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# **Best Practices for Agricultural Technology Communication**

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Previous research has identified a need for communication guidelines that bring together research and practical experience <sup>1</sup>. Effective communication can be viewed as a process.

The list of factors below helps build trust and facilitate public communication and engagement. The factors are used as a guide to aid in communicating with the public.

## Openness and transparency

One of the most effective ways to build trust is to have open and transparent organizational practices <sup>5,7,9</sup>. Ideally, transparent practices allow for public scrutiny, critique and ultimately organizational improvement <sup>18,19</sup>.

Elements:

1. **Present both risks and benefits.** Presenting both risks and benefits is important for transparency. While there is conflicting research as to whether presenting both risks and benefits helps in changing individual opinion, presenting all information is important so that individuals do not feel as if a company is withholding information <sup>7</sup>.
2. **Avoid exaggeration and emotive language.** Do not try to minimize or overstate risks or benefits <sup>7</sup>. Avoid hyperbole and overly emotive language in the discussion of risks and benefits.

Example: Instead of "the *incredible* benefits will revolutionize our world \_\_\_\_\_." simply state benefits or risks such as "the benefits are \_\_\_\_\_."

3. **Manage risks.** Focus on known risks <sup>5</sup>, but address fears of unintended consequences <sup>20</sup>. Emphasize where you have control over a process and where you are able to reduce the risk of unintended consequences. Point out what is currently being done to minimize risk.

Example: Safety testing for allergens and toxins; assessing the possibility for gene-flow; etc.

You may also consider reminding the audience that there is no risk-free solution or technology, be it modern or traditional. This provides a realistic background or reference point for discussion on risk management. The reminder should be a short statement such as "There is no such thing as zero risk. All agricultural practices, be it genetic modification, traditional breeding or organic agriculture, have associated risks that need to be controlled."

4. **Use consumer friendly language.** Ensure the language used is easily understood by the consumer. Avoid using acronyms. Individuals reading for enjoyment are most comfortable reading at a level 2 grades below their own <sup>21</sup>. Therefore, language at a grade 10 level, such as that used in newspapers, is most suitable for general audiences. If technical terms are used that may have an alternate meaning or association in the mind of the consumer, ensure that they are clearly defined as misunderstanding can be a source of bias <sup>20</sup>. For example the word "chemical" which in the scientific community has a neutral connotation is often associated with "toxin" in the mind of the public.

After the word has been defined, substitute part or all of the definition in place of the controversial word for the remainder of the communication.

Example: "A genetic mutation, otherwise referred to as a genetic variant, is a change in the DNA sequence. These changes in DNA occur routinely due to natural processes and may also be induced purposefully. One such variant..."

Be aware of jargon and check for comprehension with someone outside your industry. It may surprise you which words part of your daily language are misunderstood by consumers.

Example: The meaning of "traditional plant breeding" was misunderstood by around two-thirds of 100 surveyed Canadian consumers, many of whom believed it referred to pesticide-free farming <sup>20</sup>.

5. **Avoid anthropomorphisms.** While anthropomorphisms are commonly used in the classroom to help explain scientific phenomena, when explaining how a technology that is applied to plants works, human comparisons should be avoided. Negative connotations arise when people imagine these technologies applied to humans as tends to happen when a character is assigned to an object <sup>20</sup>.

Example: Using "parent plant" to describe a preceding generation of plants should be avoided.

6. **Add back familiarity.** There are several ways to add familiarity back to the process of GM.

*Familiar risks.* Previous research has suggested that unfamiliar risks can be perceived as more of a threat, i.e. Ebola vs. Influenza <sup>9</sup>. Where possible, relate risks to known risk equivalents.

Example: The idea that flying in a plane is safer than driving a car.

*Humanizing the process.* Additionally, showing the people behind agricultural practices may make the processes feel more approachable and create more positive feelings towards those practices <sup>20</sup>. This could involve naming individuals responsible for certain tasks within a communication piece and including quotes and relevant personal details. In particular, consider humanizing your "credible sources" (mentioned below).

