

PRRSV

A Producer's Guide to **Prevention** and **Response**

*A practical guide to reducing risk, responding
to outbreaks and protecting your herd.*

Why This Guide Matters

Porcine reproductive and respiratory syndrome virus (PRRSV) remains one of the most significant health and economic challenges facing the U.S. pork industry. It affects herd health, productivity and profitability, making prevention and early response critical on every farm.

This guide summarizes findings from the National Pork Board's systematic reviews of PRRSV prevention, elimination and biocontainment research.

Use it as a reference to strengthen biosecurity, prepare for an outbreak and support long-term PRRSV elimination efforts. Always work with your herd veterinarian when making herd health and biosecurity decisions.

\$1.2 BILLION

\$

Estimated annual production losses attributed to PRRSV in the U.S. pork industry.

PRODUCER
PRIORITY



PRRSV was identified as the industry's top swine health challenge in a nationwide producer and stakeholder survey.

AN EVOLVING
VIRUS



New PRRSV strains continue to emerge, increasing the importance of prevention, surveillance and elimination efforts.

A SHARED
GOAL



Advancing PRRSV elimination is a priority of the National Swine Health Strategy, and every farm plays a role.

PRRSV by the Numbers

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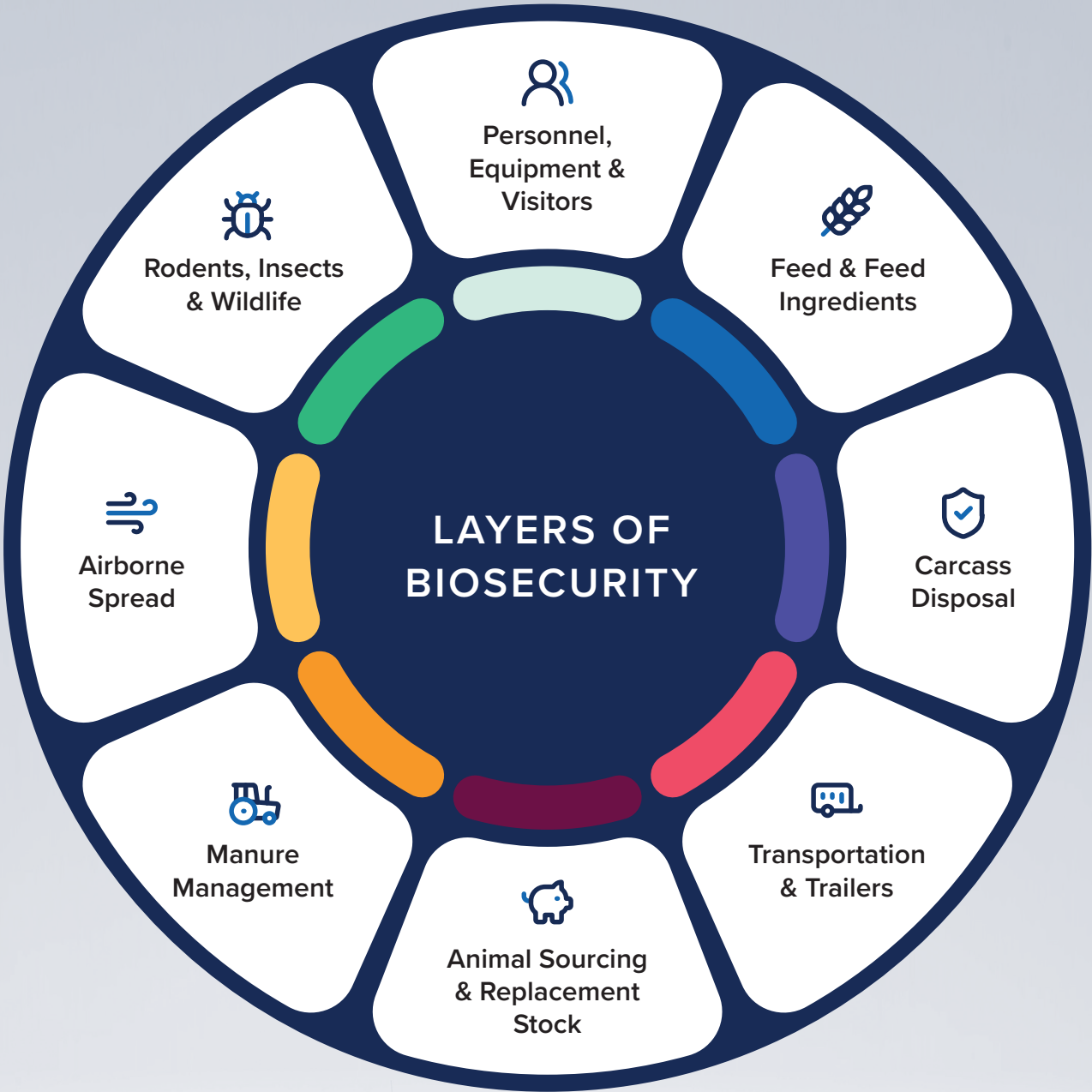
KEEP PRRSV OUT

Preventing PRRSV From Entering Your Farm

Most PRRSV introductions occur through routes producers can manage. While no single biosecurity practice can eliminate risk, combining multiple layers of protection can significantly reduce the likelihood of introducing the virus into your herd.

The following sections highlight the most common routes of PRRSV introduction and practical, science-based actions producers can take to reduce risk.

