



Frequently Asked Questions about BioPRYN[®]

Q. What is BioPRYN[®]?

- A. BioPRYN[®] is a blood pregnancy test for ruminants, and has specific appeal for the commercial U.S. dairy and beef industries because it delivers fast, accurate, safe and economical pregnancy diagnostic results. The technology works on all ruminants, including cattle, sheep, goats, bison, deer, elk and moose. A specific test using ELISA technology, which produces fast results and has been developed for use exclusively in cattle.

Q. How does BioPRYN[®] detect pregnancies?

- A. BioPRYN[®] evaluates the blood (more specifically, the serum or plasma) of ruminants for a protein called Pregnancy Specific Protein B (PSPB). PSPB is produced by the placenta, and therefore pregnant animals will have the protein in their blood. This makes the test more accurate than earlier attempts at pregnancy diagnosis that evaluated blood or milk for progesterone or other hormones that can occur in normally cycling animals.

The test uses enzyme-linked immunosorbent assay (ELISA) technology for processing, which contributes to its low cost and fast turn-around.

Q. How early in a pregnancy can animals be tested with BioPRYN[®]?

- A. Heifers and cows can be tested at 30 days or later, after breeding. Lactating cows must also be 90 days after calving.

Lactating cows have residual PSPB from the previous pregnancy until 90 days after calving. To eliminate the risk of a false-positive result, breeders are cautioned to take the sample at 30 days or more after breeding, and 90 days or more after calving. Thus if a cow is bred at 60 days after calving, it is appropriate to take the 30 days post-breeding sample, which is 90 days after calving. If she is bred at 55 days after calving, then the post-breeding sample should be taken at 35 days so that the cow is 90 days post-calving.

Animals that are detected open can then be immediately returned to aggressive breeding programs using other reproductive technologies.

Q. What is the accuracy of BioPRYN[®]?

- A. BioPRYN[®] has been shown to have an overall accuracy rate of 97 percent. In fact, the test is 99 percent accurate if the cow is called open, with only 1 percent showing false-open (false-negative). Correct open detection is very important because giving prostaglandin to misdiagnosed pregnant cows will cause abortion.

The false-pregnant (false-positive) rate for the test is approximately 5 percent. In practice, high-producing dairy cows tend to show slightly higher false-positive rates of 7 to 8 percent, especially during periods of extremely hot weather. It is presumed that a portion of this variance is due to higher early embryonic death, and not to test inaccuracy.

Q. How much does BioPRYN[®] cost?

- A. The test itself costs \$2.40 from the laboratory that processes it, plus the cost of a sample tube and needle. Shipping expenses also must be added if the tests are not processed locally.

Q. What are the advantages of using BioPRYN[®] versus other methods of pregnancy diagnosis?

- A. Producers incur approximately the same or less cost using BioPRYN[®] compared to rectal palpation by a veterinarian, and less cost than ultrasound. It is also considerably less expensive than currently available on-farm diagnostic methods.

BioPRYN[®] allows producers to diagnose pregnancy more rapidly after breeding than rectal palpation, with no risk of damaging the fetus. Cows diagnosed open can then be re-bred more quickly, resulting in tighter calving intervals, more calves born per year, and higher lifetime milk production (because cows achieve peak milk more often).

The test is more convenient to dairies and beef operations because on-farm personnel can draw and ship blood samples, rather than working around a veterinarian's schedule. Eliminating rectal palpation also frees up the veterinarian to concentrate on management issues and recommendations with the farm staff.

No test is more accurate than BioPRYN[®], and BioPRYN[®] is more accurate than palpating at an earlier time. Thus, fewer cows are called open by mistake and treated to initiate new reproductive cycles causing abortion. This can improve reproductive performance and amount to considerable savings. In addition, efficiency and cost savings is gained by earlier re-establishing synchronization in cows correctly detected as open.

Q. How long does it take to receive the test results?

- A. The test requires 27 hours from laboratory set-up to reporting. A report can be made for the next working day for samples arriving in the lab before noon. If samples are mailed by overnight carrier, add an extra day to this schedule. Results can be faxed or e-mailed back to the producer.

Q. How should blood samples be prepared and shipped?

- A. Farm personnel need to draw blood samples from the tail or jugular vein, which is an easy-to-learn procedure. Blood samples of at least 2 mL per animal should be collected in individual vacuum tubes and labeled with each animal's identification number. It is important to draw samples using individual, disposable needles, to avoid cross-contamination between animals. Needles and tubes can be obtained from veterinarians or veterinarian supply companies. One possible source is Air-Tite, Inc., who can be reached via toll-free at 800-231-7762. A red-topped 3, 5, 7, or 10 mL vacuum plastic or glass tube is the least expensive and works best. DHI also sells supplies, see information below.

Tubes containing blood samples should not be opened and should be packed in a well-padded box to avoid breakage. They do NOT need to be packaged in ice. Samples may stay in transit for several days (two-weeks or more) without compromising the results of the test. Fastest results, however, are achieved when samples are shipped via an overnight carrier.

Q. Who manufactures BioPRYN[®]?

- A. Dr. R. Garth Sasser of BioTracking, LLC, developed the BioPRYN[®] test using technology licensed from the University of Idaho. BioTracking is the sole manufacturer and distributor of BioPRYN[®]. Garth Sasser also developed the licensed technology while a researcher and faculty member at the University of Idaho.

Q. To whom is the test available, and how do I get started?

- A. Thanks to the availability of efficient shipping methods, DHI Cooperative can process samples from livestock producers and veterinarians throughout the United States as well as internationally.

This test is available to any cattle producer, beef or dairy, DHI membership is not required. Submission forms and collection supplies are available via the DHI website, www.dhicoop.com, from any DHI representative, or by calling 1-800-DHI-OHIO. Collections supplies are sold by DHI as a convenience to our customers, you are not required to purchase collection supplies from us.