

Biosecurity recommendations for broiler and broiler breeder flocks affected by

Reovirus

The number of reovirus-associated lameness cases reported in broiler flocks increased in 2017. The major clinical signs include lameness, leg deformities, especially splayed legs, and tenosynovitis. In addition, more birds were unsuitable for loading at the end of the grow-out period. Increased culling rate continued to be the main concern with rates ranging from 2 to 50%. The age of the affected flocks was variable. Both horizontal and vertical transmission occurs. Earlier in the year, flocks composed of non-domestic egg source origin (i.e., eggs and chicks) were at higher risk. This fall there have been three clusters of cases each associated with imported or domestic breeder flock sources.

If culling or mortality associated with lameness or splayed legs at 10 days of age or older are more than 2% above the cull rate standard for the barn, testing is recommended. Contact your veterinarian to discuss further diagnostic investigation.

Properly implemented biosecurity is poultry producers' first-line of defence against reovirus infections. Your farm biosecurity protocols should be well thought-out, stringently implemented and continuously followed. Biosecurity measures to keep diseases out of flocks apply to all poultry diseases and consist of both general and specific recommendations. Specific recommendations are based on the known modes of transmission, hardiness, infectivity, and sensitivity of the pathogen.

Keeping disease off your farm – General recommendations

- Each barn should have dedicated or disposable protective outerwear (e.g., coveralls, gloves, hairnets, and masks) and dedicated footwear that does not leave the barn, except for cleaning.
- A Danish entry is best practice for passing through the Controlled Access Zone (CAZ) to the Restricted Access Zone (RAZ).
- Do not wear the same outerwear and footwear between barns. Each farmer, employee and every person entering the affected poultry barn (or barns where suspicion of infection exist) must put on dedicated clean footwear, protective clothing (coveralls, hairnets), and follow all biosecurity protocols outlined by the Chicken Farmers of Ontario and Ontario Broiler Hatching Eggs and Chick Commission requirements.
- Wherever possible, only essential personnel enter the RAZ at any time to minimize the number of people in and out (including chick delivery) of the barn.
- Avoid exchanging equipment with other poultry production sites.
- Ensure all vehicles and farm equipment that access the barn vicinity are clean and that the laneways are restricted and secured.
- Avoid the addition of new birds into an existing flock, including spikers, where possible.
- Implement pest control programs including insect (e.g. darkling beetle) and rodent control to reduce the risk of vector spread of pathogens.

Contain disease inside the farm once infected – General Recommendations

- The affected barn or pen should be isolated as best as possible. Walk the affected barn or pen last.
- Shower and change into clean footwear and clothing before visiting unaffected flocks.
- Schedule services to the affected barn for the end of the day including technical services and feed deliveries.
- Remove dead and culled birds promptly and dispose of them properly where they will not pose a risk to infect new flocks.
- Transport specimens for diagnostics purposes in closed leak proof containers.
- If birds are due for slaughter, work with your processor to schedule birds to be processed at the end of day to accommodate thorough cleaning and disinfection of the slaughter plant and transport trucks.
- Any equipment or vehicles used in or in the vicinity of the infected barn should be thoroughly cleaned, disinfected, and stored where they will not become re-infected prior to use. Where feasible give 72h down time before use it at another facility.
- If possible, have a pressure washer or a hose available to wash tires and equipment, and make this available to all service vehicles and visitors.
- Ensure an extremely thorough cleaning prior to disinfection once flock has been shipped. Any remaining organic matter will reduce the efficacy of the disinfectant. Use detergent and hot water for best results. Consult with a biosecurity expert if unsure of what to do or use.

Contain disease in the farm once infected – Specific Recommendations for Reovirus to protect your neighbours and your next flock

- After litter removal and prior to placing a new flock in an affected barn ensure that it has been properly cleaned, disinfected and heat treated. It is important to use the appropriate disinfectant with a label claim to destroy reovirus. Combination products containing a quaternary ammonium compound plus gluteraldehyde are shown to be effective (e.g., Synergize, Viroid, and Aseptol 2000).
- “Heat treat” the barn **after cleanout**, introduction of new bedding, and in advance of bird placement using 32°C (or 90° F) for a minimum of 3 days. The floor under the bedding must reach 32°C for this technique to be effective. The temperature should be measured with an appropriate thermometer such as an infrared thermometer used at multiple locations along the inside perimeter of the barn at least three times a day. The barn floor should reach 32°C at least 4 days prior to placement to ensure at least 24 hours are available to create a stable barn temperature at an optimal chick range.
- Before spreading manure from a reovirus infected or suspect flock, it is important that it is properly composted to neutralize the virus. Pile and compost the litter inside the affected barn or in a designated and contained area. Check the temperature of the compost pile three times a day and ensure the temperature of the compost pile is at least 50°C (or 122° F) for a minimum of 3 days.
- Do not spread used untreated litter within 1 km of a poultry barn. Avoid spreading on very windy days.

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