

BVD PI Testing Using Ear Notches

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Bovine Virus Diarrhea, BVD, continues to be a problem on dairies. This virus causes respiratory problems, fetal wastage, diarrhea in both cows and calves as well as infertility in bulls. When infections with BVD occur during pregnancy between 90-100 days of gestation, persistently infected (PI) calves may result. While many of the calves die at an early age, some PI animals survive to become replacement heifers or breeding bulls. These PI animals shed the virus to infect other animals. An important biosecurity strategy is to identify the PI animals and remove them from the herd as soon as possible.

Notches taken from the ears of cattle can be examined in the laboratory to detect the PI animals. The California Animal Health and Food Safety Laboratory in Tulare can test the ear notches for BVD. They suggest that the notches be taken using a sharp, adult-size pig ear-notching tool. Baby pig ear-notchers, punches and other cutting or punching tools are not recommended as the sample they take is too small for an accurate test. Dull or old ear-notchers can damage the ear notch so that it is not useful for testing. Samples should be taken from healthy ear and scabby or irritated ear should be avoided. Once the ear sample is collected, it should be placed in a tube, vials or whirl-pac bag and kept chilled in ice until it reaches the laboratory. Samples that are frozen can not be tested. Samples fixed in formalin are acceptable. Be sure to carefully label each container with the animal identification. Samples should arrive at the laboratory within 4 days after being collected.

In the laboratory, the skin samples from the ear notches are preserved, cut in very thin layers and then stained to permit the BVD to be visualized using a microscope. Due to the preparation of the notches, it requires two days from the time the notches arrive at the laboratory until the results are known. However, the samples are run in batches so it is possible that it might take up to 7 days before the results are completed.

The cost is \$17.30 for sets of 5 samples. If more than 50 samples are to be submitted, the laboratory (559-688-7543) should be notified at least 24 hours before submission.

Incorporating testing for BVD PI animals is an important step in dairy herd biosecurity. It is wise to test all replacement heifers and breeding bulls that are brought onto the dairy. One PI animals can continue to infected susceptible animals on the dairy for an extended period of time.