

**COMITE DE CAMPAÑA DE ERRADICACION DE LA TUBERCULOSIS BOVINA  
Y BRUCELOSIS EN EL ESTADO DE SONORA**

**ANNEXES OF THE REQUEST OF REGIONAL RECOGNITION OF  
THE STATE OF SONORA, MEXICO, FOR THE EXPORT OF  
BOVINE CATTLE TO U.S.A. ACCORDING TO THE ZOOSANITARY  
CRITERIA OF THE UNITED STATES DEPARTMENT OF  
AGRICULTURE, PUBLISHED IN THE FEDERAL REGISTER, ON  
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**HERMOSILLO, SONORA, MEXICO, JANUARY 1998**

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APPLICATION FOR RECOGNITION OF THE STATE OF SONORA AS A REGION  
DEFINED IN 9 CFR PART 93.400 FOR THE EXPORTATION OF CATTLE TO THE  
UNITED STATES:

Most, if not all, of the following information has been provided in a number of recent forums, including the semi-annual meetings of the Binational Tuberculosis and Brucellosis Committee (BNC) and the annual meetings of the U.S. Animal Health Association, including the meetings of its Brucellosis and Tuberculosis Committees. The Deputy Director of USDA-Veterinary Services serves as co-chairman of the BNC and has taken an active role in the operation of the BNC.

In addition to the brucellosis eradication program review by the BNC in January 1997, Sonora was reviewed and recognized by the BNC for meeting Stage II (eradication) tuberculosis requirements of the Consensus Document of the border states in January 1996. Included with this request are the reports from the Stage I and Stage II reviews, as well as the Stage I report presented to the BNC on June 13, 1995 and the trip report of the BNC brucellosis review.

I.- THE AUTHORITY, ORGANIZATION, AND INFRASTRUCTURE OF THE  
VETERINARY SERVICES ORGANIZATION IN THE REGION.

The eradication programs for tuberculosis and brucellosis are tripartite cooperative efforts of the state Cattlemen's Union, and the State and Federal Governments. The eradication programs are under the direction of the Brucellosis and Tuberculosis Eradication Campaign Committee ("Committee"). The "Committee" has authority over the veterinary services as it pertains to these two diseases. The "Committee" is composed of representatives from each of the state's eleven (11) rural development district cattlemen's unions, a representative from the state's dairy industry, as well as the Administrator (Secretariat) of the State Department of Livestock Development (Fomento Ganadero), who serves as the President of the Committee, the State Delegate from the National Department of Agriculture (SAGAR-Secretariat of Agriculture, Livestock, and Rural Development), who serves as the Secretary of the Committee, and the President of the Cattlemen's Union, who serves as the Treasurer of the Committee.

This "Committee" has functioned as the command and control of these two eradication programs since the program was officially formed and recognized by the Governor of Sonora in December 1991. Since the beginning of the eradication program, the "Committee" has made all policy decisions guiding the program. The council's decisions for the operation of the eradication program are made day by day by the Executive Director, who is hired by the "Committee".

The "Committee" oversees all of the veterinarians that work in the eradication programs. These veterinarians are supervised by a chief coordinator veterinarian. The chief veterinarian has nine (9) federal official veterinary supervisors that actually oversee the work of seventy-five (75) SAGAR approved veterinarians working for the "Committee" in

eleven (11) rural development districts (RDD). SAGAR also has a chief veterinarian responsible for all animal health in the state who works closely with the "Committee". The veterinarians performing the field testing for these two diseases are trained and approved by SAGAR.

The active slaughter surveillance program for both diseases is provided by veterinarians employed by SAGAR in the slaughter plants inspected by the Federal Government (TIF) and by SAGAR approved veterinarians in the small municipal slaughter plants. The SAGAR employed veterinarians who provide inspection in TIF plants are supervised by a chief SAGAR veterinarian for meat inspection and the SAGAR approved veterinarians are supervised by one of the nine federal official veterinary supervisors in each rural development district.

**The authority for the veterinary infrastructure is contained in both Federal and State laws. The Federal Animal Health Law of Mexico and the Norma Oficial Mexicana (NOM), which contains minimum operational standards and procedures, are the national laws guiding the eradication of these two diseases. In addition, the State of Sonora law gives additional authority to the veterinary infrastructure. This state law includes the constitutional power of the Governor to declare the eradication of any disease in the interest of the citizens of the state. The Governor made an official declaration to eradicate these diseases in December 1991.**

In addition to the veterinary infrastructure, the "Committee" utilizes the regulatory control of the Fomento Ganadero to not only restrict the movement of diseased or exposed cattle, but also to provide capability for traceback of infected cattle. The Fomento Ganadero employs twelve (12) inspector supervisors that oversee the inspection services provided by four hundred sixty (460) livestock inspectors.

