

# **KENTUCKY'S BRUCELLOSIS ERADICATION PROGRAM**

**Adopted Report and Recommendations of the  
Program Review and Investigations Committee**

**Prepared by the  
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The Program Review and Investigations Committee is a 16-member bipartisan committee. According to KRS Chapter 6, the Committee has the power to review the operations of state agencies and programs, to determine whether funds are being spent for the purposes for which they were appropriated, to evaluate the efficiency of program operations and to evaluate the impact of state government reorganizations.

Under KRS Chapter 6, all state agencies are required to cooperate with the Committee by providing requested information and by permitting the opportunity to observe operations. The Committee also has the authority to subpoena witnesses and documents and to administer oaths. Agencies are obligated to correct operational problems identified by the Committee, and must implement the Committee's recommended actions or propose suitable alternatives.

Requests for review may be made by any official of the executive, judicial or legislative branches of government. Final determination of research topics, scope, methodology and recommendations is made by majority vote of the Committee. Final reports, although based upon staff research and proposals, represent the official opinion of a majority of the Committee membership. Final reports are issued after public deliberations involving agency responses and public input.



## FOREWORD

The Program Review and Investigations Committee undertook the study of the Brucellosis Eradication Program in the Kentucky Department of Agriculture to determine the progress made in controlling this disease and the steps necessary to eradicate it completely. The report and its recommendations were adopted by the Program Review and Investigations Committee on August 14, 1989.

The report is the result of dedicated time and effort by the Committee staff and secretaries, Wilda Bond and Susie Reed.

Our appreciation is extended to all those who were interviewed and assisted in providing information, including the state and federal Department of Agriculture personnel. Particular appreciation is extended to D. L. Notter, D.V.M., and Pat Carter, with the Kentucky Department of Agriculture and Robert Geyer, D.V.M., with the United States Department of Agriculture, for their cooperation and assistance.

Vic Hellard, Jr.  
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Frankfort, Kentucky  
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### TRANSMITTAL MEMORANDUM

**TO:** The Honorable Wallace Wilkinson, Governor  
The Legislative Research Commission, and  
Affected Agency Heads and Interested Individuals

**FROM:** Representative C. M. "Hank" Hancock, Chairman  
Program Review and Investigations Committee

**DATE:** August 29, 1989

**RE:** Final Adopted Report, Kentucky's Brucellosis Eradication Program

Attached is the final report with recommendations concerning Kentucky's Brucellosis Eradication Program, as adopted by the Program Review and Investigations Committee, August 14, 1989. The executive summary presents a concise description of the findings and recommendations of this study. The full report contains a detailed explanation of the findings and related data for the reader interested in a more thorough understanding. The appendix includes a recommendation worksheet showing committee action and summary comments by agencies, as well as letters of response from each affected agency.

The request to study this Kentucky Department of Agriculture (DOA) program was motivated by the disease's threat to the cattle industry and the belief that federal funding for brucellosis will soon be eliminated or drastically curtailed. The study request also reflected a concern about the use and need for state General Funds.

Commonly referred to as "Bang's Disease", bovine brucellosis constitutes a major threat to the beef and dairy industries. The United States Department of Agriculture (USDA) estimates that \$30 million is lost annually to the disease. Infected cattle may become infertile or abort their calves. Also, milk production is diminished in cows afflicted with the disease.

In the mid-1950s, the federal government formed a partnership with the states in order to reduce brucellosis infection in U.S. cattle herds. In Kentucky, 36 full-time USDA employees work primarily on brucellosis eradication and 102 Kentucky DOA

employees work in the program. The State Veterinarian, under the direction of the Kentucky State Board of Agriculture, develops policies, supervises and directs the activities of the Division of Animal Health.

USDA funding data indicate that the federal government has furnished Kentucky with over \$37 million from FFY 1961 to the present. Only seven states received more federal aid than Kentucky from FFY 1961 to FFY 1983. During FY 1987 and FY 1988, the state General Fund expended \$2.8 million and \$3.0 million, respectively, on the brucellosis program. With the curtailment of federal monies to eradicate brucellosis, Kentucky will be faced with some difficult funding decisions.

Kentucky has lagged behind most states in its efforts to eradicate and control brucellosis. This slow response to the problem could be seen in the federal government's past rating of Kentucky's brucellosis program. Until recently, Kentucky had been one of only six states assigned a "B" rating by the USDA. However, on June 8, 1989, the federal government classified Kentucky as an "A" rated state.

The state has fought an up and down hill battle against brucellosis for several decades. In 1960, Kentucky had 2,163 herds infected with brucellosis. The disease had abated considerably by 1971; however, the disease peaked again in 1980 with a total of 955 infected herds. Since 1980, there has been a fairly steady linear reduction in the number of infected herds.

Kentucky's lack of progress in fighting brucellosis between 1976 and 1980 may, in part, be attributed to its failure to implement federal regulations regarding first-point testing in 1976. After a two-year court injunction, filed by stockyards representatives, Kentucky's first-point testing program was implemented in 1978. Two years after the initiation of first-point testing, the prevalence of brucellosis began to drop at a steady rate.

The effects of mandatory calfhood vaccination and mandatory depopulation show no dramatic drops in the prevalence of brucellosis. However, experts in the eradication of brucellosis endorse the effectiveness of the mandatory depopulation program. During the last two years the decline in the disease can also be attributed to the USDA task force on brucellosis, which conducted an intensive surveillance effort in a central Kentucky area experiencing a high rate of brucellosis infection. The depopulation of 46 infected herds and 441 brucellosis reactors greatly improved Kentucky's progress.

Discussion of the program operations is divided into three categories: detection and control, eradication, and prevention of brucellosis. Through interviews with various individuals involved in the eradication of brucellosis in Kentucky and in surrounding states, assessments were made of the program. These findings, which emphasized past enforcement problems, led to two recommendations concerning the eradication and control methods and five recommendations concerning administrative management.

Program recommendations include increasing the dealers' law license fee from \$10; increasing the first-time penalty from \$25; and requiring a cooperative road

surveillance program involving the Kentucky DOA, Transportation Cabinet and State Police.

The administrative recommendations include requiring the Kentucky Department of Agriculture to develop a strategic plan which analyzes its future funding and personnel needs and desired policy modifications. One recommendation requires the Kentucky DOA to reassess its regulations, develop a policy manual and train personnel on uniform policies and practices.

Further, the recommendations require the Kentucky DOA to enforce the provisions of program statutes and regulations and cite violators in accordance with the penalty provisions in KRS Chapter 257. Finally, the report recommends that the Kentucky DOA improve its management and information system capabilities, utilizing computerization when possible.

For further information, comments or questions, please contact Joseph Fiala, LRC Assistant Director, Office of Program Review and Investigations.



# KENTUCKY'S BRUCELLOSIS ERADICATION PROGRAM STUDY

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## GLOSSARY

### Area Veterinarian in Charge

A federal veterinarian in charge of the Animal and Plant Health Inspection Service, Veterinary Services, United States Department of Agriculture in Kentucky.

### Brucellosis or “Bang’s Disease”

An infectious disease of animals and humans caused by bacteria of the genus *Brucella*. The disease is characterized by abortion and impaired fertility in its principal animal hosts. Usually, *Brucella abortus*, is associated with disease in cattle, *Brucella suis* with the disease in swine, and *Brucella melitensis* with the disease in sheep and goats. Under appropriate conditions, however, brucellosis may be caused by a *Brucella* organism normally associated with other hosts.

### Brucellosis Card Test

An agglutination blood test designed to give quick results at stockyards or livestock markets.

### Brucellosis Ring Test

The brucellosis ring test is conducted on composite milk or cream samples from dairy herds and is interpreted as either negative or suspicious (positive). Herds which are negative to the brucellosis ring test and which are not quarantined as brucellosis affected are classified as brucellosis negative for public health ordinances and surveillance purposes. Herds classified as suspicious require a herd blood test to determine animal and herd status.

### Cattle

All dairy and beef animals (genus *Bos*) regardless of age or gender.

### Certificate

An official document issued by a Veterinary Services representative, State representative, or accredited veterinarian at the point of origin of a shipment of cattle or bison, which shows all of the following:

- the official eartag number for each animal, or each individual animal’s registration tattoo, registration brand, or the registration number of a breed association recognized by Veterinary Services,
- the number of animals covered by the document,
- the purpose for which the animals are to be moved,
- the points of origin and destination,
- the consignor, and
- the consignee.

Ownership brands may be used as identification on certificates for cattle being shipped interstate to states where official tests for brucellosis and other official tests are not required, provided the ownership brands are registered with the official brand recording agency in the state of origin and the cattle are accompanied by official brand inspection certificates.

### Certified Brucellosis-Free Herd

A herd of cattle which has qualified for and has been issued a Certified Brucellosis-Free Herd certificate signed by both the appropriate State animal health official and by the Veterinarian in Charge.

The Certified Brucellosis-Free Herd status is valid for twelve months, unless evidence of brucellosis is disclosed, or the herd participates in a whole herd vaccination plan. In the last case, the herd status is suspended until post-vaccination testing confirms the herd's negative standing.

### Cooperative State-Federal Brucellosis Eradication Program

Also referred to as the Brucellosis Eradication Program, it is administered under a Memorandum of Understanding between the appropriate agency in each of the states and the United States Department of Agriculture. This Program includes all of the activities associated with detecting, controlling, and eliminating brucellosis from domestic livestock in the United States. The minimum standards for operating a Cooperative State-Federal Brucellosis Eradication Program within a state are contained in the Brucellosis Eradication Uniform Methods and Rules. The Uniform Methods and Rules (UMR) are reviewed by representatives of the livestock industry and the appropriate state and federal agencies annually and are revised as needed by the United States Department of Agriculture.

### Dealer

Any person who buys, sells or offers to buy, sell, exchange, barter or negotiate the sale of livestock in this state, whether the livestock were raised in this state or imported into this state from another state.

### Depopulation

The slaughter of an entire herd of cattle in which brucellosis infected animals have been found.

### Epidemiology

A branch of medical science that deals with the incidence, distribution, and control of disease in the animal population.

### False-positive

A test result indicating that an animal has brucellosis when, in fact, the animal is free of disease.

### Feedlot

A confined drylot area for finish feeding of cattle on concentrated feed with no facilities for pasturing or grazing. Only animals that have met all of the required testing provisions at origin and destination are allowed in these feedlots. The feedlot is considered to be a herd and must be handled like any other herd if brucellosis is suspected or diagnosed.

### First-point testing

Subjecting all test-eligible cattle which are moving within trade or marketing channels to an official test for brucellosis at the first point of concentration. Points of concentration are livestock markets, specifically approved stockyards, buying stations, assembly points, or feedlots receiving cattle directly from farms.

### Health Certificate

Or “certificate of veterinary examination” means a legible record covering the requirements of the state of destination accomplished on an official form of a standard size from the state of origin or an equivalent form of the Animal and Plant Health Inspection Service, Veterinary Services, United States Department of Agriculture, that is prepared and issued by a licensed, accredited veterinarian.

### Herd of origin of cattle

Any herd of cattle or any farm or other premises where the cattle were born or where they have been kept for four months or more before the date of shipping, provided cattle from other premises have not been assembled on the farm or premises within four months before the date of shipment. For the purposes of the UMR, herd of origin has the same meaning as place of origin, premises of origin, and farm of origin.

### Indemnity

Payments designed to compensate partially for the assumed difference between slaughterhouse prices and the animal’s potential market value.

### Individual herd plan

A written herd management and testing plan that is designed by the herd owner, the owner’s veterinarian if requested, and a State or Federal veterinarian, to control and eradicate brucellosis from an affected herd. A similar plan for determining the true status of suspects and for preventing exposure to brucellosis within the herd is also within the meaning of the term. These plans must incorporate the most appropriate veterinary and herd management procedures to control the spread of brucellosis within the herd and thereby eradicate the disease from the herd.

### Official eartag

A Veterinary Services approved identification eartag (metal, plastic or other) that conforms to the nine-character alpha-numeric National Uniform Eartagging System. It uniquely identifies each individual animal with no duplication of the alpha-numeric identification, regardless of the materials or colors used. The term includes the special orange-colored eartag series used to identify calfhood vaccinates.

### Official vaccinate (adult)

A bovine or bison female that, as part of a herd that was approved for whole herd vaccination, was inoculated subcutaneously with an approved Brucella vaccine at an age older than that permitted for calfhood vaccination. The animal was inoculated by a state or federal representative or an accredited veterinarian using the approved procedure. The animal must have been tested negative within 10 days before vaccination. At vaccination, the

animal must have been properly identified as an adult vaccinate and must have been reported on the appropriate form to the state or federal animal health agency in that state.

#### Official vaccinate (calfhood)

A bovine female that as a calf was inoculated subcutaneously with an approved Brucella vaccine between the appropriate age limits by a state or federal representative or an accredited veterinarian using the approved vaccination procedure. The animal must have been properly identified as a vaccinate by official eartag and vaccination tattoo and must have been reported on the appropriate certificate to the appropriate state or federal animal health agency for that state.

#### Quarantined feedlot

A confined area under state quarantine that has been approved by the State animal health official and the Veterinarian in Charge and is maintained for feeding cattle of unknown or exposed status, with no provisions for pasturing or grazing. All cattle, except steers and spayed heifers, leaving a quarantined feedlot must go to an approved slaughter establishment for immediate slaughter or to another quarantined feedlot. All cattle in a quarantined feedlot are considered to be exposed to brucellosis.

#### Reactors

Cattle are classified as reactors when their blood serums have been subjected to official serologic tests and the test results indicate that the animal has been exposed to and infected with Brucella. Cattle are also classified as reactors in the absence of significant serologic test results when other diagnostic methods, such as bacteriologic methods, result in the recovery of field strain Brucella organism, or a significant rise in the serologic titer occurs, or when other epidemiologic evidence of infection is demonstrated.

#### Recognized slaughter establishment

Any slaughter establishment operating under the provisions of the Federal Meat Inspection Act (21 U.S.C.601 et seq.) or a state meat inspection Act.

#### Stockyards

Any livestock yard, concentration point, packing plant or any other public place where livestock is regularly assembled for sale or exchange and is bought, sold or exchanged at auction or upon a commission or other basis.

#### Successful traceback of Market Cattle Identification (MCI) reactors

A successful traceback of MCI reactors occurs when the herd of origin, as defined, is located and a herd blood test is conducted when necessary. When all animals at the premises of origin were sold for slaughter a successful traceback can also be claimed. Tracebacks to dealers, commission firms or other intermediary points are not considered successful, unless all possible herds of origin are located and the herds are tested.

### Suspect Cattle

Cattle are classified as suspects when their blood serums have been subjected to official serologic tests and the test results are suggestive of infection but are inconclusive. Bacteriologic methods to cultivate brucella, from blood, milk, or tissues, if used, did not yield field strain brucella.

### Test-eligible cattle

This term includes all cattle 18 months of age and over (as evidenced by the loss of the first pair of temporary incisor teeth), except steers, spayed heifers, official calfhood vaccinates of the dairy breeds under 20 months of age, and official calfhood vaccinates of bison or beef breeds under 24 months of age (24 months of age is evidenced by the first pair of fully erupted permanent incisor teeth). Official calfhood vaccinates that are parturient (springers) or postparturient are test-eligible regardless of age.

### Test-Negative Cattle

Cattle are classified as brucellosis negative:

- 4a) when their blood serums have been subjected to official serologic tests and the test results fail to disclose evidence of *Brucella* infection, and
- (b) if blood, milk or tissues are subjected to bacteriologic methods for cultivating field strain brucella and none are recovered. In short, for an animal to be classified as negative, all procedures that are performed must fail to disclose evidence of brucellosis.

### Titer

A standard or degree of concentration of brucellosis antibodies based on a scale of one through nine. An animal's titer may indicate whether or not it has been exposed to brucellosis.

### Undulant fever

An acute brucellosis infection in humans. The symptoms consist of recurrent fever, excessive sweating, pain in the joints, fatigue, and depression. While there is no cure for the disease, it is possible to treat the symptoms with antibiotics.



## EXECUTIVE SUMMARY

### CHAPTER II

#### BRUCELLOSIS PROGRAM ADMINISTRATION AND FUNDING

Commonly referred to as “Bang’s Disease”, bovine brucellosis constitutes a major threat to the beef and dairy industries. The United States Department of Agriculture (USDA) estimates that \$30 million is lost annually to the disease. Infected cattle may become infertile or abort their calves. Also, milk production is diminished in cows afflicted with the disease.

In the mid 1950s, the federal government formed a partnership with the states in order to reduce brucellosis infection in U.S. cattle herds. The *Uniform Methods and Rules (UMR) for Brucellosis Eradication* outlines the minimum standards of the Cooperative State-Federal Brucellosis Eradication Program. While states are free to establish more stringent guidelines, all states must comply with the minimal requirements set forth in the UMR. In Kentucky, 36 full-time USDA employees work primarily on brucellosis eradication. Much of the USDA’s work in the Commonwealth parallels that of state personnel.

The Kentucky State Board of Agriculture plays a crucial role in the development of policies to eradicate brucellosis in the state. The State Veterinarian, the chief executive agent of the Board, supervises and directs the action of the 102 people employed by the Division of Animal Health. The Division administers four programs, but the brucellosis eradication program occupies approximately 90% of staff time.

Over the years the federal government has spent a considerable amount of money in Kentucky in an effort to wipe out brucellosis. USDA funding data indicate that the federal government has furnished Kentucky with over \$37 million from FFY 1961 to the present. Only seven states received more federal aid than Kentucky from FFY 1961 to FFY 1983 (comparative data are not available for the past 5 years.)

During FY 1987 and FY 1988, the state spent a total of \$3.7 million and \$3.9 million, respectively, on brucellosis-related expenditures. With the curtailment of federal monies to eradicate brucellosis, Kentucky will be faced with some difficult funding decisions.

### CHAPTER III

#### PROGRESS IN THE ERADICATE BRUCELLOSIS

Kentucky has lagged behind most states in its efforts to eradicate and control brucellosis. This slow response to the problem could be seen in the federal government’s past rating of Kentucky’s brucellosis program. Until recently, Kentucky had been one of only six states assigned a “B” rating by the USDA. However, on June 8, 1989, the federal government classified Kentucky as an “A” rated state.

The state has fought an up and down hill battle against brucellosis for several decades. In 1960, Kentucky had 2,163 herds infected with brucellosis. The disease had abated

considerably by 1971 when 302 infected herds were found in the state. However, the incidence of the disease began to rise steadily until it peaked again in 1980 with a total of 955 infected herds. Since 1980, there has been a fairly steady linear reduction in the number of infected herds.

Kentucky's lack of progress in fighting brucellosis between 1976 and 1980 may, in part, be attributed to its failure to implement federal regulations regarding first-point testing in 1976. After a court injunction delayed its implementation for two years, Kentucky's first-point testing program was eventually implemented in 1978. Two years after the initiation of first-point testing, the incidence of brucellosis began to drop at a steady rate. The declining numbers of reactors detected through first-point testing—coupled with the relatively large number of animals tested—indicate that the disease clearly is waning in Kentucky.

The effects of mandatory calfhood vaccination and mandatory depopulation are unclear. There are no dramatic drops in the prevalence of brucellosis following the onset of these programs, and the overlapping periods of administration make it difficult to trace the effects to any particular program. However, experts in the eradication of brucellosis endorse the effectiveness of the mandatory depopulation program.

