



Biosecurity is the protection against biological agents. You know them as germs, bacteria, viruses or microscopic bugs that are contagious and cause illness and even death. Most diseases are spread by saliva, manure, urine, blood or exhaled air. These are on our farms naturally meaning disease and infection can be easily carried from place to place, from other farms or any area where animals are or have been, and to and from your isolation areas. Disease can be transmitted by the animals themselves, rodents, birds, insects, vehicles, equipment, and people.

Protecting your farm and animals can be an easy, quick and inexpensive process. It's much easier than the worry and work of battling illnesses and the financial losses you could experience.

- Isolate any new animal coming to live with you. The recommended minimal time is 30 days. Isolation means separation in a permanent designated area, away from other livestock that may come in contact with the animal, its saliva, urine or feces. This is a good time to treat for parasites such as worms, lice and mites that could also carry disease. Care should be taken with shoes, boots or equipment used during the isolation period to avoid the possibility of spreading contaminants to other animals in your care.
- Disinfection. There are a few recommended methods and products and all are easy, quick and inexpensive.
 - 1.) One gallon sprayer
 - 2.) Bleach, or Vinegar, or Hydrogen Peroxide
 - 3.) Water

Mix 10% bleach with 90% water in a hand pump sprayer and lightly spray grounds where your animals live. Bleach is a skin irritant and also produces noxious fumes. Do not mix or combine with anything other than water. Do not over spray to produce mud. Do not use indoors or in an enclosed area. Do not spray in or around water sources or mud holes where run off could be ingested. Do not directly spray animals. Bleach has a short effective shelf life so do not mix more than you'll use in your application. It will not be as effective after storage. Tests confirm that a higher bleach concentration of 10% does not increase effectiveness. This is not a case of More is Better.

Mix half vinegar to half water in a hand pump sprayer, 50% to 50%, and treat grounds as described above for bleach application. Vinegar should not produce skin irritants or dangerous fumes and can be used in enclosed areas. Vinegar types have different concentrations and its best to use the highest concentration if possible. Commonly found white vinegar has a concentration of 5% and can effectively eliminate about 80% of germs. Pickling Vinegar has the highest concentration if it can be found.

Hydrogen Peroxide is also effective and is sometimes used after the application of vinegar. The mix is half hydrogen peroxide to half water and treat living areas the same as with vinegar applications. The cost may be prohibitive for larger areas but can work well for isolation.

There are herbal and essential oil treatments as well however for larger applications they're cost prohibitive. Their effectiveness has not been determined at this time. They are better used individually as needed and some can be quite effective for the treatment of illness or injury.

In addition to living areas for your animals you should also treat anything that could come in contact such as vehicles, equipment, shoes and boots. Tires on vehicles should be liberally sprayed before entering. Disinfect your own and visitor shoes or boots or use sterile shoe covers. Illnesses and infection are commonly spread by footwear bringing the infectious contaminants in.

There are too many germ producing illness and infections to list here for reasons why good biosecurity is important. A few you might recognize are:

