Below are some basic concepts of biosecurity:

Disease Factors:
- Agent
- Host
- Environment

Routes of Infection:
- Direct Contact
- Indirect Contact
- Vector

Means of Transmission:
- In Utero
- Oral
- Injuries
- Respiratory or Sensitive Tissue

We call this "means of transmission".

**Means of transmission**: How are diseases spread between animals?

**Direct Contact**
- Livestock
- Wildlife
- Vector
- Forensics

**Indirect Contact**
Wildlife can spread diseases through direct contact or indirect contact. For example:
- Livestock
- Wildlife
- Vector
- Forensics

**Vector**
- Livestock
- Wildlife
- Vector
- Forensics

**Indirect Contact**
Wildlife
- Livestock
- Wildlife
- Vector
- Forensics

Illustration:
- Livestock
- Wildlife
- Vector
- Forensics
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Cleaning and Disinfecting (C&D) Strategies

Let’s take a look at proper cleaning and disinfecting protocols. Read and follow the images below and drag and drop them in the proper order in the box. (Click on the image to see a larger view.)

Biosecurity Strategies

1. Select and apply an appropriate, effective detergent.

2. Allow the proper contact time. Contact time may vary depending on the disinfectant used.

3. Wash the area or item with water and detergent.

4. Rinse the area or item with water.

5. Thoroughly dry the area or item. Allow the area or item to dry completely.

6. Select and apply an appropriate, effective disinfectant.

7. Allow the proper contact time. Contact time may vary depending on the disinfectant used.

8. Thoroughly dry the area or item. Allow the area or item to dry completely.

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### Biosafety Risk Report and Action Plan

**Form Name:** Olsen Farm  
**Date:** Today  
**Biosecurity Investigator:** You  
**Livestock Type:** Dairy

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**Call Hatches**

- **Area A**
  - [Image of hatches in area A]
  - [Questions and information about hatches]

- **Area B**
  - [Image of hatches in area B]
  - [Questions and information about hatches]

---

**Call Hatches**

- **Area C**
  - [Image of hatches in area C]
  - [Questions and information about hatches]

---

**Call Hatches**

- **Area D**
  - [Image of hatches in area D]
  - [Questions and information about hatches]

---

**Call Hatches**

- **Area E**
  - [Image of hatches in area E]
  - [Questions and information about hatches]

---

**Call Hatches**

- **Area F**
  - [Image of hatches in area F]
  - [Questions and information about hatches]

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We started both for easy and inexpensive things we could do, over 80% of them in the easy category. Some strategies just required a change in our processes. Others required a little work to make them possible.

First, we looked at how we were seeing the risk as made. Changing the order of how we hand the animals was a simple fix. We then took a journey to older, and then to healthy animals, to those of unknown status, before ending with the sick animals.

Oh, and we made washing hands and wearing personal protective equipment (PPE) a priority.

After we gave them one way to get them, they’re supposed to wash their hands and boom.”

This made us think. If we don’t do it, how can we expect our guests to do it? We have to be leading examples.

And if we reduced our brushes:

We also learned to rearrange our cages. In the old barn we had lots of cages with new animals on the cages. Now we try to keep the cages with the same or different animals and sort the cages. This made it easier to see which cage we need and it allowed us to keep the animals in the cages longer.

If you’re not sure where you’re going, it’s easy to see signs of direction. We take care to remove the animal’s stress and ensure all animals are not visible.
We also had our staff trained properly since the outbreak so we could identify early signs for new additions to the herd. We work with our veterinarians to detect early signs of disease in the herd. We monitor for signs of illness such as fever, coughing, or any other signs that may indicate disease. We also have a strict biosecurity protocol in place to prevent the introduction of new diseases to the farm. We wash our hands frequently and wear gloves when necessary to prevent the spread of disease. We also make sure to maintain the general hygiene of the farm to prevent the spread of disease. We make sure to monitor the health and hygiene of the farm regularly and report any abnormalities immediately.
We also learned that we qualified for a rent-sharing program in New Zealand, which pays for the rent. We have used the funds to buy a new car and pay off some debts. We have also started a savings account to save for future expenses.