During the last two years the decline in the disease can also be attributed to the USDA task force on brucellosis. The task force was an intensive surveillance effort by state and federal employees to detect and eradicate the disease in an area experiencing a high rate of brucellosis infection. The task force began its work in June, 1987 and operated until February, 1988.

## **CHAPTER IV**

### **ASSESSMENT OF CURRENT ERADICATION EFFORT**

This chapter outlines the methods and policies used by the Kentucky Department of Agriculture (DOA). Its content is divided into three categories: detection and control, eradication, and prevention of brucellosis. To assess the adequacy of these methods and policies, Program Review and Investigations staff interviewed individuals who have direct involvement in the eradication of brucellosis, including: Kentucky's DOA staff, USDA officials, farmers, cattle dealers, stockyards representatives and slaughterhouse employees.

#### **Detecting and Controlling the Spread of Brucellosis**

Kentucky's methods of detecting and eliminating brucellosis basically parallel the policies mandated by the Cooperative State-Federal Brucellosis Eradication Program. The most widely used procedures for detecting brucellosis involve the testing of milk and blood samples. Two state programs monitor samples of milk for the disease. Blood samples are routinely taken from cattle in several situations.

The most common testing situation involves cattle passing through "the first point of concentration" (i.e., livestock markets, stockyards). The State Veterinarian stressed the importance of "first-point testing"—now and in the future—for ridding the state of

brucellosis. There was a consensus among the interviewees that enforcement and surveillance surrounding first-point testing have improved in the last few years. Nevertheless, several problems were recognized by the different types of interviewees.

Stockyard representatives interviewed felt that the emphasis on first-point testing at the stockyards puts a burden on them which should more appropriately be placed on the cattle producers. For this reason, first-point testing at the stockyards has met with legal challenges twice since its establishment.

Any time cattle are sold outside of the stockyards problems may occur. In some cases, animals sold in parking lots and other locales manage to avoid first point testing altogether. Another problem involves the “screening” or diagnostic testing of animals at the owner’s request prior to a sale.

The testing of milk samples is another means of detecting brucellosis in dairy herds. Two state programs monitor samples of milk for brucellosis. There is some debate about the reliability of the Brucellosis Ring Test (BRT). A couple of interviewees mentioned instances of the test’s failure to detect reactors in a dairy herd. Two others said that the test was plagued by false positives. However, most of the interviewees thought that the BRT is a worthwhile test.

### **Eradication and Control**

Animals testing positive for brucellosis are classified as “reactors,” branded with a “B,” and identified by a specific type of eartag. The animals are then sold for slaughter, usually at a reduced price, and the herd of origin is placed under quarantine and tested.

The mandatory depopulation procedures, outlined in 302 KAR 20:058, empower the State Board of Agriculture or its authorized agents to order the slaughter of a herd when an animal is found to be infected with brucellosis. Currently, Kentucky is the only state that has implemented a mandatory depopulation program for all herds in which infected animals have been detected.

Most interviewees felt mandatory depopulation is essential to achieving “A” status. Most agreed that mandatory depopulation is effective, if everyone is treated equally. However, the adequacy of the indemnity program is a major concern. The federal government subsidies for depopulation have been discontinued, and state indemnities do not cover the total costs experienced by the farmer. Consequently, some farmers may resist mandatory depopulation.

An alternative to mandatory depopulation involves the quarantine and adult vaccination of herds. This procedure may be utilized to salvage an infected herd when the state veterinarian determines that a herd meets certain specifications (i.e., calfhood vaccinated herd with less than 20% infection). Few interviewees actually liked this approach; they simply recognized it as a means of last resort in isolated circumstances. Adult vaccination can be problematic because vaccinated animals often produce false-positive test results.

Standard epidemiological techniques are used to stop the spread of the disease. Brucellosis is a contagious disease which can easily spread from farm to farm. When a farm becomes infected with the disease, some experts estimate that as many as 20% of the surrounding farms will also become infected. The standard procedure for containing the disease is to test all animals within two farms of the original infected herd.

Farmers and inspectors have sometimes resisted epidemiological policies. Interviewees reported that some farmers resist the "two farms out" testing, as well as area testing. Farmers opposed to these procedures mention the inconvenience, the invasion of privacy, the costs, and the potential damage to livestock. One USDA veterinarian claimed that state inspectors were sometimes not as thorough in their epidemiological investigations as they should be.

Knowing if a quarantined herd is now test-negative and free of brucellosis is critical to the surveillance effort. According to a USDA veterinarian and the State Veterinarian, there have been problems with the computer system used by DOA to track quarantined herds. In an effort to monitor quarantined herds more closely, the State Veterinarian is now trying to procure a new system and obtain a new software package. Improved computer capacity could serve as a useful management tool in the Division of Animal Health.

### **Prevention**

As brucellosis begins to decline in prevalence, new strategies for dealing with the disease will need to be adopted. In all likelihood, the emphasis on eradication will shift to more preventive measures. The first efforts to prevent the transmission of brucellosis involved the use of calfhood vaccinations. In addition, disease prevention has been achieved through the certification of herds, the licensing of livestock dealers, road surveillance, and the education of cattle producers.

Changes in the policies regarding vaccination may need to be made. The relatively large number of false positives produced by calfhood vaccinations will be unacceptable when the disease is less prevalent in the state. The state veterinarian agrees with the proposed USDA Technical Plan that calfhood vaccination will not be cost-beneficial when states attain "Free" status.

Record keeping by dealers is essential for tracing diseased animals to herds of origin for further detection of brucellosis. In the opinion of several veterinarians, the state should be tougher on traders and dealers. One veterinarian explained that the risk of transmitting the disease is great because a dealer, who purchases cattle from many herds within and outside the state, may expose multiple herds and farms to the disease in a very short time period.

Several veterinarians claim that the Kentucky DOA does not regularly monitor dealers' records for accuracy and completeness. The \$25 penalty for a first time violation does not provide an adequate incentive for dealers to observe good record keeping practices. Presently, no dealers have been cited with violations of the dealers' law. The \$10 fee is

insufficient to provide adequate revenue to implement the monitoring of records. These findings lead to the following recommendations.

**RECOMMENDATION 1: INCREASE DEALERS' LAW FEES AND FINES**

**The Kentucky General Assembly should amend KRS Chapter 257 to increase the dealers' license fee, based on the Kentucky Department of Agriculture's projection of the cost of supplying logbooks for dealers to keep records, and increase the penalty of \$25 for first-time offenders to \$100, similar to that of other first-time offenses in KRS 257.990.**

State agriculture officials are committed to expanding road surveillance in order to monitor illegally transported cattle, particularly those from out of state. Thus far, the Department's efforts to monitor illegally transported cattle have not received a great deal of emphasis. According to a memo from a Division of Animal Health official, only two violations of import regulations were brought to trial in 1988. Recently, the road surveillance program appears to have been intensified. Existing personnel and facilities of the Transportation Cabinet and the Department of State Police could be utilized to increase road surveillance efforts.

**RECOMMENDATION 2: DEVELOP ROAD SURVEILLANCE FEASIBILITY PLAN**

**As part of the strategic plan required in Recommendation #3, the Kentucky Department of Agriculture should, with the assistance of the Transportation Cabinet and the Department of State Police, develop a cooperative road surveillance program to enforce the Department of Agriculture's statutes and regulations.**

**CHAPTER V**

**EFFORTS REQUIRED TO BECOME BRUCELLOSIS-FREE**

In the upcoming months state agriculture officials will need to make a number of important decisions about the future course of the program. Currently, the Kentucky DOA does not have a formal report or plan detailing the strategy which will be used to completely rid the state of brucellosis. To meet the challenge of full eradication, Kentucky might consider developing a formal strategic plan. A strategic plan could provide useful guidance in three areas: the accurate assessment of future funding needs; the shifting of duties and responsibilities for personnel; and the development and implementation of new policies and procedures as the disease declines in prevalence.

**RECOMMENDATION 3: DEVELOP A STRATEGIC PLAN**

**The Department of Agriculture should develop a strategic plan to address the future needs of the brucellosis program. The strategic plan should assess:**

- future funding needs;
- the shifting of duties and responsibilities for personnel; and

- the implementation of new policies and procedures as the disease declines in prevalence.

**The Department should present its strategic plan to the Interim Committee on Agriculture and Natural Resources and the Interim Committee on Appropriations and Revenue before the 1990 Regular Session of the General Assembly and should biennially update the plan thereafter.**

Program Review staff identified several management issues which may delay the state's eradication efforts. The Kentucky DOA utilizes detailed policies and methods for the control and eradication of brucellosis. These policies should be clearly and concisely outlined in the administrative regulations, so that all who are affected by them can understand their obligations. The agency operates under administrative regulations in many aspects of its program. However, several policy areas are not addressed in the regulations.

#### **RECOMMENDATION 4: REASSESS REGULATIONS**

**The Kentucky Department of Agriculture should amend 302 KAR, Chapter 20 to:**

- Delineate clear and uniform agency policies in all areas of the brucellosis program;
- Prescribe details the dealers' law;
- Outline requirements which prohibit state-appointed veterinarians owning stockyards where they take blood samples; and
- Update organizational titles.

**Another management issue which may warrant attention is the DOA's lack of either a formal policy manual or a training program. A USDA official commented that the field inspectors needed training specifically related to the regulations and policies. Similarly, a private veterinarian said special training was needed for handling stockyards activities because the lack of written policies and procedures result in different practices employed at each stockyard. The need to formalize training may be more important because some perceive that consistent enforcement is lacking.**

#### **RECOMMENDATION 5: DEVELOP A POLICY MANUAL AND TRAINING PROGRAM**

**The Department of Agriculture should publish and update a brucellosis policy manual and develop a training program which clearly reflects regulatory policies and implementation practices for field supervisors and inspectors. These manuals should be provided to and maintained by all staff, and compliance should be mandatory.**

The Kentucky brucellosis eradication program has been plagued with enforcement problems in the past. Several of the individuals in the 1986 USDA task force review team referred to the political influences which had affected the state's progress in this area.

Available records indicate that prosecution of violators has been uncommon. Prior to 1988, the Kentucky DOA has no records of any violations actually being settled through the state's legal process. Since Jan. 1, 1988, the agency has reported eleven warnings and seven court cases.

**RECOMMENDATION 6: ENFORCE REGULATIONS AND KRS PENALTIES**

**The Kentucky Department of Agriculture should more stringently enforce its existing program statutes and regulations, cite violators for non-compliance and suspend or revoke livestock dealers' licenses for repeat offenses in accordance with penalties outlined in KRS 257.530 and KRS 257.990.**

Finally, program management lacks several routine accountability mechanisms. Information requested of the Kentucky Division of Animal Health was sometimes inconsistent and incomplete. Definitive information was difficult to obtain in the following areas: staffing patterns, employees' use of time, violations and enforcement, and historical fiscal data. In addition, agency personnel compiled such data by hand. The DOA is in the process of purchasing a centralized data management system. The system should be able to track all pertinent data and generate program reports. Without current and accessible data, effective strategic planning and evaluation is difficult.

**RECOMMENDATION 7: IMPROVE MANAGEMENT AND INFORMATION SYSTEM**

**The Kentucky Department of Agriculture should improve its management and information system, utilizing computerization whenever possible, to provide more comprehensive and timely management reports. Access to management information should be available in both programmatic and administrative activities. These activities should include:**

- Appropriation and expenditure records specific to brucellosis programs to assist in cost/benefit analyses of program components;
- Employee time, specific activities and travel;
- Staffing patterns and assessment of geographic deployment to facilitate program operations;
- Number, owner, location and progress of infected herds;
- Quarantine of cattle on farms or feedlots;
- Notification of farmers relative to required tests and testing dates;
- Releases for cattle to be sold subsequently at a stockyard;
- Violations of regulations, number of offenses by individuals, warnings or penalties issued, etc.; and
- Listings of all licensed dealers and their records of compliance.

**An annual report summarizing the program data on the state's progress in the eradication and prevention of brucellosis should be presented to the Legislative Research Commission.**



# KENTUCKY'S BRUCELLOSIS ERADICATION PROGRAM STUDY

## CHAPTER I

### INTRODUCTION

At its February, 1989 meeting, the Program Review and Investigations Committee approved a study of the brucellosis eradication and control efforts of the Kentucky Department of Agriculture (DOA).

The request was motivated by the threat to the cattle industry posed by the disease and the belief that federal funding for brucellosis will soon be eliminated or drastically curtailed. The study request also reflected a concern about the use of state General Fund money to fund the program.

Brucellosis is an infectious disease which afflicts both animals and humans. Commonly referred to as "Bang's Disease", bovine brucellosis constitutes a major threat to the beef and dairy industries. The United States Department of Agriculture (USDA) estimates that \$30 million dollars is lost annually to the disease. Infected cattle may become infertile or abort their calves. Milk production is also diminished in cows afflicted with the disease. Brucellosis is most commonly transmitted when cattle nuzzle or lick infected animals, aborted fetuses or placentas. The disease can also be contracted through exposure to contaminated feed or bedding.

Humans may contract brucellosis from handling infected animals or from consuming unpasteurized milk. "Undulant fever," as it is called in humans, is marked by recurrent fever, excessive sweating, pain in the joints, fatigue, and depression. While there is no cure for the disease, it is possible to treat the symptoms with antibiotics. Today, the people most likely to contract the disease are farmers, veterinarians, and those employed in slaughterhouses and stockyards.

Failure to control the spread of brucellosis carries severe consequences for the \$1.6 billion cattle industry in Kentucky. According to a May 1, 1988 *Courier-Journal* article, the disease has already resulted in annual losses of at least \$1 million. In 1985, the federal government threatened to impose a quarantine on cattle in states, such as Kentucky, which did not control the disease to an acceptable level by October 1990. Kentucky would suffer considerable financial hardship from this course of action, as cattle could not be exported to other states. In recent years, Kentucky has responded by accelerating its efforts to eradicate the disease. It is unlikely, therefore, that the federal government will impose these sanctions upon the Commonwealth.

With the curtailment of federal monies to eradicate brucellosis, Kentucky will be faced with some difficult funding decisions. Kentucky must demonstrate its ability not only to eradicate the disease but also to prevent future infection. In a proposed version of its technical plan, the United States Department of Agriculture notes that:

With long-established animal diseases such as brucellosis, the last vestiges of infection are the most difficult and costly to eradicate. A concerted effort is required to locate unobtrusive pockets of infection and provide assurances to stakeholders that full eradication is preferable to an approach that only “controls” the disease at a low incidence level.

Important decisions will involve shifting the focus of future brucellosis policies and strategies.

With these issues in mind, the approved study proposal addressed the following points:

- the progress made in disease eradication;
- the major administrative policies for control, eradication and prevention;
- the adequacy of methods used in the program; and
- the funding levels for the program.

The methodology used in this study included:

- a review of federal policies and state statutes, regulations and policies;
- a review of federal and state reports related to program operations;
- a review of agency budgetary and personnel reports;
- a review of articles describing and analyzing the brucellosis problem;
- interviews with program officials and industry representatives experienced with the program, specifically:
  - ten Kentucky Department of Agriculture administrative officials,
  - four Kentucky Department of Agriculture field employees,
  - one Kentucky Cabinet for Human Resources, Division of Milk Control manager,
  - three private veterinarians,
  - three livestock dealers;
  - two stockyards representatives;
  - seven United States Department of Agriculture officials;
  - three farmers (and four additional farmers represented in other capacities as listed above);
  - four officials and researchers from other areas of the country;

- ten other states' department of agriculture officials.

Chapter II sets forth the administrative structure of the Cooperative State-Federal Brucellosis Eradication Program and discusses the funding and staffing pattern of the program. Chapter III documents the progress made in controlling the disease since FY 1970 and notes several problems that may have delayed the eradication effort. Chapter IV provides background on the disease, details the major policies and methods of the program, and discusses problematic methods, policies and practices mentioned by interviewees during the review process. Finally, Chapter V notes problems in the administration of the brucellosis eradication program and explores the need for strategic planning and improved management practices.



## CHAPTER II

### BRUCELLOSIS PROGRAM ADMINISTRATION AND FUNDING

This chapter describes the administrative structure of the brucellosis program. It also discusses the staffing pattern and funding of the brucellosis program in Kentucky. Information is presented on the unique partnership by federal and state governments to eliminate brucellosis. The roles and responsibilities of the United States Department of Agriculture (USDA) and the Kentucky Department of Agriculture (DOA) are outlined. The chapter concludes with an examination of state and federal funding for brucellosis eradication.

#### **The State-Federal Eradication Program: Roles and Responsibilities**

The United States Department of Agriculture has spearheaded efforts to eliminate brucellosis for over 50 years. In the mid-1950s, the federal government formed a partnership with the states in order to reduce brucellosis infection in U.S. cattle herds.

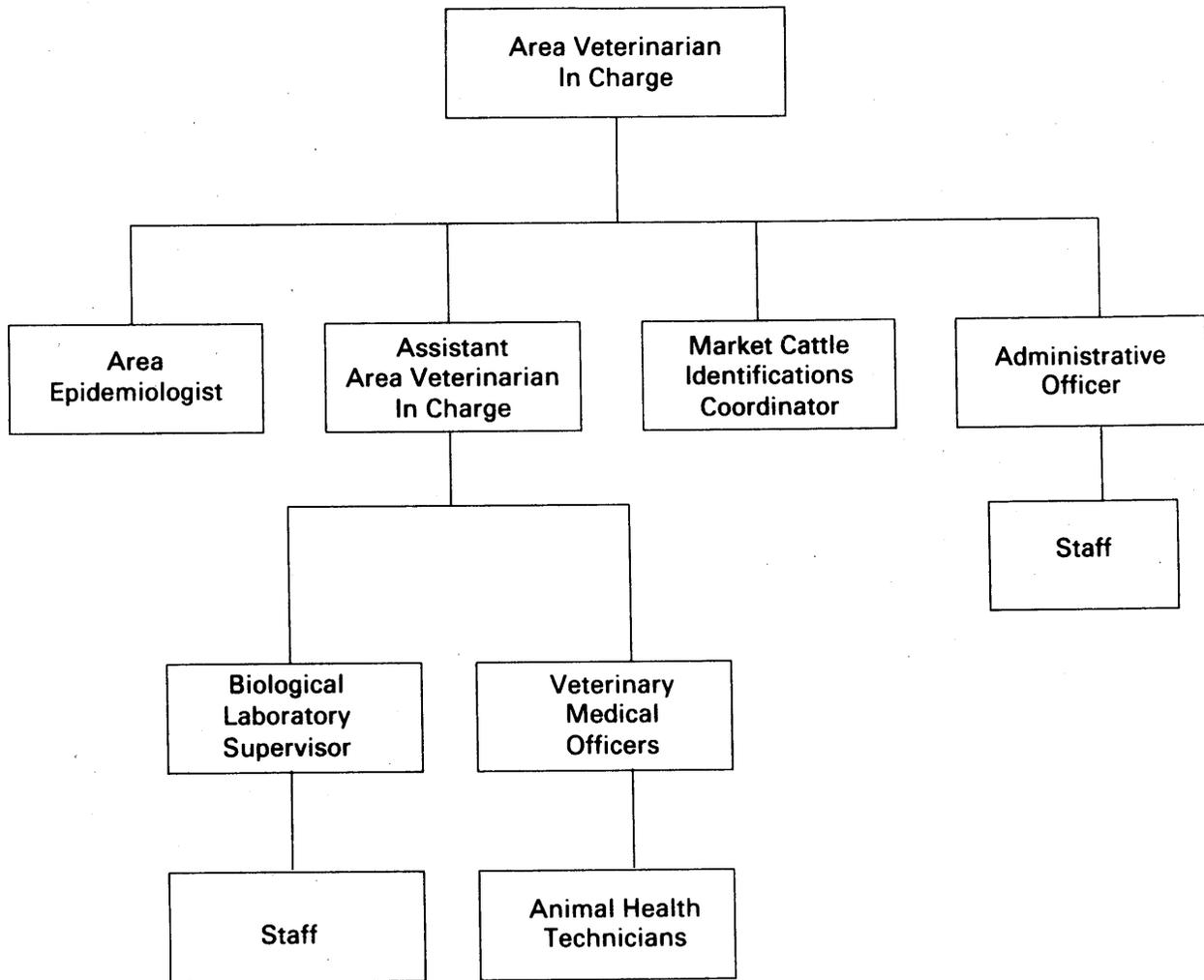
Title 9 of the Code of Federal Regulations details federal policies related to this program. The USDA compiles and updates a Uniform Methods and Rules (UMR) for Brucellosis Eradication which outlines for states the minimum standards of the Cooperative State-Federal Brucellosis Eradication Program. This manual describes the minimum standards for detecting, controlling, and ultimately eradicating brucellosis. The UMR also delineates the minimum requirements for intrastate and interstate movement of cattle. While states are free to establish more stringent guidelines, all states must comply with the minimal requirements set forth in the UMR.

