

\* TRIP REPORT (BRUCELLOSIS),  
SONORA, MEXICO JANUARY  
9-10, 1997

Trip Report  
Sonora, Mexico  
January 9-10, 1997

Attendees: Dr. Claude Barton, Dr. J. Lee Ailey, Dr. Burke Healey, Dr. Richard Willers, Dr. Cindy Gaborick, Dr. Bill Brown, Dr. Carole Bolin, Dr. Kathleen Connell, Mr. Bill Davis, Dr. Alejandro Perera, Sr. Alejandro Varela Hall, Dr. Armando Mateos Poumian, Dr. Eduardo Luna, and Ms. Carla Everett.

Purpose of the trip: To acquaint members of the Bi National Tuberculosis and Brucellosis Eradication Committee and the livestock industry with the brucellosis program in both countries and to consider the brucellosis responsibilities of the Bi-National Committee.

**Report of Activities:**

Five members of the group who arrived early visited the Valmo Slaughtering plant during the morning of January 9. The plant is known as a TIF plant which means it is under federal inspection. The plant normally slaughters about 150 cattle per day. Blood samples are collected from each adult animal at the stick area. Ear tags are removed from each animal and recorded along with brand identification on test records that accompany the blood samples to the laboratory. The plant maintains records for each lot of animals along with shipping permits that must accompany each shipment from the farm or ranch of origin to the slaughtering plant. These procedures are used at all slaughtering plants (approximately 35) in Sonora that slaughter any significant number of animals.

After the remaining team members arrived, a visit was made to the public health laboratory in Hermosillo that has been conducting serological testing for brucellosis since 1995. This is a modern laboratory that is funded by 31.6% federal funds, 43.2% state funds and 25.3% private funds. Brucellosis testing is done by using the Rose Bengal test as a presumptive test, with the rivanol test used as the confirmatory test. Animals positive to the rivanol test are considered as reactors and those negative to the rivanol are considered negative (including those that may have been positive on the Rose Bengal). There are also regional laboratories throughout the State of Sonora that conduct brucellosis testing using the same procedure.

During the afternoon of January 9 and on January 10, the group met with State, Federal and industry officials from Sonora and SAGAR to discuss the brucellosis eradication programs in the U. S., Mexico and Sonora.

Dr. Claude Barton, Director of the National Brucellosis Eradication Program in the U. S. provided a history of the U. S. program and a current status report. He reported that vaccination was introduced in 1941 and an official eradication campaign was begun in 1954. It was started as a cooperative program between the state and federal governments and the livestock industry. He described four components of the U.S. program

1. Surveillance - The first and possibly the most important part of the

campaign is surveillance. In the U. S. this consists of first point of concentration (auction market testing), slaughter plant testing, milk ring testing and other methods such as area testing, adjacent herd testing, epidemiological tracing, change of ownership testing, retest of imports and private testing.

2. Diagnosis - As the incidence of infection becomes less there is a greater need to use all tests available. A battery of tests is used.

3. Infected herd management - The disease is treated as a community problem. Quarantines are maintained for an extended period. Whole herd depopulation is used extensively (84% of all herds in 1996). Whole herd vaccinations using reduced dosage Strain 19 vaccine and now RB51 are used in many herds where depopulation can not be used. Test and slaughter is now used primarily in herds with singleton reactors.

4. Prevention - Calf hood vaccination is still being used, primarily with RB51 which produces no residual titers. Control of heifers from infected herds is critical.

5. Public information and education - This is important in keeping owner cooperation.

At the present there are 36 free states and 14 Class A states. There are 31 herds under quarantine compared with 123,964 in 1957.

Dr. Armando Mateos presented Dr. Eduardo Luna, the national coordinator for brucellosis in Mexico who presented the Mexico national program standards and goals. Dr. Luna described the program as one started by the cattlemen and then joined by the State and Federal governments. The organization at the federal level is new.