Strong biosecurity takes **everyone, every day**, using multiple layers of protection.



Animal Sourcing & Replacement Stock

WHY IT MATTERS

Bringing replacement animals onto your farm is one of the highest-risk opportunities for introducing PRRSV. Every incoming gilt, boar or semen shipment has the potential to introduce the virus.

Purchasing animals from known-health sources and following consistent quarantine, acclimation and testing protocols can significantly reduce that risk.

WHAT YOU CAN DO

Typical Investment

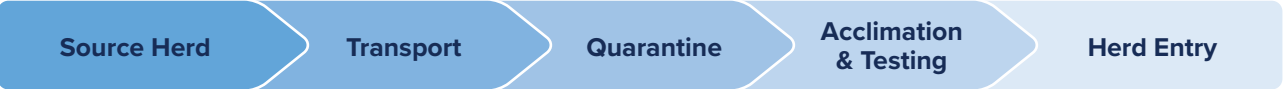
Maintain a closed herd whenever feasible.	LOW
Test replacement animals according to your herd veterinarian’s recommendations before herd entry.	LOW
Source semen from PRRSV-negative boar studs with routine surveillance programs.	LOW
Avoid introducing animals with an unknown or uncertain PRRSV status.	LOW
Quarantine replacement animals before herd entry.	MEDIUM
Follow a veterinarian-developed acclimation program before introducing replacement animals into the breeding herd.	MEDIUM
Purchase replacement animals from PRRSV-negative herds.	MEDIUM

PRACTICAL TAKEAWAY

Review your replacement animal, semen sourcing and quarantine protocols with your veterinarian before the next group arrives.

Every incoming animal is a potential route for PRRSV introduction. Strong sourcing and quarantine protocols remain one of the most effective ways to keep the virus out.

BEFORE NEW PIGS ENTER YOUR HERD



Airborne Spread

WHY IT MATTERS

PRRSV can spread through the air, particularly in regions with a high density of swine farms. Although producers can’t eliminate airborne risk, they can reduce it by evaluating their operation’s level of risk and implementing appropriate biosecurity measures. Research has shown that air filtration can significantly reduce PRRSV introductions into breeding herds in high-risk areas.

WHAT YOU CAN DO	Typical Investment
Work with your veterinarian to evaluate whether airborne transmission is a significant risk for your operation.	LOW
Properly maintain and monitor air filtration systems to ensure they continue performing as designed.	MEDIUM
Install air filtration on breeding herds in pig-dense regions, when appropriate.	HIGH

PRACTICAL TAKEAWAY

Because air filtration requires a significant investment, consult your veterinarian and be sure to consider regional risk, herd health goals and long-term management plans.

Air filtration is one of the most effective tools for reducing airborne PRRSV risk in the right situations, but it is only one layer of a strong biosecurity program.



Personnel, Equipment & Visitors

WHY IT MATTERS

Clothing, boots, hands, tools and shared equipment can all carry PRRSV from one farm to another. Fortunately, many of the most effective biosecurity practices in this area require more consistency than financial investment.

WHAT YOU CAN DO	Typical Investment
Require all personnel to change into farm-specific boots and clothing before entering animal areas.	LOW
Follow downtime protocols before personnel move between swine sites.	LOW
Limit visitor access and maintain a visitor log.	LOW
Maintain clearly defined parking areas for staff and visitors.	LOW
Clean and disinfect shared tools and equipment before they enter the farm or move between production areas.	LOW
Avoid sharing equipment between farms.	MEDIUM
Use a bench-entry or shower-in/shower-out system to separate clean and dirty areas.	MEDIUM

PRACTICAL TAKEAWAY

Walk through your barn entry process from the entrance to the parking lot to the animal area. Make sure every employee, visitor and service provider follows the same biosecurity procedures every time.

Consistent entry procedures help prevent PRRSV from hitching a ride on people, clothing or equipment.

BEFORE ANYONE ENTERS YOUR BARN





Transportation & Trailers

WHY IT MATTERS

Using transport vehicles and trailers is one of the most common ways PRRSV spreads between farms. A trailer that isn’t properly cleaned, disinfected and dried can carry the virus from one site to the next. Consistent sanitation and thoughtful trailer movement are critical parts of a strong biosecurity program.

WHAT YOU CAN DO

Typical Investment

Wash, disinfect and completely dry trailers after transporting PRRSV-positive or presumed positive pigs.	LOW
Establish and maintain clean/dirty lines for loading procedures to reduce cross-contamination.	LOW
Verify that commercial transport providers follow documented cleaning, disinfecting and drying protocols before arriving at your farm.	LOW
Avoid sharing trailers between sites or production phases whenever possible.	MEDIUM
Use dedicated trailers whenever feasible, particularly for breeding animals.	HIGH

SCIENCE NOTE

Research has shown that drying is one of the most important steps in trailer sanitation. Washing and disinfecting removes contamination, but allowing trailers to dry before reuse further reduces the risk of PRRSV transmission.

PRACTICAL TAKEAWAY

Review your trailer sanitation protocol from start to finish. Make sure washing, disinfection and complete drying are included every time a trailer returns to service.



FREE RESOURCE
TRUCK SANITATION
CHECKLIST



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Manure Management

WHY IT MATTERS

Manure handling can increase the risk of PRRSV spread through shared equipment, vehicle movement and the generation of contaminated aerosols during pumping and land application. While manure pumping is a routine part of production, planning ahead and following biosecurity practices can help reduce the risk to your farm and neighboring operations.