State law requires that all cattle that are moved be inspected by a Fomento Ganadero supervised livestock inspector. The inspector issues a transit guide that must accompany each shipment. In addition, all cattle must be re-inspected at final destination. All cattle moved without the required transit guide are subject to seizure and the owner subject to criminal prosecution.

In addition, the "Committee" began implementation of the use of herd of origin eartags this past July 1997. All cattle that are moved from a herd are identified with a herd of origin eartag, except for those that are moved directly to the United States border for export. Those moved directly to the border are identified with blue metal SAGAR identification eartags. The eartags are metallic and are marked with the letters "SON". The addition of five numbers indicates the municipality and the specific herd within the municipality. This herd of origin identification ensures that all cattle that are slaughtered with either tuberculosis suspicious lesions or that have suspect reactions to the brucellosis serological tests are traced to the specific herd of origin.

The security measures at ports-of-entry to control the importation of materials that may carry these two disease agents are included in item IX, of this document.

## II.- THE TYPE AND EXTENT OF DISEASE SURVEILLANCE IN THE REGION.

Disease surveillance is making a transition from active to passive. Except for two herds, Sonora completed a statewide area test for both brucellosis and tuberculosis in 1995. The remaining two herds remained under quarantine until a herd test was completed in early 1997. Follow-up testing has been performed in all suspect herds found during the test and is continuing in the remaining quarantined herds (12 for brucellosis and 12 for tuberculosis). Of all tuberculosis and brucellosis suspect herds found since the beginning of the eradication program, thirty-two herds were depopulated. Each animal tested in the eradication program is individually identified with a silver metal identification eartag.

**Passive surveillance for both diseases is by means of slaughter surveillance. For brucellosis, blood samples are collected from all female cattle, regardless of age, at TIF plants by SAGAR veterinarians and at Municipal plants by SAGAR approved veterinarians. Traceback identification is maintained by the veterinarian working in the slaughter plant using the transit guides issued by Fomento Ganadero supervised livestock inspectors, and by collection of metal eartag identification and by maintaining correlation of blood samples to lot records maintained by the slaughter plant. Suspect samples are reported to the "Committee" who then initiates investigation of the source herd.**

For tuberculosis, slaughter surveillance is also utilized as the primary means of case finding. Suspicious lesions are collected at slaughter by SAGAR trained veterinarians at slaughter and submitted to the State Public Health Laboratory in Hermosillo-Laboratorio Estatal de Salud Pública (LESP) for testing. Traceback identification is maintained in a similar manner to that for brucellosis surveillance with the addition of an ability to locate the fire brand on the hide of any animal that is found to have a tuberculosis suspect lesion.

As herd of origin identification is implemented, these metal eartag collected at slaughter will enable, and simplify, the herd traceback ability for passive surveillance. In spite of the desire to have perfect traceback ability using herd of origin cartags, the traceback system in place is no less than excellent.

## III.- DIAGNOSTIC LABORATORY CAPABILITIES.

Samples collected for tuberculosis diagnosis are submitted to LESP. This laboratory is equipped to perform histopathology as well as bacterial culture. Suspect lesions are submitted from veterinarian inspectors in the TIF and Municipal slaughter plants during routine slaughter surveillance and by "Committee" veterinarian supervisors from known suspect and reactor animals when they are policed to slaughter for further diagnosis.

Blood samples for brucellosis are collected by veterinarian inspectors in the TIF and Municipal slaughter plants, and by SAGAR approved veterinarians testing cattle in the

field. Except for the two RDD in northeastern Sonora (Agua Prieta and Moctezuma), all blood samples are submitted to either LESP in Hermosillo, or the SAGAR Laboratory in Ciudad Obregón. In the two northeastern RDD, the samples collected at the Municipal plants are tested by the SAGAR approved veterinarian working in the plant and the samples that come out as positive are sent to LESP for further diagnosis. Quality control check samples from these Municipal plants are submitted to LESP monthly. Any field test collected in these RDD are submitted to the LESP in Hermosillo.

