The United States National Brucellosis Eradication Program

Historical Summary & Key Elements

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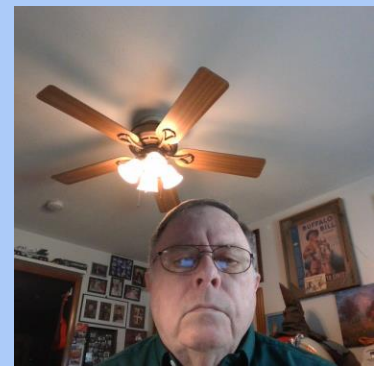


1. Current Situation

The USA Brucellosis Eradication Program began in 1934. It took 80 years to accomplish eradication because of inadequacies in key program elements

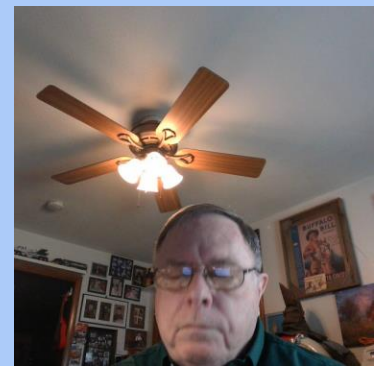
The United States has been free of bovine brucellosis in its domestic cattle and bison herds since 2010

The USA has a reservoir of infection in wild bison and elk which are located within a zone called the Greater Yellowstone Area (GYA)

Each State must maintain specific brucellosis surveillance criteria

Recent regulatory changes have streamlined testing requirements and introduced risk-based surveillance approaches

As of February, 2026, two cattle herds and one bison herd were found affected in the GYA, where wildlife reservoirs still exist



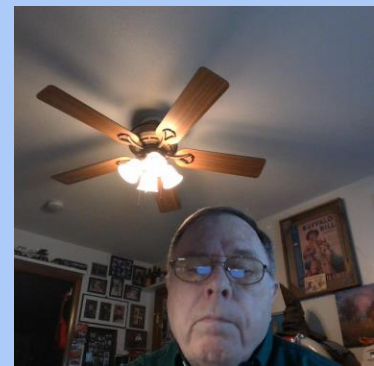
1.1 Epizootiological Situation

Animals

Ongoing surveillance is conducted annually to detect any transmission to cattle in the GYA. Since 2008, there have been an annual average of 2.7 infected cattle or private bison herds per year found within the GYA.

Humans

100 to 200 cases are reported annually in the USA. Epidemiological tracing indicates the sources of the disease were from exposure outside the USA



2. National Brucellosis Control Program

2.1 Surveillance and Monitoring used in the USA

Passive surveillance (e.g. Slaughterhouses, Markets, Points of Concentration)

Active surveillance (Farm Testing, Targeted Surveys)

Diagnostic methods used- The USA used over 15 tests used over the 80 years. Now three tests are used

(Buffered Acidified Plate Antigen (BAPA), Fluorescent Polarization Assay (FPA), Compliment Fixation (CF)

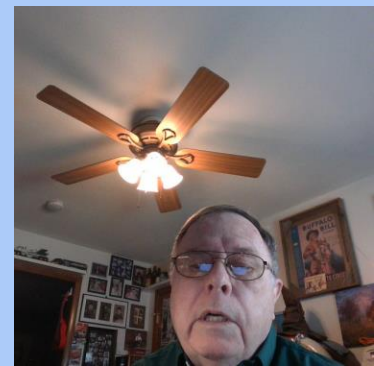
Testing frequency and risk-based approaches- These kept changing as we learned what didn't work

2.2 Vaccination

Vaccination was conducted in primarily cattle and bison

Vaccine strains used: *Strain 19- before 1996 & Strain RB51- after 1996)*

Vaccination strategy (calf vaccination & whole-herd vaccination including adult cows)



2. National Brucellosis Control Program

2.3 Removal of infected animals

Test-and-slaughter positive policy since the beginning of the program

Herd depopulation- was used in later stages and in highly infected herds

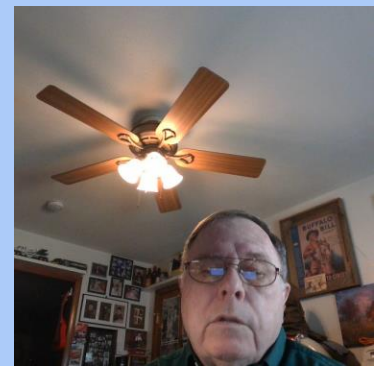
Disposal of aborted feti and placental materials- critical in dairies

2.4 Quarantine and movement controls

Quarantine measures for infected herds- expanded to 1 year

Conditions for lifting quarantine- Three negative herd tests over 12 months. Post quarantine test after another year

Animal movement restrictions- Test animals when moved off premise either on farm or at the first point of concentration or they must go direct to slaughter



2. National Brucellosis Control Program

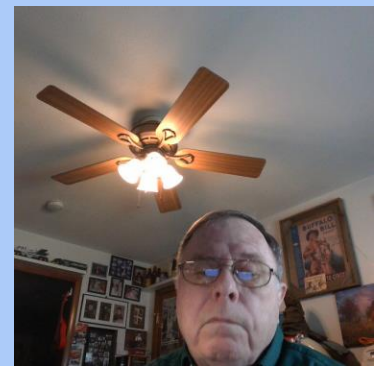
2.6 Education, One Health and Public Awareness