WHAT YOU CAN DO

Typical Investment

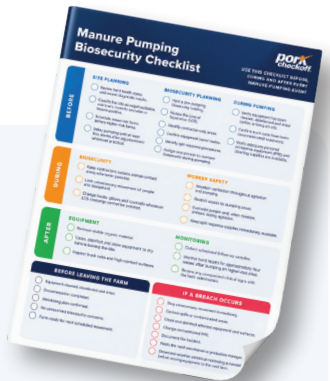
Delay manure pumping from sites with a recent PRRSV-positive group whenever feasible.	LOW
Develop and follow a written manure management plan.	LOW
Avoid land-applying manure near neighboring swine farms whenever possible.	MEDIUM
Use site-exclusive manure equipment or work with dedicated contractors who follow strict biosecurity protocols.	MEDIUM
Use tank trucks rather than drag hose systems when practical.	HIGH

SCIENCE NOTE

Studies have shown that breeding herd PRRSV outbreaks are more likely to occur following manure pumping events. The risk appears to be associated with aerosol generation, equipment movement and activities occurring around the time of pumping.

PRACTICAL TAKEAWAY

Review your manure management plan before the next pumping event. If your farm has recently experienced PRRSV, work with your veterinarian and manure contractor to determine whether pumping can be delayed and what additional biosecurity measures should be implemented.



FREE RESOURCE
MANURE PUMPING
BIOSECURITY
CHECKLIST



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Carcass Disposal

WHY IT MATTERS

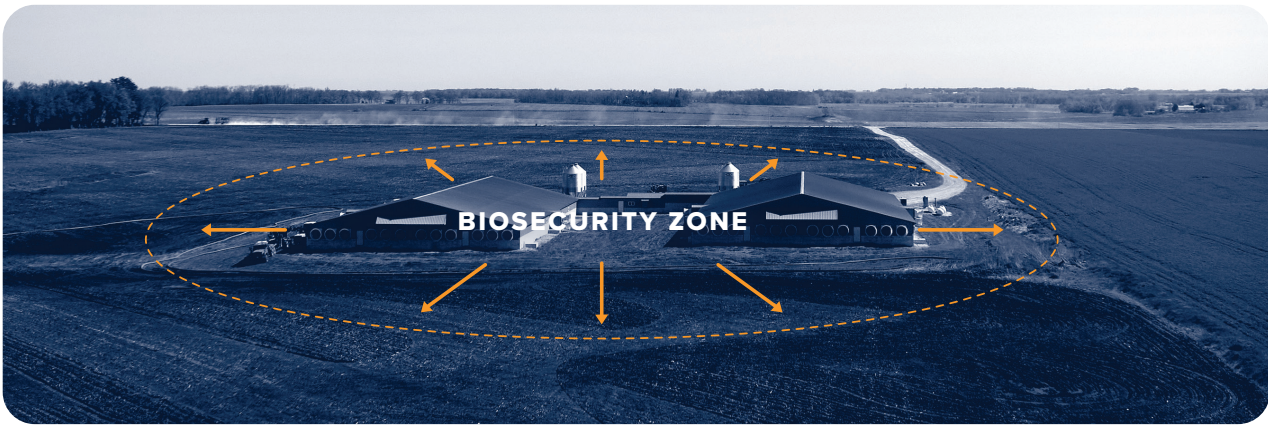
Carcass removal is a routine part of farm management, but it can also create opportunities for PRRSV introduction. Rendering vehicles often travel between farms with varying health statuses, making traffic flow and pickup location important considerations when protecting your biosecurity perimeter.

WHAT YOU CAN DO	Typical Investment
Place carcass pickup locations as far from animal housing as reasonably possible.	LOW
Keep rendering vehicles outside the farm’s biosecurity perimeter whenever possible.	LOW
Avoid crossing routes between rendering vehicles and on-farm traffic.	LOW
Consider on-farm disposal methods, when appropriate and permitted, to reduce rendering traffic.	MEDIUM - HIGH

PRACTICAL TAKEAWAY

Walk your farm’s traffic flow and identify where rendering vehicles enter and exit. Look for opportunities to reduce contact with animal areas and routine farm traffic.

The safest carcass pickup route is one that minimizes interaction with your animals, employees, equipment and routine farm traffic.



Feed & Feed Ingredients

WHY IT MATTERS

While the risk varies depending on ingredient sourcing, manufacturing and handling practices, feed and feed delivery have been identified as potential routes of PRRSV introduction. Working with trusted suppliers and maintaining good feed biosecurity can help reduce risk.

WHAT YOU CAN DO	Typical Investment
Purchase feed and ingredients from reputable suppliers with established biosecurity programs.	LOW
Work with your feed supplier and veterinarian to evaluate feed-related biosecurity risks.	LOW
Minimize unnecessary feed delivery traffic within the biosecurity perimeter.	LOW
Follow biosecurity practices for feed deliveries entering the farm.	LOW - MEDIUM
Consider feed mitigants (e.g., organic acids, medium-chain fatty acids) for high-risk farms or feed products.	MEDIUM

PRACTICAL TAKEAWAY

Review your feed delivery routes and discuss your supplier’s biosecurity practices during your next conversation.