Blood samples submitted to LESP and the SAGAR Laboratory are tested using the Rose Bengal test (plate card test). Positives are further tested at these laboratories with the Rivanol test. Samples collected by SAGAR approved veterinarians in the Municipal slaughter plants in the two northeastern RDD are tested on site with the Rose Bengal test. All Rose Bengal test positive from these plants and all Rivanol test positives from both the SAGAR Laboratory and LESP are further tested using the Complement Fixation test at LESP.

#### IV.- DISEASE STATUS.

Both B. abortus and M. bovis are present in cattle at a low prevalence in the State of Sonora. Herd and animal prevalence rates are known because complete herd tests have been performed on all herds for both diseases since the inception of the eradication program in 1991. In fact, many herds have had more than one complete herd test due to the fact that initially, the eradication campaign goal was to establish every herd as accredited free for both diseases. The herd prevalence rates for both diseases are low because the warm, dry climate of the state and the low stocking rate do not contribute to the spread of the disease.

As of December 15, 1997, the herd prevalence rate for brucellosis is 0.20% (12 herds). It is likely that the herd prevalence rate is less than this because this figure is based on serological results only. Brucellosis culture had not been utilized to confirm infection. More detailed information on serological tests utilized in the eradication program can be found under item III.

The herd prevalence rate for tuberculosis is also 0.20% (12 herds), based on confirmation by culture of M. bovis. The following is a further breakdown of herd prevalence rate for the two diseases:

<u>Herd type</u>	<u>Brucellosis</u> <u>(%/#herds)</u>	<u>Tuberculosis</u> <u>(%/#herds)</u>
Beef cattle/ranch	0.18%/10	0.11%/6
Established diary	1.33%/1	2.67%/2
Dual purpose <small>(The cattle are both milked and used for beef production)</small>	0.59%/1	2.35%/4

The herd prevalence rate calculation is based on the following herd census compiled by the "Committee":

<u>Herd type</u>	<u>Number of herds</u>
Beef cattle/ranch	5,625
Established dairy	75
Dual purpose	170

The above information for herd prevalence rates for brucellosis ONLY does not include a restricted zone in the southern part of the state where it is common to maintain communal (community) herds, and where intensive brucellosis vaccination of all female cattle, including adult cows, with Strain 19 since 1995 has prevented assessment of the disease prevalence. The restricted zone is defined as the area from the international north-south highway (Mexico 15) to the Gulf of California and from Estacion Don, a border inspection station along Mexico 15 on the southern border with Sinaloa, to the inspection station of Las Guasimas near the city of Guaymas, also considering the portion of Yaqui Tribe land located on the east side of the highway.

The brucellosis animal prevalence rate in this restricted zone prior to initiation of intensive brucellosis vaccination was 0.79%. Because of the communal nature of the herds in this area and the restrictions placed on movement of cattle out of this area, the "Committee" considers this restricted zone as a single herd.

Because it has been nearly two years since the cattle in the restricted zone were vaccinated with Strain 19 and because the "Committee" converted to the use of RB51 vaccine in July 1997, the "Committee" is initiating intensive brucellosis testing in 1998 in order to more completely assess animal prevalence in this area. The Controls on the movement of cattle from this area are included in item IX of this document.

\*\*Please note that the herd prevalence rate for tuberculosis includes ALL herds in the state.

#### V.- THE EXTENT OF AN ACTIVE DISEASE CONTROL PROGRAM, IF THE AGENT IS KNOWN TO EXIST IN THE REGION.

As explained in the previous sections, Sonora has had an active disease eradication program for these diseases since 1991. Sonora expects to eradicate these two diseases from cattle by the year 2000. Previously, infected cattle were located during herd testing. Now that all herds are tested, infected animals are located through slaughter surveillance or through traceback information supplied by other Mexican states or USDA for cattle slaughtered in the United States.

Slaughter surveillance is conducted by veterinarian inspectors employed by SAGAR in TIF plants, or by SAGAR approved veterinarian inspectors paid by the "Committee" and, in some cases, a local municipal authority, who inspect in small, municipal slaughter plants. Both types of veterinarians are trained in thorough antemortem and postmortem inspection procedures by SAGAR. In addition to inspecting for tuberculosis suspicious lesions during

postmortem inspection, these inspectors collect the blood samples that are tested for brucellosis. Although the specific procedures may vary from plant to plant, identification of cattle to the producer is maintained throughout the slaughter process and tracked by the veterinarian inspector.

