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aMPV is here to stay: How to build smarter vaccination strategies

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Avian metapneumovirus (aMPV) is becoming a bigger respiratory challenge for US poultry operations. It can cause obvious clinical signs, but the larger cost often comes from the complications that follow in the field.

As more companies evaluate vaccination as part of their broader respiratory disease strategy, questions around timing, administration, diagnostics and overall program design are becoming central to long-term control.

In this Q&A, Daniel Maekawa, DVM, PhD, technical services veterinarian with Merck Animal Health, discusses how producers can approach aMPV with a practical, integrated mindset — bringing together biosecurity, vaccination and management to reduce complex-level impact.

Q: From what you're seeing in the field, what makes aMPV such a difficult respiratory virus to manage?

A: This virus spreads quickly and transmits easily in high-density areas, so it can be hard to contain once it's established. In addition, chickens infected with aMPV are very sensitive to suboptimal management conditions, such as ventilation issues, temperature fluctuations and poor litter quality, worsening the disease outcome.

Q: Once aMPV is confirmed, what practical steps help limit spread across a complex?

A: First of all, limiting the spread of aMPV is difficult due to the fast horizontal transmission. However, practicing good biosecurity certainly helps. Many companies already have good biosecurity

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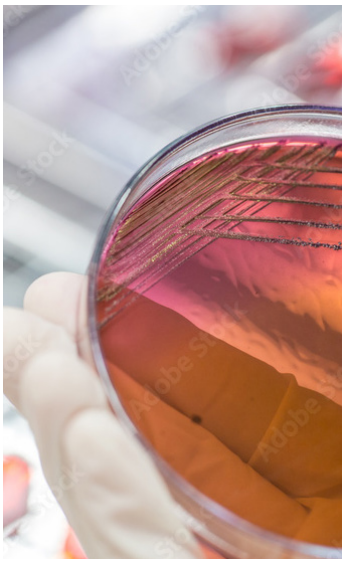


programs, but aMPV can expose gaps in consistency and execution.

When a farm is diagnosed, it should be treated as a quarantine situation. That means limiting nonessential visits, avoiding the movement of equipment from infected to healthy farms, and reducing the circulation of personnel between infected and noninfected flocks. These routine steps are simple on paper, but they can make a meaningful difference in reducing transmission risk.

Q: Where do the biggest losses come from when aMPV hits a flock?

A: The virus itself causes respiratory signs such as sneezing, nasal secretions and ocular discharge, but the greater losses often come from secondary bacterial infections, which can lead to septicemia and mortality. aMPV damages ciliated epithelial cells in the upper respiratory tract, impairing mucociliary clearance and favoring the colonization of secondary contaminants, such as *Escherichia coli*. There is no effective treatment for aMPV infection, but some producers use antibiotics to reduce losses from secondary infections.

Q: What management adjustments matter most during an aMPV event?

A: Ventilation, stocking density and dust control are key. It's also important to watch for factors that contribute to immunosuppression, such as mycotoxins and viral diseases such as Marek's, infectious bursal disease (IBD) and chicken infectious anemia, because these increase the risk of complications. Drinking water disinfection might help to reduce bacterial load and secondary contamination. When flocks are affected, tightening these basics can reduce the outbreak severity and help limit economic losses.

Q: Diagnostics for aMPV can be challenging. What's the best approach for confirming it?

A: The presence of a swollen head in chickens is very indicative of an aMPV challenge. However, confirmation using molecular tests isn't always easy because the virus is present in the chicken for only a short period, leading to false-negative results.

For PCR, timing matters. Samples should be collected as early as possible, before flocks progress to more severe signs like swollen heads and depression. Collecting from birds that are still apparently healthy in the house often gives the best chance of detecting the virus. Tracheal and choanal swabs are effective for detecting the virus by PCR.

Serology can also be useful. If the flock is not vaccinated, antibody seroconversion is a true sign that those chickens were challenged with aMPV. If the flock is vaccinated, it's important to establish baseline titers. If titers rise sharply above that baseline, it can indicate a field challenge.

Q: What seasonality patterns have you seen for aMPV in the US?

A: Since the disease started appearing in the US more than two years ago, we've seen a clear seasonal pattern, with cases increasing in the winter. The disease worsens in January and February and can persist into April, then decreases significantly as spring and summer arrive. That helps define when producers may need to strengthen the vaccination programs.