ADDITIONAL RESOURCE LINKS

- FEED BIOSECURITY FROM KANSAS STATE UNIVERSITY
bookstore.ksre.ksu.edu/pubs/feed-biosecurity-for-swine-producers_MF3547.pdf
- FEED SAFETY RESOURCES FROM KANSAS STATE UNIVERSITY
asi.k-state.edu/research/feedsafetyresources/



Rodents, Insects & Wildlife

WHY IT MATTERS

Rodents, insects and wildlife can compromise farm biosecurity by moving pathogens between barns and farms. An effective pest control program is an important part of a comprehensive biosecurity plan.

WHAT YOU CAN DO

Typical Investment

Maintain a year-round rodent control program.	LOW
Monitor and control insect populations.	LOW
Limit wildlife access to barns, feed storage and animal areas.	LOW
Inspect buildings regularly and repair openings that allow pests to enter, including bird netting and inlet screens, if applicable.	LOW

PRACTICAL TAKEAWAY

Walk the outside of each barn and identify places where rodents or wildlife could enter. Repair openings and refresh bait stations as needed. Keeping grass short around the outside of the barn or a rock edge around the building helps discourage pests. Keeping pests out helps keep disease out. Routine monitoring and maintenance are just as important as treatment.



Building a Layered Biosecurity Program

WHY IT MATTERS

No single biosecurity practice can completely prevent PRRSV. Research consistently shows that farms using multiple complementary biosecurity measures experience fewer PRRSV introductions than farms relying on just one or two interventions. Layering biosecurity creates multiple opportunities to stop the virus before it reaches your herd.

WHAT YOU CAN DO

Typical Investment

Develop and maintain a written biosecurity plan.	LOW
Routinely review biosecurity practices with employees and service providers.	LOW
Evaluate biosecurity risks regularly with your veterinarian.	LOW
Review and update your biosecurity plan as production practices or disease risks change.	LOW
Apply multiple layers of protection rather than relying on a single practice.	VARIES

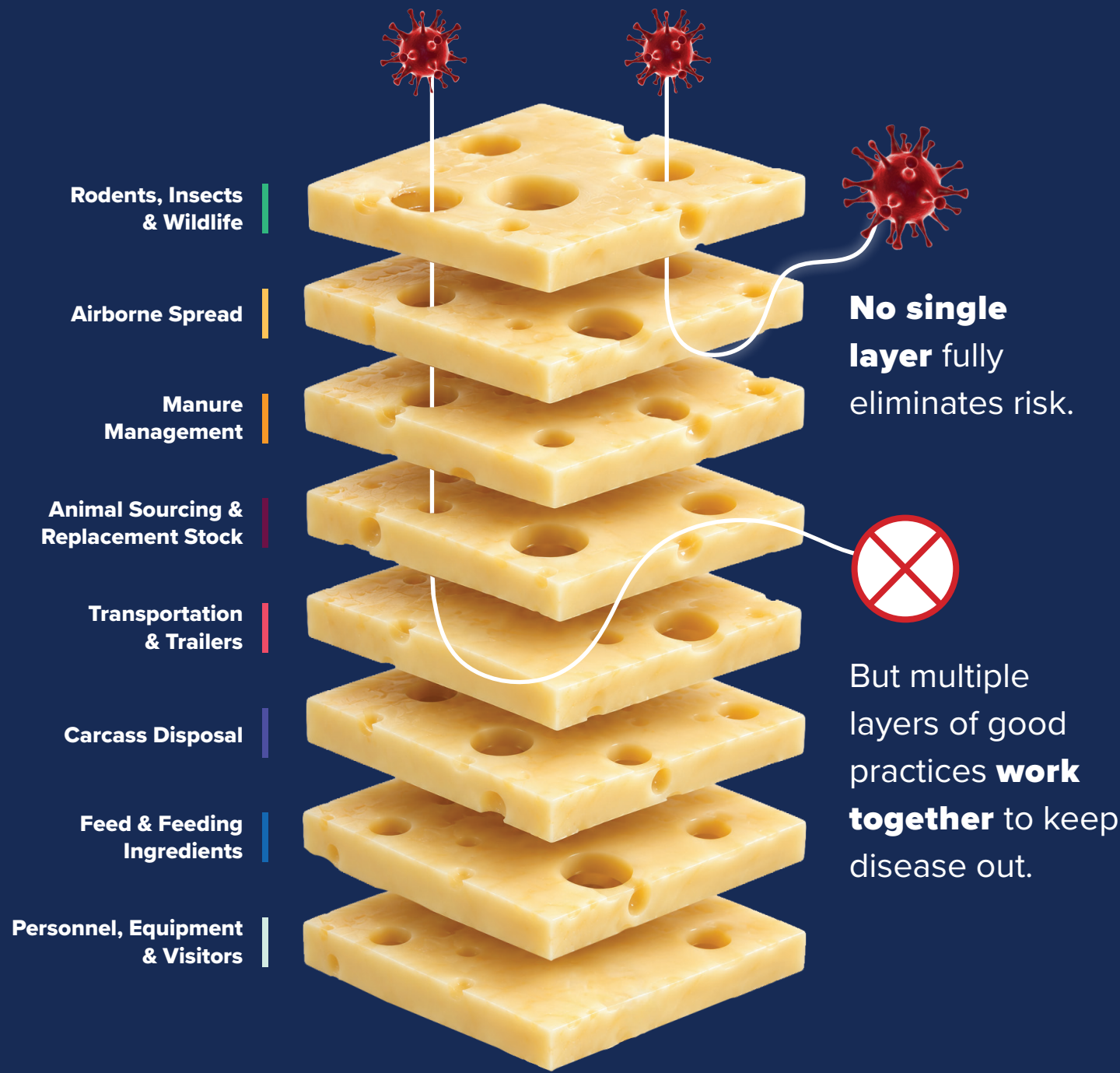
PRACTICAL TAKEAWAY

Schedule an annual biosecurity review with your veterinarian and management team. Identify one area where your operation can add another layer of protection this year.