#### **USDA Work in Kentucky Parallels That of State Personnel**

In Kentucky, 36 full-time USDA employees work primarily on brucellosis eradication. Federal eradication efforts include training programs for state employees, epidemiological investigations, inspection and testing responsibilities, and laboratory work. The USDA and state field inspectors perform essentially the same work: monitoring stockyards, conducting tests on animals, and enforcing quarantines. USDA veterinarians are involved primarily in epidemiological investigations which attempt to trace the source of brucellosis infections. Figure 2.1 is an organizational chart of the USDA program in Kentucky.

FIGURE 2.1

**United States Department of Agriculture  
Organizational Structure for Kentucky  
Brucellosis Program**



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Source: United States Department of Agriculture

### **The State Board of Agriculture Plays an Important Policy Role**

KRS Chapter 257 empowers the Kentucky State Board of Agriculture to develop policies which will eradicate brucellosis. Pursuant to KRS 257.020, the State Board of Agriculture shall:

. . . .(2) Adopt and enforce such measures as it deems necessary to improve and protect the livestock industry;

(3) Prevent, control and eradicate any communicable disease of livestock . . . .

KRS 257.030(4) authorizes the Board to adopt, issue, and enforce regulations for the proper administration and enforcement of livestock disease control policies. As agency head of the Department of Agriculture, the Commissioner serves as ex-officio Chairman of the Board. KRS 257.230 requires that the State Veterinarian (who is also the chief executive agent of the Board):

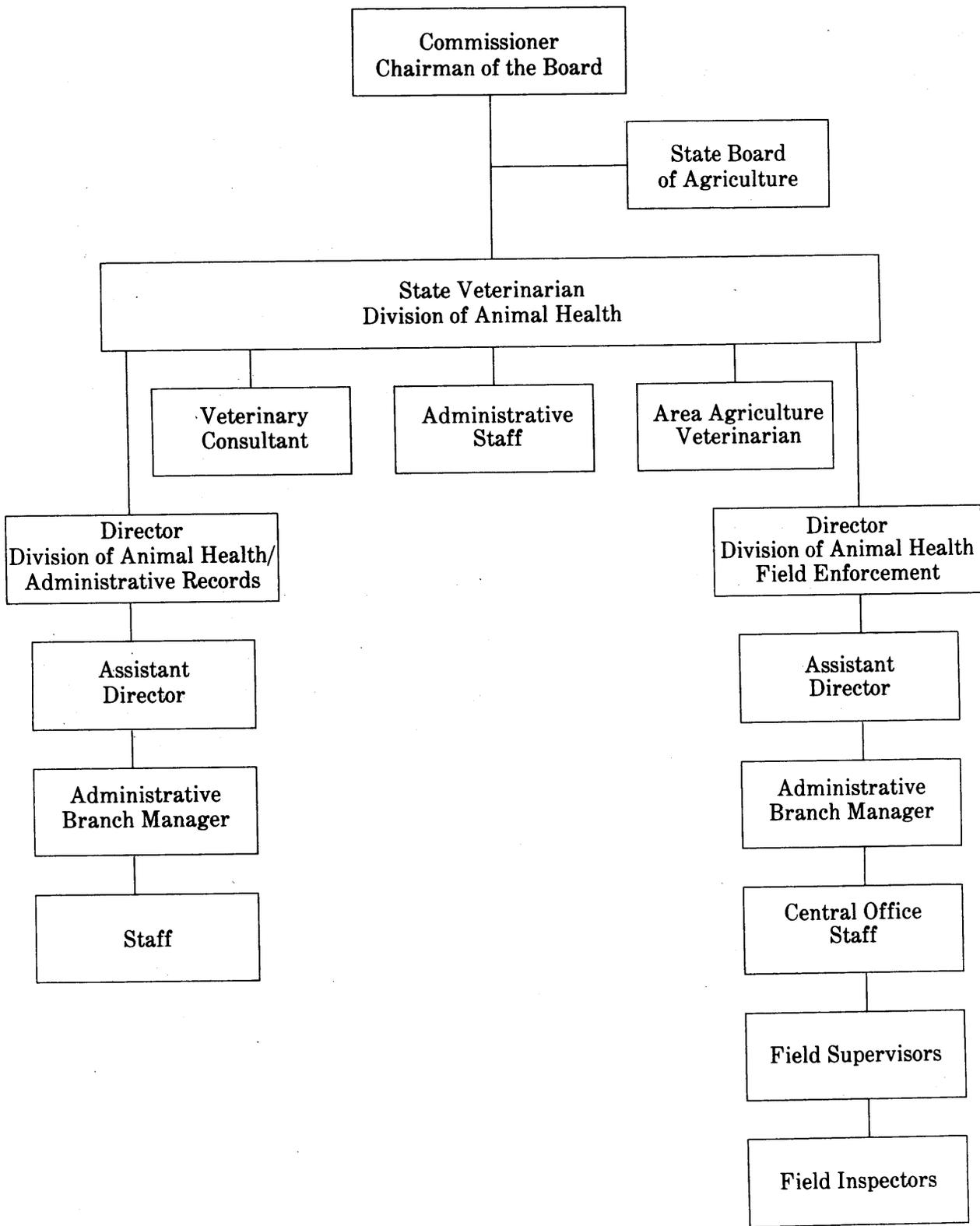
shall execute and enforce the regulations of the board and, under the direction of the board, shall supervise and control the action of all deputies, inspectors, agents, and specialists employed by the board.

The State Veterinarian administers the activities of the Division of Animal Health. The Division administers four programs: Brucellosis Eradication and Control, Infectious Diseases, Equine Communicable Diseases, and Regulatory Activities. The mission of the Division is to protect the livestock industry by controlling and eradicating infectious diseases.

Field inspectors in the Brucellosis Eradication program are stationed at stockyards, where they conduct blood tests, identify animals, and inspect sanitary condition. Field personnel also issue quarantines, perform on-the-farm testing of animals, and supervise the collection of milk samples. State veterinarians provide epidemiological services, as do the federal veterinary medical officers. An abbreviated organizational chart of the Division of Animal Health is presented in Figure 2.2.

**FIGURE 2.2**

**Kentucky Department of Agriculture  
Organizational Structure for the  
Brucellosis Program**



## Division of Animal Health Staffing Pattern

Currently, the Division of Animal Health employs 102 people. Table 2.1 shows the change in staffing over the last three years. The total number of employees has increased 24% from 82 employees in 1987 to 102 in 1989. As of July 25, 1989, the number of agriculture inspectors is three fewer than at the beginning of the year. The State Veterinarian also stated that increased eradication efforts of the current administration have increased field personnel activities by 20%.

Since January 1, 1987, central office staff has increased from 22 to 35 employees, showing a 59% increase. On the other hand, field enforcement staff has increased from 60 to 67 employees, showing a 12% increase. In its reorganization of the agency, the current administration increased the number of directors and assistant directors from two to four, secretaries and clerks from eleven to thirteen. Five data process employees were transferred into the Division of Animal Health from another division. A principal assistant, a veterinary consultant, an administrative assistant and a coop intern were added to the administrative staff as well.

TABLE 2.1

Kentucky Department of Agriculture  
Division of Animal Health Employees  
1987-1989

EMPLOYEES	1/1/87	1/1/88	1/1/89	7/25/89
STATE VETERINARIAN	1	1	1	1
DIRECTOR	1	2	2	2
PRINCIPAL ASSISTANT	0	0	1	1
ASSISTANT DIRECTOR	1	1	2	2
BRANCH MANAGER	2	2	1	2
PROGRAM COORDINATOR	4	4	5	4
AREA VETERINARIAN	1	1	1	1
AGRICULTURE MARKETING SPECIALIST	0	1	0	0
AGRICULTURE INSPECTOR SUPERVISOR	10	10	12	13
AGRICULTURE INSPECTOR	50	57	57	54
ADMINISTRATIVE ASSISTANT	0	1	1	1
SECRETARY/CLERK	11	12	13	13
COOP INTERN	0	0	1	1
STORES WORKER PRINCIPAL	1	1	1	1
DATA ENTRY OPERATOR	0	0	0	5
VETERINARY CONSULTANT (Personal Service Contract)	0	0	1	1
TOTAL	82	93	99	102
<b>EMPLOYEE SUMMARY</b>				
CENTRAL OFFICE	22	26	30	35
FIELD ENFORCEMENT	60	67	69	67
TOTAL	82	93	99	102

Source: Kentucky Department of Agriculture, Division of Animal Health.

Table 2.2 lists the approximate percentage of time the Division of Animal Health employees reportedly dedicate to the brucellosis program. The data, based on time sheets kept by employees, indicate that the brucellosis program constitutes almost all the work done within the Division. Of the six staff in the Office of the State Veterinarian: the state veterinarian, the area veterinarian and the veterinary consultant devote an average of 70% of their time to brucellosis work; two employees spend 100% of their time on brucellosis; and one employee spends no time on brucellosis work currently, but is assigned to the Office of the Commissioner of Agriculture.

There are 21 employees working in the Division of Administrative Services. Twenty of these employees devote 95% of their time to brucellosis programs, and one works solely with other disease programs.

Of the seven administrative staff members in the Division of Field Enforcement: two employees devote 100% of their time to brucellosis; the remaining three spend an average of 77% of their time on brucellosis work; and two spend all of their time on other disease programs. The agriculture inspectors and agriculture inspection supervisors, who perform the field enforcement activities for the brucellosis eradication program, spend 94% of their time on brucellosis and 6% of their time on other disease programs.

TABLE 2.2

Kentucky Department of Agriculture  
 Division of Animal Health  
 Percent of Time on Brucellosis  
 FFY 1988-89

Sub Agency	Employees	Approximate Percent of Time
State Veterinarian	3 Veterinarians	70%
	2 Employees	100%
	1 Employee	0%*
Administrative Records	20 Employees	95%
	1 Employee	0%**
Field Enforcement	2 Administrative Employees	100%
	3 Administrative Employees	77%
	2 Administrative Employees	0%**
	12-13 Field Supervisors	94%
	57-49 Field Inspectors	94%

Source: Kentucky Department of Agriculture, Division of Animal Health

\*Assigned to office of Commissioner of Agriculture

\*\*Duties include swine, dog and equine regulations and enforcement.

## Funding of the Brucellosis Program

The Cooperative State-Federal Brucellosis Eradication Program was initiated in 1954. In designing this partnership, the federal government set forth minimum standards for certifying and validating herds, classifying states, and detecting and eradicating brucellosis. Over the years the federal government has spent a considerable amount of money in its efforts to wipe out the disease. In addition to furnishing agricultural inspectors and veterinarians, the federal government has provided an indemnity for cattle and bison destroyed as brucellosis reactors and, in some circumstances, for herds or animals exposed to the disease.

### The USDA Has Given Kentucky Over \$37 Million Since 1961

Only seven states received more federal aid than Kentucky from Federal Fiscal Year (FFY) 1961 to FFY 1983 (comparative data are not available for the past five years.) During this 23-year period, USDA data indicate that \$53.3 million in state, industry and federal monies was spent on Kentucky's brucellosis program. Kentucky ranked fourth in the nation in the total amount of dollars spent to eradicate brucellosis during this period.

### Federal Expenditures Have Dropped \$1.2 Million Since 1986

Table 2.3 itemizes the federal brucellosis expenditures to Kentucky from FFY 1983 to FFY 1988. These data are presented by USDA categories of brucellosis funding. Definitions of these expenditure categories are:

Indemnity — fee paid to farmer for destroying brucellosis reactors;

Depopulation — fees paid to farmer for destroying whole herds exposed to reactors;

Fee Basis — fee paid for veterinary services -

- drawing blood samples in current year, and
- calfhood vaccination, etc., during previous years;

Cooperative

Agreement — paid to Kentucky DOA for State-Federal Cooperative Agreement-

- partial salaries for some field employees, and
- partial travel for some field employees, and,
- some overhead.

In FFY 1986, approximately \$1.9 million was spent on brucellosis-related programs in the state. This amount was reduced to an estimated \$1.5 million in FFY 1987 and to \$.7 million in FY 1988. Fee basis testing was eliminated by the USDA in 1988. Consequently, all testing must now be performed by state and federal personnel. Furthermore, federal funds for depopulation are no longer available. The proposed USDA five-year plan, however, discusses the possibility of continuing indemnities for herd depopulation. Interviews with USDA officials in Kentucky suggest that monies from the Field Cooperative Agreement will also be eliminated in FFY 1990. However, Kentucky should receive \$50,000 to be used for laboratory work, record keeping, and the salaries

of two clerks. For the present, the federal government will provide indemnity payments to farmers for selected reactors which go to slaughter.

TABLE 2.3

Federal Brucellosis Expenditures  
FFY 1983-1988\*

FFY	INDEMNITY PAID	DEPOP	FEE BASIS	COOP. AGREE.	TOTAL
1983	\$626,000	\$441,000	\$175,000	\$600,000	\$1,842,000
1984	505,000	143,000	115,000	600,000	1,363,000
1985	438,000	456,000	94,000	600,000	1,588,000
1986	325,000	889,000	124,000	600,000	1,938,000
1987	175,000	580,000	179,000	540,000	1,474,000
1988	92,000	223,000	150,000	236,000	701,000

Source: United States Department of Agriculture

\*Excludes USDA salaries, overhead expenses and expenses for operating a testing laboratory.

In addition to these fee expenditures the USDA has allocated funds for its own salaries, overhead expenses and for operating a biology testing laboratory. Currently, this USDA allocation is approximately \$1.5 million. This amount constitutes a 50% reduction from the \$3.1 million in FFY 1983.

**Kentucky Expended \$3.9 Million in FY 1988**

The Administrative Branch Manager for the Division of Animal Health states that records of brucellosis expenditures prior to FY 1987 are not available. Fiscal data are maintained only for the current administration. Table 2.4 lists the brucellosis expenditures provided by the Department of Agriculture for FY 1987, FY 1988, and the first quarter of FY 1989. During FY 1987, the state spent a total of \$3.7 million on brucellosis-related programs, of which \$2.8 million was General Fund money. The remainder of the state expenditure was taken from the Federal Accrual Account. During FY 1988, the state spent a total of \$3.9 million on the brucellosis program, of which \$3 million was General Fund money. The Federal Accrual Account paid for the remainder of the state's brucellosis expenditure.

The Federal Accrual Account was created by the Kentucky DOA from unexpended federal funds. State and federal audits conducted on the Federal Accrual Account have ruled that it is a legitimate funding source. On October 1, 1986, the Federal Accrual Account had a balance of \$909,731. The account was reduced to \$375,431 as of January 1, 1989. The Administrative Branch Manager for the Division of Animal Health indicated that the Department of Agriculture plans to liquidate this account by the end of the current biennial budget.

**TABLE 2.4**  
**Kentucky Department of Agriculture**  
**Brucellosis Program Expenditures**  
**FFY 1987, FFY 1988 and 1st Quarter FFY 1989**

BRUCELLOSIS EXPENDITURES						
Type	10/1/86—9/30/87		10/1/87—9/30/88		10/1/88—1/31/89	
	State*	Federal	State*	Federal	State*	Federal
Salaries/Benefits	\$1,318,628	\$193,861	\$1,429,563	\$193,098	\$502,890	\$105,990
Travel	152,928	34,893	163,587	32,178	62,634	11,695
Supplies	8,194	64,818	38,161	54,567	3,931	18,087
Operations	92,414	0	175,447	0	41,250	0
Vet Payments	89,429	276,057	344,847	211,201	0	0
Laboratory Payments	26,930	29,198	53,906	20,830	8,081	8,581
Stockyard Payments	224,212	0	206,332	0	0	0
Calfhood Vaccination Payments	776,082	0	630,566	0	222,757	0
Brucella Vaccine	92,516	0	70,000	0	49,751	0
Voluntary Depopulation	264,825	0	229,925	0	—	—
Vehicles	55,000	0	25,349	0	0	0
Mandatory Depopulation	—	—	—	—	100,140	0
<b>Total</b>	<b>\$3,101,878</b>	<b>\$598,827</b>	<b>\$3,367,683</b>	<b>\$511,874</b>	<b>\$991,434</b>	<b>\$144,353</b>

\*This includes State General Funds and a Federal Accrual Account.

Source: Kentucky Department of Agriculture

### **The Federal Government is Reducing Its Involvement over 5 years**

On October 1, 1985 the federal government implemented a five-year plan to prepare states and the cattle industry for a reduced federal role in the fight against brucellosis. The federal government's five-year plan seeks to:

- accelerate the eradication of the disease;
- target states with the greatest amount of infection;
- prepare for a reduced federal role;
- encourage whole-herd depopulation by eliminating the regular indemnity;
- phase out federal support for calfhood vaccination; and
- establish the goal of Class "A" status for all states during the transition period;

After October 1, 1990, the basic role of the United States Department of Agriculture will be in the areas of surveillance, record keeping, and compliance. The federal government's proposed funding for the national brucellosis program would be cut from approximately \$60.8 million in FY 1989 to an estimated \$55.5 million in FY 1990.

## CHAPTER III

### PROGRESS IN THE ERADICATION OF BRUCELLOSIS

Chapter III discusses the progress made by Kentucky and other states in controlling and eradicating brucellosis. Prior to June 8, 1989, the federal government gave Kentucky a lower rating ("B" status) than most states. However, efforts have steadily improved since 1980, and recently Kentucky received "A" status approval.

This chapter offers possible reasons why Kentucky has lingered behind other states in its efforts to eradicate brucellosis. Interviews suggest that Kentucky's slow progress has not been due to a lack of effective policies but primarily to inadequate enforcement of existing policies. This chapter also describes methods and practices which are thought to be responsible for the program's recent progress, including: first-point testing at the stockyards; mandatory calfhood vaccination; mandatory depopulation of diseased herds; and aggressive epidemiological searches.

