Vet Call

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Health as a marketing issue

Marketing replacement bulls and heifers involves providing cattle that will thrive in a customer's environment while providing the genetic inputs for high-value offspring. While health may not be the primary thought when selecting replacement cattle, it should be an important consideration.

Carrier animals

Using diagnostic tests to identify cattle that are long-term carriers of particular disease-causing agents prior to introduction to a herd is an important part of some disease biosecurity plans. In order for a test-and-exclude strategy to cost-effectively protect the health of the herd receiving replacements, the disease agent must: 1) be absent from the receiving herd, 2) substantially increase the risk of significant economic losses, and 3) be able to be accurately identified prior to acceptance of replacements into the herd.

Many viruses, bacteria and parasites that cause disease in cattle are present in some carrier animals in many or even most beef cattle herds. These types of infectious agents usually do not cause large disease outbreaks unless environmental stress or other challenges decrease the animals' ability to fight off normal exposure levels to disease-causing agents. If a common disease-causing agent is already present in carrier animals in a herd, it is seldom helpful to insist that replacement bulls and heifers be free of the agent. Examples of disease-causing agents that fit this category include most agents associated with calf scours, bovine respiratory disease (BRD), lump jaw and foot rot.

Who to test

However, some disease-causing agents are uncommon or absent in some parts of the country, and therefore a testing-to-exclude strategy is recommended for herds known to be free of the agent; while other herds or other parts of the country are very likely to already have resident cattle carrying the agent and testing replacements with the idea to exclude positive cattle is not suggested. The blood-borne parasite that causes anaplasmosis is a good example of a disease agent that is common in some areas and rare in other areas and herds. If a producer is not certain if his/her herd has carrier animals for disease agents that cause anaplasmosis or neosporosis, a reasonable suggestion is to test a representative sample of the herd (or possibly cull animals) to estimate the current number of carrier animals. For these diseases, if a herd does not currently have carrier animals and the producer desires that the herd remain free of the infectious agent, all replacements (bulls and females) should be tested prior to contact with the herd.

Some disease-causing agents are present in many cattle and only occasionally cause disease in a few individuals. In these situations, it may not be economically reasonable to exclude replacements with valuable genetics even if they are long-term carriers of viruses, bacteria or parasites that occasionally cause disease in individual cattle. The decision of whether or not to exclude replacements that are carriers for diseases, such as bovine leukosis, is based on the current level of infection in the herd and the marketing plan for cattle leaving the herd.

The final consideration for excluding replacement animals that test positive as long-term carriers for disease agents is whether or not an accurate test is available. For example, there are a number of good tests to identify cattle persistently infected (PI) with BVD (bovine viral diarrhea). Additionally, although a single negative test for trichomoniasis cannot ensure that a bull is not a carrier, three properly collected samples taken at weekly intervals that return a negative result is fairly strong evidence that a bull is not a carrier. A number of other diseases with long-term carriers have fairly accurate tests, including anaplasmosis, neosporosis and bovine leukosis. Diseases with less accurate tests include strawberry foot rot and Johne's disease (particularly for early stages of the diseases).

What to test for

In my opinion, the two most important infectious diseases to consider when selling or purchasing replacement cattle are BVD and trichomoniasis. Long-term carriers for both of these diseases are relatively rare and accurate testing strategies can be used. Young calves are the best population to test for being persistently infected with BVD virus, and non-virgin bulls are the most important population to test for being a carrier for trichomoniasis. Fairly accurate tests are available for anaplasmosis, neosporosis and bovine leukosis because the carriers for these agents are common in many parts of the country, and economically important disease outbreaks only occasionally occur. The best replacement-testing strategy will vary between ranches and must be carefully considered by the producer and herd veterinarian. Buying replacements from herds that are at low risk for strawberry foot rot and Johne's is preferable to relying on testing of herd additions, because accurate tests are lacking.

Whether buying or selling replacement breeding cattle, knowing whether or not your herd currently has long-term-carrier cattle for certain diseases is an important first step in choosing specific tests. Diseases where carriers are rare and available testing strategies are accurate (such as BVD and trichomoniasis) are good candidates for using screening tests to ensure that replacements do not bring disease agents into a previously unexposed herd. Deciding whether or not to test for other disease agents is less clear, and the producer and herd veterinarian must consider local and herd factors before designing the optimum strategy.

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