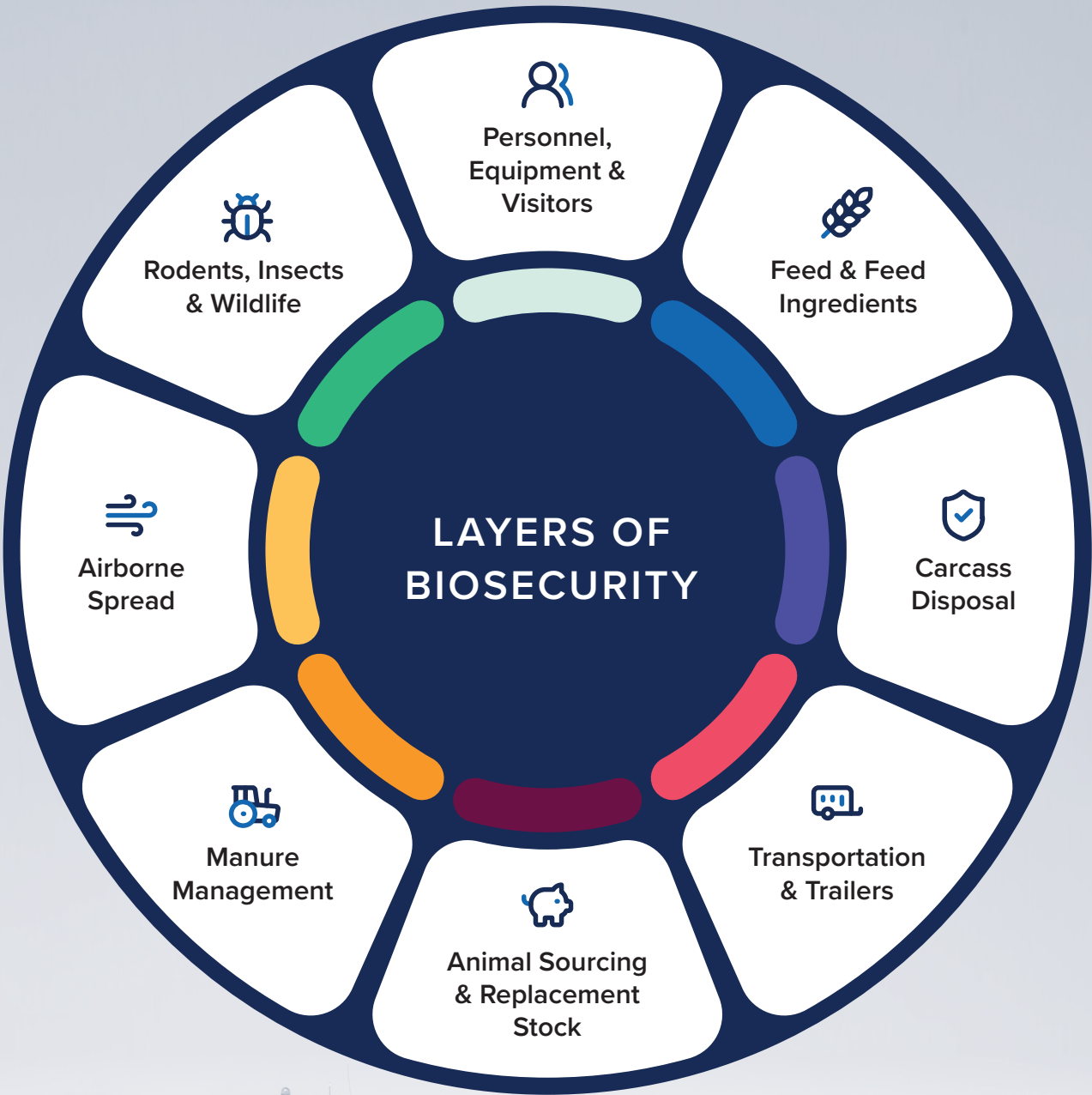
Strong biosecurity isn't built around one practice — it's built by consistently applying multiple layers of protection across your operation. Ensure all employees and visitors understand your farm's biosecurity practices and all practices are achievable.



Think of Biosecurity Like Layers of Swiss Cheese



Strong biosecurity takes **everyone, every day**, using multiple layers of protection.



Vaccination

WHY IT MATTERS

Vaccination is an important tool for managing PRRSV, but it does not prevent infection or replace strong biosecurity. Vaccine performance can vary depending on the PRRSV strain, genetics and herd health status. When used as part of a comprehensive herd health program, vaccination can help reduce disease severity and support PRRSV control efforts.