#### Kentucky's Efforts Have Lagged Behind Most Other States

Kentucky's slower response to this problem can be seen in the federal government's rating of Kentucky's brucellosis status. As a guide for appropriating federal money and regulating the interstate transportation of cattle, the Animal and Plant Health Inspection Service of the United States Department of Agriculture (USDA) established a state classification system in 1982. The federal classification system assigns states in four different categories:

- Class "Free" states - cattle herds are free from infection for twelve months or longer;
- Class "A" states - the infection rate for cattle herds may not exceed .25 percent during the previous 12 months and the adjusted market cattle (MCI) reactor prevalence rate for the previous twelve-month period may not exceed .100 percent;
- Class "B: states - the infection rate for cattle herds exceeds 1.5 percent during the previous 12 months and the adjusted market cattle (MCI) reactor prevalence rate for the previous twelve-month period exceeds .3 percent; and
- Class "C" states - the infection rate for cattle herds exceeds 1.5 percent during the previous 12-months and the adjusted market cattle (MCI) reactor prevalence rate for the previous twelve months exceeds .3 percent.

Currently, most states have received either "A" or "Free" ratings by the federal government. Table 3.1 shows the rating of all states by the USDA. In November, 1988, the Commonwealth applied to the federal government for status as an "A" rated state and received its official "A" rating June 8, 1989. The change in status was denied until the Kentucky Department of Agriculture (DOA) completed some epidemiological investigations. The state applied again for a change to "A" status in February. The State Veterinarian anticipates that,

By 1991 Kentucky should be within reach of being a brucellosis free state. This will increase the marketability of Kentucky's cattle resulting in substantial economic gains for both the Kentucky farmer and state revenue.

TABLE 3.1

USDA Classification of  
States' Brucellosis Status  
June 1989

"Free"

Arizona	North Dakota
Alaska	Ohio
Connecticut	Pennsylvania
Delaware	Puerto Rico
Hawaii	Rhode Island
Maine	South Carolina
Maryland	Utah
Massachusetts	Vermont
Michigan	Virginia
Minnesota	Virgin Islands
Montana	Washington
New Hampshire	West Virginia
New Jersey	Wisconsin
New York	Wyoming
North Carolina	

"A"

Alabama	<b>Kentucky</b>
California	Missouri
Colorado	Nebraska
Georgia	Nevada
Idaho	New Mexico
Illinois	Oregon
Indiana	South Dakota
Iowa	Tennessee
Kansas	

"B"

Arkansas	Mississippi
Florida	Oklahoma
Louisiana	Texas

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Source: United States Department of Agriculture

TABLE 3.2

Chronology of Major Events  
in Brucellosis Eradication Program

Year	Change in Kentucky Program
1952	Brucellosis Ring Test (BRT) for testing milk samples employed as result of federal regulation.
1972	Dealers' law established in statutes. Road surveillance program began with supervisors sworn in.
1976	First point testing at stockyards required by federal regulation, but delayed two years by stockyard owners' filing court injunction. Dealers' law amended to require record keeping of cattle transactions.
1978	First point testing employed at Kentucky stockyards for all test-eligible animals.
1980	Voluntary depopulation with indemnity by USDA.
1982	Dealers' law amended to carry \$10.00 fee and provision for revocation or suspension of license.
1983	Kentucky assumed USDA reduced dosage vaccination standards for adult and calfhood vaccination.
1984	USDA free vaccination program dropped. Kentucky General Assembly provided \$450,000 and \$400,000 to continue vaccination program for each year of the biennium.
1985	Requirement of calfhood vaccination for change of ownership.
1986	Voluntary depopulation with indemnity by Kentucky DOA. Brucellosis Eradication Committee formed.
1988	Stockyard quarantine and retest program for animals returning to Kentucky farms. Mandatory depopulation program with indemnity paid to farmers.
1989	Kentucky attained "A" status (June).

SOURCE: United States Department of Agriculture  
Kentucky Department of Agriculture

## **Multiple Policy Changes Have Been Made To Improve Program Progress**

Kentucky's methods of detecting and eliminating brucellosis basically parallel the policies mandated by the Cooperative State-Federal Brucellosis Eradication Program. Table 3.2 is a chronology of the major policy changes and events in the state's brucellosis program since 1952.

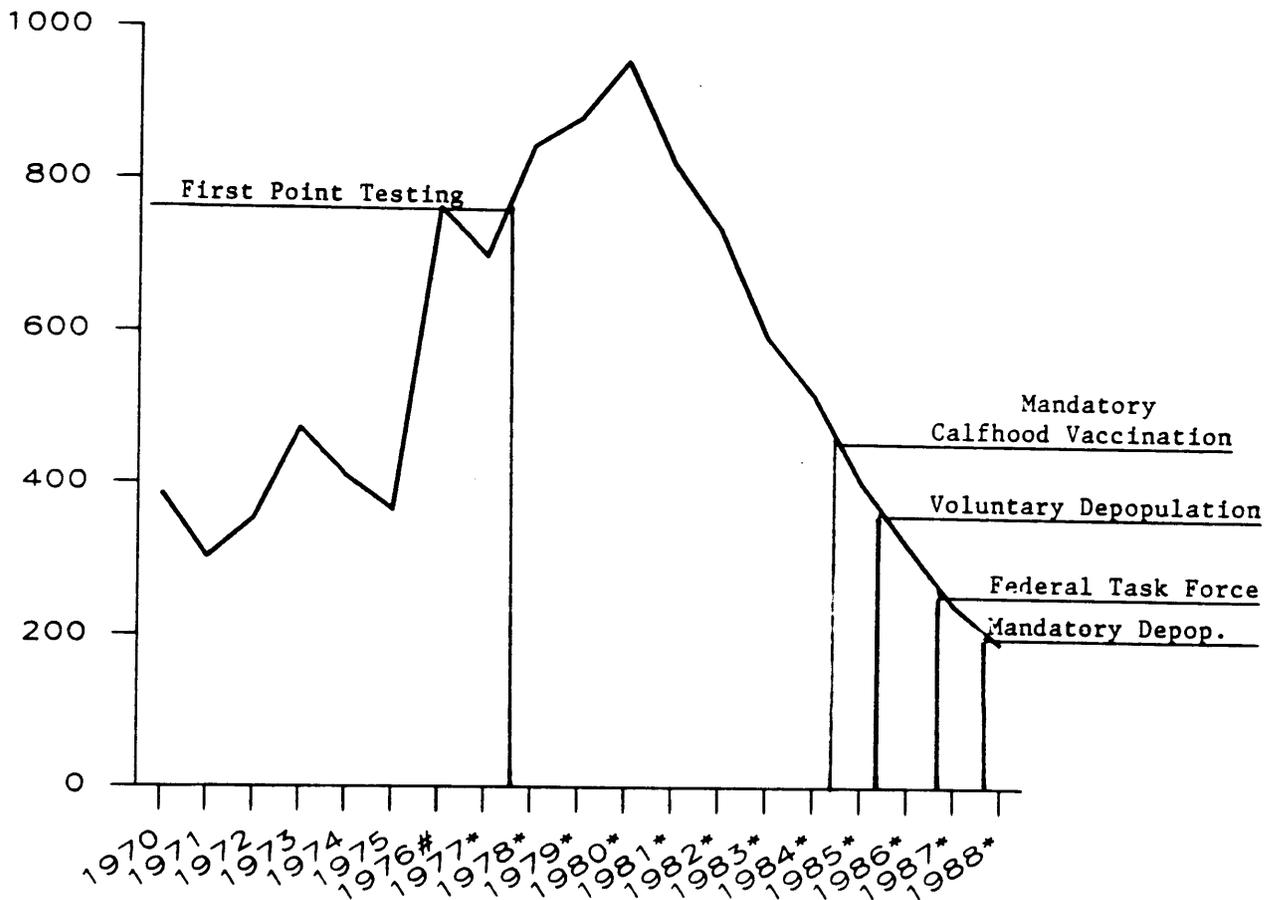
Evaluating the effectiveness of specific brucellosis policies is a difficult undertaking. Due to the presence of many uncontrolled variables, it is not possible to accurately gauge the success of a given policy by simply correlating the implementation dates of policies with subsequent declines in the prevalence of the disease. There are too many "plausible rival hypotheses" which can explain the pattern of data at hand. Nevertheless, longitudinal data on the prevalence of brucellosis can provide an opportunity to make "educated guesses" about the effectiveness of various policies.

### **The State Has Fought an Up and Down Hill Battle**

Figure 3.1 traces the rise and fall in the number of infected herds in Kentucky since 1970. Data were provided by the USDA. Figure 3.1 also depicts five of the significant policies which have been implemented to eradicate the disease. In 1960, Kentucky had 2,163 herds infected with brucellosis (not shown in Figure 3.1). The disease had abated considerably by 1971, when 302 infected herds were found in the state. However, the incidence of the disease began to rise steadily, peaking in 1980 with a total of 955 infected herds. Since 1980, there has been a fairly steady linear reduction in the number of infected herds. Figure 3.2 presents similar statistics on the prevalence of brucellosis in the United States. In contrast to Kentucky, the nationwide prevalence of brucellosis peaked in 1976 and declined at a fairly constant rate.

FIGURE 3.1

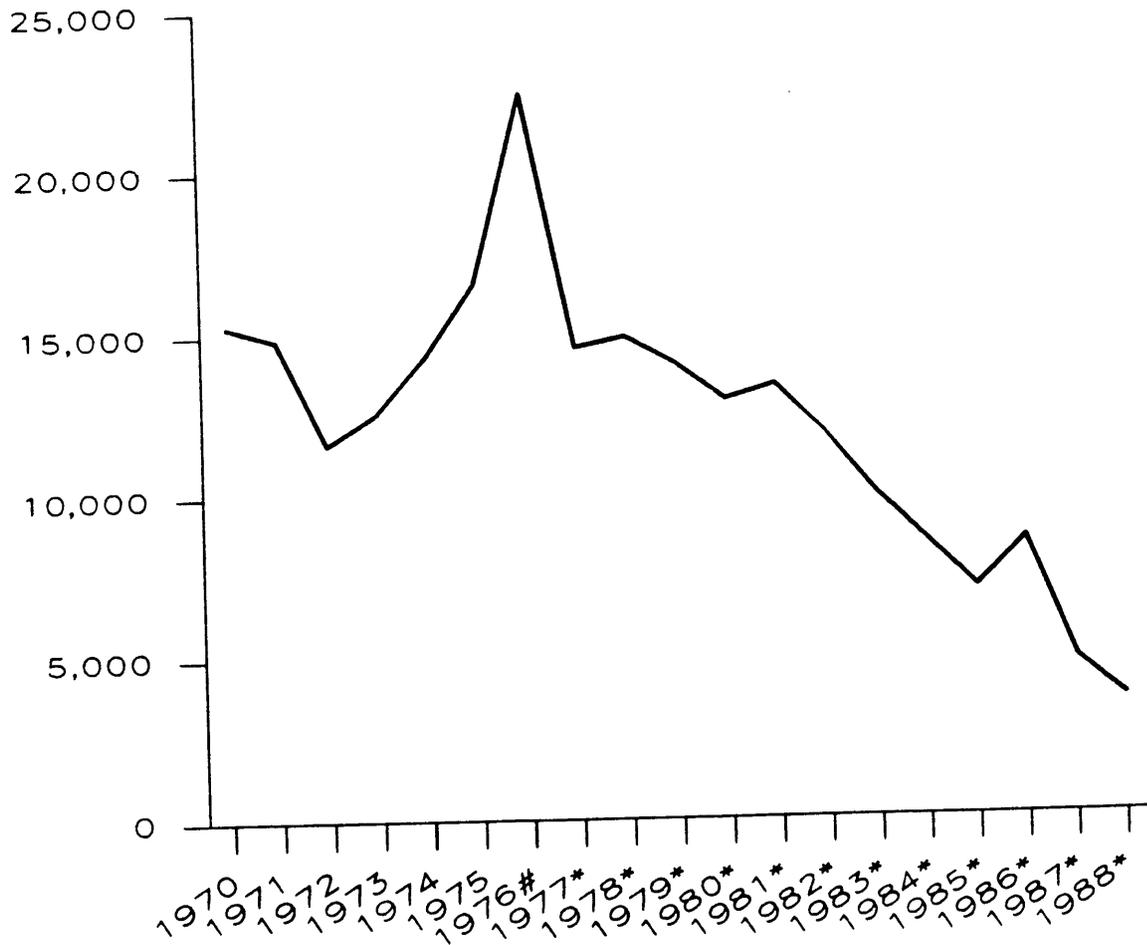
Total Number of Infected Herds  
In Kentucky  
(FY 1970 - FY 1988)



# Transition year: includes July 1 to Sept. 30 '76  
\* Fiscal year changed to Oct. 1 - Sept. 30.  
Source: USDA

FIGURE 3.2

# Total Number of Infected Herds In the United States (FY 1970 - FY 1988)



# Transition year: includes July 1 to Sept. 30 '76  
\* Fiscal year changed to Oct. 1 - Sept. 30.  
Source: USDA

### **First-point Testing Has Apparently Had a Positive Impact**

Kentucky's lack of progress in fighting brucellosis may be attributed, in part, to its failure to implement federal regulations regarding first-point testing in 1976. After a court injunction delayed its implementation for two years, Kentucky's first-point testing program was eventually implemented in 1978. Two years after the initiation of first-point testing, the prevalence of brucellosis began to drop at a steady rate. In 1981, 321,566 cattle underwent first point testing and 1,703 reactors were discovered. The number of reactors identified was .53% of all cattle tested at the stockyards. Since that time, the percentage of test positive animals has declined steadily. Only 409 cattle were identified as brucellosis reactors through the first point-testing program in 1988. This figure constitutes only .13% of all animals tested positive for the disease in that year.

The declining numbers of reactors detected through first-point testing, coupled with the relatively large number of animals tested, indicate clearly that the disease is now waning in Kentucky. The USDA Area Veterinarian In Charge commented that statistics on first-point testing provide a valid picture of the effectiveness of a state's surveillance program. A program can be considered effective when few reactors are detected, despite large numbers of animals processed through first-point testing. Since it was implemented, the first-point testing program has processed over 311,000 cattle annually. During this time the number of reactors identified has dropped steadily. In all likelihood, the first point-testing program has been effective in identifying and subsequently reducing the presence of the disease.

### **Effects of Mandatory Vaccination and Depopulation Are Unclear**

USDA officials have said that Kentucky must reduce the incidence of brucellosis to an acceptable level by October 1990 or face the possibility of a quarantine. In an effort to deal with this possibility, Kentucky DOA officials recently implemented mandatory calfhood vaccination for animals sold for breeding and mandatory depopulation for infected herds. Kentucky is currently the only state that has implemented a mandatory depopulation program for all herds in which infected animals have been detected.

It is difficult to make a specific case for the effectiveness of the mandatory vaccination program and the depopulation programs from a statistical standpoint. There are no dramatic drops in the incidence of brucellosis following the start of these programs, and the overlapping periods of administration make it difficult to trace the effects to any particular program. In the case of calfhood vaccination, the program is clearly preventative and does not lend itself to statistics, such as number of reactors identified, which give direct evidence of the eradication of the disease. However, it is quite likely that the steady decline in the incidence of the disease since 1981 can be attributed to the joint effect of each of these policies.

Experts in the eradication of brucellosis endorse the mandatory depopulation program in Kentucky. In a letter dated February 1, 1989, the USDA Area Veterinarian in Charge stated that, "Herd depopulation has played a very important role. By removing entire herds, the foci of infection is removed, and regulatory personnel are available to pursue other duties." In a statement on the missions and goals of the state's programs, the State Veterinarian asserted that:

Mandatory depopulation will continue through this biennial period. It has proven to be successful in eliminating and preventing the spread of brucellosis . . . . Mandatory depopulation and indemnity is working and must be continued.

### **USDA Task Force Has Had an Impact**

During the last two years the decline in the disease can also be attributed to the USDA task force on brucellosis. The task force was an intensive surveillance effort by state and federal employees to detect and eradicate the disease in areas experiencing a high rate of brucellosis infection. The task force began its work in June, 1987 and operated until February, 1988. According to the Area Veterinarian in Charge for the federal government, the task force at times was staffed by approximately 27 livestock inspectors and two regulatory veterinarians, as well as several practicing veterinarians. The task force focused its efforts on eleven counties and tested 2,422 herds with 53,140 cattle. The group found 46 infected herds and identified 441 brucellosis reactors. Ultimately, these herds were depopulated and thus were prevented from spreading the disease to other cattle in the area.

### **Critics Suggest Weak Enforcement Has Hampered Program**

In a May 1, 1988 article, a reporter for the *Courier-Journal* suggested several factors responsible for Kentucky's slow progress in eliminating brucellosis:

- inadequate enforcement of state regulations;
- relatively minor penalties for violating animal health laws;
- lack of a comprehensive system for documenting violations and convictions;
- insufficient staff for monitoring illegal movement of cattle;
- easy transmission of the disease, due to many small farms with adjacent borders;
- lack of education on the part of Kentucky farmers, who often raise cattle as a sideline;
- resistance on the part of stockyards to more stringent testing and documentation procedures; and,
- inadequate documentation on where animals were raised before they are sold.

During this study, twelve interviewees responded to a question about the use of stiffer penalties for non-compliance. Of these, eight preferred stiffer penalties in general, while four thought they were not needed or could not be enforced. Six interviewees felt that Kentucky's statutes and regulations are as stringent as those of other states.

The State Veterinarian feels that "loose policy enforcement" and poor epidemiology have contributed to the state's slow progress in controlling brucellosis. He also feels that Kentucky DOA's practices have not conformed enough with the USDA Uniform Methods and Rules (UMR). He further noted that insufficient control of dealers has also caused

delays. These explanations for Kentucky's slow program are supported by all eight interviewees who responded to the question on enforcement of the dealers' law.

The issue of enforcement is discussed in the two subsequent chapters. Chapter IV details the implementation of the brucellosis program and enforcement issues related to particular eradication and control methods or strategies. Chapter V discusses the need for strategic planning and enforcement as a management issue needing the attention of the current administration.



## CHAPTER IV

### ASSESSMENT OF CURRENT ERADICATION EFFORT

This chapter outlines the methods and policies used by the Kentucky Department of Agriculture (DOA). Its content is divided into three categories: detection and control, eradication, and prevention of brucellosis. To assess the adequacy of these methods and policies, Program Review and Investigations staff interviewed individuals who have direct involvement with brucellosis, including: Kentucky's DOA staff, United States Department of Agriculture (USDA) officials, farmers, cattle dealers, stockyards representatives and slaughterhouse employees. These interviewees were chosen from individuals recommended by the DOA, the USDA and agriculture industry associations. The interviewees selected were intended to be representative of relevant groups of people and geographic regions of Kentucky where brucellosis has been a significant problem.

Through these interviews, Program Review and Investigations staff attempted to discover the types of problems associated with this complex agricultural program. These interviews do not necessarily provide a precise measure of the seriousness or pervasiveness of a particular problem. Rather, they offer a perspective from which program operations can be assessed.

