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Purchasing a Bull

Question: What do I need to consider before buying a bull? What questions should I ask, what vaccinations should I use, and how do I avoid Johne's disease?

Answer: The risk of introducing infectious disease into your herd with the purchase of a new bull is similar to that of purchased replacement cows or heifers. From a biosecurity standpoint, diseases we are most concerned with include Bovine Viral Diarrhea (BVD), Johne's disease, Leptospirosis, and Bovine Leukosis (BLV). The venereal diseases *Trichomonas* and *Campylobacter* (*Vibrio*) should be considered when bulls are being purchased for breeding purposes. Other infectious diseases to be aware of are *Mycoplasma*, *Salmonella*, *Neospora*, Ringworm, warts, and internal and external parasites. We currently have reliable, simple, and inexpensive diagnostic tests for BVD, BLV, *Trichomonas*, *Vibrio*, and internal parasites. It is not unreasonable to request these tests be done prior to your agreement to purchase a bull. Generally the buyer assumes this cost. My personal experience with cattle in Vermont suggests that venereal disease is not common. The tests we have available will identify 85% of all cases. Deworming with a broad spectrum anthelmintic prior to turnout may be an alternative to fecal testing.

These are several diagnostic tests for Johne's disease, all of which have significant limitations. Some produce high numbers of false positives, others false negatives. Accuracy of these tests is generally poor for cattle in the early years of incubation and improves as the cow approaches the point that clinical signs become evident. Simply stated, Johne's can be a difficult disease to test for in a single animal and interpretation of results requires the assistance of your veterinarian. With this understanding, I do recommend including Johne's on the list of pre-purchase diagnostic tests. Similarly, *Leptospirosis*, *Mycoplasma*, *Salmonella*, and *Neospora* can be diagnosed but testing is not simple.

The diagnostic approach to these diseases begins with the investigation of a herd problem which includes herd history, evaluation of clinical signs; often repeat testing of more than one animal, and sometimes post-mortem examination. In some cases, a reliable conclusion requires a large subset or percentage of the herd be tested. The best way, therefore, to avoid the introduction of these diseases into your herd is to gain knowledge of the historical health status, management and monitoring practices, and test status of the source herd. The availability and reliability of this information is directly related to the degree of involvement of the veterinarian that services the herd.

Questions you might ask the seller include: What is their vaccination and deworming program? Do they monitor parasites with routine fecal exams? Do they perform herd screening or testing for any of the above mentioned diseases? Have any of these diseases ever been diagnosed on the farm? How many times? How often? How recently? What are their death rates and cull rates? What are the reasons for culls? Do they pursue diagnostics and necropsy on unexplained losses? Do they have many abortions and what is the cause? What are their pregnancy rates, calving rates, weaning rates? Do they have any problems with diarrhea or respiratory disease? How often do they buy cattle or are they a closed herd? A visit to the farm may offer you significant insight. Are the cattle well fed and thrifty? Are they clean and dry? What is the stocking density? Do you see runny eyes, lameness, poor hair coats or skin lesions?

To minimize the risk of bringing Johne's into your herd, source a bull from a herd that is closed with no history of Johne's or that has a monitoring and testing program in place. To further reduce the risk of Johne's the purchased bull could be tested annually, prior to calving season, as long as he is on the farm. Before I recommend you assume this effort, are you confident that Johne's does not already exist in your herd? Are you monitoring for clinical suspects or doing any herd testing?

Purchased bulls should be placed on the same vaccination program that you are currently using for your own cows. Vaccination of the bull at the farm of origin with appropriate boosters prior to transport

is ideal. Otherwise, bring the bull to an isolation facility on your farm at least one month prior to the breeding season and vaccinate before turning out with the cows. The basic vaccines I recommend are the combination IBR, BVD, PI3, BRSV and Lepto5, Clostridium, and Mannheimia (pasteurella). Other vaccines should be incorporated based on the specific needs of your herd in consult with your veterinarian.

Stepping a little beyond health care, you might also consider behavior, genetics, fertility, and numbers. Bulls can be extremely dangerous and cause crippling or lethal injury to others. Appreciate their twenty foot flight zone and recognize their threat displays, either broadside or head on, with head down, back arched, and neck curved toward the threat. Back away slowly toward a safe location, don't turn or run. Avoid bulls that act nervous or agitated, and have more faith in those that maintain their distance and act submissive.

Realize that bulls contribute one half of the genetics to your next generation. If you chose to improve certain performance qualities or carcass characteristics in your ensuing calf crop, investigate bulls with records or EPD's (Expected Progeny Difference). This information may be provided by individual seedstock producers, bull test stations, or breed associations. It enables you to select for specific traits such as birthweight and calving ease, weaning weight, milk production, frame score, muscling, and productive longevity.

Fertility is the ability of a bull to get cows pregnant in a given period of time. It is best evaluated via the Breeding Soundness Exam (BSE) which includes examination of a bull's conformation, reproductive organs, and semen health. I am not aware of any veterinarians in Vermont offering this service but it is available through bull test stations, private veterinarians, the artificial insemination industry and veterinary colleges.

Finally, be sure you have enough bull power to accommodate your herd size. A bull can service as many cows/heifers as he is months of age from 15 to 50. So a yearling plus bull can breed about 15 and a four year old or older can breed up to 50 head of female cattle.