

Persistently Infected with BVDV? Now What?

Dan Grooms DVM, Ph.D., Large Animal Clinical Sci.



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Bovine viral diarrhea virus (BVDV) is the most important viral infection of cattle in the North America. Carriers of the virus, referred to as persistently infected (PI) with BVDV, are the major source of virus spread within and between farms. PI's are infected for life and shed large amounts of virus in all of their secretions and excretions. Detecting and eliminating PI's are essential to controlling BVD.



Because PI's are loaded with virus, they are easily detected using standard laboratory tests. The ear notch test has become the preferred method for detecting PI's because of the ease of collecting the sample and its relatively low cost. A small skin notch ($\frac{1}{4}$ " x $\frac{1}{4}$ " x $\frac{1}{4}$ ") is taken from the bottom edge of the ear using a pig ear notcher or a large diameter hole punch (see picture). The notch is placed in an individual labeled container (whirl bag, sandwich baggie, blood tube, etc), and

shipped to a diagnostic lab that performs the test. The samples need to be kept cool, but not frozen. The Diagnostic Center for Population and Animal Health (DCPAH) at Michigan State University performs the ear notch test for approximately \$4. Results are usually reported in less than 1 week. If the test is positive, it is recommended to repeat the test in 2-3 weeks using either skin or blood to confirm persistence of the virus.

An important question is what to do with these animals that are persistently infected with BVDV? First of all, it is important to realize that they are a danger to the health of your cattle and any cattle they come in contact with. Keeping them around is not recommended, and selling them on the open market knowing they are a virus carrier is not very neighborly. Some potential solutions include the following:

1. Humane euthanasia. This is the preferred solution, but not necessarily the most economical. For young calves this solution would be highly recommended.
2. Sell them for harvest only. To accomplish this, they should be sold through a grade and yield sale only. This ensures they are not returned to the farm of unsuspecting buyers. This

solution could be employed for cattle that are near a reasonable harvest weight. Please note, based on current knowledge, BVDV is not considered a human pathogen.

3. Raise PI's in isolation to harvest weight. This is a solution only if you can maintain appropriate biosecurity between the PI's and non-PI cattle. Be warned that cattle persistently infected with BVDV are at high risk for developing severe and very often fatal secondary diseases. So, feeding PI's for extended periods of time is risky. In general, we do not recommend this option, but realize that there may be an economical benefit to adding weight to these animals before sending them for harvest.

Notice that we do not recommend selling PI's at the local auction market in anything but grade and yield sales. Although not illegal, it certainly is unethical to sell an animal on the open market that is known to be a carrier of BVDV.

As a cattle buyer, what should you consider if you see an animal with an ear notch? First of all, do not assume that the animal has been tested for or is persistently infected with BVDV just because it has a notch in its ear! In fact, some people use ear notching for other purposes such as identification or to signify something specific about that animal. But for the sake of argument, let's assume the majority of ear notching today is done for the purposes of BVDV testing. So now what does that ear notch mean? It means the animal has been tested for BVDV. It does not tell you if the test was positive or negative. The only way to truly know the result would be to ask

the seller. In fact, more and more cattle are being screened for BVDV by ear notching and 99.5% are negative! Hopefully, the few PI's that are out there never make it to market (see above recommendations). In fact, as a buyer, groups of calves that have been notched should increase your confidence that they will be healthier and better performing, therefore you should be willing to pay more for them. Obviously, this is what the seller was hoping when they had the calves tested.