

SHOULD I STILL VACCINATE FOR BRUCELLOSIS?

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January, 2020

Every state decides on the requirement for brucellosis vaccination in cattle. In California, assembly bill 1801 repealed the mandatory calfhooed vaccination for intact female beef breeds 12 months of age or older and sold within the state as of January 1, 2020. In other words, it is not a requirement anymore that beef breed heifers or cows show evidence of Bangs vaccination before they can be sold within this state. To be clear, there was no requirement to vaccinate beef breed heifers before this law was passed in California if they didn't change ownership. For dairy breed heifers, the story is quite different. They still need to be Bangs vaccinated if they are moved within the state as young as 4 months of age, with some exceptions, e.g. if they are sold directly to slaughter or an approved feedlot.

The new freedom raises the question: should I continue vaccinating my heifers for brucellosis? Let's first take a step back and talk about what brucellosis is: brucellosis is a serious and contagious livestock disease that causes late-term abortions in cattle. The causative agent in cattle is *Brucella abortus*. The disease poses a significant public health risk because it can be transmitted to people. Drinking raw milk or eating soft cheese made from raw milk from infected animals is a common risk factor to contract the disease. Exposure to tissues and fluids from cattle aborting due to brucellosis is another way that farm workers can catch brucellosis. In humans, the disease is also known as undulant fever because of its ability to cause intermittent bouts of fever. Other symptoms include joint and muscle pain, gastrointestinal symptoms, and orchitis (inflammation of the testes) in men. Brucellosis in people often results in chronic disease lasting months or years. No wonder there was a huge effort in eradicating this disease from cattle in the United States. Through a combination of vaccination, testing and quarantine, removal of positive animals and continued surveillance, we have reached a state where the entire United States has been officially declared brucellosis free. The last infected herd in California was found in 1997 and there hasn't been a case here in cattle since. The only pocket where brucellosis is still around in the US is the Greater Yellowstone Area in the Montana/Wyoming/Idaho region, where brucellosis still lingers in wildlife such as elk and bison and occasionally spills over into a cattle herd. Regulations around vaccination and testing of cattle in the Designated Surveillance Area of that region are strict, e.g. a negative blood test is required for movement or change of ownership for all breeding cattle with few exceptions.

Here in California, far away from any possible brucellosis cases, why one should still vaccinate for a disease we don't have seems to be a legitimate question. Here are some thoughts on what the advantages and disadvantages may be:

Benefits of continued vaccination:

- The vaccine RB51 we use for brucellosis must be administered by an accredited veterinarian. This annual vet visit could serve to go over other vaccination or treatment protocols, renew

prescriptions or talk about anything else cattle health related. Remember that your vet needs to document a valid veterinary client patient relationship to be able to write prescriptions and being familiar with the operation and the animals is part of this requirement.

- Brucellosis vaccination comes with automatic official ID, the orange Bangs tag that is applied at vaccination. Official ID is required for interstate movement under certain conditions. We don't know what the future of the metal orange tag is with increasing efforts to implement all official ID to be electronic, but the requirement for official ID for brucellosis vaccinated cattle will likely stay.
- Having official ID helps animal health officials trace animals back to their origin that may be found at slaughter to have a foreign animal disease or a disease that is regulated by USDA or state agencies, such as tuberculosis or brucellosis. Having the capability of tracing the animal back to its origin is the best way of minimizing the spread of the disease to other animals or people, if it is a zoonotic disease.
- If you plan on selling cattle to a state that still requires Bangs vaccination for entry of breeding female cattle, you need to accomplish vaccination before the heifers are 12 months old. At the moment, California does not allow mature vaccination, which is routine vaccination of females over 12 months of age.
- If everyone stopped vaccinating, we would end up with a naïve population of cattle and a new introduction of the disease could cause critical damage. However, the risk of introduction of brucellosis through an animal from the Greater Yellowstone Area into California is very small according to a risk analysis model.
- The California Cattlemen's Association strongly encourages all California ranchers to vaccinate beef heifers that will be added to the breeding herd to keep them protected from the disease.

On the other hand, you could consider the drawbacks:

- There is some cost and stress to the animals involved in having your vet vaccinate heifers.
- If a heifer is pregnant at the time of vaccination, she may abort and potentially spread the disease to herd mates or people getting in contact with the aborted fetus and placenta. Obviously, heifers should not be pregnant when they are vaccinated for brucellosis, which is why we have the age restriction of 12 months at time of vaccination. In some small studies, where pregnant heifers were vaccinated to test the safety of the vaccine, no abortions were seen. However, because RB51 is a live vaccine, it is a concern.

At the end of the day, you will need to have a conversation with your veterinarian to decide on what is the best decision for your herd in your situation when it comes to brucellosis vaccination.