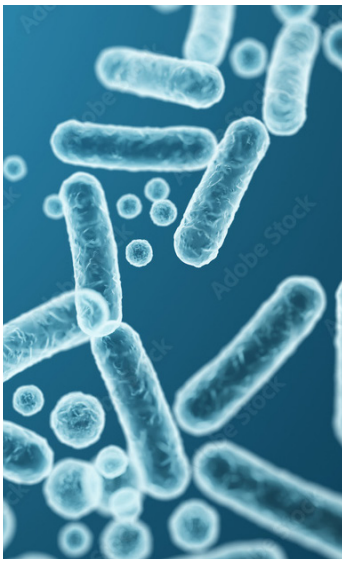
Q: What are you seeing with vaccination adoption in broilers as winter pressure increases?

A: I've seen more companies implement vaccination programs in broilers going into winter. 2025/2026 was the first winter we went through with vaccinated broilers for aMPV, so it will provide insight into the effectiveness of vaccination under strong field conditions. So far, aMPV broiler vaccination appears to be helping reduce outbreaks of the disease and mitigate economic losses, but it has not been shown to be an ultimate solution to the problem.

Q: What does a strong baseline vaccination strategy look like for pullets and breeders?

A: In pullets, vaccinating for aMPV is mandatory. Two live vaccines and one inactivated vaccine seem to be a good starting program for breeders, based on scientific data and experience in countries that have long dealt with this disease. However, adjustments need to be made based on each reality, and adding more vaccines to the immunization program might sometimes be justified.

Timing of the first live vaccination is also important and is determined by how early pullets are infected in the field. I have seen pullets show aMPV seroconversion as early as 6 weeks of age, so vaccination should start around 2 to 3 weeks earlier, before aMPV field infection hits the flocks.



Regarding the route of vaccine administration, I suggest implementing at least one live vaccine administration via eye drop to support uniform coverage. The other vaccination can be given by spray or drinking water. One dose of an inactivated vaccine is important for protecting the reproductive tract (oviduct) and helping minimize the risk of egg drop production and/or eggshell abnormalities.

Q: What are the main considerations when selecting an aMPV vaccination strategy for broilers?

A: Adding another respiratory vaccine to the broiler hatchery vaccination program comes with some challenges. Early research indicates that vaccinating for aMPV with infectious bronchitis virus (IBV) and Newcastle disease virus (NDV) may interfere with protection. However, more recent data indicate that simultaneous aMPV/IBV/NDV vaccination affects mainly

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serological response rather than protection. From a practical standpoint, applying all three vaccines at day of age by spray makes sense.

Another option is to reduce respiratory vaccine pressure at day of age by vaccinating against NDV *in ovo* at 18 days of embryonation using recombinant products, then pairing only aMPV and IBV at day of age. The latter option might be a better alternative to reduce respiratory reactions. Field vaccination for aMPV between 1 and 2 weeks of age can also be considered to boost and extend the duration of immunity. Naturally, a cost-benefit analysis needs to be incorporated.

Q: Are there any considerations with live aMPV vaccination programs that producers should keep in mind?

A: Unlike the early stages of the disease in the US, when the lack of vaccine options posed a major challenge, we now have multiple live and inactivated vaccine options available. Vaccine features, such as duration of immunity, titers, safety and stability, need to be considered when implementing aMPV vaccination.

Good cross-protection has been demonstrated between aMPV subtype A and B. The aMPV vaccine strains originate from chickens or turkeys, and for broiler vaccination, chicken-origin vaccines are recommended. Also, as with other viral respiratory live vaccines, it's important to be thoughtful about how live aMPV vaccines are used, including awareness of the potential for reversion to virulence if programs are poorly managed.

Finally, it's imperative to ensure vaccines are administered correctly to achieve good coverage and uniformity. In the US, as more companies gain experience with aMPV vaccination, maintaining strong execution and consistent monitoring will be important to ensure vaccines are in the best possible scenario to succeed.

Q: What does success look like for a long-term aMPV control strategy?

A: Controlling aMPV takes a holistic approach. Biosecurity is important. Vaccination is important. Management practices are equally important. We cannot rely on one single tool.

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