WHAT YOU CAN DO

Typical Investment

Work with your veterinarian to select a vaccination program that fits your herd’s health goals.	LOW
Follow label directions and your veterinarian’s recommendations for vaccine timing and administration.	LOW
Regularly review your vaccination program as PRRSV challenges and herd conditions change.	LOW

SCIENCE NOTE

Commercial PRRSV modified-live vaccines (MLVs) can help reduce the clinical signs of disease and improve herd stability, but they do not guarantee protection against infection. Vaccine effectiveness depends on several factors, including the PRRSV strain, herd immunity, pig genetics and how well the vaccination program aligns with your operation’s overall health strategy.

PRACTICAL TAKEAWAY

Review your current vaccination program with your veterinarian and discuss whether it still aligns with your herd’s PRRSV risk and health objectives.

Vaccination works best when it’s combined with strong biosecurity, routine surveillance and sound herd management.



PRRSV DIAGNOSTICS

Choosing the Right Test at the Right Time

Knowing whether PRRSV is present is the first step toward making sound herd health decisions. No single test or sample type is right for every situation. The best approach depends on your herd’s health status, production stage and the question you’re trying to answer.

Always work with your herd veterinarian when developing a surveillance or diagnostic testing program.

Choosing the Right Test

IF YOUR GOAL IS TO	Recommended Test	What It Tells You
Confirm an active PRRSV infection.	PCR	Detects PRRSV genetic material, indicating active infection.
Determine previous exposure or vaccination response.	ELISA	ELISA detects the body's response to PRRSV or vaccination (antibody production) and takes time to develop post-exposure/vaccination.
Monitor herd status over time.	PCR and/or ELISA*	Your veterinarian can recommend the best testing strategy based on your herd's health status and surveillance goals.

*Testing strategies vary depending on the herd's health status and monitoring objectives.

Common Sample Types

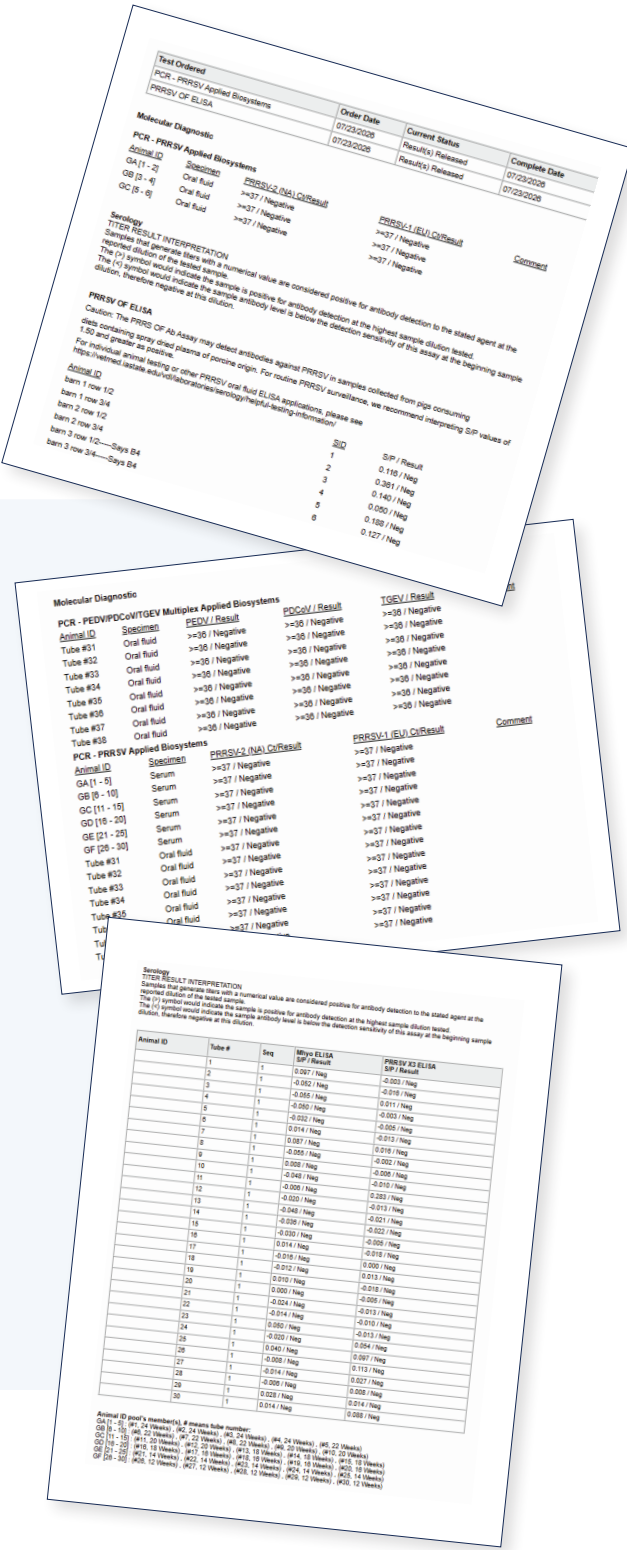
SAMPLE TYPE	Best Used For
Processing Fluids	Routine surveillance in breeding herds.
Oral Fluids	Population-level surveillance in growing pigs or group-housed animals.
Serum (Blood)	Individual animal testing, diagnostic investigations and surveillance.
Tissues	Confirming or investigating infection in clinically affected or deceased pigs.