#### Detecting and Controlling the Spread of Brucellosis

The most widely used procedures for detecting brucellosis involve the testing of milk and blood samples. Two state programs monitor samples of milk for the disease. Blood samples are routinely taken from cattle in five situations:

- when they pass through "the first point of concentration" (i.e., livestock markets, such as stockyards, and feedlots receiving cattle);
- when they are processed at slaughterhouses;
- when they are processed for interstate or intrastate movement;
- when they are being prepared for exposition at shows or fairs; and
- when diagnostic information is being sought about suspicious symptoms present in a herd.

The most common testing situation involves cattle passing through "the first point of concentration," commonly called "first-point testing." First-point testing is a viable method of detecting the spread of brucellosis. However, stockyards owners and dealers feel somewhat burdened by the Department's policies. Those interviewed could not indicate the degree to which required first-point testing was avoided, but most knew ways in which the regulations could be circumvented.

#### First-Point Testing Is the Primary Means of Detection

According to USDA and Kentucky DOA officials, conservative quarantine and testing requirements are necessitated by the variable length of the incubation period for

brucellosis. For most cattle diseases, less than 30 days elapse between exposure to the disease and the display of visible symptoms or positive test results. In the case of brucellosis, however, the incubation period ranges from ten days to more than nine months. This variability in the incubation period makes it difficult to detect brucellosis and requires long periods of testing to ensure the disease is not present.

The Uniform Methods and Rules (UMR) published by the USDA specifies the characteristics of all animals eligible for testing for the presence of brucellosis infection. First-point testing procedures mandate the testing of all cattle over 18 months of age, except for steers and spayed heifers; official calfhood vaccinates of the dairy breeds under 20 months of age; and official calfhood vaccinates of beef breeds under 24 months of age. Official calfhood vaccinated cows, which have either given birth or are visibly prepared to give birth, are test-eligible regardless of age. In Kentucky, cattle from eleven to 18 months of age must also be tested, if they are not calfhood vaccinated and are not being transported to an approved feedlot or slaughter plant.

Inspectors from the Kentucky DOA use the Brucellosis Card Test to determine whether an animal has been infected with the disease. In addition, blood samples are sent to a laboratory to confirm the reliability of the initial test results. When an animal tests negative for brucellosis, it is identified with an eartag and may be transported to another location accompanied by a release slip. Pursuant to 302 KAR 20:070, animals bound for a Kentucky farm are quarantined and retested in 60 to 120 days. The Kentucky DOA reports that approximately 6,200 animals undergo such quarantine retests each month.

Kentucky's regulations (302 KAR 20:040) require that all livestock entering the state must be tested by a licensed veterinarian on the farm or at an approved stockyard. These cattle must be accompanied by health certificates which detail the test history of the animals. Cattle coming into Kentucky from other states are placed under quarantine for a 60 to 120 day retest. Exceptions to the quarantine and retest requirements are animals from certified herds and calfhood vaccinated animals under the age of 18 months. With the same exceptions, animals moved from one farm in Kentucky to another are also subject to the quarantine and retest requirements.

### **Stockyards Have Resisted First-Point Testing**

Stockyards representatives interviewed felt that the emphasis on first-point testing at the stockyards placed an undue burden on them, one that would more appropriately be placed on the cattle producers. For this reason, first-point testing at the stockyards has met with legal challenges twice since its establishment. In both court cases the stockyards representatives sought injunctions against the state on the grounds that the required testing procedures were inconvenient, expensive, and difficult to administer. Less stringent regulations were eventually implemented through negotiations between the stockyards representatives and the Kentucky DOA.

In discussing the goals and missions of the state's brucellosis program, the State Veterinarian stressed the importance of first-point testing—now and in the future—for ridding the state of brucellosis. The consensus among the officials interviewed was that enforcement and surveillance surrounding first-point testing have improved in the last

few years. Nevertheless, several problems were recognized by the different types of interviewees.

**Stockyards representatives would prefer that testing of animals for slaughter be diverted entirely to the slaughterhouses.** Since retesting already is required at the slaughterhouse, some stockyards representatives feel that testing in the stockyard is unnecessary. However, the State Veterinarian pointed out that valuable time is lost in tracing a reactor back to a potentially infected herd when the first point of testing is the slaughterhouse. A USDA veterinarian volunteered that problems could occur at this testing point as well: cattle of similar appearance could be substituted to avoid traceback to the feedlot or herd of origin; and back tags could become lost or misplaced at the slaughterhouse.

**Three dealers expressed resentment that they are required to pay for having cattle retested if they hold the cattle for more than 48 hours.** The dealers pointed out that current regulations already require animals returning to Kentucky farms to be retested in 60 to 120 days. The State Veterinarian refuted this complaint by explaining that the state must have a record of the test made on a dealer's premises. These test records are necessary because during the holding period a healthy animal may commingle with an infected animal from another herd. In such cases, the test record could provide a valuable link in a traceback.

#### **First-Point Testing Procedures May Be Circumvented**

In general, interviewees indicated that most eligible animals are now being tested at the stockyards. According to one private veterinarian, problems can arise when diseased animals designated for feedlot or slaughter go back to Kentucky farms. At this point such animals can be sold illegally at private sales and then diverted to farms in order to avoid brucellosis program restrictions.

Potential problems can occur when cattle are sold outside of the stockyards. In some cases, animals sold from farms or in parking lots near stockyards manage to avoid first-point testing altogether. An association representative proposed the testing of every cow of breeding age as it comes off a truck, including animals sold in the market lots. Other state officials feel this would be an unenforceable regulation.

Another problem involves the "screening" or diagnostic testing of animals at the owner's request prior to a sale. In these instances, the owner may identify a reactor animal and, by using falsified papers, divert that animal to another herd so that tracing it back to an infected herd becomes impossible. This scheme was described variously by a dealer, a market representative and a veterinarian. They feel, however, that this type of screening is no longer as prevalent as it was a few years ago.

#### **Monitoring Milk Samples Is Also a Means of Detection**

Two milk programs have been established to detect brucellosis in Kentucky. In the Brucellosis Ring Test (BRT) Plant Program, the milk hauler draws a sample of milk from the bulk tank at each dairy and delivers it to the milk plant. The Division of Animal Health is responsible for collecting the samples and sending them to the laboratory for tests. Tests are conducted four times a year under this program. Under the second program,

the BRT Field Program, the county agriculture inspector for the Division of Animal Health conducts an annual visit to each dairy, draws a sample, and sends it to the same laboratory for tests.

There is some debate about the reliability of the BRT milk test, but new research for a more reliable test is underway. A USDA veterinarian and a dairy farmer mentioned instances of the test's failure to detect reactors in a dairy herd. On the other hand, a retired USDA official and a state field supervisor said that the test was plagued by "false positives" or erroneous indications of the presence of brucellosis bacteria. However, most of the interviewees thought that the BRT is a worthwhile test.

At Texas A & M University, research is underway on an improvement for the BRT sensitivity test. The new test would screen for specific infection, rather than exposure, according to the head of pathology at the university. Research on the development of a new milk test also is being conducted at both Virginia Polytechnic Institute and at the USDA Research Center in Ames, Iowa.

### **Eradication and Control**

Depopulation of diseased animals is recognized as a definitive tool to eradicate brucellosis. Federal and state indemnity payments have facilitated acceptance of the program. If these payments are discontinued or reduced, the program may receive additional legal challenge from affected farmers and dealers.

Aggressive epidemiological procedures, such as testing surrounding farms and cattle tracing, are essential control methods. Although some farmers, dealers and inspectors are resistant, veterinary officials support the necessity of these efforts. Inadequate epidemiological investigations are partially responsible for the state's failure to obtain an "A" rating sooner.

When brucellosis has been detected in an animal, procedures have been implemented for containing and eradicating the disease. Animals testing positive for brucellosis are classified as "reactors", branded with a "B", and identified by a specific type of eartag. The animals are then sold for slaughter, usually at a reduced price. The herd of origin is placed under quarantine, and every animal is tested for the disease.

#### **Kentucky Mandated Herd Depopulation to Achieve Quicker Results**

"Depopulation" refers to the slaughter of an entire herd of cattle in which brucellosis infected animals have been found. Kentucky became the only state to mandate herd depopulation on July 1, 1988. The mandatory depopulation procedures are outlined in 302 KAR 20:058. The regulations empower the State Board of Agriculture or its authorized agents to order the slaughter of a herd when an animal is found to be infected with brucellosis. The regulations allow for efforts to save a herd composed entirely of calfhood vaccinated animals, if less than 20% of the herd is infected. In these cases, quarantine and adult vaccination might be used as an alternative program to depopulation.

A farmer who receives an order to depopulate his herd has 30 days to present all of his cattle for slaughter. When state agriculture officials receive proof of slaughter,

the farmer becomes eligible for indemnity payments. Indemnity payments are an effort to compensate partially for the assumed difference between slaughterhouse prices and the animal's potential market value. The regulation governing brucellosis eradication, 302 KAR 20:058, states that:

Indemnity for destroyed animals shall be paid per KRS 257.120 (2) as availability of funds permits. Determination of payment shall be made by the State Veterinarian in accordance with 302 KAR 20:056.

The State Veterinarian reports that the Commonwealth now pays \$50 for each reactor on the farm. The federal government will also pay farmers \$50 for each reactor. Upon proof of slaughter, the state will pay \$50 for each adult breeding cow from a brucellosis infected herd that has been exposed to the disease, branded with a "B", and tested negative. Heifer cows from a brucellosis infected herd that have been exposed to the disease command an indemnity of \$30. However, the State Veterinarian reports that, pursuant to 302 KAR 20:056(8), the Commonwealth now grants a supplementary payment for negative, exposed animals. This supplement brings the total indemnity for such animals to \$75.

In the past, farmers were eligible for federal depopulation subsidies. However, the federal government has recently discontinued indemnities for negative, exposed cattle. On September 30, 1990, the current USDA five-year brucellosis eradication plan will terminate. The USDA's next five-year plan has not been fully developed at this time, but a proposed plan emphasizes the importance of depopulation as a tool for eradicating brucellosis and includes an alternative program of adult vaccination and quarantine. The proposal also discusses the possibility of mandatory depopulation and the continuation of federal indemnity payments. The guidelines will be finalized in November 1989, when nationwide representatives of the agriculture industry meet with USDA officials.

#### **Most Interviewees Feel Mandatory Depopulation Is Essential But Indemnity Payments May Be Inadequate**

Most agreed mandatory depopulation is effective, but wanted every farmer to be treated equally. There was some concern that the policies be fairly applied and Kentucky DOA judgments be as objective as possible.

The adequacy of the indemnity program is a major concern. The indemnity program and the 1988 drought may have diminished some of the potential resistance to mandatory depopulation. Although it still pays \$50 for reactors on the farm, the federal government has discontinued its subsidies for depopulation of herds. Furthermore, state indemnities may not cover the total costs experienced by the farmer in all instances, as cattle must be sold at reduced prices. Consequently, some farmers said they resisted mandatory depopulation because of the potential financial loss. One dealer expressed the belief that herds should not be depopulated on the basis of one reactor, but that at least 5% of the herd should be infected before the entire herd is depopulated.

There have been two legal challenges to the mandatory depopulation program in recent months. In one case, a dealer eventually withdrew his challenge to the state's regulations. However, in another case the plaintiff won his district court case to avoid

mandatory depopulation of his entire herd. Later, this farmer resolved to depopulate the infected herd when additional reactors were detected on his farm and the Kentucky DOA threatened to appeal the previous court decision to a higher court. The farmer reported that the hardship related to depopulating his entire herd would probably force him out of business. He said the state appraised his animals at less than \$300, while his own appraiser valued them at \$600 to \$750 each.

### **Quarantine and Adult Vaccination Are Alternatives to Depopulation**

Quarantine and adult vaccination may be utilized to salvage an infected herd when the State Veterinarian determines that a herd meets certain specifications (e.g., calfhood vaccinated herd of refined bloodlines with less than 20% infection). Few interviewees actually liked this approach; they simply recognized it as a means of last resort in isolated circumstances.

The State Veterinarian said the agriculture industry is viewing adult vaccination within a farm quarantine plan more favorably because of recent research advancements with vaccinations. As a management tool in an infected herd, adult vaccination has been shown to slow the spread of the disease. It is problematic because vaccinated animals often produce false-positive tests when, in fact, they are not reactors. However, adult vaccination must be accompanied by a longer 300-day quarantine period and testing. Currently, the State Veterinarian is using adult vaccination with at least two herds to avoid the depopulation of those herds. A farmer who is using adult vaccination to save his herd said the program requirements were difficult, but worth the effort. He claimed that testing his herd on a regular basis upset the cows and, consequently, reduced milk production.

Adult vaccination and quarantine are not widely used in Kentucky at this time. An anticipated emphasis in this program by the USDA could cause a change in the state's policy.

### **Inspection of Surrounding Farms Limits Spread of Disease**

Brucellosis is a contagious disease which can easily spread from farm to farm. When a farm becomes infected with the disease, some experts estimate that as many as 20% of the surrounding farms will also become infected. The standard epidemiological procedure for containing the disease is to test all animals within one-quarter mile or within two farms of the original infected herd, whichever is greater. Pursuant to 302 KAR 20:057, these farms may be placed under quarantine, if the epidemiologist feels it is warranted. Cattle on these farms are tested every six months until the original infected herd has been free of infection for a full year. Epidemiological work is also performed when reactors are traced back to their herd of origin. A successful "traceback" occurs when the herd of origin and surrounding herds are identified and tested.

**Inspectors and farmers have sometimes resisted epidemiological policies.** Interviewees reported that some farmers resist the "two farms out" and one-quarter mile testing. Farmers opposed to these procedures mention the inconvenience, the invasion of privacy, the costs, and potential harm to livestock.

In one instance, brucellosis was detected at the stockyards in a cow from a farm

located "second farm out" from an infected herd. A USDA veterinarian said that a thorough epidemiological study from the index herd would have caught the infection. He felt that inspectors should have been more diligent and not allowed natural barriers, such as streams and cliffs, to halt the standard testing procedures. The official felt strongly that aggressive testing is essential during the epidemiological phase of an eradication program.

A private veterinarian suggested that when disease has spread from one farm to another, perhaps an area testing program for the entire county is warranted to ferret out the disease. In this regard, the Assistant State Veterinarian for Missouri reported that the area testing program surrounding a diseased index herd extends for two farms out, or 1.75 miles, in that state. An Assistant State Veterinarian in Indiana said the state tests four or five farms out from the original diseased herd when serious pockets of infection are discovered.

Presumably, the USDA withheld Kentucky's "A" status pending completion of a "second farm out" testing requirement for about 60 farms. Kentucky DOA officials claimed that the incomplete epidemiological reports were not attributable to negligence on the part of inspectors. For the most part, cattle simply were not raised on those particular farms. Consequently, state agriculture officials saw no need to report this finding. Kentucky DOA and USDA officials corrected and updated these files.

#### **Lack of Computerization Hampers Tracking Quarantine Herds**

Assessing the degree of infection in a quarantined herd is critical to the surveillance effort. According to both a USDA veterinarian and the State Veterinarian, there have been problems with the computer system used by the Kentucky DOA to track quarantined herds. Farmers are required to test their quarantined herds periodically, and the results of these tests are automatically entered into a federal computer system called the Brucellosis Information System (BIS). This comprehensive data is available to the Kentucky DOA, but data entered into the system has not been retrievable through the state's system. In an effort to monitor quarantined herds more closely, the State Veterinarian is now trying to procure a new computer system and to obtain a new software package. Improved computer capacity could promote efficient use of inspectors' time and serve as a useful management tool in the Division of Animal Health.

#### **Prevention**

As brucellosis is controlled or eradicated, strategies for prevention become more important. There are several programs in place to prevent the spread of brucellosis, including vaccinations, certification of herds, the licensing of livestock dealers, and education of the cattle and dairy industry.

Calfhood vaccination is considered to be an important tool for preventing brucellosis. One problem with this method is that the vaccinations are only about 75% effective. Another problem is that calves are not always vaccinated at the proper age. It is an expensive program, with more of the cost being paid by the farmers. The program may cease to be considered cost effective as Kentucky achieves a higher brucellosis rating and its programs become more prevention oriented.

### **Calfhood Vaccination Is Approximately 75% Effective**

Strain 19, a live vaccine, has been used by many states to prevent the spread of brucellosis since 1941. Currently, federal law mandates vaccinations for all dairy heifers prior to transportation across state lines. In Kentucky, 302 KAR 20:055 requires the vaccination of all female bovine animals four to ten months of age and purchased at a Kentucky livestock market or presented for change of ownership by private treaty. The state bears the cost of the vaccine, and the producer pays for the veterinarian's services. While the vaccinations are only about 75% effective, they are considered by experts in the field to be a worthwhile tool in stopping the spread of the disease.

### **Vaccination of Calves at an Early Age is Difficult for Some Farmers**

All but one of 24 interviewees who responded felt that calfhood vaccination of breeding stock was beneficial in the prevention of brucellosis. Six of the interviewees concluded that most of the problems with calfhood vaccination surround the age when the vaccination is administered. The eligible age range for vaccination is 4-10 months. Animals vaccinated after this age can produce false-positive test results and necessitate costly follow-up tests and quarantine procedures.

**The State Veterinarian feels that the maximum age for vaccination should be lowered to reduce the possibility of titer reactions at first-point testing.** The difficulty with this policy adjustment is that beef cattle from non-registered herds are not monitored closely by the farmers. Animals from non-registered herds are allowed to graze in the fields and are not collected at a central point until market time. Consequently, the exact ages of given calves are not always known or maintained, except in purebred, registered beef and dairy herds. The "cite test" can differentiate between titers produced by vaccination and those resulting from the actual disease. However, the USDA veterinarian in charge pointed out that this test is quite expensive and is not widely used.

**Calfhood vaccination may not be cost beneficial when brucellosis is under control.** The State Veterinarian believes that calfhood vaccination has been a useful tool, given the high infection rates of brucellosis in Kentucky's past. However, the relatively large number of false positive test results produced by calfhood vaccinations will be unacceptable when the disease is less prevalent in the state. The State Veterinarian agrees with the proposed USDA Technical Plan that calfhood vaccination will not be cost-beneficial when states attain "Free" status.

The vaccination requirements of other states vary considerably. Many states will not accept cattle unless they have been calfhood vaccinated. A stockyard representative expressed the need for continuity of such programs among producing and marketing states and suggested that the USDA should provide leadership in establishing the programs.

### **Certification of Herds Improves Marketability**

The certification of brucellosis-free herds is another program aimed at preventing the spread of the disease. A farmer can have his herd certified as being brucellosis free, if the whole herd is tested twice within a ten- to 14-month period, and the herd is shown to be free of the disease. To retain certification, the entire herd must be tested annually. Animals from certified herds bring higher prices in the market place and are easier to

transport to other states. There are 350 certified herds in the state out of 60,000, most of which are dairy and other purebred herds.

Herd certification is a costly operation in terms of time and manpower, but it is worth the money to the owners of dairy and purebred herds. Thirteen of twenty interviewees felt that herd certification was too costly for the farmers with small herds or for the governments to absorb. The other seven interviewees regarded herd certification as worthwhile. As the disease is successfully controlled, however, the need for herd certification as a preventive method may be unnecessary. For example, the Virginia State Veterinarian reported that farmers are participating less frequently in the herd certification program now that the state has achieved "Free" status. Virginia is no longer now encouraging farmers to maintain the certification of herds.