Brucellosis eradication training was conducted for government and private veterinarians and animal health technicians. Private veterinarians and epidemiologists advised the farmers & dairymen

Public awareness campaigns- All types of public communication systems were used to inform the public

Collaboration with public health authorities (One Health)- Federal and State animal health authorities collaborated with industry

and public health officials



3. Key Challenges and Priority Needs

Top challenges in brucellosis control

Key Elements to the successful USA Brucellosis Eradication Program

Veterinary Infrastructure (personnel, etc.) and Industry Support

Funding- A government program cannot succeed without adequate funding

Research- A lot has been learned in the past 100 years, more is needed

Tests & Laboratories- USA used over 15 different tests. There was at least one laboratory in each state with a central national reference & diagnostic laboratory

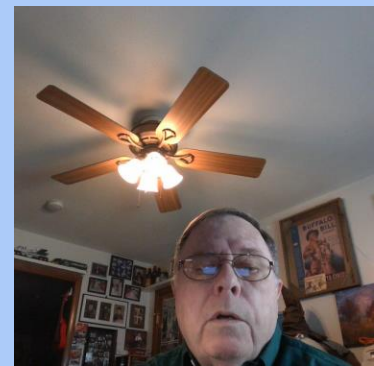
Surveillance- Active and Passive

Herd Management- Herd Plans in writing so herd owners knew what was needed

Animal Identification & Record Keeping

Epidemiology- tracing each infected animal's potential source of infection

Vaccination- This, in most cases, is a key element because it can significantly increase herd immunity & reduce transmission of the disease



Turning Points in the USA Eradication Program

Advancements in diagnostic testing- improving test sensitivity and specificity, especially the introduction of the Fluorescence Polarization Assay (FPA) in 2004, improved detection capabilities

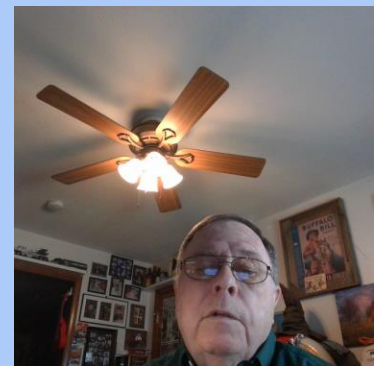
Blood testing at livestock markets began in the mid-1970s, enhancing early identification of infected animals

The adoption of herd depopulation for heavily affected herds and increased testing in surrounding areas were critical in controlling outbreaks

Calf vaccination with Strain 19 vaccine since the 1940's and reduced dose adult vaccination with Stain 19 Vaccine since 1978, especially in dairy herds

The introduction of the RB51 vaccine in 1996 provided effective

protection without causing diagnostic confusion, significantly aiding eradication efforts



Lessons Learned

Role of Surveillance

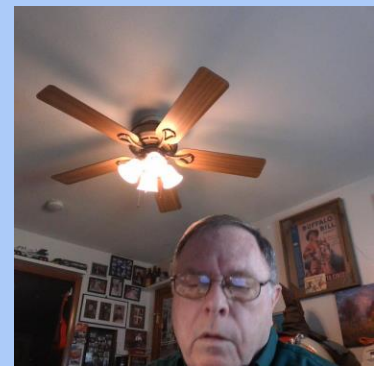
Effective surveillance is essential for disease control, involving ongoing, multi-faceted approaches to detect brucellosis early

Key surveillance methods include market cattle testing (slaughter and livestock markets) and milk testing of dairy herds, which help identify infected herds and reduce public health risks

In the USA, increased active surveillance was implemented in states approaching Class Free status, including testing younger animals and revisiting previously infected communities

The USA learned that as prevalence decreases, more surveillance

is needed



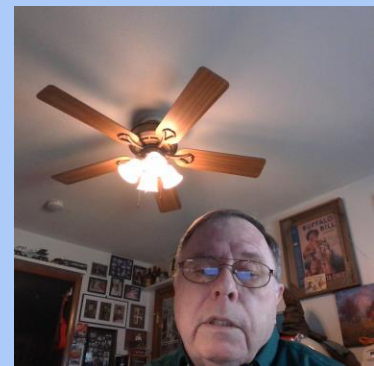
Priority needs (technical, regulatory, financial, regional cooperation)

The USA experience has taught us that the government cannot have a successful brucellosis eradication program without the key elements described in slide 7

If any of these elements are inadequate, the program will not succeed

In cases where these key elements are deficient, the animal health industry owners should be allowed to control brucellosis within their own herds

This herd-by-herd approach has been successful in many countries



Key Brucellosis Program Elements Summary

Adequate Veterinary Infrastructure and Industry Support

Adequate Funding

Adequate Research

Adequate Tests & Laboratories

Adequate Surveillance

Adequate Herd Management- Herd Plans

Adequate Animal Identification & Record Keeping

Adequate Epidemiology

Adequate Vaccination