- Porcine Epidemic Diarrhea-PED, caused by a coronavirus. With young piglets the mortality rate is high. It's extremely contagious. Older exposed hogs usually develop an immunity and are not affected. PED causes wasting, dehydration, diarrhea and death. This disease severely crippled the hog industry 2 and 3 years ago with the loss of young piglets. It was reported the virus was even found in gas station parking lots where hog haulers pulled in for fuel and in pay stations where it was transferred by foot traffic. This virus is carried in to your herd.
- Pneumonia. Caused by a respiratory virus that's very common and difficult to treat and control. It can be highly contagious. Mortality rate can be swift and high. These viruses are often carried into your herd.
- Porcine Parvovirus Infection-PPV, commonly called Parvo. Hogs are carriers. You may not ever see an outbreak but it's believed the virus is commonly found on almost every farm in the country. It affects fertility and can be found in both males and females and is often sexually transmitted but is also found in the ground and has a long lifespan. You can read more about this virus in the RWHA tutorial section.
- Erysipeas. Hogs are natural carriers in their tonsils. This disease may be mild and not noticed, or it can be severe and deadly. There is no known reason why Erysipeas surfaces but stress and unclean conditions are thought to be contributing factors. There's more on this disease on our tutorial.
- Greasy Pig Disease. Caused by the staphylococcus hyicus bacteria that normally lives on the skin of hogs. Hogs are natural carriers. It's usually passed from the sow to nursing piglets and spread by contact thru eyes, ears, nose and open wounds such as scratches from playful fights, and from inappropriately clipped teeth. It affects the kidneys and liver and can result in infectious sores and even death. There is no known reason why the disease suddenly appears however it's believed that stress, overcrowding, and unsanitary conditions are major contributing factors.
- Porcine Reproductive and Respiratory Syndrome-PRRS. Also known as Mystery Disease or Blue Ear Disease. Caused by a virus. PRRS affects and multiplies in the lungs killing the hogs natural immunity defenses, allowing other infections and diseases to take over. Can be devastating to herds. Spread by nasal secretions, saliva, feces, urine and can be airborne up to 2 miles. Infected adults are infectious for approximately 14 days. Growing hogs can be infectious up to 2 months. Can infect the fetus resulting in late term abortions, stillbirth and mummies. Symptoms may include lack of appetite, temperature, late term abortions, ear discoloration, early farrowing, coughing and lethargy. The hog(s) may present with all or none of these symptoms and each can be only for a brief time, usually one to two days. Once infected and if recovered the hog is usually immune however may not be as thrifty.

Change is stressful to animals if you're adding to your herd. There's new people, new environment, new feed and new animals to get used to. It's also stressful to the animals of an existing herd that's forced to accept a stranger. Not all but many diseases are opportunistic meaning they strike when conditions are just right and if the hog is a carrier it can bring about an epidemic. Stress can make those conditions favorable. This is another reason why isolation is necessary. Isolation allows the animal(s) to adjust slowly to their new living arrangement and allows you to monitor and treat more easily if needed without the worry and distraction of your other animals.

There are other stressful conditions to monitor such as inadequate feed- (not enough or not nutritious), lack of sufficient clean water, overcrowding, parasites, extreme temperatures, and dirty living areas to name a few. When the body is stressed the immune system is lowered.

Rodents, insects and birds also contribute to the spread of infection by crossing your property. They all can carry disease within or on their bodies and spread contaminates thru the elimination of saliva, urine and feces, or by walking through the area. They may have internal or external parasites that carry disease. It's impossible to control their movement but you can control what they leave behind by practicing good biosecurity.

Many illnesses can be carried in by visitors, vehicles and even you. It's important to you, your herd and your financial investment to develop good biosecurity practices. With saliva, urine and feces prevalent on farms it's import to develop and maintain good biosecurity practices. Sometimes it isn't practical in large woods and pasture however you should treat their gathering areas such as feeding stations and sleeping areas. Block out some time regularly on your calendar to get it done. Once a month is recommended, but more often if there are stressful situations occurring or if problems are noticed.

Many harmful biological agents are already on your farm and live on or in your hogs as the course of nature. You can help avoid or control any outbreaks by using good practices. It's ironic to say overcrowding is a contributor when hogs are herding animals that live in groups. It's also odd to say we should control cleanliness when the hogs breathe in and exhale, spit and drool, pee, poop, eat, drink and sleep in the same areas. This is why it's important to monitor the conditions of your hogs. If there's a change you should investigate and make necessary changes quickly. An effective and proven way to assure the good health of your hogs to the best of your ability is to practice good biosecurity. An initial investment of a pump sprayer usually costing less than \$10.00 and a bottle of bleach or vinegar plus a few minutes of your time might help save your herd and you.