The program offers producers a choice of free herds and herd control. Under the free herd programs dairy herds can become free after 3 negative tests conducted at 60 to 90 day intervals. Beef herds become free after 2 negative tests conducted 3 to 10 months apart. The control program consists of three sub-programs. These are:

- Control - Eradication (E)
- Control - Intensive (I)
- Control - Vaccination (V)

Procedure in these sub programs are:

	Serological Sampling	Reactor identification	Total or Partial Isolation of Reactors	Vaccination of susceptible animals
E	Yes	Yes	Yes	Optional
I	Yes	Yes	No	Yes
V	No	No	No	Yes

The vaccination option is being used in marginal herds and in the goat industry. Diagnostic procedures in the program include bacteriology using culture, isolation, typing, and serology using the card test for screening, rivanol for confirmation, and the milk ring tests for use in dairy herds. Vaccination with Strain 19 includes use of the normal dosage in calves 3 to 6 months of age and reduced dosage in animals over 6 months of age. Rev. 1 is used in goats with both normal and reduced dosage. Surveillance procedures include area testing, use of the milk ring test for dairies and testing at slaughter houses.

The eradication campaign is conducted under control of State Committees, an official NORM, and is carried out using accredited veterinarian. There are State coordinators and district supervisors.

Future considerations include:

- Implementation of mass detection
- Validation of RB51
- Improvement of slaughter house testing
- Evaluation of the economic impact of the campaign.
- Initiation of swine brucellosis monitoring

The Sonora brucellosis program was discussed by Ing Campa and Dr. Gastalum. Over 20 years of work in brucellosis and tuberculosis have been carried out but it was not a coordinated effort. Because of imminent restrictions for the export of steers to the USA, a new eradication program was initiated on December 19<sup>th</sup>, 1991. The program objectives and goals were as follows:

Objectives:

- to achieve the eradication of brucellosis in cattle, goats and sheep in Sonora.
- To avoid the spreading of brucellosis from affected to healthy herds.
- To avoid the transmission of brucellosis from affected herds to man, via the consumption of products and/or by products of animal original.

Goals:

- To test 100% of the cattle herds in Sonora and accomplish their acknowledgment as accredited negative herds.
- To certify 100% of the stabled and rustic dairy cattle as free herds, and

- maintain this acknowledgment with animal retesting.
- To establish and maintain an efficient animal movement control system, especially those proceeding from other states, to avoid the introduction of brucellosis affected animals and also to control domestic movements.
- To establish and maintain an epidemiological surveillance system through a continuous monitoring program in milk and abattoirs.

The program was carried out from the North to the South of the state in 4 well defined stages between 1991 and 1994. The program relied on the use of specially trained accredited veterinarians. Brucellosis laboratories were established in each region. Animal movements were controlled from other states through approved inspection stations and intra state through animal permits issued by inspectors. Surveillance in slaughtering plants was intensified.

All except 3 of the 5,332 herds in the states have been tested at least once totaling 1,680,156 tests of 1,293,410 animals. Since 1991 there have been 406 infected herds identified. Removal of reactors and retests of herds has been carried out in all areas of the State except for one area containing 45 herds in the southern part of the state. Those herds have been totally vaccinated and will be tested after vaccination titers recede. There are now only 9 herds remaining under quarantine in the rest of the State outside the vaccination area for a current prevalence rate of 0.15% (see attached chart).

Herds have been released from quarantine after a 30 day negative test. Adjacent herds are quarantined until tested negative. The milk ring test is conducted once per year.

During a discussion period problems that occurred in the U. S. program that delayed eradication were discussed. These included the release of quarantines too quickly (the U. S. now maintains quarantines for 12 months), the failure to properly use all tests, grossly underestimating the task, building too complex a program and not properly getting support of the livestock industry. Considerable discussion was carried out about Sonora's release of herds from quarantine after one 30 day negative test and the lack of consideration of card positive, rivanol negative animals in infected herds. The advantages of the use of RB51 vaccine also was discussed since it can be extensively used without creating the titer problems which the U. S. has experienced throughout its program.

A visit was made to the office of the Sonora campaign to review their records. Excellent files are maintained on each infected herd. The only missing piece appeared to be the lack of an epidemiology report showing movements into and out of the infected herds and testing of adjacent herds.

The U. S. members of the review group were cordially received and expressed their appreciation for the open manner in which the brucellosis program was explained. Officials from Sonora expressed their desire to have their State and the progress made in

Sonora recognized under the Regionalization document being proposed by USDA.