

## Horizon Series: Embracing Disruptors Facing Ontario's Livestock Industry

White Paper Highlights with Deb Stark, veterinarian and former Deputy Minister at the Ontario Ministry of Agriculture, Food and Rural Affairs

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As part of its Horizon Series, the Livestock Research Innovation Corporation (LRIC) has written a series of white papers on the big issues facing Ontario's livestock sector. In this issue, Deb Stark looks at disruptors facing our industry. Stark is a well-respected veterinarian, former deputy minister with the Ontario Ministry of Agriculture, Food and Rural Affairs, and board member with the Canadian Agri-Food Policy Institute and Ontario Genomics. Well versed on handling disruptions, she reviews the two main types of disruptors, how to approach and embrace them, and shares some of the issues on her watch list. She's also the author of LRIC's white paper Embracing Disruptors Facing Ontario's Livestock Industry.

*"How do we view disruptors and how do we handle the changes that are coming?"*

Deb Stark

A disruptor is a shock to the system that causes a fundamental shift in how a sector operates. The emphasis isn't on the shock, but on the change for the business model in the sector. So, does it make sense to look at disruptors as one big mass, and treat them the same way? Or can we categorize them and be more thoughtful about the way we respond?

*"We can look at disruptors two ways—those that are nature-based events, and those that are based in innovation or social change."* Deb Stark

The first type of disruptors is nature-based and includes animal diseases, droughts, fire and floods. Stark explained that these are approached with an emergency management framework to manage the risk, including reducing the risk and exposure, and increasing resilience. Responding to these disruptors is divided into four categories:

- prevention and mitigation
- preparedness
- response
- recovery

Aside from a pandemic, Stark outlined how changes to businesses that are caused by these types of disruptors are usually temporary, unless they are proactive changes that are made voluntarily. She cites the example of biosecurity changes made in the past several years in order to be better prepared for animal disease.

The second type of disruptor comes from social change and technology. Stark provided examples of society asking us to be more thoughtful about how we treat people and animals we work with, or the changes from technologies like cellular agriculture and robotics. Compared to nature-based disruptors where government has a legislative role, the second type of disruptor doesn't carry the same pressure for collective action.

*“How do businesses get on the right side of disruptors that are based on technology or social change?” Deb Stark*

Stark believes the best way to approach these disruptors is through an innovation framework that follows a define, discover, develop and demonstrate path. This means starting by defining the problem or pain points the disruption is causing but also looking for possible opportunities. Next, discover the options for different solutions. Stark believes this is an area that agriculture needs to think more about to get away from the one problem/one solution approach and spend more time brainstorming a full range of solutions before determining which one to pursue. Then develop a prototype and test it, knowing the first version won't be perfect.

*“With any disruptor, there is a need for surveillance to be constantly asking what's coming, what's out there and what could it mean.” Deb Stark*

Disruptors don't come out of the blue. Stark reinforced that there are always early signs that something is changing. The changes coming to the livestock sector are already happening somewhere in the world. We know how to do surveillance for animal diseases and watch weather-related things. But it's not as easy to have your eye on social and technological changes, says Stark.

*“Start by looking inside your sector for disruptors, and also pay attention to the world in general.” Deb Stark*

For advice on where to look for disruptors, Stark suggested starting within your sector. Look for what is attracting investors. Find out who is investing and where in things like cellular agriculture and novel products. Talk and listen to your customers. Look at what is happening in the workforce—who is hiring, who isn't, and who is investing in training. Listen to trade and farm organizations as they are being paid to look ahead and listen and flag issues.

She noted that we also must pay attention to the world in general. Disruptions occur when technology from different sectors comes together. If it's just within your sector, it's likely just about



innovation and not a disruption. Stark looks to the World Economic Forum's annual risk report to identify trends, Betakit's newsletter that talks about Canadian investments in start-ups to see where venture capital funding is going in Canada, and also to [futurist.com](http://futurist.com).

*"There are three things on my watch list when it comes to potential disruptors."*

Deb Stark

1. Disease preparedness. Considering that 75% of new infectious diseases come from animals, Stark believes Canadian agriculture is doing a tremendous job preparing for the animal diseases we can control but what happens if livestock or poultry remain a source of disease in a human pandemic? This is an area she believes we need to be thinking about.
2. Water governance. Stark is wondering how the world is going to organize around the worsening challenges with global water issues, and the fact that 20% of the world's fresh water is in the Great Lakes.
3. Bioengineering and cellular agriculture. This disruption is well underway and Stark isn't sure we appreciate the magnitude of it. Genetic structure is being looked at as lines of code that anyone can code, and that could impact the livestock and poultry sector in many ways.

Watch the full webinar or review the white paper at [livestockresearch.ca/white\\_papers](http://livestockresearch.ca/white_papers).

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