Example: "John, a father of two, was raised in Red Deer Alberta, a small city in the Canadian Prairies. He has spent his career breeding wheat for Canadian farmers..."

*Humanizing photographs.* Including pictures of people help to give a face to the process, making it more familiar and approachable. When realistic, include individuals' faces without personal protective equipment. Don't exaggerate the technical aspects of the workplace.

Example: Someone in a greenhouse scouting for insects is pictured without personal protective gear and they are not holding multi-coloured test tubes as both of these are not items typically used for insect scouting.

*Known techniques.* Refer back to familiar processes that are aspects within larger and unfamiliar processes. If applicable, refer to parts of the process that are also present in nature.

Example: When explaining the development of new plant varieties using mutagenesis (an unfamiliar process), explain how traditional breeding (a familiar process) is always involved as a step in the process as well.

*History of use.* Safety information is more impactful if it demonstrates safety through history of use, rather than when safety is confirmed by using other technologies.

Example: "The method has been used for over 90 years and contributed to developing fruits and vegetables that have been in grocery stores for decades. The safety of the method can be assured through its long history of use."

vs.

"Consumer safety can be assured because the approach uses advanced technology to ensure that the plant is thoroughly understood before it is sold in grocery stores."

7. **Disclose information as soon as possible.** However, emphasize that information shared is preliminary and subject to change <sup>7</sup>.
8. **Correct previous errors.** Do not try to cover up previous mistakes <sup>7</sup>.
9. **Share information.** When in doubt, provide more information on a topic <sup>7</sup>. Avoid overly technical explanations and focus on shared values, goals and outcomes.

## Message context

Message context can increase the impact of your message. Impactful communication is accomplished through:

1. **Relevance.** Provide information that is directly relevant to an individual's own life and experiences. Individuals are more concerned about the risks and benefits associated with GM technology when it directly impacts their own lives or the lives of a group they identify with <sup>5</sup>. Statements of benefits to society and the environment in general are likely to be less impactful. Steer clear of discussing benefits to corporations, or producers as these are not relevant to your audience. Consumers are often concerned that risks and benefits are not distributed evenly <sup>9</sup> with consumers more often forced to bear the risks while companies reap the benefits.

Example: Food security in America was of a greater concern to Americans than world food security.

2. **Relatability.** It may not always be possible to frame a situation in a context that is directly relevant to an individual. For example, the focus of an organization may be food security in developing countries or sustainability. In these cases, while it may not be possible to make the risks or benefits directly relevant, it is possible to make the individuals they affect relatable. Adding relatability can be done in two ways. The first is by reminding the audience that more abstract concepts like "feeding the

world” actually refer to individuals or “feeding everyone”. The second is by emphasizing commonalities in the human condition, like the need to feed our families or the need for safety. Feeling connected to affected individuals can contribute to making the content more relevant.

Example: “Will there be enough food to feed ~~the world?~~” everyone

Example: “...safe and nutritious food to feed ~~the population.~~” families

Example: “...empower (people in) developing countries to achieve food security.”

3. **Loss framing.** Individuals are more prone to seek out both sides on a topic when they are in a loss-decision frame <sup>22</sup>. Loss framing presents choices or outcomes in terms of their negative (or loss) features. It can be used to emphasize what might be lost by not taking action, thereby highlighting the potential benefits. However, ensure statements are accurate and avoid exaggeration.

Example: “without the use of GM products we will not be able to feed 9 billion people” is inaccurate as there are many factors that contribute to the difficulty of feeding 9 billion people. Instead of using large sweeping statements focus on specific and concrete scenarios.

Example (last sentence of statement): “Bananas are an important part of the diet of many people in East Africa. Many smallholder farmers grow them to feed their families. The disease, banana wilt, is spreading quickly and increasingly threatens their food security. A GM banana variety has been developed by researchers at a non-for-profit institute. By not using GM products to combat banana wilt we miss an opportunity to help smallholder farmers feed their families.”