### **Enforcement of Dealers' Law Is Important**

The dealers' law plays a role in disease prevention by helping to trace infected cattle back to the herd of origin. KRS 257.530 (2) requires dealers to maintain records of where their animals are purchased. Dealers must furnish data on livestock transactions upon the requests of the Kentucky DOA. The dealers' law has been amended several times since it was first implemented in 1972.

Dealers play an essential role in the agriculture industry in this state. By simply combining cattle from numerous sources into confined areas, even for brief time periods, dealers can unwittingly spread brucellosis. Thus, the Kentucky DOA must enforce the regulation requiring dealers to maintain first-point tests, transaction records and health papers.

**Tracing infected cattle back to the farm of origin is facilitated by dealers keeping complete records of cattle purchases.** In the opinion of several veterinarians, the Kentucky DOA does not insist that dealers maintain accurate and thorough transaction records. One veterinarian explained that the risk of transmitting the disease is great because a dealer who purchases cattle from many herds within and outside the state may expose multiple herds and farms to the disease in a very short time period. In the opinion of the veterinarian, state inspectors should devote more time to the review of dealers' books and less time to the inspection of farmers' herds.

Record keeping places requirements on dealers, which some have complained are cumbersome. Three of the interviewees felt that the compliance with the dealers' law is inconsistent because state officials only monitor records when they are seeking tracebacks. All of the interviewees felt that these records should be monitored periodically. One volunteered that these records could be used to compile a statewide data base on animal movement. Another individual suggested raising the \$10 fee to cover the cost of monitoring records. One interviewee suggested that the state should confirm a dealer's past record of compliance when license renewals are sought. The state should locate unlicensed dealers and should penalize those who do not keep good records. If the dealer has failed to comply, a new license to operate might be withheld.

**The State Veterinarian agrees that dealers' records are not monitored closely enough.** He indicates that he has brought some dealers into his office to discuss their

violations and encourage them to maintain their records. He characterizes himself as less inclined toward prosecution and more interested in persuasion.

The minutes of the Kentucky State Board of Agriculture meeting for October 26, 1986, refer to a previous State Veterinarian's attempt to provide standardized logbooks for dealers, similar to ones now used in New York state. There livestock inspectors periodically review the logbooks to make sure that dealers comply with the law. The USDA Area Veterinarian in Charge concurred with the suggestion of the former State Veterinarian and noted that the completed logbooks could be sent to a central point and replaced with new ones. The current State Veterinarian likes the concept of the logbooks and suggests that the \$10.00 license fees might be increased to cover the costs of supplying the logbooks to the dealers.

In outlining the Kentucky DOA program operations, the State Veterinarian stressed the importance of monitoring all dealers' records on transactions. He summarized:

If the brucellosis eradication and surveillance programs are to be successful, accurate dealer records must be maintained. This will provide the epidemiologist with the necessary information needed to trace the infections to a herd or herds of origin.

**Lack of serious penalties for non-compliance was an important item mentioned by six interviewees.** Penalties attached to the dealers' law, as described in KRS 257.990, include a \$25 fine for the first offense and not less than \$100 or more than \$500 for each offense thereafter. This fine for first-time offenders is less than all other first-time penalties in KRS Chapter 257. All others require a \$100 fine. Furthermore, the Kentucky DOA could not provide any case in which a dealer was actually cited for non-compliance.

Missouri and Indiana have implemented tougher market and dealers' laws in the last few years. In Missouri, penalties have been stiffened, and the State Veterinarian's authority has been increased to assess these penalties. In Indiana, the dealer is licensed for \$25, and additional fees are attached which permit the dealer to operate at different stockyards. Violation of dealers' laws is a class D felony (\$10,000 fine and imprisonment or an "administrative" fine of up to \$25,000). In the last few years, the record keeping has been computerized, and monitoring of dealers has been facilitated.

Weak enforcement and minor penalties may not provide an incentive for dealers to keep adequate records. However, a private veterinarian felt that those few who abuse the system, probably 10%, would not be deterred by stricter fines and tighter enforcement. A farmer suggested that it is easy to evade this law by falsifying owners' names. Due to the key role dealers play in the movement of cattle within and into the Commonwealth, a recommendation to strengthen the dealers' law seems appropriate.

## **RECOMMENDATION 1: INCREASE DEALERS' LAW FEES AND FINES**

**The Kentucky General Assembly should amend KRS Chapter 257 to increase the dealers' license fee, based on the Kentucky Department of Agriculture's projection of the cost of supplying logbooks for dealers to keep records, and increase the penalty of \$25 for first-time offenders to \$100, similar to that of other first-time offenses in KRS 257.990.**

### **Road Surveillance Can Limit the Spread of the Disease**

The State Veterinarian is committed to expanding road surveillance in order to monitor illegally transported cattle, particularly those from out of state. In his testimony in February 1989, before the General Assembly's Subcommittee on Agriculture of the Interim Committee on Agriculture and Natural Resources, he stated that Kentucky has a serious problem with cattle "dumping" from neighboring states. The scope of this problem is not clear, since statistics on the number of illegally moved cattle are not available.

**Road surveillance has been increasing recently, but no citations have been given.** According to the State Veterinarian, the road surveillance program recently has been intensified. An Administrative Branch Manager in the Division of Animal Health reported that 107 trucks had been stopped across the state for various reasons between January 1 and April 20, 1989. He reported that inspection notices were completed for every truck that was stopped, with a copy given to the driver and a copy retained by the Kentucky DOA. If health papers were found to be out of order, the driver was returned to the point of sale to correct the situation. If an unlicensed dealer was detected, he was encouraged to obtain his license and to comply with state regulations.

Apparently, no actual legal charges have been filed, nor have any citations been given as a result of these efforts. In 1988, only two violations of import regulations were brought to court.

A Kentucky DOA field supervisor pointed out in an interview that there are dangers involved in stopping trucks on the highway. He felt that if the drivers were transporting cattle illegally, quite possibly they could be carrying concealed weapons. The State Veterinarian prefers that the supervisors work in pairs when stopping cattle trucks on the highways. He reported the hiring of new inspectors to fill these additional positions so that the road surveillance program could operate more effectively.

A stockyards representative felt that staffing and enforcing the road surveillance program would make the entire prevention program work better. He added that Kentucky DOA personnel are aware of the violators who should be brought into compliance with the regulations. A private veterinarian suggested that, if there were some convictions of violators, awareness of the state's regulations would spread quickly. An association representative suggested that the Kentucky DOA and State Police should work closely on this program and that incentives for apprehending violators should be offered. A legislator at the February 1989 Subcommittee on Agriculture meeting suggested that livestock being transported into Kentucky by motor vehicle should be checked at the Transportation Cabinet's truck weighing stations.

In response to the reduction of federal funding, the Kentucky DOA could save some personnel time and expense by utilizing the Kentucky State Police as law enforcement agents for the road surveillance program. With their training, experience and statewide deployment, State Police could provide the necessary force to control illegal movement of brucellosis-infected cattle into and throughout the Commonwealth.

**RECOMMENDATION 2: DEVELOP ROAD SURVEILLANCE FEASIBILITY PLAN**

**As part of the strategic plan required in Recommendation #3, the Kentucky Department of Agriculture should, with the assistance of the Transportation Cabinet and the Department of State Police, develop a cooperative road surveillance program to enforce the Department of Agriculture's statutes and regulations.**

**Education Is Especially Important for Part-Time Farmers**

Finally, the brucellosis education program is an important method of disease prevention. The Executive Director of the Kentucky Beef Cattle Association has stated that livestock producers in the state have not become more involved in disease prevention because so many Kentucky farmers raise cattle as a sideline. Educating cattle producers about the disease is a critical step toward eliminating brucellosis from the state. The Kentucky DOA attempts to educate the public through press releases, pamphlets, and organizational programs. Specialized meetings are also organized for the purpose of instructing specific groups and residents of selected geographic areas about changes in the brucellosis program.

There is room for improvement in educating the farmers regarding the state's brucellosis eradication and prevention program. Interviewees felt that county agents serve as valuable resources to the farmers, even though some are better than others. A state field supervisor said that all new state policy changes should be immediately forwarded to the county agents for dissemination to the farmers. Several individuals suggested that the Kentucky Farm Bureau publications could help to educate farmers about the brucellosis program. Two state field supervisors concurred that the state's policy on quarantine was widely misunderstood by farmers. A private veterinarian felt that farmers should be educated as to how to avoid buying brucellosis-infected cattle.

## CHAPTER V

### EFFORTS REQUIRED TO BECOME BRUCELLOSIS-FREE

This chapter addresses issues which will ultimately shape the future of the brucellosis eradication program in Kentucky. The discussion focuses on whether current program operations are adequate to meet the state's goal of becoming free of brucellosis. Program operations in several "Free" and "A" rated states are examined as a means of orientating Kentucky's brucellosis program toward the future. Chapter V also discusses the value of a strategic plan to assess future funding needs, the shifting of duties for personnel, and the implementation of new policies. The chapter examines several management issues which may delay the state's eradication efforts, including a history of weak enforcement and a lack of routine accountability mechanisms. Management recommendations are offered in the following areas: strategic planning, policy articulation, training policies, improved computer capabilities, and stronger enforcement of brucellosis violations.

On June 8, 1989, Kentucky was granted an "A" rating by the United States Department of Agriculture (USDA). This status signifies that the state's rate of infection for the previous twelve months was less than .25 percent for cattle herds and below .100 percent for the adjusted market cattle reactor prevalence. The State Veterinarian has reported that, "By 1991 Kentucky should be within reach of being a brucellosis-free state."

Kentucky's vision of a brucellosis-free cattle industry is shared by the federal government. In a tentative version of its new five-year plan, the USDA has set forth the following goals:

- In 2 years, have no brucellosis infected herds under quarantine.
- In 5 years, all states "Class Free" or qualifying for "Class Free" status.

In general, USDA funding will be greatly reduced. Funds will still be available for: monitoring state and industry compliance, record keeping, and other surveillance activities. The USDA's role will be delineated in new guidelines to be approved at a national meeting of the agriculture industry in November, 1989. Based on tentative plans, it is anticipated that the new guidelines will emphasize the importance of depopulation for achieving rapid eradication in the most cost-effective manner. For cases in which the decision is made not to depopulate a herd, quarantine and adult vaccination of herds will probably be advocated. Additional strategies should involve an adequate surveillance system, including neighborhood testing, selected area testing, and standard epidemiological procedures. The tentative USDA plan notes that:

A concerted effort is required to locate unobtrusive pockets of infection and provide assurances to stakeholders that full eradication is preferable to an approach that only "controls" the disease at a low incidence level.

## **A Strategic Plan for Kentucky's Eradication Efforts**

In studying the operations of the brucellosis program, Program Review staff discussed the goals and future directions of the program with the State Veterinarian. Program review staff found that there is no formal report or plan detailing the strategy which the Kentucky Division of Animal Health will undertake to completely rid the state of brucellosis. In the upcoming months state agriculture officials will need to make a number of important decisions about the future course of the program. To meet the challenge of full eradication, Kentucky might consider developing a formal strategic plan. A strategic plan could provide useful guidance in three areas:

- the accurate assessment of future funding needs.
- the shifting of duties and responsibilities for personnel; and
- the development and implementation of new policies and procedures as the disease declines in prevalence.

### **Assessment of Future Funding Needs Required as USDA Reduces Spending**

Brucellosis program policies and staffing patterns cannot be addressed without a thorough analysis of funding needs. Currently, Kentucky's share of federal monies has been drastically reduced. From FFY 1983 through FFY 1986, the federal government made annual reimbursements of \$600,000 to Kentucky as part of the State-Federal Cooperative Agreement. The annual reimbursement was reduced to \$236,000 in FFY 1988, and will be eliminated entirely in FFY 1990. These reductions in federal funds are occurring at a time when the Kentucky DOA has implemented several new programs: mandatory calfhood vaccination, mandatory depopulation with indemnities, and the 60- to 120-day quarantine and retest of animals returning to Kentucky farms. Undoubtedly, some of these programs will be eliminated within the next few years. However, the lack of a strategic plan makes it difficult to assess the future budgetary needs of the brucellosis program.

**Kentucky DOA officials are considering how to increase the involvement of the cattle industry in certain aspects of the eradication program.** The Administrative Branch Manager of the Kentucky Division of Animal Health has indicated that the Division may be forced to stop paying for calfhood vaccinations. The cost of the vaccinations would be passed on to the producer. Similarly, the State Veterinarian has said that he favors raising the fee for obtaining a dealer's license. The increased revenue would be used to finance various brucellosis programs.

**Some states have reduced program funding, although the threat of increased infection exists.** In Program Review's telephone survey of nine "Free" and "A" rated states, four of eight states reported reduced state funding since they achieved "A" or "Free" status. In Virginia, funds for first-point and slaughterhouse testing have been transferred from the phased-out indemnity program and from various field activities, such as branding, tagging, and retesting of herds. Georgia, North Carolina, and Tennessee reported no recent changes in the level of funding for their brucellosis programs. Missouri was the only state to report increases in its level of funding for the brucellosis program.

Four states advised Kentucky to persist in its surveillance and eradication efforts until brucellosis is eliminated completely. They cautioned that complacency must be avoided, even when large numbers of tests reveal negative results. The State Veterinarians from Virginia and Tennessee both advised that now was not the time for Kentucky to try to save money by cutting back needed programs. Ridding a state of the last vestiges of a disease is extremely difficult. When brucellosis has been completely eradicated, perhaps Kentucky would be in a position to realize some savings.

### **Staffing Needs and Availability May Change in Upcoming Years**

The reduction in federal funds has created a problem for the staffing of several key programs. In November, 1988, the federal government stopped paying fees to veterinarians to conduct testing. The USDA's elimination of all fee-basis testing has meant that state and federal regulatory personnel must now conduct all testing. The State Veterinarian has written that, "The addition of new regulations dealing with stockyard entry into Kentucky, sale and exhibition, bleeding, testing, vaccination and branding, and mandatory depopulation has produced an increase of approximately 20% more man hours needed to implement and maintain program compliance." Strategic deployment of Kentucky DOA personnel may free some employees to work on important new policy initiatives. The State Veterinarian has also written that,

As the number of infected herds decreases, this will reduce the time the inspectors will spend in the testing and slaughtering program and will allow them more time for effective enforcement and surveillance work. This will be needed in order to deter the return of brucellosis.

In Program Review's survey of nine states' brucellosis programs, seven out of nine states reported fewer employees working in the brucellosis program after receiving "A" or "Free" status. Attrition accounted for staffing reductions in several states. Each of the seven states reported shifting the duties of workers from one area to another. In a few states, employees working in the field have been transferred to other positions within the brucellosis program. In other states, workers in the area of brucellosis now spend most of their time working on pseudorabies in swine. Georgia and North Carolina were the only states surveyed that have not made any staffing changes since they achieved "A" and "Free" status, respectively.

As it attempts to reach "Free" status, Kentucky may need to shift the responsibilities assigned to Kentucky DOA employees. Other states typically report reductions in the personnel of their brucellosis programs. However, given the implementation of several new regulations, it may not be realistic now to reduce the staff assigned to the brucellosis program. As the disease further declines in prevalence, some of the new programs, such as calfhood vaccination and the quarantine and retest program, may no longer be necessary. Staffing priorities should be re-evaluated when the state becomes less involved in eradication and more orientated to surveillance and prevention. A strategic plan would analyze the present and future staffing needs of the program in light of trends in the prevalence of brucellosis.

## **Reassessing Program Policies and Methods is Needed As Brucellosis Is Eradicated**

As the disease declines in prevalence, the state must consider shifting its efforts from detection and eradication to prevention and surveillance. The specific policies implemented will depend, in part, upon the revised five-year plan now being formulated by the USDA and the level of funding undertaken by the federal government and the 1990 General Assembly.

The nine states offered similar recommendations to Kentucky on how to control brucellosis now that it is an "A" rated state. Six of the states stressed the importance of good epidemiology. Emphasis should be given to tracing outbreaks of brucellosis to the source of infection and containing the spread of the disease. Similarly, five states mentioned the need for maintaining current methods of surveillance. Testing, both at stockyards and slaughterhouses, is still a crucial means of detecting brucellosis. Four states recommended that Kentucky enforce existing policies and methods, particularly dealers' laws.

Four out of nine states surveyed reported no significant changes in their methods for controlling brucellosis since receiving their "A" or "Free" rating. Agriculture officials from these states said that they were vigorously enforcing USDA policies and procedures. Since this package had worked well in the past, officials from these states saw no reason to change their approach to the disease.

The other five states in the survey made fairly specific changes in their brucellosis programs. No states completely revamped their basic approach to controlling the disease. Georgia reevaluates its program on an annual basis. The Veterinary Medical Officers and state officials confer and make needed changes in goals and regulations. Missouri and Indiana have implemented tougher market and dealers' laws in recent years. Virginia reports that testing procedures have recently been streamlined, and that more sensitive tests have been introduced. West Virginia has started to enforce its Brucellosis Ring Test (BRT) program more stringently since it has become a "free" state. It has also relaxed the eligibility requirements for its first-point testing program.

Significant changes in import regulations were made by two out of the nine states interviewed. North Carolina and West Virginia tightened the restrictions on interstate transportation of cattle. About two years ago, North Carolina implemented stricter guidelines for Class "C" cattle entering the state. West Virginia introduced powerful regulations which restrict the movement of cattle from "A" and "B" states across its borders.

The survey results reveal that radical changes in a state's brucellosis program are probably unnecessary when the disease becomes less prevalent. However, several states have taken the opportunity to "fine-tune" certain policies and procedures. A strategic plan for Kentucky's Division of Animal Health would ensure that state agriculture officials critically examine the priority given to eradication, surveillance, and prevention policies in light of future needs.

As brucellosis becomes less prevalent, Kentucky will probably eliminate some of its detection and eradication programs and implement new policies geared toward surveillance and prevention. This shift in policies will necessitate changes in current staffing patterns

and will alter budgetary requirements. The development and implementation of a strategic plan should increase the effectiveness of program administrators and facilitate the budget process for state legislators.

### **RECOMMENDATION 3: DEVELOP A STRATEGIC PLAN**

**The Department of Agriculture should develop a strategic plan to address the future needs of the brucellosis program. The strategic plan should assess:**

- future funding needs;
- the shifting of duties and responsibilities for personnel; and
- the implementation of new policies and procedures as the disease declines in prevalence.

The Department should present its strategic plan to the Interim Committee on Agriculture and Natural Resources and the Interim Committee on Appropriations and Revenue before the 1990 Regular Session of the General Assembly and should biennially update the plan thereafter.

### **Clear and Uniform Brucellosis Program Policies**

The Kentucky DOA utilizes detailed methods for the control and eradication of brucellosis. These policies should be clearly and concisely outlined in the administrative regulations, so that all who are affected by them can understand the programs. The agency operates under regulation guidelines in many aspects of its program, but there are problems in some areas. The dealers' law and the market veterinarian conflict of interest regulations are omitted. Finally, the program is outlined under the agency's former name, the Division of Livestock Sanitation.

