Persistently Infected with BVDV? Now What?

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Bovine viral diarrhea virus (BVD) is the most important viral infection of cattle in North America. Carriers of the virus, referred to as persistently infected (PI) with BVDV, are the major source of virus spread within and among farms. Persistent infections are the result of a fetal infection between 50 and 125 days of gestation. PIs can be born to either dams that are themselves persistently infected with BVDV or more commonly to cows that have undergone a transient (also called acute or primary) infection with BVDV during the critical time of gestation. PIs are infected for life and shed large amounts of virus in all of their secretions and excretions. Detecting and eliminating PIs is essential to controlling BVD.

Detection

Because PIs are loaded with virus, they are easily detected using standard laboratory tests. The ear notch test has become the preferred method for detecting PIs because of the ease of collecting the sample and its relatively low cost. A small skin notch about one-quarter inch wide is taken from the bottom edge of the ear using a pig ear notcher or a large diameter hole punch. The notch is placed in an individual labeled container (whirl bag, sandwich baggie or blood tube), and shipped to a diagnostic laboratory 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 around $4 per sample. Results usually are reported in less than 1 week. If the test is positive, it is recommended to repeat the test in 2 to 3 weeks using either skin or blood to confirm persistence of the virus. DCPAH can be reached at (517) 353-1683.

Solutions

An important question is what to do with 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. There are several potential solutions.

1. Humane euthanasia. This is the preferred solution, but not necessarily the most economical. For young calves this solution would be recommended highly.
2. Sell them for slaughter 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 slaughter weight. Please note, based on current knowledge, BVDV is not a human pathogen and not a risk to humans.

3. Raise PI's in isolation to slaughter weight. This is a solution only if you can maintain appropriate biosecurity between the PI’s and non-PI cattle! However, be warned that cattle persistently infected with BVDV are at high risk for developing severe and very often fatal secondary diseases. So, feeding them for extended periods of time is a risk economically. 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 slaughter.

Notice that we do not recommend selling PI's at the local auction markets 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.

Smart Buying

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, 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 but it does not tell you if it was positive or negative and the only way to truly know the result would be to ask the seller or re-test the animal. In fact, more and more cattle are being screened for BVDV by ear notching and greater than 99% 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 or cattle 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.

Finally, if you are buying cattle, consider asking that they be tested for persistent BVDV infection prior to purchase and be willing to pay a premium for this assurance. Some expanding dairy farms are making this a routine part of their purchase contract. Similarly, many heifer raisers are making this a requirement of all heifers entering their operation. Detecting BVDV PI's is an important and essential tool in controlling this virus. You are strongly encouraged to work with your veterinarian to determine how best to use BVDV testing in your herd.