4. **Competent sources.** The technical competence of the source delivering the information has been found to contribute to the amount of trust an individual feels towards an organization <sup>2,5</sup>, as well as an individual’s risk assessment of biotechnology <sup>4</sup>.

In instances where communication centres around a communicator’s personal experience, it may be beneficial to use a storytelling approach <sup>12</sup> as a way of presenting scientific information. This process can leave a more lasting impact on non-scientist audiences <sup>13</sup>, humanize the science and make the communicator more relatable. While using emotive language in formal public communications is generally discouraged, its use is expected and beneficial when describing personal experiences. In this context, emotive language helps to immerse the listener in the story <sup>14</sup> resulting in a greater engagement <sup>15</sup>.

Elements:

- a) **State organizational credentials.** <sup>7</sup>
- b) **Co-ordinate with credible sources.** Determine the best authority to communicate with the public on a particular concern or aspect of operation. What constitutes a

credible source will vary by topic. For example, physicians are seen as one of the most trusted sources for discussing food safety <sup>16</sup>. Other credible sources may include farmers, dietitians, citizen advisory groups, university scientists, local officials or opinion leaders <sup>7,16</sup>.

- c) **Include influencers.** Partner with sources who are relatable to the public. These may not be individuals you immediately think of as “experts” in the field, but are able to condense scientific information in a useful and relatable way <sup>17</sup>. Research has shown that “Mom Scientist” a mother who has a scientific education or work experience is one of the most trusted sources for information on GM safety <sup>5</sup>. Engage individuals or organizations that are perceived by the public as experts on new technology and the “scientification” of everyday life, such as naturopaths or homeopaths. Ensure that the influencer you choose has a balanced opinion on GM foods and a realistic assessment of their benefits and risks.

## Shared values

Having values in common with an organization, for instance the belief in the importance of environmental protection, is one of the most important factors for building public trust in an organization <sup>2-4</sup>. Simply stating shared values is not enough. Communication should focus on relationship building with shared values continuously demonstrated through actions in-line with those values. Leading with a relationship-building approach means communication is conversational rather than conversional. Ultimately, when an organization has the trust of the public it then continues to operate with their support <sup>2,5</sup>.

Elements:

1. **Understand the concerns of the public.** It is important to ensure that the values presented are relevant to the concerns of the public. This requires to first actively listen <sup>6</sup> to the public’s concerns surrounding an organizational practice, product or outcome and identify those that are shared <sup>7</sup>. To be effective, these values should align with the goals of your organization <sup>8</sup>.
2. **Communicate shared values.** Acknowledge the concerns of the public. Let them know they have been understood and where applicable, their concerns are shared by the organization. Statements that emphasize caring and compassion are often more effective than those that emphasize facts or statistics. Follow through on shared value statements and let the public know you intend to back up these statements with action. Offer brief non-technical explanations on how the organization is working to address these concerns (refer to section on Openness and Transparency for guidelines). In situations where serious errors were made, such as the cross-contamination of unapproved genetically modified (GM) products in the environment or food supply, “Avoid distant, abstract, unfeeling language. Acknowledge and respond (both in words and with actions) to emotions that people express, such as anxiety, fear, anger, outrage, and helplessness.” <sup>7</sup>. For example, one can say that “any unintended release of GM products is unacceptable/serious and should have been avoided.”
3. **Allow meaningful public input.** Involve the public early on before decisions are made and invite feedback <sup>9</sup>. Ensure participants represent the diversity of groups

affected, that process is not unduly influenced by stakeholders and that participants have access to the information necessary to make informed decisions <sup>10</sup>. Preferred outcomes (e.g. labelling) are often also seen as a form of shared values <sup>11</sup>. Pursue agreement between the organization and the public on the desired outcome.

4. **Take action.** Follow through. It is equally as important to demonstrate shared values to the public through action as it is to communicate them <sup>10</sup>. Building trust means continually demonstrating trustworthy behaviours.

### **For more information**

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