### **Kentucky Should Reassess Its Regulations**

The authority for enforcement of Kentucky's brucellosis eradication program rests with statutes and regulations which should clearly and comprehensively state the required policies. Administrative regulations related to livestock sanitation and, specifically, brucellosis control and eradication are found in KAR Chapter 20. In a recent telephone conversation, the Kentucky DOA General Counsel said that flexibility is needed to allow the State Veterinarian to make "clinical," case-by-case decisions, and that the inspector's job requires more negotiation than enforcement. He pointed out that developing voluminous regulations has not eradicated the disease in forty years. He stated further that this administration has established the validity of mandatory depopulation and that the financial consequences placed on the farmer have produced the desired effect: reduction of the disease.

The use of administrative regulations to alert the public to governmental requirements is set forth in KRS Chapter 13A, related to Administrative Regulations. KRS Chapter 13A.010 defines "administrative regulation" as:

. . . each statement of general applicability promulgated by an administrative body that implements, interprets, or prescribes law or policy, or describes the organization procedures, or practice requirements of any administrative body.

Chapter IV discussed the interviewees' acceptance of agency policies, provided that they are administered in a fair and uniform manner. These regulations should govern all policy areas affecting the public, and be clearly understood both by agency personnel and the public. As stated earlier, those interviewees who were familiar with Kentucky, federal and other states' brucellosis requirements generally feel Kentucky's regulations are comprehensive. However, there are a few regulatory issues which need attention.

**The Dealers' Law, mandated in KRS Chapter 257.530, is not specifically mentioned in the regulations, as required in law. KRS 13A.100 specifies which matters must be prescribed by regulation:**

Subject to limitations in applicable statutes, any administrative body . . . shall . . . prescribe . . .

(1) The process for application for license, benefits available or other matters for which an application would be appropriate unless such process is prescribed by a statute.

The process for licensing dealers is not clearly delineated in the statutes. In the same manner, agency policy for enforcing violations of the dealers' law is omitted from the administrative regulations. Regulations should detail the dealers' record keeping obligations and should assist the Kentucky DOA in enforcing compliance with the dealers' law requirements. Interviewees from other states volunteered that Kentucky should enforce its dealers' law, but the perception among interviewees in Kentucky is that the law is not enforced.

**During the previous administration, the State Veterinarian became concerned that market veterinarians might be operating under a conflict of interest if they simultaneously owned the stockyards.** His concern was backed by Attorney General Opinion 87-47, which confirmed that a common law conflict of interest would exist if market owners appointed themselves as market veterinarians for their own operations. As the result of this opinion, at least one stockyards changed owners. The present administration operates under this policy, but has not incorporated it into regulation

**The regulations governing Kentucky DOA's brucellosis eradication program still reflect the name the agency used until November 1987.** The name of the division was changed from the Division of Livestock Sanitation to the Division of Animal Health in November 1987. The agency has not updated its regulations to reflect this reorganization.

#### **RECOMMENDATION 4: REASSESS REGULATIONS**

**The Kentucky Department of Agriculture should amend 302 KAR, Chapter 20 to:**

- Delineate clear and uniform agency policies in all areas of the brucellosis program;
- Prescribe details of the dealers' law;
- Outline requirements which prohibit state-appointed veterinarians owning stockyards where they take blood samples; and
- Update organizational titles.

#### **Brucellosis Program Operates Without Policy or Training Manuals**

A Kentucky DOA Branch Manager confirmed that the agency has developed neither a formal policy nor an employee training manual to assist employees in learning agency policies and their own job responsibilities. When the Kentucky DOA changes its policies, the supervisors, who usually are informed of the changes in a staff meeting or by a memo, pass along the changes to the field inspectors. In 1986, a collection of ten memos outlining state and federal policies and regulations, signed by the State Veterinarian and the USDA Area Veterinarian in Charge, was assembled as the "bluebook" and delivered to the Kentucky DOA field enforcement staff. Over the last two and one-half years, eight explanatory memos covering changes in brucellosis policy and regulations have been sent to each employee.

The field supervisors and inspectors are trained exclusively on the job, normally in the locale where they work. Additionally, supervisors carrying firearms for enforcement duties must undergo peace officer training and qualify annually. In the Program Review and Investigations survey a USDA official added that the field inspectors need training specifically related to the regulations and policies. Similarly, a private veterinarian said special training is needed for handling stockyards activities because the lack of written policies and procedures result in different practices employed at each stockyard. In contrast to these views, a farmer felt that the agency staff was trained well, despite the exclusive emphasis placed on on-the-job training.

The need to formalize policy training and establish uniform practices would seem to be supported by the fact that some perceive a lack of consistent enforcement. The federal government now offers training programs to Kentucky DOA employees without charge. The state would need to pay only the per diem costs for any employees recommended by USDA officials.

#### **RECOMMENDATION 5: DEVELOP A POLICY MANUAL AND TRAINING PROGRAM**

**The Department of Agriculture should publish and update a brucellosis policy manual and develop a training program which clearly reflects regulatory policies and implementation practices for field supervisors and inspectors. These manuals should be provided to and maintained by all staff, and compliance should be mandatory.**

## **Enforcement of Brucellosis Statutes and Regulations**

When asked why Kentucky has taken so long to bring brucellosis under control, the current State Veterinarian responded that the state practices have not conformed sufficiently to USDA Uniform Methods and Rules (UMR). He further noted that insufficient control of dealers also has caused delays. He said that poor epidemiology and possibly loose policy enforcement have also contributed to the state's slow progress. These reasons were also given by other interviewees as having impeded Kentucky's progress. In the telephone survey of some other states which have achieved "A" or "Free" status, officials from those states advise that Kentucky continue its programs and enforce its existing regulations.

### **Kentucky Should Enforce Its Regulations**

In a March 25, 1989 letter to a USDA official, the former State Veterinarian wrote:

. . . As you know, except for the short period of time when I served as Kentucky State Veterinarian, the state personnel and disease control programs were under the direction of a layperson for many years. He was given the title, through political maneuvering, of Director of The Division of Livestock Sanitation, which is now termed The Division of Animal Health. This domination of the disease control and eradication programs in Kentucky by a well entrenched politician is undeniably the reason why Kentucky still struggles with brucellosis today and why many additional millions of state and federal tax dollars have been spent in Kentucky and in that region of the country.

Several of the individuals on the 1986 USDA task force review team alluded to the political influences which have affected the state's progress in eradicating brucellosis. The task force report stated that ". . . a state official instructed inspectors to release quarantines without the VMO [Veterinary Medical Officer] knowing anything about it." Another section said the dealers' licensing law was "not enforced due to state politics." The same task force member stated, "I got the impression that violations were seldom prosecuted by the state." Two veterinarians interviewed by the task force also stated that program officials practiced "looking the other way."

In interviews conducted for this review a private veterinarian suggested that the State Veterinarian should be a merit position, thus removing that position from the four-year political cycle. Another veterinarian claimed that a high level Kentucky DOA official, who was not a veterinarian, had the pseudorabies program cancelled because he was getting too many complaints from individuals who did not favor its implementation. Both of these interviewees thought the Kentucky Veterinary Medical Association (KVMA) should play a larger role in selecting or nominating candidates for this very important position.

### **Enforcement Through Prosecution Is Uncommon**

Kentucky DOA officials insist implementation of needed policies has caused enforcement to intensify under the current administration. While this enforcement might well relate to new policies, such as mandatory depopulation, quarantine with retest, and

violation of import regulations, there is little evidence to show that prosecution and the issuance of citations actually are used as deterrents.

**A memo from the Kentucky DOA listed four warnings and six court cases in 1988, and seven warnings and one court case in 1989.** The agency does not have records on enforcement prior to January 1, 1988. The nature of these warnings was not entirely clear. These warnings might have been discussions in the office of the State Veterinarian, possibly followed by a registered letter or some other form of written warning.

The defendants in the seven court cases included six farmers and one dealer, charged with the following violations:

- Refusing to test cattle;
- Selling cattle under quarantine;
- Importing cattle without proper papers; and
- Importing unvaccinated cattle.

According to a Branch Manager in the Division of Animal Health, all cases were settled to the satisfaction of the State Veterinarian. All defendants came into compliance. The fines ranged from \$67.50 to \$500.00, but some were suspended by Kentucky judges. For all of these cases, the office procedure calls for notification of its General Counsel and the Commissioner. The Commissioner is notified because some offenders might attempt to avoid notice or penalties by attempting to exert political pressure. The official reported that in all instances, the Commissioner had backed the State Veterinarian in the action taken.

The Branch Manager reported that warnings are given to first-time offenders in a effort to obtain compliance with regulations. Most of the warnings were for incomplete dealer records relative to cattle transactions. Incidentally, one warning was issued to a dealer who had been taken to court during a previous administration. The official was aware of the previous situation, but the case had to be handled as a first offense, since no records of the earlier offense had been kept by the Kentucky DOA. In some instances, warnings were issued because new or amended state programs had been violated, and officials assumed that the dealers and farmers involved were not properly educated about the programs. Data on the enforcement of the road surveillance program has already been discussed in Chapter IV.

Table 5.1 outlines the penalties for violations of the state's brucellosis statutes and regulations. These penalties range from \$25 to \$1000 for the first offense to \$100 to \$2000 for the second offense, plus a possible prison sentence. The lowest penalty is for a violation of the dealers' law; the largest penalty is for importing diseased cattle. As previously stated, actual fines issued ranged from \$67.50 to \$500.

According to the Assistant State Veterinarian in Missouri, that state has determined to emphasize enforcement of penalties for non-compliance with the state's brucellosis regulations as the state strives to attain "Free" status. The Missouri General

Assembly approved a new market/dealer law, which empowers the State Veterinarian to fine violators. Fines for non-compliance in Missouri may be issued for up to \$1000 for each violation, plus additional fines of \$500 per day up to \$10,000 for non-compliance. This new law removes the entire process from lower court jurisdiction.

TABLE 5.1  
Penalties for Violations  
Affecting Brucellosis Program in Kentucky

KRS 257.990	Type of Violation	Penalties	
		First Offense	Subsequent Offense
(1)	General Violation	\$100-\$500	\$500-\$1000 or Imprisonment of 30 Days or Less or Both
(2)	Exposing Diseased Animals	\$500-\$1000	
(3)	Violating Quarantine or Concealing Diseased Animals	\$200-\$500	\$500-\$1000 and 60-120 Day Imprisonment
(4)	Importing Diseased Cattle (except common carriers)	\$500-\$1500	\$1000-\$2000 and 60-120 Day Imprisonment
(5)	Importing Cattle in Violation of Regulations (common carriers only)	Not More than \$1000	Not More than \$1000
(6)	Improper Reporting of Diseased Animals Improper Disposition of Diseased Carcass Importing Animal Disease Producing Agent (e.g., Bacteria, Virus)	\$100-\$500	\$100- \$500
(7)	Obstructing Regulation Enforcement	\$200-\$500	
(11)	Dealers Law		
	● Failing to Maintain Records	\$25	\$100-\$500
	● Failing to Provide Access to Records		
	● Transacting Business Under Assumed Name or Address		
	● Violating any other Regulation or Statute		

Source: Compiled by Program Review & Investigations Staff from Kentucky Revised Statutes

Since January 1, 1989, Missouri has cited thirty violations of first offenses, has issued seventy other warnings and has received \$9000 in fines paid. Thus far, no cases have required hearings or further action. Records of all warnings and citations are maintained in the Missouri Department of Agriculture's centralized computer system for access by field enforcement staff, as well as central office staff. Consequently, when a violator commits a second offense, the agency system has immediate access to any previous records available for building a case.

**RECOMMENDATION 6: ENFORCE REGULATIONS AND KRS PENALTIES**

**The Kentucky Department of Agriculture should more stringently enforce its existing program statutes and regulations, cite violators for non-compliance and suspend or revoke livestock dealers' licenses for repeat offenses in accordance with penalties outlined in KRS 257.530 and KRS 257.990.**

**Centralized Data Management System**

**Program Management Lacks Routine Accountability Mechanisms**

As they do routinely for any study, Program Review and Investigations staff made verbal and written inquiries to central office officials in the Kentucky DOA. As the review did not audit actual field practices, staff relied on agency personnel for most factual information. The agency staff was helpful and cooperative. However, information provided was sometimes inconsistent and often difficult for the Kentucky DOA to obtain. Information from past administrations had been archived and, therefore, was not readily available. Definitive and accurate information was difficult to obtain concerning: staffing patterns, employees' use of time, violations and enforcement records, and historical fiscal data. Agency personnel compiled such data by hand.

The field enforcement employees work out of their homes, in or near their respective work areas across the state. They record their own time, specific work activities and travel mileage. On occasion, inspectors might be assigned temporarily to one supervisor, while being permanently assigned in another area. Therefore, confusion could arise related to time accountability of enforcement officers.

Early in this review a Branch Manager explained that the agency's old computer system was unable to assist with the "quarantine back to the farm and retest in 60 to 120 days" program. All notification letters to farmers had to be written by hand.

Without ready access to current data, effective strategic planning and evaluation is difficult. In addition, the Kentucky DOA does not appear to have an adequate management system for responding to program needs.

The Kentucky DOA is in the process of purchasing a centralized computer which should assist management of agency practices. The system should be helpful in tracking pertinent data and in generating program reports.

**RECOMMENDATION 7:           IMPROVE MANAGEMENT AND INFORMATION SYSTEM**

**The Kentucky Department of Agriculture should improve its management and information system, utilizing computerization whenever possible, to provide more comprehensive and timely management reports. Access to management information should be available in both programmatic and administrative activities. These activities should include:**

- Appropriation and expenditure records specific to brucellosis programs to assist in cost/benefit analyses of program components;
- Employee time, specific activities and travel;
- Staffing patterns and assessment of geographic deployment to facilitate program operations;
- Number, owner, location and progress of infected herds;
- Quarantine of cattle on farms or feedlots;
- Notification of farmers relative to required tests and testing dates;
- Releases for cattle to be sold subsequently at a stockyard;
- Violations of regulations, number of offenses by individuals, warnings or penalties issued, etc.; and
- Listings of all licensed dealers and their records of compliance.

An annual report summarizing the program data on the state's progress in the eradication and prevention of brucellosis should be presented to the Legislative Research Commission.

Appendix A

PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE  
KENTUCKY'S BRUCELLOSIS ERADICATION PROGRAM

Recommendation Worksheet  
8127K

RECOMMENDATION 1: INCREASE DEALERS' LAW FEES AND FINES

The Kentucky General Assembly should amend KRS Chapter 257 to increase the dealers' license fee based on the Kentucky Department of Agriculture's projection of the cost of supplying logbooks for dealers to keep records and increase the penalty of \$25 for first-time offenders to \$100, similar to that of other first-time offenses in KRS 257.990.

AGENCY RESPONSE

COMMITTEE ACTION

DOA:

Agree. Both the dealers' license fee and the penalties for first-time offenders should be increased.

Adopted

RECOMMENDATION 2: DEVELOP ROAD SURVEILLANCE FEASIBILITY PLAN

The Kentucky Department of Agriculture should explore, with the assistance of the Transportation Cabinet and the Department of the State Police, the feasibility of a cooperative road surveillance program to enforce the Department of Agriculture's statutes and regulations. The Department of Agriculture should report its findings to the Interim Committee on Agriculture and Natural Resources before the 1990 Regular Session of the General Assembly.

COMMITTEE ACTION

AGENCY RESPONSE

Recommendation 2 was amended to read as follows:

DOA: Disagree. "If the Department of Agriculture is to develop a cooperative surveillance program between the Department of Transportation and Kentucky State Police, many hours of training would be required. The problem would involve uniform enforcement of Kentucky's statutes and regulations."

As part of the strategic plan required in Recommendation #3, the Kentucky Department of Agriculture shall, with the assistance of the Transportation Cabinet and the Department of State Police, develop a cooperative road surveillance program to enforce the Department of Agriculture's statutes and regulations.

STATE POLICE: Agree with reservations. "The Department of State Police is willing to assist the Department of Agriculture within the limits of available resources." State Police could provide training in surveillance procedures and could, within the limits of their authority, collect data by observation and relay it to Agriculture personnel.

Recommendation 2 as amended was adopted.

TRANSPORTATION CABINET:

Disagree. "...Such an enforcement program would not be feasible...a program of this type would require the expenditure of more man hours and greater cost than can be justified by the results."

DOA, STATE POLICE, TRANSPORTATION CABINET:

Misunderstood original recommendation. They agree with the amended recommendation that a cooperative effort would benefit control efforts and could be implemented. They are currently cooperating but can develop a more formal program.

RECOMMENDATION 3: DEVELOP A STRATEGIC PLAN

The Department of Agriculture should develop a strategic plan to address the future needs of the brucellosis program. The strategic plan should assess:

- future funding needs

- the shifting of duties and responsibilities for personnel; and

- the implementation of new policies and procedures as the disease declines in prevalence.

The Department should present its strategic plan to the Interim Committee on Agriculture and Natural Resources and the Interim Committee on Appropriations and Revenue before the 1990 Regular Session of the General Assembly and should biennially update the plan, thereafter.

---

AGENCY RESPONSE

DOA:

Agree. [Elements of a strategic plan are outlined in the agency response.]

---

COMMITTEE ACTION

Adopted

RECOMMENDATION 4: REASSESS REGULATIONS

The Kentucky Department of Agriculture should amend 302 KAR, Chapter 20 to:

- Delineate clear and uniform agency policies in all areas of the brucellosis program;
- Prescribe details of the dealers' law;
- Outline requirements which prohibit state-appointed veterinarians from owning stockyards where they take blood samples; and
- Update organizational titles.

COMMITTEE ACTION

AGENCY RESPONSE

DOA:

Agree. "The regulations as they are now written involve a good deal of cross-referencing and have generally promoted a lot of confusion both inside and outside the organization. The Department is in the process of reviewing the regulations and will endeavor to rewrite them in a clear and concise manner."

Adopted

**RECOMMENDATION 5: DEVELOP A POLICY MANUAL AND TRAINING PROGRAM**

The Department of Agriculture should publish and update a brucellosis policy manual and develop a training program which clearly reflects regulatory policies and implementation practices for field supervisors and inspectors. These manuals should be provided to and maintained by enforcement staff, and compliance should be mandatory.

AGENCY RESPONSE

COMMITTEE ACTION

DOA:

Agree. "The Division of Animal Health/Field Enforcement will assemble such an operations manual to include state regulations and statutes, as well as step-by-step instructions on field and stockyard testing, quarantining and problems that frequently arise."

Adopted

RECOMMENDATION 6: ENFORCE REGULATIONS AND KRS PENALTIES

The Kentucky Department of Agriculture should more stringently enforce its existing program statutes and regulations, cite violators for non-compliance and suspend or revoke livestock dealers' licenses for repeat offenses in accordance with penalties outlined in KRS 257.530 and KRS 257.990.

COMMITTEE ACTION

AGENCY RESPONSE

DOA: Disagree. "There are no indications that the regulations are not being enforced now or have not been enforced in the past."

During meeting Commissioner of Agriculture agreed that there were past criticisms and indicated that his department had increased enforcement efforts. His main concern here was in regard to the efforts underway to obtain cooperation from all interest groups. He did not want to give the impression of a heavy handed approach which might disrupt the cooperative relationship being developed. He did agree that serious efforts at enforcement should continue.