#### VI.- THE VACCINATION STATUS OF THE REGION.

Vaccination for tuberculosis is not an issue. Although available, brucellosis vaccination has not been utilized on a wide scale basis in Sonora. Because of the nature of herd management in the restricted zone mentioned in item IV and because it appeared serologically that infection was present in the area, vaccination of both cows and heifers for B. abortus has been utilized.

**In 1995, when vaccination in this area was initiated, only Strain 19 vaccine was available. As has occurred in the United States, this practice has made it extremely difficult to assess the disease status of the cattle in this area. Prior to vaccination, the animal prevalence was 0.79%. Beginning in July of 1997, when the vaccine became available for use in Sonora, vaccination of previously non-vaccinated cattle with RB51 was initiated.**

Female cattle in this restricted zone are vaccinated by SAGAR approved veterinarians under the supervision of the "Committee" veterinarian supervisors. Cattle are identified with an orange alpha-numeric eartag and the vaccination event and identification is recorded on a specific form and submitted to the "Committee". The initial decision authorizing the use of vaccine in this restricted area was made by the "Committee" in 1994 and is mandatory for all cattle owners in this area.

Movement of cattle outside of the vaccination zone is restricted. Cattle may not be moved anywhere in Sonora without a transit guide issued by a Fomento Ganadero supervised livestock inspector. Intact cattle are moved only to slaughter accompanied by a transit guide. Cattle moved in this manner are reinspected by a Fomento Ganadero supervised livestock inspector at the destination. Illegal movement, if it were to occur, would be northward to the markets of Hermosillo and Guaymas. Cattle moving north would be detained at the inspection station at Las Guasimas and a representative of the "Committee" contacted for further disposition. Movement from this area to the east does not occur due to the geographical barrier of the Sierra Madre and due to the fact that there are no marketing possibilities in that direction.

#### VII.- THE STATUS OF ADJACENT REGIONS WITH RESPECT TO THE AGENTS.

Sonora is bordered on the northwest by Baja California Norte, on the east by Chihuahua, on the south by Sinaloa, and on the west by the Gulf of California. Brucellosis and tuberculosis are present in cattle in each of the states bordering Sonora. Each of these states has active eradication programs for these diseases. Chihuahua was recognized by the BNC as having met the requirements for Stage II, or eradication phase, and Baja California Norte and Sinaloa were recognized by the BNC as having met the requirements for Stage I, or control

phase, for tuberculosis. The controls on cattle movements from these states into Sonora are included in item IX of this document.

#### VIII.- THE DEGREE TO WHICH THE REGION IS SEPARATED FROM ADJACENT REGIONS OF HIGHER RISK THROUGH PHYSICAL OR OTHER BARRIERS.

Sonora is geographically isolated from adjacent regions of higher risk. Sonora is bordered by Chihuahua on the east. The Sierra Madre mountains physically separate these two states. Port-of-entry inspection stations are in place on two roads, which are the only passable roads between these two states. Puerto San Luis is the inspection station in the far northeastern part of the state on the only road from northwestern Chihuahua, and Maycoba is the inspection station located along the road from west-central Chihuahua. further south along the Chihuahua-Sonora border, all entry points are virtually impassable.

Sonora is bordered on the west by the Gulf of California and on the northwest by Baja California Norte. An inspection port-of-entry is located at San Luis Rio Colorado, the only entry point from Baja California Norte.

In the south, Sonora is bordered by Sinaloa. An inspection port of-entry is located at Estacion Don on the southern border. Although there are other possible entry points from Sinaloa, these roads are generally not passable. Should Sinaloa cattle enter Sonora without moving through Estacion Don, Sonora also maintains several interior cattle dipping stations through which these cattle would have to pass. If the cattle were being moved without the proper authorizing livestock inspector issued transit guides, the cattle would be detained and a representative of the "Committee" contacted for further disposition.

Specifics on movement controls for cattle from other states are located under item IX.

#### IX. THE EXTENT TO WHICH MOVEMENT OF ANIMALS AND ANIMAL PRODUCTS IS CONTROLLED FROM REGIONS OF HIGHER RISK, AND THE LEVEL OF BIOSECURITY REGARDING SUCH MOVEMENTS.

As well as maintaining tight control over the movement of animals within the state, Sonora also maintains extremely tight control over the movement of animals from other states. Port-of-entry inspection stations are strategically placed along the entry points. The location of the entry points are detailed in item VIII. These inspection stations are staffed by Fomento Ganadero and SAGAR and are active twenty-four hours each day. Trucks transporting livestock are stopped and movement papers inspected.