Interpreting Results

WHY IT MATTERS

Laboratory results are only one piece of the picture. Accurate interpretation requires consideration of herd history, vaccination status, clinical signs and production records alongside laboratory findings.

When results are available, schedule time with your veterinarian to review not only the laboratory report, but also what the results mean for your herd.



**WHEN PRRSV
IS CONFIRMED**

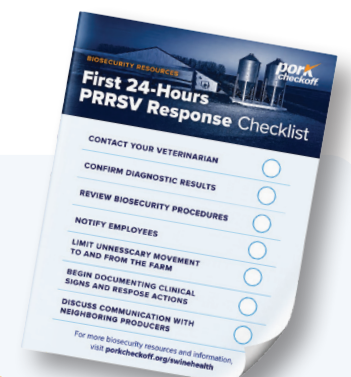
Responding to an **Outbreak**

A confirmed PRRSV diagnosis can feel overwhelming, but early decisions matter. Working quickly with your veterinarian to confirm the diagnosis, strengthen biosecurity and develop a herd-specific response plan can help reduce disease spread and improve long-term outcomes.

First 24 Hours Checklist

YOUR FIRST STEPS AFTER DIAGNOSIS

- 1 Contact your veterinarian.
- 2 Confirm diagnostic results.
- 3 Review biosecurity procedures.
- 4 Notify employees.
- 5 Limit unnecessary movement on and off the farm.
- 6 Begin documenting clinical signs and response actions.
- 7 Discuss communication with neighboring producers when appropriate.



FREE RESOURCE

FIRST 24-HOURS PRRSV RESPONSE CHECKLIST



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Choosing an Elimination Strategy

Once you’ve confirmed PRRSV on your sow farm, work with your veterinarian to determine the elimination strategy that’s the best fit for your operation. No single approach works for every farm. The right choice depends on factors such as herd size, pig flow, facility design, labor availability, PRRSV strain and long-term production goals.

ELIMINATION METHODS AT A GLANCE

STRATEGY	Best Suited For	Key Considerations
Herd Closure (Load-Close-Expose)	Breeding herds seeking to eliminate PRRSV while maintaining the herd; when controlled exposure is part of the elimination strategy.	Requires strict biosecurity, veterinary oversight, coordinated management and time to achieve stability. May involve use of live virus inoculation (LVI) or whole herd vaccination with MLV. Works best when a single PRRSV strain is confirmed.
Test and Removal	Small herds that are PRRSV positive but stable with no clinical signs.	Requires testing of each individual animal on-site in a short period of time. Has strict farm requirements to be viable for success.
Depopulation and Repopulation	Farms with severe disease challenges or where other strategies are unlikely to succeed.	Highest cost and operational disruption, but may offer the fastest path to a PRRSV-negative herd.
Other Approaches	Herd-specific situations.	Your veterinarian may recommend additional strategies based on your operation, farm layout, pig flow or current disease status.

Biosecurity During Elimination



BIOSECURITY PRACTICES

- Require a minimum 12-hour downtime before farm entry for personnel who have had contact with other pig sites.
- Require personnel to change clothes before entering the farm.
- Wash, disinfect and dry transport vehicles.
- Maintain an active rodent control program.
- Follow one-way pig flow and, when possible, all-in/all-out production.
- Assign dedicated caretakers to each production phase or location.
- Use only equipment dedicated to that farm.
- Follow McREBEL®* management practices.
- Maintain routine cleaning and disinfection throughout the farm.
- Separate sows showing clinical signs from the remainder of the herd.
- Implement additional practices that reduce direct and indirect PRRSV spread within the farm.

**McREBEL (Management Changes to Reduce Exposure to Bacteria to Eliminate Losses) is a set of management practices designed to reduce the spread of PRRSV and other pathogens among pigs, particularly in farrowing areas. It emphasizes limiting cross-fostering and pig movement, avoiding mixing litters or age groups, promptly removing sick or dead pigs, and maintaining strict sanitation and all-in/all-out flow.*

LOOKING AHEAD

Responding to PRRSV doesn’t end at your farm gate. Once an outbreak is confirmed, preventing the virus from spreading to neighboring farms becomes just as important as eliminating it from your own herd.

QUESTIONS TO ASK BEFORE HERD CLOSURE

Before implementing a herd closure strategy, discuss these questions with your veterinarian:

- Q. Is herd closure the best option for my production system?
- Q. When can I expect to start weaning negative pigs?
- Q. How will replacement animals be managed during closure?
- Q. What additional biosecurity measures should be implemented?
- Q. How will progress be monitored throughout the elimination process?
- Q. When can I expect to return to normal production?

Every herd closure plan should be tailored to the individual operation.

PRRSV
BIOCONTAINMENT

Being a Good Neighbor

When PRRSV is confirmed on your farm, your focus expands beyond protecting your own herd. Every movement of people, animals, equipment and vehicles becomes an opportunity to either contain the virus or allow it to spread.

The same routes that can bring PRRSV onto a farm can also carry it to neighboring operations. **During an active outbreak, strengthening biocontainment helps protect your neighbors and supports regional disease control efforts.**

Sharing Your Site Status

WHY IT MATTERS

Neighboring producers can't take additional precautions if they don't know a nearby farm is experiencing a PRRSV outbreak. Sharing your farm's PRRSV status is a voluntary best practice that supports regional disease control and allows neighboring farms to strengthen their own prevention efforts.