RECOMMENDATION 7: IMPROVE MANAGEMENT AND INFORMATION SYSTEM

The Kentucky Department of Agriculture should improve its management and information system, utilizing computerization whenever possible, to provide more comprehensive and timely management reports. Access to management information should be available in both programmatic and administrative activities. These activities should include:

- Appropriation and expenditure records specific to brucellosis programs to assist in cost/benefit analyses of program components;
- Employee time, specific activities and travel;
- Staffing patterns and assessment of geographic deployment to facilitate program operations;
- Number, owner, location and progress of infected herds;
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- Notification of farmers relative to required tests and testing dates;
- Releases for cattle to be sold subsequently at a stockyard;
- Violations of regulations, number of offenses by individuals, warnings or penalties issued, etc.; and
- Listings of all licensed dealers and their records of compliance.

An annual report summarizing the program data on the state's progress in the eradication and prevention of brucellosis should be presented to the Legislative Research Commission.

AGENCY RESPONSE

COMMITTEE ACTION

DOA:

Agree. "Once the A5400 is fully functional, we will have instant access to our records and we will finally have office automation capabilities."

Adopted

[no mention of annual reports]



WARD "BUTCH" BURNETTE  
COMMISSIONER



OFFICE TELEPHONE  
502-564-4696

COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF AGRICULTURE  
CAPITAL PLAZA TOWER  
FRANKFORT, KENTUCKY 40601

APPENDIX B

M E M O R A N D U M

TO: Joseph F. Fiala  
Legislative Review Commission

FROM: Ward "Butch" Burnette *wB*  
Commissioner  
Department of Agriculture

DATE: July 27, 1989

SUBJECT: Brucellosis Report

Attached please find the Department of Agriculture's comments and recommendations on our Brucellosis Program for review by the LRC Subcommittee.

Attachment

## RECOMMENDATION #1

Dealers License fee should be increased. The increase should be large enough to cover the Department cost for dealers log book. The log books are necessary so all dealer records will be uniform. This makes compliance and monitoring much easier to maintain.

Penalty for first time offenders should be increased to \$100.00 or more for each animal involved in the violation.

## RECOMMENDATION #2

If the Department of Agriculture is to develop a cooperative surveillance program between the Department of Transportation and Kentucky State Police, many hours of training would be required. The problem would involve uniform enforcement of Kentucky's statutes and regulations.

Enforcement personnel receive many years of on the job training before they are considered as enforcement officers. They also assume the duties of area supervisors and must be available to investigate and interpret all violations related to Kentucky (1) Entry Requirements KAR 302 20:040E, (2) Kentucky Stockyard Requirements KAR 302 20:070, (3) Kentucky Sales and Exhibition Requirements KAR 302 20:065, (4) Kentucky Brucellosis Vaccination, Testing and Branding Requirements KAR 302 20:055, Kentucky Pseudorabies Surveillance Requirements KAR 302 20:050, Mandatory Depopulation 302 KAR 20:058, and Qualification and Eligibility requirements on state brucellosis indemnity payments for negative exposed cattle 302 KAR 20:056.

Enforcement of Kentucky Agriculture Statutes and Regulations is very complex. On the job field training and training received from the Eastern Kentucky University Police Academy qualifies the present enforcement staff as agents of the Board of Agriculture.

If the Department of Transportation and Kentucky State Police could support the Division of Animal Health enforcement staff on monitoring intra and inter state movement of livestock, such a cooperative program would require a vast amount of continued education

via seminars or on the job training. This would be necessary to keep all personnel up dated on guidelines pertaining to regulation changes.

A cooperative enforcement program with the Department of Transportation and Kentucky State Police would be difficult to monitor and maintain uniform enforcement policies. The division has radio contact with all state police post and the Department of Transportation will allow the division use of scale areas in emergencies. Those two agencies should be available to the Division of Animal Health enforcement personnel only on an emergency basis.

If program compliance is to be maintained, and as the field work decreases, surveillance will become more important in the brucellosis eradication and disease monitoring programs.

The enforcement personnel numbers will need to be increased to ensure regulation compliance in the future.

### **RECOMMENDATION 3**

#### **(Develop a Strategic Plan)**

Future funding needs should take into consideration the success of the present brucellosis eradication program. The present brucellosis eradication programs has elevated Kentucky to "A" status and funding should be available to make Kentucky a brucellosis free state by 1991. I believe this can be accomplished if the decrease in federal funding is picked up by the state and if funding for mandatory depopulation is continued.

The brucellosis eradication program is working. If funding is reduced the eradication program will suffer and the time required to make Kentucky brucellosis free will increase.

**The shifting of duties and responsibilities for personnel will reflect.**

As the eradication program winds down and free status is close the personnel responsibilities will shift from field related programs to enforcement and surveillance programs. With fewer newly infected herd each year the emphasis will be in enforcement and surveillance field testing, 1st point testing, epidemiology and area testing. Once Kentucky has identified and eliminated the last infected herd enforcement and surveillance programs must be staffed with enough personnel to prevent the reintroduction of Brucellosis into Kentucky

The implementation of new policies and procedures should follow guidelines recommended by the USDA. (APHIS.) Rapid Completion Program. Kentucky's mandatory depopulation regulation and the willingness of most producers to accept adult vaccination has made Kentucky a national leader in brucellosis eradication. Kentucky's eradication program is being looked at as a bench mark in brucellosis eradication. The National Eradication Rapid Completion Plan is also identified with Kentucky's plan.

#### **SUMMARIZING A STRATEGIC PLAN**

A strategic summary plan should include:

1. Adequate enforcement personnel
2. A strict surveillance program (Dealers, Order Buyers, Livestock Sales and Auctions
3. Continue First Point Testing
4. Complete Epidemiology and testing programs.
5. Use of new testing techniques and interpretation of test results. (CITE AND PCFIA)
6. Evaluate calfhod vaccination program
7. Continue Mandatory Depopulation and adult vaccination
8. Most important: Funding must be available to implement programs and maintain compliance.

## CHAPTER V

### RECOMMENDATION 4

During the last administration, several regulation changes were adopted. The regulations as they are now written involve a good deal of cross-referencing and have generally promoted a lot of confusion both inside and outside the organization. The Department is in the process of reviewing the regulations and will endeavor to rewrite them in a clear and concise manner. These regulations should be easily understood by practicing veterinarians, livestock owners, livestock dealers, stockyard management and our staff as well as animal health officials in other states.

The regulations and statutes are being followed and are gaining the desired results which is the elimination of brucellosis in Kentucky, but we feel they should be made more easily understood. At the time the regulations are presented for change, the name will be changed from Livestock Sanitation to Animal Health.

Kentucky is responsible for identifying and licensing livestock dealers. They are required to purchase a license and to keep records of purchases and sale of animals for the preceding 2 years. Under consideration at this time is a uniform record log for use by all dealers and an increase in the license fee more in line with surrounding states.

All dealer purchases are recorded on release forms at the stockyards and forwarded to the administrative office and are maintained on file. Greater surveillance of dealer activities will be feasible when the new computer system is in place and operational.

## RECOMMENDATION 5

The present brucellosis policies are those policies set forth by the Uniform Methods and Rules. The Uniform Methods and Rules policies and guidelines are very specific on how the brucellosis eradication program should operate. Kentucky follows those policies and guidelines and compliance is mandatory.

The Division of Animal Health/Administrative Records maintains an Operations Manual which outlines every program in detail. This manual is kept current as to staff changes and program changes and updates.

The Division of Animal Health/Field Enforcement will assemble such an operations manual to include state regulations and statutes as well as step-by-step instructions on field and stockyard testing, quarantining and problems that frequently arise.

New regulations implemented on March 1, 1988, produce many new requirements on movement of livestock. The producer, stockyard owner or operator and dealers must have information concerning the new movement requirements before compliance can be maintained. It is my intent to educate those individuals and then if violations occur prosecutions will be mandatory.

A dealer monitoring system must be implemented. This cannot be done effectively or efficiently until funds are available for the Department of Agriculture, Division of Animal Health to supply all dealers with a log book for uniform recordkeeping. Once this is done all dealers should be monitored on a daily, weekly or monthly schedule.

## CHAPTER V

### RECOMMENDATION 6

One factor in Kentucky's failure to achieve "A" status as quickly as some other states was due to a lawsuit filed against the Department by fourteen (14) stockyards in an attempt to block the first-point testing program. This litigation was tied up in court for two (2) years and postponed the implementation of this successful program. Kentucky farms are in close proximity to each other which creates additional opportunities for exposure and spread. This situation lengthens retesting and quarantine procedures. That is another reason why the mandatory depopulation program is so crucial.

There are no indications that the regulations are not being enforced now or have not been enforced in the past. Quarantines have always been released upon the recommendation of the brucellosis epidemiologist. There are no recognized livestock dealers who have not been licensed. We feel the position of State Veterinarian should come under the jurisdiction of the Commissioner of Agriculture rather than the Board of Agriculture. Nominations for this position should be submitted by the KVMA. This would eliminate rumors of political patronage and would assure that a qualified individual was selected to serve in this capacity. The only time in the past 20 years when there was not a decline in the number of infected herds was the last 2 years of the previous administration. They implemented an incentive depopulation program costing Kentucky taxpayers \$600,000 and within one year's time, they had reduced the number of infected herds by one herd.

**RECOMMENDATION 6 (continued)**

From its inception, Kentucky's pseudorabies program has been supported by the Department and all State and Federal regulations and requirements have been strictly followed.

## CHAPTER V

### RECOMMENDATION 7

In 1983, the Department had conducted a study of computer systems. A system was selected which was similar to the IBM AS 400 that was recently purchased and is in the process of being made operational. Before this purchase was finalized, the State Veterinarian entered into a contract with the USDA to involve Kentucky in the nationwide BIS (Brucellosis Information System). We feel that this set us back by at least ten (10) years. This computer was geared to a national record-keeping system and was in no way designed to aid any one state in disease elimination. We had no input on programs and could not make any program adjustments. Also, we were assured that the system would hold our other programs and would offer us instant access to information. This was certainly not the case.

It was cost-prohibitive to access on-line information. Information requests had to be batched for overnight retrieval. All other program information still has to be entered into the state mainframe. Monthly print-outs are received, again offering no instant access to information. We had no office automation services by using BIS. The Department of Information Services has estimated that the Division of Animal Health generates approximately one million pieces of correspondence annually. The BIS computer was scheduled to be shut down by October 1, 1989. However, it was recently shut down with two (2) days notice leaving the states without computerization or access to their disease records. We have been forced to go back on the state main frame and we are dependent on the old system of print-outs until the new system is operational. First-point testing and on-farm testing are targeted for Phase I.

RECOMMENDATION 7 (continued)

Once the AS 400 is fully functional, we will have instant access to our records and we will finally have office automation capabilities.

The only time there has been any question of improprieties or uncertainties within the brucellosis program or the inability to interpret the regulations occurred during the last two (2) years of the previous administration.

A verbal response was recently received from the Federal Review Committee giving the Department of Agriculture an excellent rating on the present brucellosis eradication program. A written response from the USDA review will be made available to L.R.C. once it is received by the state veterinarians office.

APPENDIX C



COMMONWEALTH OF KENTUCKY  
KENTUCKY STATE POLICE  
919 VERSAILLES ROAD  
FRANKFORT 40601

WALLACE G. WILKINSON  
GOVERNOR

July 24, 1989

Mr. Joseph F. Fiala  
Assistant Director for Program Review  
Legislative Research Commission  
State Capitol  
Frankfort, Kentucky 40601

Dear Mr. Fiala:

Representative Hank Hancock has requested that a written response be forwarded to you regarding a recommendation that the State Police assist the Department of Agriculture in surveillance related to the Kentucky Brucellosis Eradication Program.

The Department of State Police is willing to assist the Department of Agriculture within the limits of available resources. Presently all available resources are being devoted to drug interdiction, and marijuana eradication. The Department of State Police could, as we have done in the past, provide training to Department of Agriculture personnel in surveillance procedure. Additionally, troopers on patrol could, within the limits of their authority, collect data by observation and relay it to Agriculture personnel.

In reviewing KRS Chapter 257 and 302 KAR:20 it is to be noted that the majority of the provisions therein relate to inspection and examinations which Troopers are not customarily trained for. Involvement of Troopers in this program beyond patrol observational and reporting assistance would require specialized training and seriously deplete from resources for other required duties.

Mr. Joseph F. Fiala  
July 24, 1989  
Page 2/

If an observational and reporting surveillance type plan could be designed, the State Police will do whatever possible to cooperate in its implementation.

Sincerely,

  
Major Thomas L. Rakestraw  
Commander, Drug Enforcement/  
Special Investigations Branch

TLR/dal

APPENDIX D



COMMONWEALTH OF KENTUCKY  
**TRANSPORTATION CABINET**  
FRANKFORT, KENTUCKY 40622

WALLACE G. WILKINSON  
GOVERNOR

MILO D. BRYANT  
SECRETARY  
AND  
COMMISSIONER OF HIGHWAYS

July 26, 1989

Mr. Joseph Fiala  
Assistant Director for  
Program Review  
Legislative Research Commission  
Capitol Annex  
Frankfort, KY 40601

Dear Mr. Fiala:

This letter is in reference to your request for a response to a staff recommendation to The Kentucky Brucellosis Eradication Program Report. Specifically, staff Recommendation 2, which suggests that a Road Surveillance Feasibility Plan be developed. The recommendation is that the Transportation Cabinet and the Department of State Police explore the feasibility of a cooperative road surveillance to enforce the Department of Agriculture's statutes and regulations.

After a number of conversations between the State Police, Department of Agriculture, and Motor Vehicle Enforcement of the Transportation Cabinet, it is my opinion that such an enforcement program would not be feasible. The first prohibiting factor is the amount of training that would be required. The agriculture statutes and regulations are very complex and would be totally foreign material to our officers. It would necessitate intense initial training and continued training to keep our personnel updated on the guidelines that pertain to regulation changes. It is my feeling that a program of this type would require the expenditure of more man hours and greater cost than can be justified by the results.

In the past, the Transportation officers worked with Agriculture personnel on special assignments in checking livestock trucks in both the rural areas and at weigh stations. I would recommend a cooperative effort where each person still does what he is capable of doing best but as a team.

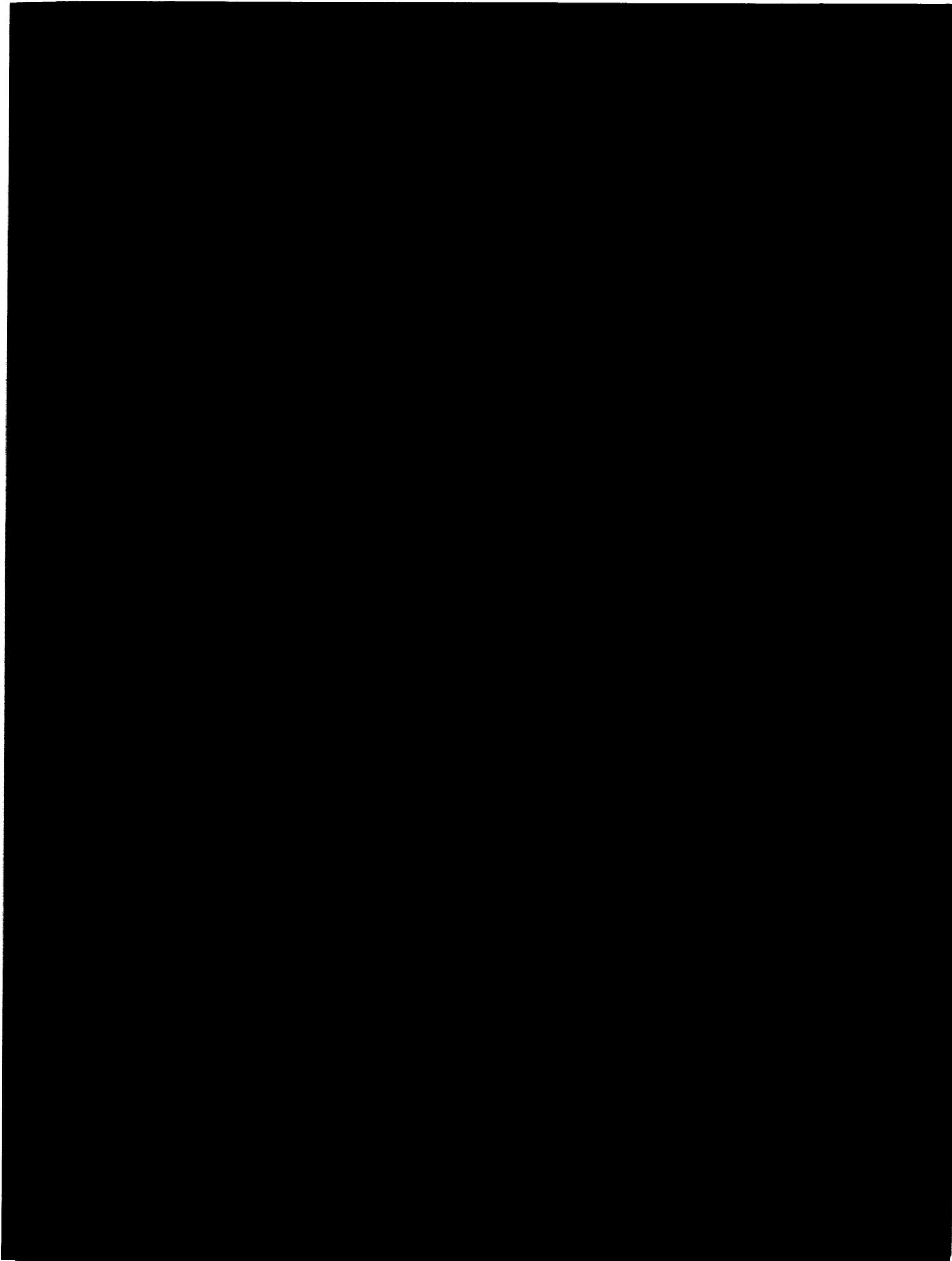
Sincerely,

A handwritten signature in black ink that reads "Jerome L. Lentz".

Jerome L. Lentz  
Deputy Secretary and Acting Commissioner  
Department of Vehicle Regulation

JLL:JCB:kc





The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses, income, and any other financial activity. The document also highlights the need for regular reconciliation of accounts to identify any discrepancies early on.

In addition, the document provides a detailed overview of the accounting cycle, which consists of eight steps: identifying the accounting system, analyzing transactions, journalizing, posting, preparing a trial balance, adjusting entries, preparing financial statements, and closing the books. Each step is explained in detail, with examples provided to illustrate the process. The document also discusses the importance of maintaining proper documentation for all transactions, including receipts, invoices, and bank statements.

The second part of the document focuses on the preparation of financial statements. It explains how to calculate net income, determine the cost of goods sold, and prepare the income statement, balance sheet, and statement of cash flows. The document also discusses the importance of providing a clear and concise explanation of the financial results, including a management discussion and analysis. This section provides a step-by-step guide to the preparation of each financial statement, with examples and formulas provided for each calculation.

Finally, the document discusses the importance of internal controls and the role of the auditor. It explains how to design and implement effective internal controls to prevent fraud and errors, and how to conduct an audit to ensure the accuracy and reliability of the financial statements. The document also discusses the importance of maintaining proper records and documentation for all transactions, and the role of the auditor in providing an independent opinion on the financial statements.