



By Steve Werblow

# FIRST RESPONSE

Watch your animals for symptoms of disease threats

**R**aising livestock is one of the great joys of the homestead life. It's also one of the biggest responsibilities. As a livestock owner, you are the first line of defense against diseases that could affect your animals—as well as animals who live on the farms nearby. With diseases like avian influenza and Exotic Newcastle Disease making front-page news, it's no secret that the stakes are huge.

In fact, when Exotic Newcastle Disease was found in a backyard flock of chickens in El Paso County, Texas, in 2003, poultry in five counties of Texas and New Mexico were quarantined to prevent the spread of

the devastating virus. The same disease, introduced to California's Central Valley by a pet chicken purchased at a swap meet in 1999, forced the state's poultry producers to sacrifice millions of birds to prevent a rampant outbreak.

Though bird diseases have made the headlines lately, disease is a threat to all breeds of livestock. A few years ago, veterinarian Scanlon Daniels of Dalhart, Texas, faced a perplexing outbreak of porcine reproductive and respiratory syndrome (PRRS) at a large swine breeding and production facility. It turned out that neighboring property owners were fattening up a dozen pigs for a summer barbecue, and had accidentally purchased infected swine, which passed the virus to the breeders.

"There were just 12 pigs at the neighboring site, but the virus ended up being able to reach every pig in that production system," says Daniels. That affected millions of pigs.

**Subtle signs.** Daniels' druthers would have been to have his client sell the neighbors some healthy pigs in time for their barbecue. But even just knowing that the sick pigs were nearby would have helped him understand and tackle the outbreak more quickly.

Ironically, an observant owner can be an even more effective early-warning system than an accomplished veterinarian.

"An owner can pick up on a lot more subtle signs than a clinician who is looking at an animal for the first time," points out Alana

McQuarry, a former private-practice veterinarian who now serves as a veterinary medical officer with the California Department of Food and Agriculture in Sacramento. "When you have your livestock right behind your house, it's easy to observe subtle behavior changes," she says. "An owner can say, 'Bessie isn't moving around the pasture, or eating or drinking as much as she usually does.'

"Really, it's all about paying close attention and asking questions when things don't seem right," McQuarry adds.

**Red flags.** Start paying extra attention if your animals suffer high morbidity, or sickness, and high mortality, or death rates.

The next step is examining your animals. (Ask your veterinarian to teach you how.) "An animal owner should have a thermometer and be able to take a temperature and do a basic exam," says McQuarry. "Then if you can't get someone out there, you can make a call and say, 'I've got a ewe running 104 degrees, lying down, and her mucous membranes look a little pale.' That can really help."

Chris Schallberger, who breeds show and meat goats with her family near Lodi, Calif., adds, "It's important to know the anatomy of your animal so you can explain to your veterinarian where the problem is."

When a goat acts out-of-character, Schallberger does an exam that follows the acronym EATEN. "'E' is 'eyes,'" she says. "Pull down the eyelids and make sure they're a pinky-red color. 'A,' you're looking for 'appetite'—they should *always* come looking for food. 'T' is 'tail.' The tail should always be up, like a little flag. The second 'E' is 'ears'; goat ears tend to be warm. Finally, 'N' is 'nose.' Look for congestion. It's like with children—clear, runny stuff is OK, but yellow, orange, or green is a problem." Breeds may differ in the particulars of their ears and tails, she notes, but the systematic approach is handy for any species.

**Call for help.** If you find trouble, ask for help. The first line of defense is your veterinarian, though your county Extension agent or a local friend or mentor can also be a huge help. You can even check out symptoms and details online: the Merck Veterinary Manual ([www.merckvetmanual.com](http://www.merckvetmanual.com)), the Center for Food Security and Public Health at Iowa State University ([www.cfsph.iastate.edu](http://www.cfsph.iastate.edu)), and

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**Left:** Chris Schallberger gives a thorough exam to one of her Boer goats.



PHOTO: JACK DYKINGA, USDA/ARS



**Top:** A USDA veterinarian observes a flock of sheep in the early stages of a scrapie outbreak. **Above:** Small flocks of poultry have been shown to swap diseases with large commercial flocks.

the Foreign Animal Disease Gray Book ([www.vet.uga.edu/vpp/gray\\_book02/fad/index.php](http://www.vet.uga.edu/vpp/gray_book02/fad/index.php)) provides details on symptoms, transmission, and treatment of dozens of livestock diseases.

