaking with young consumers. The audience you want to reach should always be the first step.

**Q: Do you see the science community as the mainstream information source for public regarding ag and science issues someday?**

A: I certainly hope the science community (holistically - universities, companies, government) is involved in the dissemination of ag and environmental science issues. Historically, we were the primary source of information but the democratization of information dissemination has changed that and now we have to combat #FakeNews. I'm hopeful that by being proactive and having scientific information readily available in a format people can obtain and use from sources they trust will reduce the use of #FakeNews and increase the use of scientific information.

**Q: Are there any models developed to communicate science of soil conservation, soil management, soil health, climate change, etc.?**

A: YES! There are many communication models out there. I have a few, personally, I have published that are related to environmental science and could be applicable to these subjects. Check out this manuscript and contact me directly for more: Lamm, A. J., Warner, L. A., Tidwell, A. S. D., Lamm, K. W., White, S. A. & Fisher, P. (2019). Testing an adoption decision-making model of nursery and greenhouse growers' water reuse in the United States. *Water*, 11, 2470. <https://doi.org/10.339/w11122470>

**Q: In the current pandemic environment, many of them are accessing social media for the safety of vaccine if and when it is available. Many say that they don't trust the scientists or politicians about the vaccine. What are we missing here as the scientists/communicators?**

A: Politics often get in the way of the use of scientific information. Politicians are people who have a great deal of power in the social realm and we are living through a political debate that is resulting in a lack of trust on both sides. Unfortunately, COVID-19 only exacerbates the polarization. The vaccine is a scientific solution right? And if we have politicians that do or do not trust science and therefore the vaccine trials; politicians who are pushing for a fast vaccine to influence voters when the public is already skeptical of the trial process; and #FakeNews distributed on a regular basis it is difficult to know who to trust, what to believe and get behind, and who is prioritizing public health over reelection. This is a tough climate for science to emerge as relevant and "right" hence the WHO declaring the time as an infodemic.

**Q: Should we train PhDs to communicate to general audience for themselves, hire professionals to communicate for them or both?**

A: I would be an advocate for both! Communicating is a science in and of itself. It feels easy to put posts out there and then hope for a following and action but this rarely occurs. I think all PhDs should be aware of the importance of communicating science and know the basics of its complexity. However, we need specialists that are nuanced in the practice of communication they can work with to disseminate information most appropriately to reach the most people in the right way.

**Q: How do you overcome the influence of social media and only reading information that supports your already held bias on issues? Do you feel the lack of understanding of science impacts the general public?**

A: I'll address the first question: Overcoming selection bias is extremely difficult. Human psychology pushes us to read and discuss issues with those that agree and support our own thoughts and feelings. The cognitive dissonance that occurs when we are faced with information that disagrees with our currently held beliefs is uncomfortable and something we all naturally avoid. Unfortunately, algorithms now common on social media platforms allow us to select information even more readily (even without knowing we are doing it). I'm not sure we can "overcome" this - however, there are strategies, such as partnering across groups and organizations that will help break through some of these routines that are built in to the way we currently communicate. One of my studies found the use of simulations, even virtual reality experience, provide an opportunity to get people to experience things differently than they currently do and can have an impact. The new media emerging provides an opportunity to break through the shell we are all creating around ourselves to keep our thoughts, beliefs and values safe from incongruent information.

**Q: Do you consider the GMO situation a lost cause with the public? How should scientists best engage?**

A: Lost cause is a severe description, but I do think basic messaging about the safety of GMOs is lost on most consumers. All of my research showcases consumers have made their decisions about their consumption of food produced using GMOs. I do think we have an opportunity to get ahead of the CRISPR conversation before it gets too far along. Right now, people are excited about CRISPR technology and if we can have accessible, simple to digest information readily available about this new technology we have a greater chance of consumer acceptance.

**Q: Many media consumers are looking for solid references in social media posts, videos, etc. How can those references (which provide credibility) be best incorporated?**

A: This is where your website can come in handy - social media posts should always send people somewhere if they are seeking more information. The link should go directly to the additional information and nothing on your website should take more than 3 clicks to obtain.