In compliance with an agreement with the Border State Veterinarians who authored the Consensus Document, no cattle which originate from any tuberculosis Stage 1 states, breeding or otherwise, are permitted to transit the state directly to the border for export to the United States. Steers imported into Sonora from tuberculosis Stage 1 states must enter with a negative tuberculosis test and be retested twice prior to being qualified for export to

the United States or be moved to restricted pens in a feedlot and marked with an "S" using a hot iron brand.

Although the introduction of breeding heifers from other states is unusual. The "Committee" requires that intact cattle for breeding purposes originate exclusively from tuberculosis and brucellosis accredited free herds, when the animals come from an state with a lesser sanitary status. These cattle are policed to the destination, where they will remain in isolation in habilitated areas until they are subjected to two more tests, for brucellosis as well as for tuberculosis.

When the cattle come from states with the same sanitary status, it is required that it be originated either from an accredited free herd or with a negative test; in addition, it must be posteriorly subjected to a test in the place of destination.

**Intact heifers are rarely introduced from other states for other purpose than feedlot use. These cattle is policed to its destination, normally, to restricted pens in a feedlot, where it is marked with an "S" using a hot iron brand and it is subjected to a test for tuberculosis and brucellosis.**

Cattle marked in this way are for "internal use and consumption" only. It is not permitted that they be exported to the United States. In addition, Fomento Ganadero livestock inspectors ensure that intact animals marked in this way are not commingled with intact Sonora heifers.

Cull cattle destined for slaughter from other states are accompanied by a Federal Zoosanitary Certificate and a State transit guide and SAGAR inspectors ensure that the trucks transporting these animals are sealed. These seals are broken at the slaughter plant destination by the SAGAR veterinarian inspector.

#### X.- LIVESTOCK DEMOGRAPHICS AND MARKETING PRACTICES IN THE REGION.

There are 5,625 beef cattle herds, 75 dairy cattle herds, and 170 herds where the cattle are dual purpose. The herd census was the first step performed by the "Committee" in 1991 at the start of the eradication campaigns. The census was a cooperative effort of the RDD cattlemen's unions, the RDD supervisor veterinarian, RDD SAGAR officials, and Fomento Ganadero supervised livestock inspectors.

Livestock marketing practices fluctuate depending on the market. In general, most of the steers are exported for feeding either in the United States (90%), or to the states of Chihuahua or Baja California Norte. In the past, up to 30% of the heifers have been spayed and exported to the United States for feeding. The remainder were either retained as replacements (20%), sent to Sonora feedlots, or sent intact for feeding in Chihuahua, Baja California Norte, and Sinaloa.

The only auction market in Sonora is located at the Cattlemen's Union pens in Hermosillo. It operates once per week. The Cattlemen's Union keeps detailed records on the sale and movement of the animals marketed through their auction. The auction handles all classes of cattle. The herd of origin identification mentioned in item I will be implemented throughout the state by May 1998. Therefore, all cattle arriving at the auction will be identified by herd of origin in addition to being accompanied by a transit guide issued by a Fomento Ganadero supervised livestock inspector.

The majority of the cows marketed through the Cattlemen's Union auction are sent directly to slaughter, either within the state or to Chihuahua or Sinaloa states. Steers are marketed to feedlots within the state and to surrounding states. Any steers marketed at this auction destined for export to the United States are tested for tuberculosis and tagged with blue metal SAGAR eartags at the Cattlemen's Union pens. Heifers are also marketed to feedlots within Sonora and adjacent states.

#### XI.- POLICIES AND INFRASTRUCTURE FOR ANIMAL DISEASE CONTROL IN THE REGION (EMERGENCY RESPONSE).

Since 1994, Sonora has had in place a state Task Force for Animal Health Emergencies (GEESA)-an Emergency Disease Response Group. GEESA is composed of twenty-three SAGAR trained private, State and SAGAR veterinarians representing each of the various livestock and poultry health disciplines in the state. The Director of this Committee is the regional (Sonora, Baja California, Sinaloa, Chihuahua) coordinator for the Mexico/U.S. Exotic Animal Disease Commission (CPA) part of the National Task Force for Animal Health Emergencies (DINESA).

Similar to the United States, GEESA has in place, standard operating procedures for the response and elimination of diseases foreign to regions of México. Because the two diseases are currently present in Sonora, the diseases of brucellosis and tuberculosis are not specifically part of the emergency response system in Sonora. When eradicated, these diseases will be considered foreign to Sonora. Should a reoccurrence be suspected, this emergency disease group will be called upon to respond.