Of course, diagnosis using online tools is iffy at best. And for every devastating plague—from the painful, highly contagious foot and mouth disease (FMD) to brucellosis, which causes abortions in livestock and malaria-like undulant fever in humans—there is at least one look-alike disease that’s much less dire. For instance, vesicular stomatitis lesions look like the symptoms of FMD. So do injuries from bristles or spines in hay. Stumbling or lameness that can be associated with scrapie or bovine spongiform encephalopathy (BSE, or “mad cow disease”) could simply be a case of overgrown hooves.

**S**till, if a problem looks like it could be highly contagious, or, worse, one of the foreign animal diseases such as FMD or Exotic Newcastle Disease that could have regional or national impacts, it’s worth a call to your vet, or to government experts like McQuarry or her counterparts at state or U.S. Department of Agriculture (USDA) veterinary offices.

McQuarry assures livestock owners that a false alarm is better than an overlooked problem. “Sometimes people think every time they call somebody out, especially a government person, it’s going to be bad,” she admits. “But most of the time, it’s something pretty simple—though good to know about. The government specialists aren’t going to mind going out and taking a quick peek. The vast majority of the time, the calls turn out to not be very exciting, and that’s good.”

If you know that a neighboring commercial operation could be at risk of catching the disease that your animals are suffering from,



PHOTO: ROB FLYNN, USDA/ARS

Daniels suggests calling the farm office or the operation’s veterinarian to let them know what’s happening so they can vaccinate their animals or take other appropriate actions. (Don’t drive over in person, he warns—that could deliver germs directly to the farm.)

In fact, if the old adage that good fences make good neighbors is true, it’s doubly true that good hygiene makes good neighbors. Keep clean to keep any disease threats from leaving your farm, suggests Daniels.

“Changing clothes and footwear, and washing your hands before leaving the farm is 95% effective in preventing the transmission of disease to other operations,” he says.

**Keep clean.** Daniels describes a simple nightmare, which illustrates how easily germs can spread across the landscape (and explains why veterinarians on commercial operations often wear disposable clothing). Stopping by the feed store in your barn clothes could leave traces of manure on the shop floor that

another producer could pick up on his boots. The dab of manure could be loaded with virus or bacteria, which quickly finds a new home when your neighbor goes back to his farm. “They’ve completed the loop,” Daniels says.

Wildlife can also complete the disease loop, he adds. Birds have been shown to transmit several diseases to pigs, Daniels notes, and, of course, to other bird species. Rodents and insects can also spread germs or spoil feed. Dogs and coyotes can be vectors. And deer that share your cattle’s watering tank or wild hogs that root through your homestead could spread diseases.

In fact, a USDA study in Texas noted that of the state’s 3 million pigs, 2 million are wild. Samples from hundreds of those feral hogs showed that 20% had pseudorabies and 10% carry porcine brucellosis. Those are definitely not the kind of playmates you want to find cavorting with your pet potbellied pigs.

Keep your homestead clean and free of vermin, and try to prevent birds from roost-

ing in barns or other livestock areas. Also, be careful to disinfect equipment you lend to fellow livestock owners, or borrow from them, before using it with your animals.

Even with the best of precautions, illness is a reality of owning livestock. Preparing to deal effectively with an outbreak starts while your animals are healthy, says McQuarry. “Establish a dialogue with your veterinarian before you have a problem,” she recommends. “If you have a relationship beforehand, it will speed diagnosis and treatment in a crisis.”

**Take notes.** When sickness strikes, adds McQuarry, some of your best tools are a pen and a pad of paper. “Keep a log of illnesses, a diary of what goes on, of what illnesses you have, what vaccines you gave,” she suggests. “It can help pinpoint what’s going on and how it got started. Write down questions. Write down things you’ve noticed. It’s easy to forget signs and symptoms, and the little details can be critical to an accurate diagnosis.” **H**



**Above:** Alana McQuarry says working with your veterinarian now helps ease communications during a crisis. **Left:** USDA veterinarians are trained to recognize threats to animal health.

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