WHAT YOU CAN DO

Typical Investment

Notify neighboring swine producers of a confirmed PRRSV diagnosis, when appropriate.

LOW

Consider notifying swine sites within approximately 2 miles of your farm, particularly where pigs are maintained year-round.

LOW

Work with your veterinarian or state animal health officials to identify nearby swine sites, if needed.

LOW

Share timely, accurate information that helps neighboring producers make informed biosecurity decisions.

LOW

PRACTICAL TAKEAWAY

Develop a communication plan with your veterinarian before an outbreak occurs so you know who should be notified and when.

A timely conversation gives neighboring producers the opportunity to protect their herds and the broader U.S. swine industry.

Internal Biocontainment

WHY IT MATTERS

Limiting the spread of PRRSV within your farm supports elimination efforts and helps reduce the amount of virus shed into the environment.

WHAT YOU CAN DO	Typical Investment
Assign dedicated employees and equipment to infected areas whenever possible.	LOW
Implement McREBEL protocols to reduce cross-fostering and litter mixing.	LOW
Isolate clinically affected animals, and maintain routine cleaning and disinfection practices.	LOW - MEDIUM
Follow all-in/all-out pig flow, and avoid mixing age groups.	MEDIUM

PRACTICAL TAKEAWAY

Focus on reducing movement between infected and unaffected groups of pigs, people and equipment.



When to Increase Biocontainment

WHY IT MATTERS

PRRSV spreads more readily under certain conditions. Reinforcing biocontainment during higher-risk periods can help reduce the chance of spreading the virus to neighboring farms.

WHAT YOU CAN DO	Typical Investment
Increase biocontainment efforts during the fall and winter, when PRRSV activity is typically the highest.	LOW
Reinforce biosecurity before, during and after manure pumping events.	LOW
Increase vigilance if a nearby farm reports a PRRSV outbreak, particularly within 9 to 11 miles.	LOW
Strengthen movement protocols during periods of increased pig movement, such as weaning and marketing.	LOW

PRACTICAL TAKEAWAY

Review your biosecurity and biocontainment practices each fall and whenever conditions increase the risk of PRRSV spread. Adjusting your practices during higher-risk periods can help protect your farm and neighboring operations.

FALL AND WINTER

NEARBY REPORTED OUTBREAK

MANURE PUMPING EVENTS

INCREASED PIG MOVEMENT

HIGHER-RISK PERIODS

Additional Actions During a PRRSV Outbreak

The biosecurity practices described in Part 1: Keep PRRSV Out remain essential during a PRRSV outbreak. The following actions can help reduce the risk of spreading PRRSV beyond your farm.

WHAT YOU CAN DO		Typical Investment
Transportation	Notify transportation providers of your farm’s PRRSV status. Avoid routing trailers directly from a PRRSV-positive farm to a negative farm without complete cleaning, disinfecting and drying. Maintain movement records to support traceability.	LOW
Personnel	Limit nonessential visitors. Increase downtime between farm visits. Assign dedicated employees to infected areas whenever possible.	LOW
Equipment	Avoid sharing equipment between farms. Clean, disinfect and dry shared tools before they enter the farm.	LOW
Manure Management	Delay manure pumping when feasible. If pumping cannot be delayed, notify nearby producers and follow strict sanitation and management protocols.	MEDIUM
Carcass Disposal	Minimize rendering truck traffic. When possible, use on-farm disposal methods or maintain carcass pickup locations outside the farm perimeter. Ensure rendering truck routes visit negative sites first and recent outbreak sites last.	MEDIUM

PRACTICAL TAKEAWAY

Walk through every movement on and off your farm with your veterinarian. Identify where PRRSV could leave the site and what additional precautions are needed during the outbreak.



REGIONAL PRRSV ELIMINATION

Working Together

Individual farm biosecurity is the foundation of PRRSV control, but long-term progress depends on producers working together. Successful regional PRRSV programs share a common goal: reducing disease spread through coordinated action, consistent biosecurity and open communication.

It all starts with a conversation.

Connect with your state pork association, veterinarian or neighboring producers to explore opportunities for coordinated PRRSV control in your area.

What Successful Programs Have in Common

- ✓ **Producers share PRRSV status** to support informed decision-making.
- ✓ Farms follow **consistent biosecurity and biocontainment practices.**
- ✓ Herds participate in **routine surveillance and diagnostic testing.**
- ✓ **Animal movements are managed** to reduce disease spread.
- ✓ **Veterinarians and producers work together** to respond quickly to new outbreaks.

Priority Actions by Farm Type

FARM TYPE	Priority Actions
All Farms	Maintain a written and implementable biosecurity plan,* clean and disinfect transportation equipment, control farm access, maintain rodent and pest control, and follow a manure management plan.
Breeding Herds	Source replacement animals from known-health herds, quarantine and test incoming animals, and consider air filtration where appropriate.
Grow-Finish Sites	Avoid moving pigs of unknown PRRSV status, follow transportation biosecurity protocols and manage manure to reduce disease spread.

**The Secure Pork Supply (SPS) plan provides templates for producers to create a written biosecurity plan. The template includes everyday biosecurity practices, which can help protect a farm from PRRSV outbreaks.*

PRACTICAL TAKEAWAY

Make site health status part of the conversation. Talk with neighboring producers and your veterinarian about when and how to share PRRSV status. Better information helps producers make informed decisions to protect their herds and reduce disease spread.

Notes

Notes

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