



QUESTION AND ANSWER LEAFLET

Frequently Asked Questions about BioPRYN™ For Cattle, Sheep and Goats.

Q. What is BioPRYN™?

A. **BioPRYN™** is a blood pregnancy test for ruminants, and has specific appeal for the commercial Australian livestock industries, because it delivers fast, accurate, safe and economical pregnancy diagnostic results.

Q. What does the test name stand for?

A. The test's name is a partial acronym for "Pregnant Ruminant Yes/No," and the technology works on all ruminants, including cattle, sheep, goats, and deer. A specific test using ELISA technology, which produces fast results, has been developed for use in the livestock industry.

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 lactating cows can be tested at 28 days or later after breeding. Lactating cows must also be 73 days after calving. Sheep and Goats can be tested 30 days or later after breeding.

Lactating cows have residual PSPB from the previous pregnancy until 73 days after calving. To be safe in not getting a false-positive result, breeders are cautioned to take the sample at 28 days or more after breeding, and 73 days or more after calving. Thus, if a cow is bred at 45 days after calving, it is appropriate to take the 28 days post-breeding sample, which is 73 days after calving.

Animals that are reported **Not Detectably Pregnant** can then be immediately returned to aggressive breeding programs using Lutalyse, OvSynch and/or CIDRs™.

Q. How much does BioPRYN™ cost?

A. The test itself costs \$4.95 (Cows) and \$6.00 (Sheep and Goats) 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 is the accuracy of BioPRYN™?

A. **BioPRYN™** has been shown to have an overall accuracy rate of 96 percent. In fact, the test is over 99 percent accurate if the cow is called **Not Detectably Pregnant**, with less than 1 percent showing false-open (false-negative). Correct **NDP** detection is very important because giving Lutalyse or other synchronizing drugs 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. 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 at least seven days sooner than rectal palpation, with no risk of damaging the fetus. Cows diagnosed **Not Detectably Pregnant** 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 managers 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 higher-level issues with the dairy's management team.

No test is more accurate than BioPRYN™, and BioPRYN™ is more accurate than early palpation and at an earlier time. Thus, fewer cows are misdiagnosed called **NDP** by mistake, and treated (and aborted) to initiate new reproductive cycles. This can amount to a considerable savings in not having to re-establish a pregnancy, and by reducing days cows are not in calf.

In addition, money is saved by earlier re-establishment of pregnancy in cows correctly detected as **NDP**; this also reduces days not in calf.

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 rather than by overnight courier, add an extra day to this schedule. Results are returned by email or can also be faxed back to the farm.

We are currently running test Tuesdays and Thursdays and Reporting results Wednesday and Friday.

Q. How should blood samples be prepared and shipped?

A. Farm personnel need to draw blood samples from the tail 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 labelled with each animal's identification number. It is important to draw samples using individual, disposable needles, to avoid cross-contamination between animals.

Tubes containing blood samples should not be opened and should be placed in a Ziploc bag and 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 without compromising the results of the test. Fastest results, however, are achieved when samples are shipped via Australia Post Express Post, or other overnight courier method.

Q. How can a producer get started using BioPRYN™?

A. Producers should contact Pregtest Australia P/L on 02 6227 6227 or Mobile: 0409 888 685
Email: mail@pregtest.com.au

Q. To whom is the test available?

A. Thanks to the availability of efficient shipping methods, Pregtest Australia can process samples from farms throughout Australia.

Q. Where can I find more information about BioPRYN™?

A. To learn more about BioPRYN™, contact Pregtest Australia 02 6227 6227 or 0409 888 685
Email: mail@pregtest.com.com.au



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