



# Biosecurity and Risk Assessment

## Visitor Chart for Sheep Operations

Biosecurity refers to preventing the introduction of new organisms to an operation as well as controlling organisms already present on the operation<sup>1</sup>. Disease transmission from just one newly introduced animal to another animal in the flock can affect the health of the entire flock. Certain management practices can limit the transmission of disease from one location to another, or from one animal to another within a flock. These practices include: proper handling of new animals; using known sources for new breeding stock; good sanitary procedures during shearing; equipment cleaning, rodent and pest control and controlling both human and vehicle entry onto the operation. Ideally, sheep producers should work with a veterinarian experienced in livestock production to develop practical and cost effective biosecurity practices that reduce disease risk<sup>2,4,5</sup>.

### Flock Additions and Quarantine

Adding new animals to a flock can introduce disease. One way an operation can prevent disease introduction is to keep a closed flock (adding animals only through lambing on the operation), although adding new animals from outside the herd is a great way to improve stock and bring in new bloodlines. When added, new animals should be quarantined and monitored for signs of disease. The duration of isolation must be sufficient for diseased animals to show clinical signs; however, it is important to be aware that infected animals may shed viruses without showing clinical signs.



Another good practice is to require health management measures prior to introducing new animals.

These measures can include veterinary examination, disease testing, deworming, and vaccinations.

### Physical Contact with Other Animals

Aside from new additions, there are other ways that an operation's sheep can come into contact with sheep from another operation (show/breeding, fence line, visiting sheep/goats or any other). Domestic and wild animals often serve as reservoirs (sources) of disease and minimizing contact with these animals is another important biosecurity measure.

### Visitor and Vehicle Restrictions

Some infectious agents can be spread via footwear and vehicles; therefore, limiting visitor access to sheep raising areas and disinfecting trucks that visit other operations are important biosecurity measures.

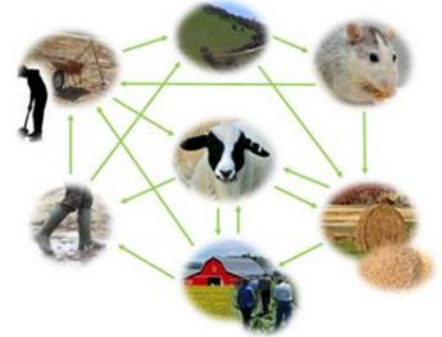
### Manure Handling Practices

Using the same equipment for handling both feed and manure can lead to the spread of disease.

**Access to Stored Feed and Sheep Facilities by Other Animals**  
Rodents, cats, and other wildlife may serve as a reservoir for various diseases.

### Lambing Management

Periparturient ewes and newborn lambs are especially susceptible to infectious diseases because their immune system might be suppressed from either the stress of pregnancy and birthing (ewes) or from an immature immune system (lambs). Prions (the cause of scrapie) and bacterial organisms (including the causative agents of Q fever and Johne's disease as well as *Salmonella* species and *Toxoplasma gondii*) can be shed into the environment by tissue and fluid left by infected ewes following birth<sup>5</sup>. Cleaning the manure and waste bedding and removal of placentas from the lambing area during lambing season is crucial in preventing disease transmission from ewe to lamb and from ewe to ewe.



### Shearing

Shearing can be performed by a hired individual, employees or by contracted shearing crews. New infections (e.g., caseous lymphadenitis) can be both introduced or spread within a flock during shearing, especially when shears are not disinfected between sheep.

### Animal Identification

The use of individual animal identification (ID) (a unique number assigned to each animal) and/or flock ID (farm name, or a number unique to the farm) can be important tools in disease management and control. ID helps producers monitor important production parameters and makes it possible to trace an animal to its herd of origin if disease is diagnosed after an animal has been moved.

Risk assessment helps to determine the areas or factors are most likely to lead to the spread of infectious agents. Risk management is the second step. At this point a preventive plan is developed and implemented. The final step is the risk communication. In this step, all members of the farm management team, and visitors are informed of the plan to ensure cooperation and buy-in. To make this concept easier to understand risk areas are being color coded and classified as low risk (green), moderate risk (yellow), and high risk (red). A veterinarian can help identify and manage biosecurity problems, recommend preventive measures and develop a biosecurity plan designed to reduce biosecurity risks<sup>2</sup>.

### Biosecurity Risk Assessment Chart for Visitors

Upon arriving at the farm or business enterprise, each visitor should check in at the house or office upon arrival and be classified as a low risk visitor (low risk farm, low animal contact), medium risk visitor (moderate risk farm, low animal contact) or high risk visitor (high risk farm, high animal contact). No visitor should be allowed to bring along a dog or other pet and all visitors should be required to wear clean

clothing and boots or have disposables or guest clothing and boots available for them onsite. The degree of biosecurity risk depends on the person-family friend, neighbor, fellow producer, veterinarian, employee, feed delivery person, extension agent, foreign guest, etc. - and his or her habits, travels and business. Good biosecurity practices should be part of the preventive health management plan of all operations<sup>2,4</sup>.

Activity <sup>3</sup>	Low Risk	Moderate Risk	High Risk
<b>Other farm visits per day</b>	One farm, little to no animal contact	Occasionally visits more than one farm/day. Minimal animal contact	Visits many farms or livestock facilities. Much animal contact
<b>Ownership of similar animals</b>	Does not own similar species at home	Similar species at home but different production type	Owens and/or cares for similar species and production type at home
<b>Contact with potentially ill or infectious animals</b>	Minimal or no contact with potentially ill or infectious animals	Contact with healthy animals but avoids contact with potential infectious animals	May own or be exposed to many animals of unknown or poor health status
<b>Use of protective clothing</b>	Wears sanitized shoes or boots. One pair of coveralls per site	Wears sanitized boots and clean coveralls. If clean, may not change coveralls	Does not wear boots or protective clothing or wears same clothing between farms
<b>Leaves or borrows supplies, equipment</b>	Supplies and equipment kept away from animals or feed areas	Supplies and equipment in areas of minimal or feed contact	Supplies and equipment may be left in animals or feed areas
<b>Work in animal contact areas</b>	Does not work in areas with highly susceptible animals	Minimal exposure to high-risk animal and only with protective equipment	Works with highly susceptible animals. Few precautions taken
<b>Biosecurity knowledge</b>	Understands and promotes biosecurity practices	Exposed to biosecurity principles but is not an advocate	Little appreciation for biosecurity principles and does not view it as important to the industry
<b>Foreign travel</b>	Does not travel outside of the U.S.	Limited travel outside the U.S. with minimal or no animal contact	Travel foreign countries with animal contact in those countries
<b>Foreign visitors</b>	Prohibits foreign visitors contact with feed or animals	Foreign visitors allowed in animal or feed areas following adequate quarantine	Visitors are permitted in animal or feed areas without screening or quarantine



#### References

1. Biosecurity on U.S. Sheep Operations. USDA, APHIS, VS [Info Sheet](#): April 2003
2. [Sheep On-farm Biosecurity](#). Canadian Food Inspection Agency.
3. Biosecurity: Pennsylvania State University Cooperative [Extension Bulletin](#).
4. General [Prevention Practices Checklist for Sheep and Goat Producers](#). CFSPPH, Iowa State University.
5. Health Management and Biosecurity Practices on U.S. Sheep Operations. USDA, APHIS, VS [Info Sheet](#): June 2015.

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