GreenLight BIOSCIENCES™

GreenLight Biosciences, Inc. | March 2021

How to talk about RNA and agriculture so that people understand it. Results from research on public understanding of RNA.

Chat pane challenge

How would you explain RNAi to a non-scientist in a sentence?

Earth’s growing population faces urgent needs

Food Security

Sustainable crop protection that ensures biodiversity

Human Health

Pandemic response and preparedness, global access to vaccines, medicines and treatments

GreenLight is developing **RNA solutions** to address these issues

Why does communicating well about RNA matter?

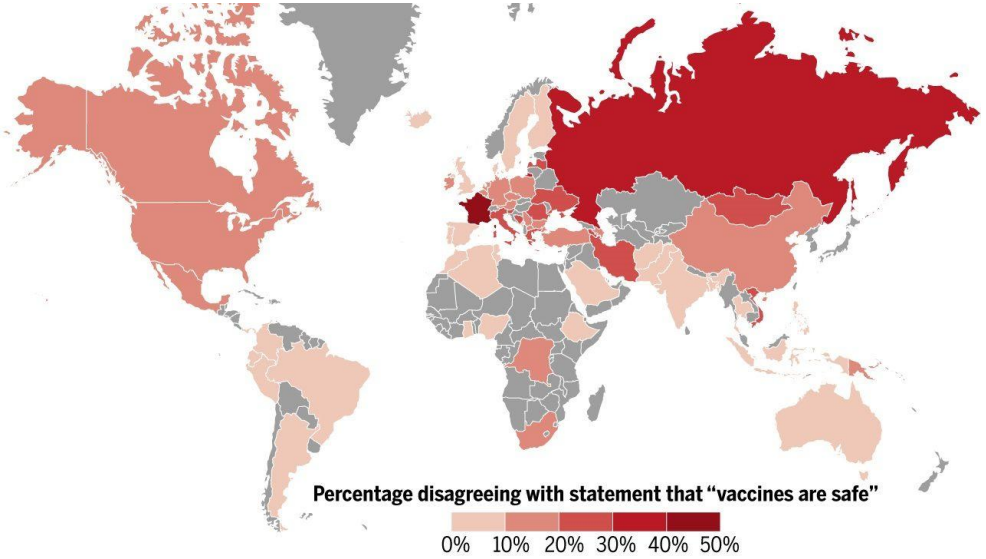
The ability of RNA to improve human health (vaccines, therapies) and protect biodiversity will only be realised, if people understand it.

Communications scientists have spent 50 years understanding why people don't simply 'believe facts'.

A key finding: Facts are not enough.

How we communicate makes a huge difference as to whether people believe and remember what we say.

Pre-pandemic distrust of vaccines



Vaccine denial problems pre-date the pandemic.

Source: Scientific American.

How have we approached this?

Our process to date:

1. Consult with world leading experts on the science of communications and the communication of science.
2. Conduct secondary research on how science is perceived.
3. Undertake six focus groups to understand how the general public perceive RNA, and how they react to different ways of communicating about it.

Next steps:

- Focus groups on specific RNA uses.
- Quantitative research, a type of randomised control study, to quantify which types of communication are most impactful.

"I feel hope and humanity for scientific advancements."
Focus group participant

Findings from our literature review on communicating about science

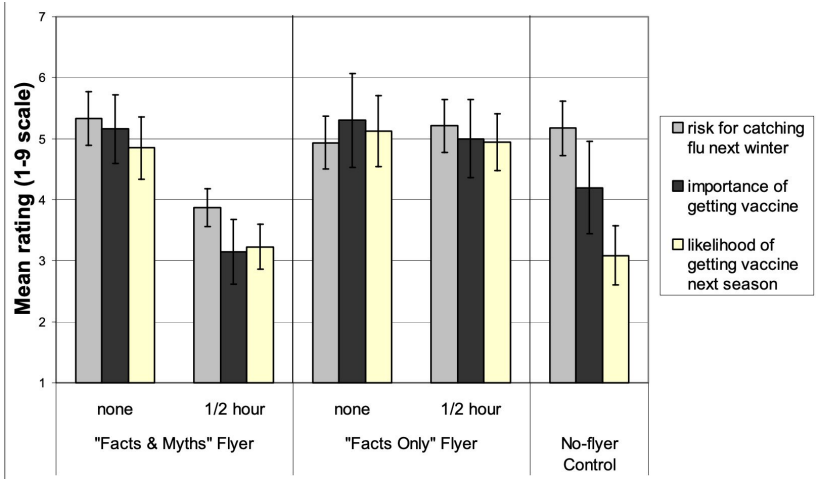
1. **Science communications frequently backfire**. A CDC study (right) found that a mythbusting approach actually reduced the likelihood of getting vaccinated compared to simply presenting facts.

2. Perception of science for the general public takes place through associations, perceptions and beliefs. It is not a linear process of examining and weighing facts.

3. **‘Science says…’** or **‘trust the scientists’** is not an effective message.

4. To devalue scientific studies, opponents will activate fears of corporate self-interest.

Mythbusting can backfire



Source: Skurnik, Yoon, Schwartz, 2005

Key findings from focus groups

1. **Focus on the problems that RNA solves, how these are relevant to everybody, and avoid** activating inaccurate and unhelpful ways of thinking about RNA.

2. **Provide the right level and type of explanation through metaphors that work** (example in coming slide)

3. Talk about the ways in which **RNA supports biodiversity (e.g. honey bee, butterflies etc.)** to build better understanding and positive associations. This is particularly true when compared to current forms of crop protection.

4. Knowledgable doctors and farmers are valuable spokespeople. Scientists are most effective to demonstrate problem solving potential and the depth of work that has been done.

5. Maintain a **straightforward and positive tone**. Avoid inadvertently sounding self-congratulatory or superior.

Bees and butterflies can be helpful

Bees and butterflies are unifying subjects. Everybody supports them because of their role in pollinating crops.

People are aware of the challenges faced by bees and bee colonies, so are highly supportive of a product that helps them.

It’s easy to explain how varroa mites harm bees and how RNA stops colony collapse disorder.

Beekeepers and lepidopterists are great spokespeople: Independent, frank, honest.

"If we don’t have bees, we don’t have food! We could do without the mites," focus group participant.

Note: Linking RNA vaccines with bees can cause somewhat amusing confusion: “How do you vaccinate a bee? Very carefully.”

How RNA works: Use the training metaphor

"A new scientific advance allows researchers to use RNA to **train** the cells in our bodies or in plants to **better respond to** diseases and other threats. Just like **a good coach or personal trainer who helps to draw out what we're capable of**, RNA helps the cells in a body or plant **use its own natural processes** to withstand diseases or threats. And just as a good coach identifies and targets weak spots, RNA is used in very specific and focused ways to improve health and resilience. Based on extensive testing, scientists around the world have found that the **RNA coach** is very effective at its job improving human and crop health."

GreenLight BIOSCIENCES™

Thomas Crampton
SVP Corporate Affairs
tcrampton@greenlightbio.com